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(54) Title: COMPOSITIONS AND METHODS FOR INDUCING CONFORMATIONAL CHANGES IN CEREBLON AND OTHER E3 UBIQUITIN LIGASES

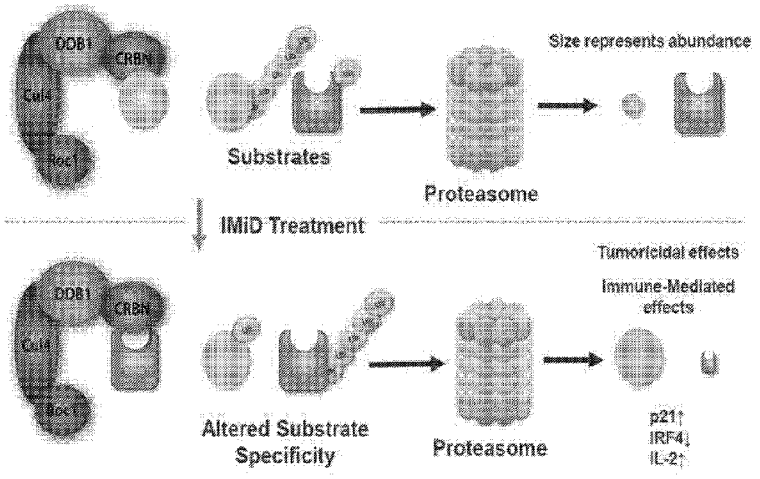


FIG. 1

(57) Abstract: Provided herein are compositions, therapeutic methods, screening methods, computational methods and biomarkers based upon the elucidation of the interaction among cereblon, its substrates and certain compounds or agents, including small molecules, peptides, and proteins.

COMPOSITIONS AND METHODS FOR INDUCING CONFORMATIONAL CHANGES IN CEREBLON AND OTHER E3 UBIQUITIN LIGASES

1. FIELD

[0001] Provided herein are compositions, therapeutic methods, screening methods, computational methods and biomarkers based upon the elucidation of the interaction among cereblon, its substrates and certain compounds or agents, including small molecules, peptides, and proteins.

2. BACKGROUND

2.1 Cereblon

[0002] At least two isoforms of the protein cereblon (CRBN) exist, which are 442 and 441 amino acids long, respectively, and CRBN is conserved from plant to human. In humans, the CRBN gene has been identified as a candidate gene of an autosomal recessive nonsyndromic mental retardation (ARNSMR). *See* Higgins, J.J. *et al.*, *Neurology*, 2004, 63:1927-1931. CRBN was initially characterized as an RGS-containing novel protein that interacted with a calcium-activated potassium channel protein (SLO1) in the rat brain, and was later shown to interact with a voltage-gated chloride channel (CIC-2) in the retina with AMPK1 and DDB1. *See* Jo, S. *et al.*, *J. Neurochem*, 2005, 94:1212-1224; Hohberger B. *et al.*, *FEBS Lett*, 2009, 583:633-637; Angers S. *et al.*, *Nature*, 2006, 443:590-593. DDB1 was originally identified as a nucleotide excision repair protein that associates with damaged DNA binding protein 2 (DDB2). Its defective activity causes the repair defect in the patients with xeroderma pigmentosum complementation group E (XPE). DDB1 also appears to function as a component of numerous distinct DCX (DDB1-CUL4-X-box) E3 ubiquitin-protein ligase complexes which mediate the ubiquitination and subsequent proteasomal degradation of target proteins. CRBN has also been identified as a target for the development of therapeutic agents for diseases of the cerebral cortex. *See* WO 2010/137547 A1.

[0003] CRBN has recently been identified as a key molecular target that binds to thalidomide to cause birth defects. *See* Ito, T. *et al.*, *Science*, 2010, 327:1345-1350. DDB1 was found to interact with CRBN and, thus, was indirectly associated with thalidomide. Moreover, thalidomide was able to inhibit auto-ubiquitination of CRBN *in vitro*, suggesting that thalidomide is an E3 ubiquitin-ligase inhibitor. *Id.* Importantly, this activity was inhibited by thalidomide in wild-type cells, but not in cells with mutated CRBN binding sites that prevent thalidomide binding. *Id.* The thalidomide binding site was mapped to a highly conserved C-terminal 104 amino acid region in CRBN. *Id.* Individual point mutants in CRBN, Y384A and

W386A were both defective for thalidomide binding, with the double point mutant having the lowest thalidomide-binding activity. *Id.* A link between CRBN and the teratogenic effect of thalidomide was confirmed in animal models of zebra-fish and chick embryos. *Id.*

[0004] Whether binding to CRBN, the CRBN E3 ubiquitin-ligase complex, or one or more substrates of CRBN, is required for the beneficial effects of thalidomide and other drugs is yet to be established. Understanding these interactions with thalidomide and other drug targets will allow the definition of the molecular mechanisms of efficacy and/or toxicity and may lead to drugs with improved efficacy and toxicity profiles.

2.2 Compounds

[0005] Compounds for the methods provided herein comprises a group of immunomodulatory compounds, including but not limited to, thalidomide, lenalidomide and pomalidomide which have shown remarkable responses in patients with multiple myeloma, lymphoma and other hematological diseases such as myelodysplastic syndrome. *See* Galustian C, *et al.*, *Expert Opin Pharmacother.*, 2009, 10:125-133. These drugs display a broad spectrum of activity, including anti-angiogenic properties, modulation of pro-inflammatory cytokines, co-stimulation of T cells, increased NK cell toxicity, direct anti-tumor effects and modulation of stem cell differentiation. For example, thalidomide and lenalidomide have emerged as important options for the treatment of multiple myeloma in newly diagnosed patients, in patients with advanced disease who have failed chemotherapy or transplantation, and in patients with relapsed or refractory multiple myeloma. Lenalidomide in combination with dexamethasone has been approved for the treatment of patients with multiple myeloma who have received at least one prior therapy. Pomalidomide may also be administered in combination with dexamethasone. U.S. Patent Publication No. 2004/0029832 A1, the disclosure of which is hereby incorporated in its entirety, discloses the treatment of multiple myeloma.

[0006] Other exemplary compounds provided herein include 3-(5-amino-2-methyl-4-oxo-4*H*-quinazolin-3-yl)-piperidine-2,6-dione ("Compound A"), 3-(4-((4-(morpholinomethyl)benzyl)oxy)-1-oxoisoindolin-2-yl)piperidine-2,6-dione ("Compound B"), and 1-(3-chloro-4-methylphenyl)-3-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)urea ("Compound C"), or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof.

[0007] Understanding the interactions of CRBN, the CRBN E3 ubiquitin-ligase complex, or one or more substrates of CRBN with thalidomide, lenalidomide, pomalidomide and other drug targets will allow the definition of the molecular mechanisms of efficacy and/or toxicity and may lead to drugs with improved efficacy and toxicity profiles.

3. SUMMARY

[0008] We have discovered that CRBN has pluripotent potential as a drug target for the treatment of various diseases. We believe we are the first to report and understand that cereblon can be induced to undergo conformational changes by use of certain small molecules or other agents that we will call "cereblon modifying agents" (CMAs). The use of the appropriate agent leads to a distinct conformational change or other alteration in the properties of the CRBN surface, and a resulting distinct phenotypic response. Cereblon is not simply a unidimensional or monotypic protein that interacts with a single substrate. Instead, without being limited by theory, the conformational change or phenotypic response of cereblon or its pathway is dependent upon cell type and, most importantly, the CMA used to interact with cereblon or its pathway.

[0009] As such, we describe herein a variety of distinct conformational changes, surface property alterations, phenotypic responses and CMAs. We also describe treatment methods, compositions, drug screens and computational methods that exploit these discoveries.

[0010] We also describe the use of known agents as CMAs for new treatment methods. In another embodiment we disclose the use of new CMA or CMA classes based upon the conformational change, alteration in surface properties, or phenotypic response. It should be noted that these discoveries permit a plethora of methods to be used to treat diseases associated with cereblon pathway. Thus, also described herein are known or new agents as CMAs for use in methods for treating diseases.

[0011] In one aspect, provided herein is a method of identifying a test compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise altering the properties of a CRBN surface. In certain embodiments, the method comprises (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a compound that induces a CRBN conformational change or otherwise alters the properties of a CRBN surface. In some embodiments, the first set of atomic coordinates and/or said second set of atomic coordinates define a CMA binding domain. In certain embodiments, the difference in atomic coordinates is determined by assessing differences in atomic distances. Also provided herein is a test compound identified by this method. In some embodiments, the test compound induces a CRBN conformational change. In

other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein.

[0012] In certain embodiments of the various compositions and methods provided herein, the properties of the CRBN surface are altered by the placement of compound appendages.

[0013] In a second aspect, provided herein is a method of identifying a test compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise altering the properties of a CRBN surface. In certain embodiments, the method comprises (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or otherwise alters the properties of a CRBN surface. In some embodiments, the first three-dimensional structure is of a CRBN that is not bound to a reference compound (also sometimes referred to as an "unbound CRBN" herein, and which is not meant to preclude the CRBN being bound to other proteins, *e.g.*, DDB1). In some embodiments, the CRBN that is not bound to a reference compound (or unbound CRBN) has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. Also provided herein is a test compound identified by this method. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA

binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of an unbound CRBN, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In some embodiments, the first crystal structure of the unbound CRBN has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of an unbound CRBN; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the

first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0014] In some embodiments of the various compositions and methods provided herein, the crystal structure of CRBN is a crystal structure of mouse CRBN. In some embodiments, the crystal structure of CRBN is a crystal structure of mouse CRBN that is bound to a reference compound. In other embodiments, the crystal structure of CRBN is a crystal structure of mouse CRBN that is not bound to a reference compound. In one embodiment, the crystal structure of mouse CRBN that is not bound to a reference compound has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In certain embodiments of the various compositions and methods provided herein, the crystal structure of CRBN is a crystal structure of human CRBN. In some embodiments, the crystal structure of CRBN is a crystal structure of human CRBN that is bound to a reference compound. In other embodiments, the crystal structure of CRBN is a crystal structure of human CRBN that is not bound to a reference compound. In certain embodiments, the CRBN is further bound to DDB1. In other embodiments of the various compositions and methods provided herein, the CMA-binding pocket of CRBN is an immunomodulatory agent-binding pocket.

[0015] In a third aspect, provided herein is a method of identifying a test compound that has a specific downstream biological activity comprising: (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a compound has the specific downstream biological activity. In some embodiments, the first crystal structure is of a CRBN that is not bound to a reference compound. In one embodiment, the crystal structure of mouse CRBN that is not bound to a reference compound has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In some embodiments, the first set of atomic coordinates and/or said second set of atomic coordinates define a CMA binding domain. In certain embodiments, the difference in atomic coordinates is determined by assessing differences in atomic distances. In some embodiments, the method further comprises assaying the specific biological activity. Also provided herein is a test

compound identified by this method. In some embodiments, the compound induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise altering the properties of a CRBN surface. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In certain embodiments, the method further comprises administering said compound to a patient, wherein said biological activity is modulated in said patient. In certain embodiments, the patient has a disease, and wherein one or more symptoms of said disease are alleviated following said administration.

[0016] In a fourth aspect, provided herein is a method of identifying a test compound that has a specific downstream biological activity comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound has the specific downstream biological activity. In some embodiments, the first three-dimensional structure is of a CRBN that is not bound to a reference compound. In one embodiment, the crystal structure of mouse CRBN that is not bound to a reference compound has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. Also provided herein is a test compound identified by this method. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of

CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments of the various methods provided herein, the three-dimensional structure is

assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In certain embodiments, the CRBN is further bound to DDB1.

[0017] In some embodiments of the various compositions and methods provided herein, the CRBN is a mouse CRBN. In certain embodiments of the various compositions and methods provided herein, CRBN is a human CRBN. In some embodiments, the CRBN is further bound to DDB1. In other embodiments of the various compositions and methods provided herein, the CMA-binding pocket of CRBN is an immunomodulatory agent-binding pocket.

[0018] In a fifth aspect, provided herein is a method of identifying a test compound that has a specific therapeutic efficacy comprising: (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a compound has the specific therapeutic efficacy. In some embodiments, the first crystal structure is of a CRBN that is not bound to a reference compound. In one embodiment, the first crystal structure of CRBN that is not bound to a reference compound has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In some embodiments, the first set of atomic coordinates and/or said second set of atomic coordinates define a CMA binding domain. In certain embodiments, the difference in atomic coordinates is determined by assessing differences in atomic distances. Also provided herein is a test compound identified by this method. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational

change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In certain embodiments, the method further comprises administering said compound to a patient having disease, disorder or condition, wherein one or more symptoms of said disease, disorder or condition is alleviated following said administration. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In certain embodiments, the CRBN is further bound to DDB1.

[0019] In a sixth aspect, provided herein is a method of identifying a test compound that has a specific downstream biological activity comprising: (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound has the specific downstream biological activity. In some embodiments, the first three-dimensional structure is of a CRBN that is not bound to a reference compound. In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. Also provided herein is a test compound identified by this method. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational

change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0020] In a seventh aspect, provided herein is a method of designing a test compound based on fit within CMA binding pocket of CRBN, comprising: (a) generating on a computer, three-dimensional structural features of a CRBN having a conformational change in the CMA binding pocket, (b) designing a test compound capable of selectively binding to said CMA binding pocket, (c) synthesizing said test compound, (d) contacting CRBN with said synthesized

test compound, and (e) determining if said test compound binds to said CRBN. In certain embodiments, the conformational change occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change is relative to a CRBN that is not bound to a reference compound. In other embodiments, the conformational change is relative to a CRBN that is bound to a reference compound.

[0021] In an eighth aspect, provided herein is a crystal of a complex comprising CRBN and a CMA, or an analog thereof. Also provided herein is a method of obtaining the crystal, comprising concentrating a purified complex of the CRBN and the CMA, or analog thereof, and obtaining the crystal. In certain embodiments, provided herein is a crystal comprising CRBN. In some embodiments, provided herein is a crystal consisting of CRBN. In certain embodiments, provided herein is a crystal of a complex comprising CRBN and DDB1. In some embodiments, provided herein is a crystal of a complex consisting of CRBN and DDB1. In certain embodiments, provided herein is a crystal of a complex comprising CRBN and a CMA, or an analog thereof. In some embodiments, provided herein is a crystal of a complex consisting of CRBN and a CMA or an analog thereof. In certain embodiments, provided herein is a crystal of a complex comprising CRBN, DDB1, and a CMA, or an analog thereof. In some embodiments, provided herein is a crystal of a complex consisting of CRBN, DDB1, and a CMA or an analog thereof. Methods of obtaining such crystals are also provided herein.

[0022] In certain embodiments, the CRBN is bound to DDB1. In some embodiments, the CRBN is bound to Cul4. In other embodiments, the CRBN is bound to Roc1. In some embodiments, the CRBN is bound to DDB1 and Cul4. In other embodiments, the CRBN is bound to DDB1 and Roc1. In yet other embodiments, the CRBN is bound to Cul4 and Roc1. In some embodiments, the CRBN is bound to DDB1, Cul4 and Roc1. In certain embodiments, CRBN that is bound to DDB1, Cul4 and/or Roc1 is a complex with DDB1, Cul4 and/or Roc1, respectively. Crystals comprising CRBN and DDB1, Cul4 and/or Roc1 are also contemplated, as are methods of obtaining such crystals.

[0023] In certain embodiments, the CMA is thalidomide. In other embodiments, the CMA is pomalidomide. In some embodiments, the CMA is Compound B. In other embodiments, the CMA is 1-(3-chloro-4-methylphenyl)-3-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)urea (Compound C). In certain embodiments, the CMA is a thalidomide analog. In other embodiments, the CMA is a pomalidomide analog. In some embodiments, the CMA is a Compound B analog. In other embodiments, the CMA is a Compound C analog. In other embodiments, the CMA is not thalidomide. In other embodiments, the CMA is not pomalidomide. In some embodiments, the CMA is not Compound B. In other embodiments, the CMA is not Compound C. In other embodiments, the

CMA is not a thalidomide analog. In other embodiments, the CMA is not a pomalidomide analog. In some embodiments, the CMA is not a Compound B analog. In other embodiments, the CMA is not a Compound C analog.

[0024] In a ninth aspect, provided herein is a crystal of a complex comprising CRBN and a test compound, wherein said crystal has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in any one of Tables 3, 4, 5, 6 or 7. In one embodiment, the crystal has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 3. In another embodiment, the crystal has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 4. In other embodiments, the crystal has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 5. In other embodiments, the crystal has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 6. In other embodiments, the complex has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 7. In some embodiments, the crystal further comprises DDB1, Cul4 and/or Roc1. In a specific embodiment, the complex further comprises DDB1.

[0025] In a tenth aspect, provided herein is a crystal of a complex comprising a CRBN and a test compound, wherein said crystal has a three-dimensional structure as determined by x-ray diffraction, wherein said three-dimensional structure has the atomic coordinates set forth in any one of Tables 3, 4, 5, 6 or 7. In one embodiment, the crystal has a three-dimensional structure as determined by x-ray diffraction, wherein said three-dimensional structure has the atomic coordinates set forth in Table 3. In another embodiment, the crystal has a three-dimensional structure as determined by x-ray diffraction, wherein said three-dimensional structure has the atomic coordinates set forth in Table 4. In yet another embodiment, the crystal has a three-dimensional structure as determined by x-ray diffraction, wherein said three-dimensional structure has the atomic coordinates set forth in Table 5. In yet another embodiment, the crystal has a three-dimensional structure as determined by x-ray diffraction, wherein said three-dimensional structure has the atomic coordinates set forth in Table 6. In some embodiments, the crystal further comprises DDB1, Cul4 and/or Roc1. In a specific embodiment, the crystal further comprises DDB1. In yet another embodiment, the crystal has a three-dimensional structure as determined by x-ray diffraction, wherein said three-dimensional structure has the atomic coordinates set forth in Table 7. In some embodiments, the complex further comprises DDB1, Cul4 and/or Roc1. In a specific embodiment, the complex further comprises DDB1.

[0026] In certain embodiments of the methods provided herein a complex comprising CRBN and reference compound has a three-dimensional structure as determined by x-ray diffraction, having the atomic coordinates set forth in any one of Tables 3, 4, 5, 6 or 7. In one embodiment, the three-dimensional structure has the atomic coordinates set forth in Table 3. In another embodiment, the three-dimensional structure has the atomic coordinates set forth in Table 4. In yet another embodiment, the three-dimensional structure has the atomic coordinates set forth in Table 5. In yet another embodiment, the three-dimensional structure has the atomic coordinates set forth in Table 6. In yet another embodiment, the three-dimensional structure has the atomic coordinates set forth in Table 7. In some embodiments, the complex further comprises DDB1, Cul4 and/or Roc1. In a specific embodiment, the complex further comprises DDB1.

[0027] In an eleventh aspect, provided herein is a method of identifying a test compound that induces a specific biological activity, comprising contacting the test compound with CRBN, inducing a CRBN conformational change (*e.g.,* within the CMA-binding pocket of the CRBN) or otherwise altering the properties of a CRBN surface, and assessing conformational change or alteration wherein conformational change or alteration is indicative of a specific biological activity. In some embodiments, the method further comprises assaying the specific biological activity. Also provided herein is a test compound identified by this method. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound induces a CRBN conformational change relative to a CRBN contacted with a reference compound. In some embodiments, the test compound induces a CRBN conformational change relative to a CRBN bound to a reference compound. In other embodiments, the test compound induces a CRBN conformational change relative to a CRBN that is not contacted with a reference compound. In one embodiment, the CRBN that is not contacted with a reference compound has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In some embodiments, the test compound induces a CRBN conformational change relative to an unbound CRBN. In other embodiments, the test compound alters the properties of the CRBN surface. In some embodiments, the test compound alters the properties of the CRBN surface relative to a CRBN contacted with a reference compound. In other embodiments, the test compound alters the properties of the CRBN surface relative to a CRBN bound to a reference compound. In some embodiments, the test compound alters the properties of the CRBN surface relative to a CRBN that is not contacted with a reference compound. In other embodiments, the test compound alters the properties of the CRBN surface relative to an unbound CRBN. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound

appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In certain embodiments, the method further comprises administering said compound to a patient, wherein said biological activity is modulated in said patient. In certain embodiments, the patient has a disease, and wherein one or more symptoms of said disease are alleviated following said administration. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In some embodiments, the first crystal structure is of a CRBN that is not bound to a reference compound. In one embodiment, the first crystal structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In other embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN

conformational change or alteration. In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0028] In a twelfth aspect, provided herein is a method of identifying a test compound that has a specific therapeutic utility, comprising contacting the test compound with CRBN, inducing a CRBN conformational change or otherwise altering the properties of the CRBN surface, and assessing the conformational change or alteration, wherein a conformational change or alteration is indicative of the specific therapeutic utility. Also provided herein is a test compound identified by this method. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound induces a CRBN conformational change relative to a CRBN contacted with a reference compound. In some embodiments, the test compound induces a CRBN conformational change relative to a CRBN bound to a reference compound. In other embodiments, the test compound induces a CRBN conformational change relative to a CRBN that is not contacted with a reference compound. In some embodiments, the test compound induces a CRBN conformational change relative to an unbound CRBN. In other embodiments, the test compound alters the properties of the CRBN surface. In some embodiments, the test compound alters the properties of the CRBN surface relative to a CRBN contacted with a reference compound. In other embodiments, the test compound alters the properties of the CRBN surface relative to a CRBN bound to a reference compound. In some embodiments, the test compound alters the properties of the CRBN surface relative to a CRBN that is not contacted with a reference compound. In other embodiments, the test compound alters the properties of the CRBN surface relative to an unbound CRBN. In one embodiment, the structure of the unbound CRBN has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of

CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In some embodiments, the method further comprises administering said compound to a patient having a disease, wherein one or more symptoms of said disease is alleviated following said administration. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration.

In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is bound to DDB1.

[0029] In a thirteenth aspect, provided herein is a method of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), comprising contacting the CRBN with a compound, wherein said CRBN conformational change or alteration results in a specific biological activity. In one embodiment, the method induces a CRBN conformational change. In a specific embodiment, the CRBN conformational change is within the CMA-binding pocket of the CRBN. In one embodiment, the CRBN conformational change is relative to a CRBN that is bound to a reference compound. In one embodiment, the CRBN that is not bound to a reference compound has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In a certain embodiment, the CRBN conformational change is relative to an unbound CRBN. In a specific embodiment, the CRBN conformational change is relative to the CRBN prior to contact with the test compound. In another embodiment, the method induces an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In one embodiment, the alteration of the properties of the CRBN surface is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the alteration of the properties of the CRBN surface is relative to an unbound CRBN. In a specific embodiment, the alteration of the properties of the CRBN surface is relative to the CRBN prior to contact with the test compound. In some embodiments, the biological activity is a tumoricidal effect. In other embodiments, the biological activity is an apoptosis effect. In some embodiments, the biological activity is anti-proliferation. In yet other embodiments, the biological activity is PBMC viability. In some embodiments, the biological activity is toxicity. In certain embodiments, the biological activity is substrate degradation. In one embodiments, the biological activity is Aiolos degradation. In another embodiments, the biological activity is Ikaros degradation. In other embodiments, the biological activity is an immune-mediated effect. In another embodiment, the biological activity is IL-2 induction. In some embodiments, the biological activity is IL-2 repression. In yet other embodiments, the biological activity is an

effect on fetal hemoglobin (HbF). Any combination of one, two, three or more of the aforementioned biological activities is also contemplated. In certain embodiments, the biological activity is based on specific cell type categories. In other embodiments, the biological activity is based on specific tissue type categories. In yet other embodiments, the biological activity is based on solid tumors or solid tumor categories. In some embodiments, the biological activity is based on non-solid tumor categories. In some embodiments, a CRBN conformational change is induced. In other embodiments, and alteration in the properties of a CRBN surface are induced. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In other embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test

compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0030] In a fourteenth aspect, provided herein is a method of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), comprising contacting the CRBN with a compound, wherein said CRBN conformational change or alteration results in a specific therapeutic utility. In one embodiment, the method induces a CRBN conformational change. In a specific embodiment, the CRBN conformational change is within the CMA-binding pocket of the CRBN. In one embodiment, the CRBN conformational change is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the CRBN conformational change is relative to an unbound CRBN. In a specific embodiment, the CRBN conformational change is relative to the CRBN prior to contact with the test compound. In another embodiment, the method induces an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In one embodiment, the alteration of the properties of the CRBN surface is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the alteration of the properties of the CRBN surface is relative to an unbound CRBN. In a specific embodiment, the alteration of the properties of the CRBN surface is relative to the CRBN prior to contact with the test compound. In some embodiments, the unbound CRBN or the CRBN prior to contact with the test compound has a three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In some embodiments, the therapeutic utility is based on solid tumors or solid tumor categories. In other embodiments, the therapeutic utility is based on non-solid tumor categories. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect

on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure

of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0031] In a fifteenth aspect, provided herein is a method of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), comprising contacting the CRBN with a test compound, wherein said CRBN conformational change or alteration results in a different substrate specificity as compared to the substrate specificity of a CRBN that is contacted with a reference compound. Also provided herein is a method of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), comprising contacting the CRBN with a test compound, wherein said CRBN conformational change or alteration results in a different substrate specificity as compared to the substrate specificity of an unbound CRBN (*e.g.*, a CRBN prior to contact with the test compound). In one embodiment, the method induces a CRBN conformational change. In a specific embodiment, the CRBN conformational change is within the CMA-binding pocket of the CRBN. In one embodiment, the CRBN conformational change is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the CRBN conformational change is relative to an unbound CRBN. In a specific embodiment, the CRBN conformational change is relative to the CRBN prior to contact with the test compound. In another embodiment, the method induces an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In one embodiment, the alteration of the properties of the CRBN surface is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the alteration of the properties of the CRBN surface is relative to an unbound CRBN. In a specific embodiment, the alteration of the properties of the CRBN surface is relative to the CRBN prior to contact with the test compound. In some embodiments, the

unbound CRBN or the CRBN prior to contact with the test compound has a three-dimensional structure as determined by x-ray diffraction having atomic coordinates set forth in Table 8. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said

second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0032] In a sixteenth aspect, provided herein is a method of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), comprising contacting the CRBN with a test compound. In one embodiment, the method induces a CRBN conformational change. In a specific embodiment, the CRBN conformational change is within the CMA-binding pocket of the CRBN. In one embodiment, the CRBN conformational change is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the CRBN conformational change is relative to an unbound CRBN. In a specific embodiment, the CRBN conformational change is relative to the CRBN prior to contact with the test compound. In another embodiment, the method induces an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In one embodiment, the alteration of the properties of the CRBN surface is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the alteration of the properties of the CRBN surface is relative to an unbound CRBN. In a specific embodiment, the alteration of the properties of the CRBN surface is relative to the CRBN prior to contact with the test compound. In one embodiment, the unbound CRBN or the CRBN prior to contact with the test compound has a first three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In some embodiments, said

CRBN conformational change or alteration comprises a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) that is different than the conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) contacted with a reference compound. In some embodiments, the CRBN conformational change or alteration results in a different biological activity. In some embodiments, the CRBN conformational change or alteration results in a different therapeutic utility. In other embodiments, the CRBN conformational change or alteration results in a different substrate specificity. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a

reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0033] In a seventeenth aspect, provided herein is a method of inducing a biological activity in a cell comprising CRBN, comprising contacting said cell with a test compound, wherein said compound induces a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) of said CRBN, and wherein said CRBN conformational change or alteration is as compared to a reference compound, and wherein the conformational change or alteration results in said biological activity. Also provided herein is a method of inducing a biological activity in a cell comprising CRBN, comprising contacting said cell with a test compound, wherein said compound induces a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) of said CRBN, and wherein said CRBN conformational change or alteration is as compared to an unbound CRBN (*e.g.*, a CRBN prior to contact with the test compound), and

wherein the conformational change or alteration results in said biological activity. In one embodiment, the method induces a CRBN conformational change. In a specific embodiment, the CRBN conformational change is within the CMA-binding pocket of the CRBN. In one embodiment, the CRBN conformational change is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the CRBN conformational change is relative to an unbound CRBN. In a specific embodiment, the CRBN conformational change is relative to the CRBN prior to contact with the test compound. In one embodiment, the unbound CRBN or the CRBN prior to contact with the test compound has a first three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In another embodiment, the method induces an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In one embodiment, the alteration of the properties of the CRBN surface is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the alteration of the properties of the CRBN surface is relative to an unbound CRBN. In a specific embodiment, the alteration of the properties of the CRBN surface is relative to the CRBN prior to contact with the test compound. In some embodiments, the biological activity is a tumoricidal effect. In other embodiments, the biological activity is an apoptosis effect. In some embodiments, the biological activity is anti-proliferation. In yet other embodiments, the biological activity is PBMC viability. In some embodiments, the biological activity is toxicity. In certain embodiments, the biological activity is substrate degradation. In one embodiments, the biological activity is Aiolos degradation. In another embodiments, the biological activity is Ikaros degradation. In other embodiments, the biological activity is an immune-mediated effect. In another embodiment, the biological activity is IL-2 induction. In some embodiments, the biological activity is IL-2 repression. In yet other embodiments, the biological activity is a HbF effect. Any combination of one, two, three or more of the aforementioned biological activities is also contemplated. In certain embodiments, the biological activity is based on specific cell type categories. In other embodiments, the biological activity is based on specific tissue type categories. In yet other embodiments, the biological activity is based on solid tumors or solid tumor categories. In some embodiments, the biological activity is based on non-solid tumor categories. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of

CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN

conformational change or alteration. In one embodiment, the unbound CRBN or the CRBN prior to contact with the test compound has a first three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0034] In an eighteenth aspect, provided herein is a method of treating or alleviating one or more symptoms of a CRBN-mediated disease or disorder in a patient, comprising administering a test compound to the subject, wherein said test compound induces a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), and wherein said CRBN conformational change or alteration is as compared to a reference compound, and wherein said CRBN conformational change or alteration results in treatment or alleviation of one or more symptoms of said disease or disorder. Also provided herein is a method of treating or alleviating one or more symptoms of a CRBN-mediated disease or disorder in a patient, comprising administering a test compound to the subject, wherein said test compound induces a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), and wherein said CRBN conformational change or alteration is as compared to an unbound CRBN (*e.g.*, a CRBN prior to contact with the test compound), and wherein said CRBN conformational change or alteration results in treatment or alleviation of one or more symptoms of said disease or disorder. In one embodiment, the method induces a CRBN conformational change. In a specific embodiment, the CRBN conformational change is within the CMA-binding pocket of the CRBN. In one embodiment, the CRBN conformational change is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the CRBN conformational change is relative to an unbound CRBN. In a specific embodiment, the CRBN conformational change is relative to the CRBN prior to contact with the test compound. In one embodiment, the unbound CRBN or the CRBN prior to contact with the test compound has a first three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In another embodiment, the method induces an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In one embodiment, the alteration of the properties of the CRBN surface is relative to a CRBN that is bound to a reference compound. In a certain embodiment, the

alteration of the properties of the CRBN surface is relative to an unbound CRBN. In a specific embodiment, the alteration of the properties of the CRBN surface is relative to the CRBN prior to contact with the test compound. In certain embodiments, the disease or disorder is a cancer or tumor. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within

the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In one embodiment, the first crystal structure of CRBN has a first three-dimensional structure as determined by x-ray diffraction having the atomic coordinates set forth in Table 8. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1. In some embodiments provided herein is the above-described test compound for use in a method of treating or alleviating one or more symptoms of a CRBN-mediated disease or disorder in a patient.

[0035] In a nineteenth aspect, provided herein is a composition comprising a CRBN and a test compound, wherein said CRBN has a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) as compared to a reference compound. Also provided herein is a composition comprising a CRBN and a test compound, wherein said CRBN has a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) as compared to an unbound CRBN (*e.g.*, a CRBN prior to contact with the test compound). In one embodiment, the CRBN has a conformational change. In a specific embodiment, the CRBN conformational change is within the CMA-binding pocket of the CRBN. In another embodiment, the CRBN has an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding

pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In one embodiment, the first three-dimensional structure of

CRBN as determined by x-ray diffraction has atomic coordinates set forth in Table 8. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0036] In a twentieth aspect, provided herein is a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) upon contact with said CRBN, as compared to the conformational change or alteration as compared to a reference compound. Also provided herein is a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) upon contact with said CRBN, as compared to the conformational change or alteration as compared to an unbound CRBN (*e.g.*, prior to contact with the compound). In one embodiment, the unbound CRBN has a three-dimensional structure as determined by x-ray diffraction having atomic coordinates set forth in Table 8. In one embodiment, the compound induces a CRBN conformational change. In a specific embodiment, the CRBN conformational change is within the CMA-binding pocket of the CRBN. In another embodiment, the compound induces an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In some embodiments, the CRBN conformational change or alteration results in a different biological activity. In some embodiments, the CRBN conformational change or alteration results in a different therapeutic utility. In other embodiments, the CRBN conformational change or alteration results in a different substrate specificity. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the

conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has the atomic coordinates set forth in Table 8 as determined by x-ray diffraction. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using

x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0037] In a twenty-first aspect, provided herein is a complex comprising a CRBN and test compound, wherein said CRBN has a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) as compared to a conformational change of said CRBN contacted with a reference compound. Also provided herein is a complex comprising a CRBN and test compound, wherein said CRBN has a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) as compared to a conformational change of an unbound CRBN (*e.g.*, a CRBN prior to contact with the test compound). In one embodiment, the CRBN has a conformational change. In a specific embodiment, the CRBN has a conformational change within the CMA-binding pocket of the CRBN. In another embodiment, the CRBN has an alteration of the properties of a CRBN surface. In a specific embodiment, the alteration of the properties of a CRBN surface are on an adjacent region of the protein. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first

three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has a three-dimensional structure as determined by x-ray diffraction having atomic coordinates set forth in Table 8. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0038] In a twenty-second aspect, provided herein is a method of identifying a substrate ubiquitinated by a E3 ubiquitination ligase complex comprising CRBN, said method comprising: (i) contacting said CRBN with a compound that induces a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), wherein said CRBN conformational change or alteration results in ubiquitination of said substrate, (ii) assaying for ubiquitination of one or

more substrates, and (iii) identifying said one or more ubiquitinated substrates; wherein said substrate is not ubiquitinated by said E3 ubiquitination ligase complex in the absence of said compound. Also provided is a substrate identified by this method. In some embodiments, the conformational change or alteration is as compared to the CMA binding pocket when the CRBN is contacted with a reference compound. In some embodiments, the conformational change or alteration is as compared to the CMA binding pocket of an unbound CRBN (*e.g.*, a CRBN prior to contact with the compound that induce a conformational change or alteration of the properties of the CRBN surface). In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound), and (ii) determining a three-

dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure CRBN that is not bound to a reference compound (*e.g.*, a CRBN prior to contact with the test compound); (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In one embodiment, the first three-dimensional structure of CRBN that is not bound to a reference compound has a three-dimensional structure as determined by x-ray diffraction having atomic coordinates set forth in Table 8. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In a specific embodiment, the CRBN is further bound to DDB1.

[0039] In a twenty-third aspect, provided herein is a method of recruiting a substrate for ubiquitination by a E3 ubiquitination ligase complex comprising CRBN, said method comprising contacting said CRBN with a compound that induces a conformational change of the CRBN (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), wherein said CRBN conformational change or alteration results in recruitment and ubiquitination of said substrate; and wherein said substrate is not ubiquitinated by said E3 ubiquitination ligase complex in the absence of said compound. In some embodiments, the induction of the conformational change or alteration is as compared of the CRBN (*e.g.*, the CMA binding pocket of CRBN) or CRBN surface when the CRBN is contacted with a reference compound. In other embodiments, the induction of the conformational change or alteration is as compared of the CRBN (*e.g.*, the CMA binding pocket of CRBN) or CRBN surface when the CRBN is unbound (*e.g.*, prior to contact with the compound). In some embodiments, a CRBN conformational change is induced. In other

embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[0040] In certain embodiments of the various compositions and methods provided herein, the crystal comprises a full-length CRBN protein. In other embodiments of the various compositions and methods provided herein, the crystal comprises a portion of the CRBN protein. In certain embodiments, the portion of the CRBN protein is a CMA binding domain. That is, in certain embodiments provided herein, methods that comprise obtaining a crystal comprising CRBN and a compound, includes without limitation obtaining a crystal comprising a

CMA binding domain (*i.e.,* not the full-length CRBN) and a compound. In some embodiments, the crystal comprises the thalidomide binding domain (TBD) (a type of a CMA-binding domain) of human CRBN (amino acids 319-427). In other embodiments, the crystal comprises the TBD of mouse CRBN (amino acids 322-430). Crystals comprising other CMA-binding domains are also contemplated.

[0041] In other embodiments of the various compositions and methods provided herein, the three-dimensional structure comprises a full-length CRBN protein. In other embodiments of the various compositions and methods provided herein, the three-dimensional structure comprises a portion of the CRBN protein. In certain embodiments, the portion of the CRBN protein is a CMA-binding domain. That is, in certain embodiments provided herein, methods that comprise obtaining a three-dimensional structure of a complex comprising CRBN and a compound, includes without limitation obtaining a three-dimensional structure of a complex comprising a CMA binding domain (*i.e.,* not the full-length CRBN) and a compound. In some embodiments, the crystal comprises TBD of human CRBN (amino acids 319-427). In other embodiments, the crystal comprises the TBD of mouse CRBN (amino acids 322-430). Three-dimensional structures comprising other CMA-binding domains are also contemplated.

[0042] Exemplary methods of obtaining the crystal structure, *e.g.,* of a CRBN (or a CMA-binding domain thereof), either alone or complexed with a CMA, are provided elsewhere herein.

[0043] In certain embodiments of the various compositions and methods provided herein, the atomic coordinates are set forth in Table 3. In other embodiments of the various compositions and methods provided herein, the atomic coordinates are set forth in Table 4. In some embodiments of the various compositions and methods provided herein, the atomic coordinates are set forth in Table 5. In some embodiments of the various compositions and methods provided herein, the atomic coordinates are set forth in Table 6. In some embodiments of the various compositions and methods provided herein, the atomic coordinates are set forth in Table 7.

[0044] In certain embodiments of the various compositions and methods provided herein, the three-dimensional structure is reflected by the atomic coordinates set forth in Table 3. In other embodiments of the various compositions and methods provided herein, the three-dimensional structure is reflected by the atomic coordinates set forth in Table 4. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is reflected by the atomic coordinates set forth in Table 5. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is reflected by the atomic coordinates set forth in Table 6. In some embodiments of the various

compositions and methods provided herein, the three-dimensional structure is reflected by the atomic coordinates set forth in Table 7. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is reflected by the atomic coordinates set forth in Table 8.

[0045] In certain embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in any one of the figures, including, for example, FIGS. 12-18 or 20. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in FIG. 12. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in FIG. 13. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in FIG. 14. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in FIG. 15. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in FIG. 16. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in FIG. 17. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in FIG. 18. In some embodiments of the various compositions and methods provided herein, the three-dimensional structure is provided in FIG. 20.

[0046] We further discovered that recruitment of a CRBN-associated protein (CAP) to CRBN, as well as subsequent degradation of the CAP by CRBN E3 ubiquitin ligase complex, is mediated by the CMA-induced conformational change in CRBN. The CAP recruited to CRBN depends on the specific CMA as well as a degron in the CAP. Based on the degron information, new CAPs can be identified and exploited as potential drug targets for treating various CRBN-related diseases.

[0047] As such, we describe herein a variety of degrons in a CAP, structural requirements of the degrons, and critical amino acid residues in the degrons. We also describe methods of identifying a CAP or a target of a treatment compound based on the degron information.

[0048] In a twenty-fourth aspect, provided herein is a degron in a CAP, wherein the degron is a structural degron.

[0049] In some embodiments, the structural degron comprises an α-turn. In other embodiments, the structural degron comprises a beta-hairpin.

[0050] In certain embodiments, the degron comprises 4 amino acid residues, with positions designated as i, i+1, i+2, and i+3, respectively.

[0051] In other embodiments, the degron further comprises an amino acid residue at position i-1.

[0052] In some embodiments, the amino acid residues at position i, i+1, or i+2 form hydrogen bonds with amino acid residues on CRBN. In one embodiment, the amino acid residue at position i form hydrogen bonds with amino acid residues on CRBN. In another embodiment, the amino acid residue at position i+1 form hydrogen bonds with amino acid residues on CRBN. In yet another embodiment, the amino acid residue at position i+2 form hydrogen bonds with amino acid residues on CRBN. In still another embodiment, the amino acid residues at positions i and i+1 form hydrogen bonds with amino acid residues on CRBN. In one embodiment, the amino acid residues at positions i and i+2 form hydrogen bonds with amino acid residues on CRBN. In another embodiment, the amino acid residues at positions i+1 and i+2 form hydrogen bonds with amino acid residues on CRBN. In yet another embodiment, the amino acid residues at position i, i+1, and i+2 form hydrogen bonds with amino acid residues on CRBN.

[0053] In certain embodiments, the amino acid residue at position i+3 is Glycine (G).

[0054] In some embodiments, the degron is stabilized by internal hydrogen bonds from an ASX motif and a ST motif.

[0055] In certain embodiments, the degron comprises an ASX motif that starts with Aspartic Acid (D). In other embodiments, the degron comprises an ASX motif that starts with Asparagine (N).

[0056] In some embodiments, the degron comprises a ST motif that starts with Serine (S). In other embodiments, the degron comprises a ST motif that starts with Threonine (T).

[0057] In certain embodiments, the degron comprises an amino acid sequence of [D/N]XX[S/T]G, wherein X can be any amino acid residue. In one embodiment, the degron comprises an amino acid sequence of DXXSG. In another embodiment, the degron comprises an amino acid sequence of NXXSG. In yet another embodiment, the degron comprises an amino acid sequence of DXXTG. In still another embodiment, the degron comprises an amino acid sequence of NXXTG.

[0058] In some embodiments, the degron comprises an amino acid sequence of CXXCG, wherein X can be any amino acid residue.

[0059] In certain embodiments, the degron comprises an amino acid sequence of NXXNG, wherein X can be any amino acid residue.

[0060] In some embodiments, the CAP is a substrate of CRBN.

[0061] In one embodiment, the substrate of CRBN is GSPT1.

[0062] In another embodiment, the substrate of CRBN is IKZF1.

[0063] In yet another embodiment, the substrate of CRBN is CK1a.

[0064] In a twenty-fifth aspect, provided herein is a method of identifying a CAP, comprising: (a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP; (b) testing the protein in a CRBN-binding assay or ubiquitination assay; and (c) identifying the protein as a CAP if the protein specifically binds to CRBN in the CRBN-binding assay or ubiquitination assay. In some embodiments, the method comprises testing the protein in a CRBN-binding assay. In other embodiments, the method comprises testing the protein in an ubiquitination assay.

[0065] In certain embodiments, the CAP is a substrate of CRBN.

[0066] In some embodiments, the amino acid sequence of the degron is [D/N]XX[S/T]G.

[0067] In other embodiments, the amino acid sequence of the degron is CXXCG.

[0068] In yet other embodiments, the amino acid sequence of the degron is NXXNG.

[0069] In certain embodiments, the CRBN-binding assay is performed in the presence of a compound.

[0070] In some embodiments, the compound is a CMA.

[0071] In other embodiments, the compound is an immunomodulatory compound.

[0072] In still other embodiments, the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E. In one embodiment, the compound is thalidomide. In another embodiment, the compound is lenalidomide. In yet another embodiment, the compound is pomalidomide. In still another embodiment, the compound is Compound A. In one embodiment, the compound is Compound B. In another embodiment, the compound is Compound C. In yet another embodiment, the compound is Compound D. In still another embodiment, the compound is Compound E.

[0073] In a twenty-sixth aspect, provided herein is a method of identifying a CAP, comprising: (a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP; (b) testing the protein in a CRBN-mediated degradation assay, ubiquitination assay or proteomics experiment; and (c) identifying the protein as a CAP if the protein level decreases in the CRBN-mediated degradation assay, ubiquitination assay or proteomics experiments. In some embodiments, the method comprises testing the protein in a CRBN-mediated degradation assay. In other embodiments, the method comprises testing the protein in an ubiquitination assay. In yet other embodiments, the method comprises testing the protein in a proteomics experiment.

[0074] In certain embodiments, the CAP is a substrate of CRBN.

[0075] In some embodiments, the amino acid sequence of the degron is [D/N]XX[S/T]G.

[0076] In other embodiments, the amino acid sequence of the degron is CXXCG.

[0077] In yet other embodiments, the amino acid sequence of the degron is NXXNG.

[0078] In certain embodiments, the CRBN-binding assay is performed in the presence of a compound.

[0079] In some embodiments, the compound is a CMA.

[0080] In other embodiments, the compound is an immunomodulatory compound.

[0081] In still other embodiments, the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E. In one embodiment, the compound is thalidomide. In another embodiment, the compound is lenalidomide. In yet another embodiment, the compound is pomalidomide. In still another embodiment, the compound is Compound A. In one embodiment, the compound is Compound B. In another embodiment, the compound is Compound C. In yet another embodiment, the compound is Compound D. In still another embodiment, the compound is Compound E.

[0082] In a twenty-seventh aspect, provided herein is a method of identifying a target of a compound comprising: (a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP; (b) testing the protein in a CRBN-binding assay or ubiquitination assay in the presence of the compound; and (c) identifying the protein as the target of the compound if the protein specifically binds to CRBN in the CRBN-binding assay or ubiquitination assay. In some embodiments, the method comprises testing the protein in a CRBN-binding assay in the presence of the compound. In other embodiments, the method comprises testing the protein in an ubiquitination assay in the presence of the compound.

[0083] In certain embodiments, the CAP is a substrate of CRBN.

[0084] In some embodiments, the amino acid sequence of the degron is [D/N]XX[S/T]G.

[0085] In other embodiments, the amino acid sequence of the degron is CXXCG.

[0086] In yet other embodiments, the amino acid sequence of the degron is NXXNG.

[0087] In some embodiments, the compound is a CMA.

[0088] In other embodiments, the compound is an immunomodulatory compound.

[0089] In still other embodiments, the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E. In one embodiment, the compound is thalidomide. In another embodiment, the compound is lenalidomide. In yet another embodiment, the compound is

pomalidomide. In still another embodiment, the compound is Compound A. In one embodiment, the compound is Compound B. In another embodiment, the compound is Compound C. In yet another embodiment, the compound is Compound D. In still another embodiment, the compound is Compound E.

[0090] In a twenty-eighth aspect, provided herein is a method of identifying a target of a compound comprising: (a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP; (b) testing the protein in a CRBN-mediated degradation assay, ubiquitination assay, or proteomics experiment in the presence of the compound; and (c) identifying the protein as the target of the compound if the protein level decreases in the CRBN-mediated degradation assay, ubiquitination assay, or proteomics experiment. In some embodiments, the method comprises testing the protein in a CRBN-mediated degradation assay in the presence of the compound. In other embodiments, the method comprises testing the protein in an ubiquitination assay in the presence of the compound. In yet other embodiments, the method comprises testing the protein in a proteomics experiment in the presence of the compound.

[0091] In certain embodiments, the CAP is a substrate of CRBN.

[0092] In some embodiments, the amino acid sequence of the degron is [D/N]XX[S/T]G.

[0093] In other embodiments, the amino acid sequence of the degron is CXXCG.

[0094] In yet other embodiments, the amino acid sequence of the degron is NXXNG.

[0095] In some embodiments, the compound is a CMA.

[0096] In other embodiments, the compound is an immunomodulatory compound.

[0097] In still other embodiments, the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E. In one embodiment, the compound is thalidomide. In another embodiment, the compound is lenalidomide. In yet another embodiment, the compound is pomalidomide. In still another embodiment, the compound is Compound A. In one embodiment, the compound is Compound B. In another embodiment, the compound is Compound C. In yet another embodiment, the compound is Compound D. In still another embodiment, the compound is Compound E.

[0098] In a twenty-ninth aspect, provided herein is a method of identifying a CAP or a target of a compound comprising: searching for a protein that has a region of structural similarity to a degron region provided herein.

[0099] In some embodiments, provided herein is a method of identifying a CAP, comprising: (a) searching for a protein comprising a region having a similar structure of a

degron in a known CAP; (b) testing the protein in a CRBN-binding assay or ubiquitination assay; and (c) identifying the protein as a CAP if the protein specifically binds to CRBN in the CRBN-binding assay or ubiquitination assay.

[00100] In other embodiments, provided herein is a method of identifying a CAP, comprising: (a) searching for a protein comprising a region having a similar structure of a degron in a known CAP; (b) testing the protein in a CRBN-mediated degradation assay, ubiquitination assay or proteomics expeirment; and (c) identifying the protein as a CAP if the protein level decreases in the CRBN-mediated degradation assay, ubiquitination assay or proteomics expeirment.

[00101] In yet other embodiments, provided herein is a method of identifying a target of a compound comprising: (a) searching for a protein comprising a region having a similar structure of a degron in a known CAP; (b) testing the protein in a CRBN-binding assay or ubiquitination assay in the presence of the compound; and (c) identifying the protein as the target of the compound if the protein specifically binds to CRBN in the CRBN-binding assay or ubiquitination assay.

[00102] In yet other embodiments, provided herein is a method of identifying a target of a compound comprising: (a) searching for a protein comprising a region having a similar structure of a degron in a known CAP; (b) testing the protein in a CRBN-mediated degradation assay, ubiquitination assay or proteomics expeirment in the presence of the compound; and (c) identifying the protein as the target of the compound if the protein level decreases in the CRBN-mediated degradation assay, ubiquitination assay or proteomics expeirment.

[00103] In some embodiments of the various methods provided herein, the method comprises computationally searching for a protein based on the structural similarity to a degron provided herein. In one embodiment, the method provided herein comprises searching for a degron or a similar structure on the surface of proteins of known structure. In another embodiment, the method provided herein comprises searching for a similar structural feature to the known degron on the surface of proteins of known structure. In yet another embodiment, the method provided herein comprises searching for a glycine on the surface of proteins of known structure.

[00104] In certain embodiments, the CAP is a substrate of CRBN.

[00105] In some embodiments, the amino acid sequence of the degron is [D/N]XX[S/T]G.

[00106] In other embodiments, the amino acid sequence of the degron is CXXCG.

[00107] In yet other embodiments, the amino acid sequence of the degron is NXXNG.

[00108] In certain embodiments, the CRBN-binding assay is performed in the presence of a compound.

[00109] In some embodiments, the compound is a CMA.

[00110] In other embodiments, the compound is an immunomodulatory compound.

[00111] In still other embodiments, the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E. In one embodiment, the compound is thalidomide. In another embodiment, the compound is lenalidomide. In yet another embodiment, the compound is pomalidomide. In still another embodiment, the compound is Compound A. In one embodiment, the compound is Compound B. In another embodiment, the compound is Compound C. In yet another embodiment, the compound is Compound D. In still another embodiment, the compound is Compound E.

[00112] In a thirtieth aspect, provided herein is a method of identifying a CAP or a target of a compound comprising: searching for a protein able to bind to a surface of CRBN adjacent to the site of ligand binding via features other than the known degron, e.g., by performing docking studies.

[00113] In some embodiments of the various methods provided herein, the method further comprises searching for proteins homologous to the proteins with the degron structure or predicted to have ability to bind CRBN.

4. BRIEF DESCRIPTION OF THE DRAWINGS

[00114] **FIG. 1** depicts the differences in protein homeostasis following treatment with a CMA due to altered protein ubiquitination and degradation.

[00115] **FIG. 2** depicts crystals of CRBN complexed with Apo (negative control), thalidomide, pomalidomide, Compound B, or Compound C. Identical projections of the CMA binding surfaces of CRBN show protein conformational changes.

[00116] **FIGS. 3A-B** depicts the crystal structure of Compound B in CRBN, in which the drug can act as a "molecular glue" or bridge with a substrate, such as a CRBN-associated protein. **(A)** Unbound mouse CRBN prior to Compound B binding, and **(B)** mouse CRBN in complex with Compound B.

[00117] **FIG. 4** depicts a complex of CRBN and Compound B or thalidomide, and a 50^{o} rotation of "pthalimide" ring in Compound B relative to thalidomide or pomalidomide is observed.

[00118] **FIGS. 5A-B** depict lenalidomide competes with Compound A and Compound C for CRBN. **(A)** and **(B)** Co-treatment of lenalidomide with either Compound A or Compound C blocks the anti-proliferative effects of either drug through competition of binding to the CRBN

complex in both ABC and GCB DLBCL. Co-culture of Lenalidomide with either Compound A or Compound C dampens the activity of these compounds as they target the same binding pocket with relative affinity.

[00119] **FIG. 6** shows that Compound C induced early apoptosis in the multiple myeloma (MM) cell line H929.

[00120] **FIG. 7** shows that Compound C is potent across a panel of solid tumor lines.

[00121] **FIG. 8** shows that Compound C binds CRBN protein MM cell extracts.

[00122] **FIG. 9** shows that CRBN is required for the anti-proliferative activity of Compound C in myeloma cells.

[00123] **FIG. 10** shows that CRBN is required for the anti-proliferative activity of Compound C in myeloma cells.

[00124] **FIG. 11** shows that CRBN is required for both growth inhibition and pro-apoptotic activity of Compound C in the MDA-MB-213 breast cancer cells.

[00125] **FIG. 12** shows the structure of human cereblon in complex with human DDB1. Lenalidomide binds the thalidomide binding domain (TBD; sometimes also referred to as immunomodulatory agent-binding domain (IBD) herein) (a type of CMA-binding domain) on the opposing face to the DDB1 binding motif. The Cereblon Lon-like domain (LLD) is shown in yellow. The TBD is shown in blue with the region deleted in a human polymorphism shown in red. DDB1 is shown in green with a grey surface. The DDB1 beta propeller domains are labeled BPA, BPB and BPC. Lenalidomide is shown as yellow sticks, and the zinc ion as a grey sphere.

[00126] **FIG. 13** shows the structural superposition of cereblon with *Bacillus subtilis* lon protease (red, PDB code 3M65). The cereblon lon-like domain (LLD) is shown in yellow and the TBD is shown in blue. The DDB1 binding motif is inserted into the LLD, while the TBD exhibits no similarity to lon protease and occurs at the C-terminus.

[00127] **FIG. 14** shows the structural superposition of cereblon:DDB1 (yellow and green, respectively) with DDB2:DDB1 (DDB2 shown in blue, DDB1 omitted). DDB1-binding is typically mediated by a helix-turn-helix motif such as helices c and d, which interact with the DDB1 beta-propellar C (BPC) domain. CRBN makes interactions with DDB1 BPC, but also places helix e to interact with the DDB1 beta-propeller A (BDA) domain.

[00128] **FIG. 15** shows the TBD of human cereblon. The immunomodulatory agent binding domain is shown in blue, lenalidomide is shown in yellow sticks, the Lon-like domain is shown in the background in yellow. The immunomodulatory agent binding pocket is composed of 3 tryptophan residues: W380, W386 and W400. Three hydrogen bonds between the TBD and lenalidomide are shown as a dotted line to the protein backbone at H378 and W380 and to the

sidechain of H378. The zinc binding site is shown as a grey sphere, and is approximately 18 Å from lenalidomide. The beta sheet region which varies in the other structures is marked by a 'β'.

[00129] **FIG. 16** shows the murine TBD in complex with thalidomide.

[00130] **FIG. 17** shows the murine TBD in complex with pomalidomide.

[00131] **FIG. 18** shows the structural superposition of cereblon TBD (blue) with methionine sulfoxide reductase (green) and RIG-I (magenta).

[00132] **FIG. 19** shows the sequence alignment differences mapped onto the surface of the immunomodulatory agent-binding domain of cereblon. Conserved residues relative to the human protein are shown in red, conservative changes are shown in orange, nonconservative changes are shown in white. The immunomodulatory agent binding pocket is indicated by a blue arrow. Tryptophan residues directly involved in immunomodulatory agent binding are shown in bold in the sequence alignment. The immunomodulatory agent-binding pocket demonstrates extremely high conservation across plant and animal kingdoms.

[00133] **FIG. 20** shows the TBD of murine cereblon showing the crystal contacts formed between protein monomers, bridged by thalomide molecules.

[00134] **FIGS. 21A-21C** shows a CRBN-binding assay with thalidomide enantiomers. **(A)** Competitive elution assay using thalidomide-immobilized beads coupled with racemic thalidomide. Beads were washed three times with 0.5% NP-40 lysis buffer and bound proteins were eluted with wash buffer containing 1 mM S-, R-thalidomide (S-Thal or R-Thal) or 0.1% DMSO for the indicated time. The eluate was then analyzed by SDS-PAGE and immunoblotting (IB). **(B)** Same as A, but eluted with a buffer solution containing the indicated concentrations of S- or R-thalidomide (S- or R-Thal). **(C)** Inhibitory effects of thalidomide enantiomers on auto-ubiquitylation of FH-CRBN was detected in the presence of MG132. Cells were treated with DMSO or the indicated concentrations of S- or R-thalidomide for 4 hours prior to harvesting.

[00135] **FIG. 22** shows Phylogenetically conserved tryptophan residues (W386 and W400) confer binding of CRBN to immunomodulatory agent and are required for immunomodulatory agent function *in vivo*. **(A)** Cell lines re-expressing full-length CRBN wild-type. W386A or W400A mutants were tested for the ability to bind immunomodulatory agent compounds. Assay was repeated at least three times. Representative Western blot of representative experiment is shown. **(B)** Cell proliferation assay of DF15 (sensitive). DF15R (resistant; $CRBN^{null}$), CRBNWT, CRBNW386A; CRBN400 cells treated with a dose response of pomalidomide. Assays were done in triplicate and error bars representative s.d. Data for each cell line was normalized to treatment with vehicle (DMSO). **(C)** Western blots of key downstream effectors of immunomodulatory agent resistance.

[00136] **FIGS. 23A-23B** shows the effects of E377V mutation on CRBN activity *in vivo*. **(A)** Cell lines re-expressing RFP or full length CRBN wild type or E377V mutant were tested for the ability of CRBN proteins to bind immunomodulatory agent compounds. Assay was repeated at least three times. Representative Western blot of representative experiment is shown. **(B)** Cell proliferation assay of DF15 (sensitive), DF15R (resistant; $CRBN^{null}$), $CRBN^{WT}$, $CRBN^{E377V}$ cells treated with a dose response of pomalidomide. Assays were done in triplicate and error bars represent s.d. Data for each cell line was normalized to treatment with vehicle (DMSO). The insert shows Western blots of Aiolos and β-actin.

[00137] **FIGS. 24A-24D** shows CRBN in lysates from DF15. **(A)** Immunoblot analysis of CRBN in lysates from DF15, DF15R, DF15R RFP (RFP ctrl), DF15R $CRBN^{WT}$ (CRBN wt), DF15R $CRBN^{W386A}$ and $CRBN^{W400A}$ cells. **(B)** CRBN analysis in DF15 and DF15R and DF15R-derived cell lines by immunohistochemistry confocal microscopy. Images were obtained using a Nikon E800 confocal microscope at a 40x magnification. CRBN signal is shown in cytoplasm and nucleus of the calls. DAPI staining identifies the nucleus of cells (darker staining). **(C)** Immunoblot of anti-FLAG immunoprecipitation from cell extracts using FLAG-tagged CRBN proteins. **(D)** Immunoblot of thalidomide analog affinity bead binding to CRBN in DF15, DF15R and DF15R $CRBN^{WT}$ cell extracts. Lane description in order (left to right): In = DF15 input prior to bead purification; V = DF15 extract control (1% DMSO preincubation); Len = DF15R extract preincubated with lenalidomide (30 μM); Pom = DF15R extract preincubated with pomalidomide (30 μM); In = DF15R $CRBN^{WT}$ input prior to bead purification; V = DF15R $CRBN^{WT}$ control (1% DMSO preincubation); Len = DF15R $CRBN^{WT}$ extract preincubated with lenalidomide (30 μM); Pom = DF15R $CRBN^{WT}$ extract preincubated with pomalidomide (30 μM). Representative immunoblot from two independent experiments with similar results are shown.

[00138] **FIGS. 25A-25F** show that CRBN inducible-knockdown cells had a dose and time dependent shRNA induction as measured by an increase in the percentage of RFP positive cells. **(A)** An inducible shRNA construct targeting CRBN or a control construct was transduced into the multiple myeloma cell lines H929 and U266. Inducible shRNA expression (marked by turbo-RFP) was monitored by flow cytometry over a period of 1 to 9 days as indicated in the histograms (Top row). Annexin V assay staining demonstrated that following induction with doxycycline treatment, CRBN inducible-knockdown did not result in cell death (A Bottom row & C). **(B)** CRBN protein expression was quantified by Western blotting. CRBN inducible-knockdown cells showed no significant changes in IRF4 or actin protein levels. **(C)** Following doxycycline treatment, CRBN inducible-knockdown in H929 and U266 cells showed no effect in viability as measured by Annexin V + 7AAD staining and analyzed by flow cytometry over a

period of 1-9 days. **(D) - (F)** After 9 days of shRNA inducible knock-down, cells were treated with increasing doses of pomalidomide and compound effect in cell viability was assayed by flow cytometry after 5 day treatment. In CRBN inducible knockdown cells, pomalidomide had reduced anti-proliferative effects compared to shControl knockdown cells. Data are shown as mean of three independent experiments ±s.d.

[00139] **FIG. 26** shows IL2 costimulation by pomalidomide. **(A)** Co-stimulation of IL2 release by pomalidomide in human PBMCs treated with anti-CD3. Data are shown as mean ±s.d. **(B)** Costimulation of IL2 release by anti-CD28 (squares) or pomalidomide (circles) in mouse PBMC treated with anti-CD3. Data are shown as mean ±s.d.

[00140] **FIG. 27** shows V388 is essential for the degradation of IKZF1/3 by lenalidomide.

[00141] **FIGS. 28A-28C** show that **(A)** a truncation mutant of human GSPT1 lacking the N-terminal 138 amino acid residues **(B)** is still destabilized by Compound C in 293T HEK cells, and **(C)** consistent with the ability of this mutant to capture CRBN in the presence of Compound C.

[00142] **FIGS. 29A-29B** show that **(A)** the yeast homologue SUP35 shares a high degree of sequence homology with human GSPT1, **(B)** but did not show any changes at the protein level in response to Compound C treatment.

[00143] **FIGS. 30A-30D** show that a 32-amino acid fragment in the C-terminus of human GSPT1 (residues 562 to 593), when replaced with the corresponding region of SUP35, completely blocked the Compound C-induced degradation of GSPT1. **(A)** Constructs generated through domain swapping between human GSPT1 and yeast SUP35. **(B-D)** Western blot showing the degradation of various GSPT1 constructs in response to the Compound C treatment.

[00144] **FIGS. 31A-31C** show that **(A)** conversion of glycine 575 of human GSPT1 into the corresponding asparagine of yeast SUP35 **(B)** prevented the Compound C-induced degradation of GSPT1 and **(C)** the Compound C-induced *in vitro* binding of GSPT1 to CRBN.

[00145] **FIGS. 32A-32B** show that a G575N mutation in human GSPT1 prevented **(A)** the Compound C-induced growth inhibition and **(B)** the Compound C-induced activation of ATF4 and apoptosis pathways.

[00146] **FIGS. 33A-33E** show a chemical structure of **(A)** lenalidomide, **(B)** pomalidomide, **(C)** Compound C, **(D)** structure of complex GSPT1-CRBN-DDB1, **(E)** detail of the interface between CRBN and GSPT1 with Compound C shown as sticks with carbons in yellow.

[00147] **FIGS. 34A-34C** show excellent agreement between structure and mutational analysis. **(A)** CRBN immunoprecipitation assay of various mutated forms of CRBN in the

absence or presence of Compound C. **(B)** Structure indicating mapped SUP35 region in yellow. **(C)** Structure indicating positions of mutations on CRBN surface: red—disrupting binding; green—no effect on binding; orange—partially disrupting binding; and blue—no mutations tested.

[00148] **FIGS. 35A-35D** show the details of interaction between Compound C and CRBN-GSPT1 complex. **(A)** glutarimide group. **(B)** isoindolinone group. **(C)** urea group. **(D)** methyl-chloro-phenyl group.

[00149] **FIGS. 36A-36B** show non-conserved residues in red between **(A)** GSPT1 and GSPT2, **(B)** between GSPT1 and HBS1L.

[00150] **FIG. 37** shows backbone-mediated interactions between CRBN and GSPT1 in the presence of Compound C.

[00151] **FIG. 38** shows that the key anchoring motif of GSPT1 is stabilized by internal hydrogen bonds from ASX and ST motifs.

[00152] **FIGS. 39A-39B** show the effect of CRBN surface mutations on substrate binding. **(A)** Immunoprecipitation of GSPT1. **(B)** Immunoprecipitation of IKZF1.

[00153] **FIGS. 40A-40B** map the effect of mutations on CRBN surface upon substrate binding: **(A)** GSPT1 binding and **(B)** IKZF1 binding. Red—strong reduction in substrate binding; orange—some reduction; green—no effect; blue—not tested.

[00154] **FIGS. 41A-41B** show **(A)** the anchoring motif of GSPT1 (blue) bound to CRBN (green) and Compound C (yellow); **(B)** a model of IKZF1 (magenta) superposed upon the backnone of GSPT1 (blue); **(C)** immunopricipitation of CRBN-DDB1 with alanine mutations of the GSPT1 anchoring motif; **(D)** immunopricipitation of CRBN-DDB1 with alanine mutations of the IKZF1 anchoring motif; **(E)** sequence alignment of the GSPT1 anchoring motif with the putative region from IKZF1, with residues critical for binding shown to be red. The critical glycine is shown in bold.

[00155] **FIG. 42** shows that CRBN-CK1a complex model superposes with the anchoring motif of CRBN-GSPT1 complex.

[00156] **FIGS. 43A-43B** show the effect of lenalidomide or Compound C on IKZF1 and GSPT1 degradation. **(A)** shows the effect with human CRBN. **(B)** shows the effect with mouse CRBN.

5. DETAILED DESCRIPTION

[00157] The compositions, methods and kits provided herein are based, in part, on the discovery that E3 ubiquitin ligases, including CRBN, undergo conformational changes or otherwise alter the surface, upon ligand (*e.g.*, CMA) binding. As shown in FIG. 1, CRBN binds proteins, such as DDB1, Cul4 and Roc1 to form a E3-ubiquitan ligase complex, which serve to

facilitate targeted protein ubiquitination and degradation. In the presence of a CMA, the CRBN complex has an altered binding specificity and subsequent downstream biological effects. CRBN is believed to act as a novel substrate receptor for the complex. Without wishing to be bound by theory, it is believed that this ligand-dependent E3 ubiquitin ligase (*e.g.,* CRBN) conformational change or alteration results in different E3 ubiquitin ligase surfaces being exposed, thereby affecting the recruitment and engagement of different substrates to the E3 ubiquitin ligase complex and resulting in the downstream differential phenotypic and/or therapeutic effects. In addition, ligands (including CMAs) provide binding interactions for the various different protein substrates. In specific embodiments, the E3 ubiquitin ligase is CRBN, and the CRBN ligands include CMAs, such as Compound C, or any analog thereof.

5.1 Definitions

[00158] All patents, applications, published applications and other publications are incorporated by reference in their entirety. Unless defined otherwise, all technical and scientific terms used herein have the same meaning as is commonly understood by one of ordinary skill in the art. All patents, applications, published applications and other publications are incorporated herein by reference in their entirety. In the event that there is a plurality of definitions for a term herein, those in this section prevail unless stated otherwise.

[00159] The term "about" or "approximately" means within 20%, within 10%, and within 5% (or 1% or less) of a given value or range.

[00160] As used herein, the term "degron" refers to a sequence of amino acid in a protein, *e.g.*, a sequence in a protein that directs the starting place of degradation.

[00161] As used herein, "administer" or "administration" refers to the act of injecting or otherwise physically delivering a substance as it exists outside the body into a patient, such as by mucosal, intradermal, intravenous, intramuscular delivery and/or any other method of physical delivery described herein or known in the art. When a disease, disorder or condition, or a symptom thereof, is being treated, administration of the substance typically occurs after the onset of disease, disorder or condition or symptoms thereof. When a disease, disorder or condition, or symptoms thereof, are being prevented, administration of the substance typically occurs before the onset of the disease, disorder or condition or symptoms thereof.

[00162] "Biological sample" as used herein refers to a sample obtained from a biological subject, including sample of biological tissue or fluid origin, obtained, reached, or collected *in vivo* or *in situ*. A biological sample also includes samples from a region of a biological subject containing precancerous or cancer cells or tissues. Such samples can be, but are not limited to, organs, tissues, fractions and cells isolated from a mammal. Exemplary biological samples include but are not limited to cell lysate, a cell culture, a cell line, a tissue, oral tissue,

gastrointestinal tissue, an organ, an organelle, a biological fluid, a blood sample, a urine sample, a skin sample, and the like. Preferred biological samples include but are not limited to whole blood, partially purified blood, PBMCs, tissue biopsies, and the like.

[00163] A biological marker or "biomarker" is a substance whose detection indicates a particular biological state, such as, for example, the presence of cancer. In some embodiments, biomarkers can either be determined individually, or several biomarkers can be measured simultaneously. In some embodiments, a "biomarker" indicates a change in the level of mRNA expression that may correlate with the risk or progression of a disease, or with the susceptibility of the disease to a given treatment. In some embodiments, the biomarker is a nucleic acid, such as a mRNA or cDNA. In additional embodiments, a "biomarker" indicates a change in the level of polypeptide or protein expression that may correlate with the risk, susceptibility to treatment, or progression of a disease. In some embodiments, the biomarker can be a polypeptide or protein, or a fragment thereof. The relative level of specific proteins can be determined by methods known in the art. For example, antibody based methods, such as an immunoblot, enzyme-linked immunosorbent assay (ELISA), or other methods can be used.

[00164] The terms "cancer" and "cancerous" refer to or describe the physiological condition in mammals that is typically characterized by unregulated cell growth. Examples of cancer include, but are not limited to, blood-borne tumors (*e.g.*, multiple myeloma, lymphoma and leukemia), and solid tumors. Other exemplary cancers are provided elsewhere herein.

[00165] The term "capture agent," as used herein, refers to an agent that binds an mRNA or protein through an interaction that is sufficient to permit the agent to bind and concentrate the mRNA or protein from a homogeneous mixture.

[00166] The terms "cereblon" or "CRBN" and similar terms refers to the polypeptides ("polypeptides," "peptides" and "proteins" are used interchangeably herein) comprising the amino acid sequence any CRBN, such as a human CRBN protein (*e.g.,* human CRBN isoform 1, GenBank Accession No. NP_057386; or human CRBN isoforms 2, GenBank Accession No. NP_001166953, each of which is herein incorporated by reference in its entirety), and related polypeptides, including SNP variants thereof. Related CRBN polypeptides include allelic variants (*e.g.*, SNP variants); splice variants; fragments; derivatives; substitution, deletion, and insertion variants; fusion polypeptides; and interspecies homologs, which, in certain embodiments, retain CRBN activity and/or are sufficient to generate an anti-CRBN immune response.

[00167] As used herein, the term "cereblon-associated protein" or "CRBN-associated protein" refers to a protein that interacts with or binds to CRBN directly or indirectly. In certain embodiments, a "cereblon-associated protein" or "CRBN-associated protein" is a substrate of

CRBN, for example, a protein substrate of the E3 ubiquitin ligase complex involving CRBN, or the downstream substrates thereof. In one embodiment, the CRBN-associated protein provided herein is a substrate of CRBN such as IKZF3, also known as "Aiolos," and/or IKZF1, also known as "Ikaros." In certain embodiments, a "cereblon-associated protein" or "CRBN-associated protein" is a binding protein of CRBN.

[00168] As used herein and unless otherwise indicated, the term "co-crystal" means a crystalline form that contains more than one compound in a crystal lattice. Co-crystals include crystalline molecular complexes of two or more non-volatile compounds bound together in a crystal lattice through non-ionic interactions. As used herein, co-crystals include pharmaceutical cocrystals wherein the crystalline molecular complexes containing a therapeutic compound and one or more additional non-volatile compound(s) (referred to herein as counter-molecule(s)). A counter-molecule in a pharmaceutical cocrystal is typically a non-toxic pharmaceutically acceptable molecule, such as, for example, food additives, preservatives, pharmaceutical excipients, or other APIs. In some embodiments, pharmaceutical cocrystals enhance certain physicochemical properties of drug products (*e.g.*, solubility, dissolution rate, bioavailability and/or stability). without compromising the chemical structural integrity of the active pharmaceutical ingredient (API). *See, e.g.*, Jones *et al.*, "Pharmaceutical Cocrystals: An Emerging Approach to Physical Property Enhancement," *MRS Bulletin,* 2006, 31, 875–879; Trask, "An Overview of Pharmaceutical Cocrystals as Intellectual Property," *Molecular Pharmaceutics*, 2007, 4(3), 301–309; Schultheiss & Newman, "Pharmaceutical Cocrystals and Their Physicochemical Properties," *Crystal Growth & Design,* 2009, 9(6), 2950–2967; Shan & Zaworotko, "The Role of Cocrystals in Pharmaceutical Science," *Drug Discovery Today*, 2008, 13(9/10), 440–446; and Vishweshwar *et al.*, "Pharmaceutical Co-Crystals," *J. Pharm. Sci.,* 2006, 95(3), 499–516.

[00169] The term "complementary" refers to specific binding between polynucleotides based on the sequences of the polynucleotides. As used herein, a first polynucleotide and a second polynucleotide are complementary if they bind to each other in a hybridization assay under stringent conditions, *e.g.* if they produce a given or detectable level of signal in a hybridization assay. Portions of polynucleotides are complementary to each other if they follow conventional base-pairing rules, *e.g.* A pairs with T (or U) and G pairs with C, although small regions (*e.g.* less than about 3 bases) of mismatch, insertion, or deleted sequence may be present.

[00170] An improvement in the cancer or cancer-related disease can be characterized as a complete or partial response. "Complete response" refers to an absence of clinically detectable disease with normalization of any previously abnormal radiographic studies, bone marrow, and cerebrospinal fluid (CSF) or abnormal monoclonal protein measurements. "Partial response"

refers to at least about a 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, or 90% decrease in all measurable tumor burden (*i.e.*, the number of malignant cells present in the subject, or the measured bulk of tumor masses or the quantity of abnormal monoclonal protein) in the absence of new lesions. The term "treatment" contemplates both a complete and a partial response.

[00171] As used herein, the term "composition" is intended to encompass a product containing the specified ingredients (*e.g.*, an antibody provided herein) and, optionally, in the specified amounts, as well as any product which results, directly or indirectly, from combination of the specified ingredients in, optionally, the specified amounts.

[00172] The term "cycle number" or "CT" when used herein in reference to PCR methods, refers to the PCR cycle number at which the fluorescence level passes a given set threshold level. The CT measurement can be used, for example, to approximate levels of mRNA in an original sample. The CT measurement is often used in terms of "dCT" or the "difference in the CT" score, when the CT of one nucleic acid is subtracted from the CT of another nucleic acid.

[00173] The terms "determining", "measuring", "evaluating", "assessing" and "assaying" as used herein generally refer to any form of measurement, and include determining if an element is present or not. These terms include both quantitative and/or qualitative determinations. Assessing may be relative or absolute. "Assessing the presence of" can include determining the amount of something present, as well as determining whether it is present or absent.

[00174] The term "effective amount" as used herein refers to the amount of a therapy (*e.g.,* a composition provided herein) which is sufficient to reduce and/or ameliorate the severity and/or duration of a given disease, disorder or condition and/or a symptom related thereto. This term also encompasses an amount necessary for the reduction or amelioration of the advancement or progression of a given disease, disorder or condition, reduction or amelioration of the recurrence, development or onset of a given disease, disorder or condition, and/or to improve or enhance the prophylactic or therapeutic effect(s) of another therapy. In some embodiments, "effective amount" as used herein also refers to the amount of therapy provided herein to achieve a specified result.

[00175] As used herein, an "effective patient tumor response" refers to any increase in the therapeutic benefit to the patient. An "effective patient tumor response" can be, for example, a 5%, 10%, 25%, 50%, or 100% decrease in the rate of progress of the tumor. An "effective patient tumor response" can be, for example, a 5%, 10%, 25%, 50%, or 100% decrease in the physical symptoms of a cancer. An "effective patient tumor response" can also be, for example, a 5%, 10%, 25%, 50%, 100%, 200%, or more increase in the response of the patient, as measured by any suitable means, such as gene expression, cell counts, assay results, etc.

[00176] The term "expressed" or "expression" as used herein refers to the transcription from a gene to give an RNA nucleic acid molecule at least complementary in part to a region of one of the two nucleic acid strands of the gene. The term "expressed" or "expression" as used herein also refers to the translation from the RNA molecule to give a protein, a polypeptide or a portion thereof.

[00177] The term "CRBN modifying agent" or "CMA" refers to a molecule that directly or indirectly modulating the CRBN E3 ubiquitin-ligase complex. In some embodiments, the CMA can bind directly to CRBN and induce conformational change in the CRBN protein. In other embodiments, the CMA can bind directly to other subunits in the CRBN E3 ubiquitin-ligase complex.

[00178] As used herein, the term "immunomodulatory compound" or "immunomodulatory drug" refers generally to a molecule or agent capable of altering the immune response in some way. Non-limiting examples of immunomodulatory compounds include those disclosed in Section 5.9 below.

[00179] The terms "isolated" and "purified" refer to isolation of a substance (such as mRNA, antibody or protein) such that the substance comprises a substantial portion of the sample in which it resides, *i.e.* greater than the substance is typically found in its natural or un-isolated state. Typically, a substantial portion of the sample comprises, *e.g.*, greater than 1%, greater than 2%, greater than 5%, greater than 10%, greater than 20%, greater than 50%, or more, usually up to about 90%-100% of the sample. For example, a sample of isolated mRNA can typically comprise at least about 1% total mRNA. Techniques for purifying polynucleotides are well known in the art and include, for example, gel electrophoresis, ion-exchange chromatography, affinity chromatography, flow sorting, and sedimentation according to density.

[00180] A "label" or a "detectable moiety" in reference to a nucleic acid, refers to a composition that, when linked with a nucleic acid, renders the nucleic acid detectable, for example, by spectroscopic, photochemical, biochemical, immunochemical, or chemical means. Exemplary labels include, but are not limited to, radioactive isotopes, magnetic beads, metallic beads, colloidal particles, fluorescent dyes, enzymes, biotin, digoxigenin, haptens, and the like. A "labeled nucleic acid or oligonucleotide probe" is generally one that is bound, either covalently, through a linker or a chemical bond, or noncovalently, through ionic bonds, van der Waals forces, electrostatic attractions, hydrophobic interactions, or hydrogen bonds, to a label such that the presence of the nucleic acid or probe can be detected by detecting the presence of the label bound to the nucleic acid or probe.

[00181] The term "likelihood" generally refers to an increase in the probability of an event. The term "likelihood" when used in reference to the effectiveness of a patient tumor response

generally contemplates an increased probability that the rate of tumor progress or tumor cell growth will decrease. The term "likelihood" when used in reference to the effectiveness of a patient tumor response can also generally mean the increase of indicators, such as mRNA or protein expression, that may evidence an increase in the progress in treating the tumor.

[00182] As used herein, the terms "manage," "managing," and "management" refer to the beneficial effects that a subject derives from a therapy, which does not result in a cure of the disease, disorder or condition. In certain embodiments, a subject is administered one or more therapies to "manage" a disease, disorder or condition, or one or more symptoms thereof, so as to prevent the progression or worsening of the disease, disorder or condition.

[00183] The term "monitor," as used herein, generally refers to the overseeing, supervision, regulation, watching, tracking, or surveillance of an activity. For example, the term "monitoring the effectiveness of a compound" refers to tracking the effectiveness in treating a cancer in a patient or in a tumor cell culture. Similarly, the "monitoring," when used in connection with patient compliance, either individually, or in a clinical trial, refers to the tracking or confirming that the patient is actually taking a drug being tested as prescribed. The monitoring can be performed, for example, by following the expression of mRNA or protein biomarkers.

[00184] The terms "nucleic acid" and "polynucleotide" are used interchangeably herein to describe a polymer of any length composed of nucleotides, *e.g.*, deoxyribonucleotides or ribonucleotides, or compounds produced synthetically, which can hybridize with naturally occurring nucleic acids in a sequence specific manner analogous to that of two naturally occurring nucleic acids, *e.g.*, can participate in Watson-Crick base pairing interactions. As used herein in the context of a polynucleotide sequence, the term "bases" (or "base") is synonymous with "nucleotides" (or "nucleotide"), *i.e.*, the monomer subunit of a polynucleotide. The terms "nucleoside" and "nucleotide" are intended to include those moieties that contain not only the known purine and pyrimidine bases, but also other heterocyclic bases that have been modified. Such modifications include methylated purines or pyrimidines, acylated purines or pyrimidines, alkylated riboses or other heterocycles. In addition, the terms "nucleoside" and "nucleotide" include those moieties that contain not only conventional ribose and deoxyribose sugars, but other sugars as well. Modified nucleosides or nucleotides also include modifications on the sugar moiety, *e.g.*, wherein one or more of the hydroxyl groups are replaced with halogen atoms or aliphatic groups, or are functionalized as ethers, amines, or the like. "Analogues" refer to molecules having structural features that are recognized in the literature as being mimetics, derivatives, having analogous structures, or other like terms, and include, for example, polynucleotides incorporating non-natural nucleotides, nucleotide mimetics such as 2'-modified

nucleosides, peptide nucleic acids, oligomeric nucleoside phosphonates, and any polynucleotide that has added substituent groups, such as protecting groups or linking moieties.

[00185] As used herein, the term "nucleotide," nucleic acid," "nucleic acid molecule," "polynucleotide," and other similar terms are used interchangeable and include DNA, RNA, mRNA and the like.

[00186] The term "nucleic acid" or "oligonucleotide probe" refers to a nucleic acid capable of binding to a target nucleic acid of complementary sequence, such as the mRNA biomarkers provided herein, through one or more types of chemical bonds, usually through complementary base pairing, usually through hydrogen bond formation. As used herein, a probe may include natural (*e.g.*, A, G, C, or T) or modified bases (7-deazaguanosine, inosine, etc.). In addition, the bases in a probe may be joined by a linkage other than a phosphodiester bond, so long as it does not interfere with hybridization. It will be understood by one of skill in the art that probes may bind target sequences lacking complete complementarity with the probe sequence depending upon the stringency of the hybridization conditions. The probes are preferably directly labeled with isotopes, for example, chromophores, lumiphores, chromogens, or indirectly labeled with biotin to which a streptavidin complex may later bind. By assaying for the presence or absence of the probe, one can detect the presence or absence of a target mRNA biomarker of interest.

[00187] As used herein, and unless otherwise indicated, the term "optically pure" means a composition that comprises one optical isomer of a compound and is substantially free of other isomers of that compound. For example, an optically pure composition of a compound having one chiral center will be substantially free of the opposite enantiomer of the compound. An optically pure composition of a compound having two chiral centers will be substantially free of other diastereomers of the compound. A typical optically pure compound comprises greater than about 80% by weight of one enantiomer of the compound and less than about 20% by weight of other enantiomers of the compound, greater than about 90% by weight of one enantiomer of the compound and less than about 10% by weight of the other enantiomers of the compound, greater than about 95% by weight of one enantiomer of the compound and less than about 5% by weight of the other enantiomers of the compound, greater than about 97% by weight of one enantiomer of the compound and less than about 3% by weight of the other enantiomers of the compound, and greater than about 99% by weight of one enantiomer of the compound and less than about 1% by weight of the other enantiomers of the compound.

[00188] The terms "optional" or "optionally" as used herein means that the subsequently described event or circumstance may or may not occur, and that the description includes, without limitation, instances where said event or circumstance occurs and instances in which it does not.

[00189] The term "pharmaceutically acceptable" as used herein means being approved by a regulatory agency of the Federal or a state government, or listed in the U.S. Pharmacopeia, European Pharmacopeia or other generally recognized Pharmacopeia for use in animals, and more particularly in humans.

[00190] As used herein and unless otherwise indicated, the term "pharmaceutically acceptable salt" encompasses non-toxic acid and base addition salts of the compound to which the term refers. Acceptable non-toxic acid addition salts include those derived from organic and inorganic acids or bases know in the art, which include, for example, hydrochloric acid, hydrobromic acid, phosphoric acid, sulfuric acid, methanesulphonic acid, acetic acid, tartaric acid, lactic acid, succinic acid, citric acid, malic acid, maleic acid, sorbic acid, aconitic acid, salicylic acid, phthalic acid, embolic acid, enanthic acid, and the like.

[00191] Compounds that are acidic in nature are capable of forming salts with various pharmaceutically acceptable bases. The bases that can be used to prepare pharmaceutically acceptable base addition salts of such acidic compounds are those that form non-toxic base addition salts, *i.e.,* salts containing pharmacologically acceptable cations such as, but not limited to, alkali metal or alkaline earth metal salts and the calcium, magnesium, sodium or potassium salts in particular. Suitable organic bases include, but are not limited to, N,N-dibenzylethylenediamine, chloroprocaine, choline, diethanolamine, ethylenediamine, meglumaine (N-methylglucamine), lysine, and procaine.

[00192] The terms "polymerase chain reaction," or "PCR," as used herein generally refers to a procedure wherein small amounts of a nucleic acid, RNA and/or DNA, are amplified as described, for example, in U.S. Pat. No. 4,683,195 to Mullis. Generally, sequence information from the ends of the region of interest or beyond needs to be available, such that oligonucleotide primers can be designed; these primers will be identical or similar in sequence to opposite strands of the template to be amplified. The 5' terminal nucleotides of the two primers may coincide with the ends of the amplified material. PCR can be used to amplify specific RNA sequences, specific DNA sequences from total genomic DNA, and cDNA transcribed from total cellular RNA, bacteriophage or plasmid sequences, etc. *See generally* Mullis *et al.*, Cold Spring Harbor Symp. Quant. Biol., 51: 263 (1987); Erlich, ed., PCR Technology, (Stockton Press, NY, 1989).

[00193] As used herein the terms "polypeptide" and "protein" as used interchangeably herein, refer to a polymer of amino acids of three or more amino acids in a serial array, linked through peptide bonds. The term "polypeptide" includes proteins, protein fragments, protein analogues, oligopeptides and the like. The term polypeptide as used herein can also refer to a peptide. The

amino acids making up the polypeptide may be naturally derived, or may be synthetic. The polypeptide can be purified from a biological sample.

[00194] The term "predict" generally means to determine or tell in advance. When used to "predict" the effectiveness of a cancer treatment, for example, the term "predict" can mean that the likelihood of the outcome of the cancer treatment can be determined at the outset, before the treatment has begun, or before the treatment period has progressed substantially.

[00195] As used herein, the term "prophylactic agent" refers to any agent that can totally or partially inhibit the development, recurrence, onset or spread of a disease, disorder or condition and/or symptom related thereto in a subject. In certain embodiments, the term "prophylactic agent" refers to a compound provided herein. In certain other embodiments, the term "prophylactic agent" refers to an agent other than a compound provided herein. In certain embodiments, a prophylactic agent is an agent which is known to be useful to or has been or is currently being used to prevent a disease, disorder or condition and/or a symptom related thereto or impede the onset, development, progression and/or severity of a disease, disorder or condition and/or a symptom related thereto.

[00196] The term "probe" as used herein, refers to a capture agent that is directed to a specific target mRNA biomarker sequence. Accordingly, each probe of a probe set has a respective target mRNA biomarker. A probe/target mRNA duplex is a structure formed by hybridizing a probe to its target mRNA biomarker.

[00197] The term "refractory or resistant" refers to a circumstance where patients, even after intensive treatment, have residual cancer cells (*e.g.*, leukemia or lymphoma cells) in their lymphatic system, blood and/or blood forming tissues (*e.g.*, marrow).

[00198] The term "regulate" as used herein refers to controlling the activity of a molecule or biological function, such as enhancing or diminishing the activity or function.

[00199] The term "sample" as used herein relates to a material or mixture of materials, typically, although not necessarily, in fluid form, containing one or more components of interest.

[00200] The term "sensitivity" and "sensitive" when made in reference to treatment with compound is a relative term which refers to the degree of effectiveness of the compound in lessening or decreasing the progress of a tumor or the disease being treated. For example, the term "increased sensitivity" when used in reference to treatment of a cell or tumor in connection with a compound refers to an increase of, at least a 5%, or more, in the effectiveness of the tumor treatment.

[00201] "Sequence identity" or "identity" in the context of two nucleic acid sequences refers to the residues in the two sequences which are the same when aligned for maximum

correspondence over a specified comparison window, and can take into consideration additions, deletions and substitutions.

[00202] As used herein and unless otherwise indicated, the term "solvate" means a compound provided herein or a salt thereof, that further includes a stoichiometric or non-stoichiometric amount of solvent bound by non-covalent intermolecular forces. Where the solvent is water, the solvate is a hydrate.

[00203] As used herein and unless otherwise indicated, the term "stereomerically pure" means a composition that comprises one stereoisomer of a compound and is substantially free of other stereoisomers of that compound. For example, a stereomerically pure composition of a compound having one chiral center will be substantially free of the opposite enantiomer of the compound. A stereomerically pure composition of a compound having two chiral centers will be substantially free of other diastereomers of the compound. A typical stereomerically pure compound comprises greater than about 80% by weight of one stereoisomer of the compound and less than about 20% by weight of other stereoisomers of the compound, greater than about 90% by weight of one stereoisomer of the compound and less than about 10% by weight of the other stereoisomers of the compound, greater than about 95% by weight of one stereoisomer of the compound and less than about 5% by weight of the other stereoisomers of the compound, and greater than about 97% by weight of one stereoisomer of the compound and less than about 3% by weight of the other stereoisomers of the compound. As used herein and unless otherwise indicated, the term "stereomerically enriched" means a composition that comprises greater than about 60% by weight of one stereoisomer of a compound, greater than about 70% by weight, greater than about 80% by weight of one stereoisomer of a compound. As used herein and unless otherwise indicated, the term "enantiomerically pure" means a stereomerically pure composition of a compound having one chiral center. Similarly, the term "stereomerically enriched" means a stereomerically enriched composition of a compound having one chiral center.

[00204] The term "stringent assay conditions" refers to conditions that are compatible to produce binding pairs of nucleic acids, *e.g.*, probes and target mRNAs, of sufficient complementarity to provide for the desired level of specificity in the assay while being generally incompatible to the formation of binding pairs between binding members of insufficient complementarity to provide for the desired specificity. The term stringent assay conditions generally refers to the combination of hybridization and wash conditions.

[00205] As used herein, the terms "subject" and "patient" are used interchangeably. As used herein, a subject can be a mammal such as a non-primate (*e.g.,* cows, pigs, horses, cats, dogs, rats, *etc.*) or a primate (*e.g.,* monkey and human). In specific embodiments, the subject is a

human. In one embodiment, the subject is a mammal (*e.g.,* a human) having a disease, disorder or condition. In another embodiment, the subject is a mammal (*e.g.,* a human) at risk of developing a disease, disorder or condition.

[00206] The term "substantial identity" or "homologous" in their various grammatical forms in the context of polynucleotides generally means that a polynucleotide comprises a sequence that has a desired identity, for example, at least 60% identity, at least 70% sequence identity, at least 80%, at least 90% and at least 95%, compared to a reference sequence. Another indication that nucleotide sequences are substantially identical is if two molecules hybridize to each other under stringent conditions.

[00207] As used herein, and unless otherwise specified, the term "therapeutically effective amount" of a compound is an amount sufficient to provide a therapeutic benefit in the treatment or management of a cancer, or to delay or minimize one or more symptoms associated with the presence of the cancer. A therapeutically effective amount of a compound means an amount of therapeutic agent, alone or in combination with other therapies, which provides a therapeutic benefit in the treatment or management of the cancer. The term "therapeutically effective amount" can encompass an amount that improves overall therapy, reduces or avoids symptoms or causes of cancer, or enhances the therapeutic efficacy of another therapeutic agent.

[00208] As used herein, the term "therapy" refers to any protocol, method and/or agent that can be used in the prevention, management, treatment and/or amelioration of a given disease, disorder or condition. In certain embodiments, the terms "therapies" and "therapy" refer to a drug therapy, biological therapy, supportive therapy, and/or other therapies useful in the prevention, management, treatment and/or amelioration of a given disease, disorder or condition known to one of skill in the art such as medical personnel.

[00209] As used herein, and unless otherwise specified, the terms "treat," "treating" and "treatment" refer to an action that occurs while a patient is suffering from the specified disease, disorder or condition. As used herein, the terms "treat," "treatment" and "treating" refer to the reduction or amelioration of the progression, severity, and/or duration of a disease, disorder or condition resulting from the administration of one or more therapies.

[00210] "Tumor," as used herein, refers to all neoplastic cell growth and proliferation, whether malignant or benign, and all pre-cancerous and cancerous cells and tissues. "Neoplastic," as used herein, refers to any form of dysregulated or unregulated cell growth, whether malignant or benign, resulting in abnormal tissue growth. Thus, "neoplastic cells" include malignant and benign cells having dysregulated or unregulated cell growth.

[00211] An mRNA that is "upregulated" is generally increased upon a given treatment or condition. An mRNA that is "downregulated" generally refers to a decrease in the level of

expression of the mRNA in response to a given treatment or condition. In some situations, the mRNA level can remain unchanged upon a given treatment or condition. An mRNA from a patient sample can be "upregulated" when treated with a drug, as compared to a non-treated control. This upregulation can be, for example, an increase of about 5%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 90%, 100%, 200%, 300%, 500%, 1,000%, 5,000% or more of the comparative control mRNA level. Alternatively, an mRNA can be "downregulated", or expressed at a lower level, in response to administration of certain compounds or other agents. A downregulated mRNA can be, for example, present at a level of about 99%, 95%, 90%, 80%, 70%, 60%, 50%, 40%, 30%, 20%, 10%, 1% or less of the comparative control mRNA level. Similarly, the level of a polypeptide or protein biomarker from a patient sample can be increased when treated with a drug, as compared to a non-treated control. This increase can be about 5%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 90%, 100%, 200%, 300%, 500%, 1,000%, 5,000% or more of the comparative control protein level. Alternatively, the level of a protein biomarker can be decreased in response to administration of certain compounds or other agents. This decrease can be, for example, present at a level of about 99%, 95%, 90%, 80%, 70%, 60%, 50%, 40%, 30%, 20%, 10%, 1% or less of the comparative control protein level.

[00212] It should be noted that if there is a discrepancy between a depicted structure and a name given that structure, the depicted structure is to be accorded more weight. In addition, if the stereochemistry of a structure or a portion of a structure is not indicated with, for example, bold or dashed lines, the structure or portion of the structure is to be interpreted as encompassing all stereoisomers of it.

[00213] The practice of the embodiments provided herein will employ, unless otherwise indicated, conventional techniques of molecular biology, microbiology, and immunology, which are within the skill of those working in the art. Such techniques are explained fully in the literature. Examples of particularly suitable texts for consultation include the following: Sambrook *et al.* (1989) *Molecular Cloning; A Laboratory Manual* (2d ed.); D.N Glover, ed. (1985) *DNA Cloning*, Volumes I and II; M.J. Gait, ed. (1984) *Oligonucleotide Synthesis*; B.D. Hames & SJ. Higgins, eds. (1984) *Nucleic Acid Hybridization*; B.D. Hames & S.J. Higgins, eds. (1984) *Transcription and Translation*; R.I. Freshney, ed. (1986) *Animal Cell Culture; Immobilized Cells and Enzymes* (IRL Press, 1986); *Immunochemical Methods in Cell and Molecular Biology* (Academic Press, London); Scopes (1987) *Protein Purification: Principles and Practice* (2d ed.; Springer Verlag, N.Y.); and D.M. Weir and C. C. Blackwell, eds. (1986) *Handbook of Experimental Immunology*, Volumes I-IV.

5.2 Methods of Identifying Compounds

[00214] Provided herein, for example, are compositions, methods and kits for screening or otherwise identifying a compound, that binds to an E3 ubiquitin ligase. In certain embodiments, the compound induces a conformational change in the E3 ubiquitin ligase ligand binding pocket. In other embodiments, the compound alters the properties of the E3 ubiquitin ligase surface. In some embodiments of the various compositions and methods provided herein, the compound alters the E3 ubiquitin ligase surface adjacent to the E3 ubiquitin ligase ligand binding pocket. In other embodiments, the compound alters one or more surrounding loops or other surface of the E3 ubiquitin ligase ligand binding pocket. In certain embodiments, the properties of the E3 ubiquitin ligase surface are altered by the placement of compound appendages. In a specific embodiment, the compound is a CMA. In another specific embodiment, the E3 ubiquitin ligase is CRBN.

[00215] While exemplary methods provided below and elsewhere refer to CRBN conformational changes (*e.g.,* within the CMA binding pocket) or other alterations in the properties of a CRBN surface (*e.g.,* on an adjacent region of the protein, such as a region adjacent to the CMA-binding pocket), it is understood that CRBN is merely illustrative and that the methods provided herein can be utilized with other E3 ubiquitin ligases.

[00216] In one aspect, provided herein is a method of identifying a test compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise altering the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the method comprises (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In some embodiments, the first set of atomic coordinates and/or said second set of atomic coordinates define a CMA binding domain. In certain embodiments, the difference in atomic coordinates is determined by assessing differences in atomic distances. Also provided herein is a test compound identified by this method. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386

and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN.

[00217] In another aspect, provided herein is a method of identifying a test compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the method comprises (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. Also provided herein is a test compound identified by this method. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the

first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00218] In another aspect, provided herein is a method of identifying a test compound that has a specific downstream biological activity comprising: (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a compound has the specific downstream biological activity. In some embodiments, the first set of atomic coordinates and/or said second set of atomic coordinates define a CMA binding domain. In certain embodiments, the difference in atomic coordinates is determined by assessing differences in atomic distances. In some embodiments, the method further comprises assaying the specific biological activity. Also provided herein is a test compound identified by this method. In certain embodiments, the method further comprises administering said compound to a patient, wherein said biological activity is modulated in said patient. In certain embodiments, the patient has a disease, and wherein one or more symptoms of said disease are alleviated following said administration. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN.

[00219] In another aspect, provided herein is a method of identifying a test compound that has a specific downstream biological activity comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound has the specific downstream biological activity. Also provided herein is a test compound identified by this

method. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00220] In some embodiments, the biological activity is a tumoricidal effect. In other embodiments, the biological activity is an apoptosis effect. In some embodiments, the biological activity is anti-proliferation. In yet other embodiments, the biological activity is PBMC viability. In some embodiments, the biological activity is toxicity. In certain

embodiments, the biological activity is substrate degradation. In one embodiments, the biological activity is Aiolos degradation. In another embodiments, the biological activity is Ikaros degradation. In other embodiments, the biological activity is an immune-mediated effect. In another embodiment, the biological activity is IL-2 induction. In some embodiments, the biological activity is IL-2 repression. In yet other embodiments, the biological activity is a HbF effect. Any combination of one, two, three or more of the aforementioned biological activities is also contemplated. In certain embodiments, the biological activity is based on specific cell type categories. In other embodiments, the biological activity is based on specific tissue type categories. In yet other embodiments, the biological activity is based on solid tumors or solid tumor categories. In some embodiments, the biological activity is based on non-solid tumor categories.

[00221] In another aspect, provided herein is a method of identifying a test compound that has a specific therapeutic efficacy comprising: (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of a compound has the specific therapeutic efficacy. In some embodiments, the first set of atomic coordinates and/or said second set of atomic coordinates define a CMA binding domain. In certain embodiments, the difference in atomic coordinates is determined by assessing differences in atomic distances. Also provided herein is a test compound identified by this method. In certain embodiments, the method further comprises administering said compound to a patient having disease, disorder or condition, wherein one or more symptoms of said disease, disorder or condition is alleviated following said administration. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN.

[00222] In another aspect, provided herein is a method of identifying a test compound that has a specific downstream therapeutic efficacy comprising: (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-

dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound has the specific downstream biological activity. Also provided herein is a test compound identified by this method. In some embodiments, the test compound induces a CRBN conformational change. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

5.2.1. Computer-based Design of Compounds

[00223] Provided herein are methods of designing compounds based on fit within the CMA binding pocket of CRBN. In some embodiments, the methods are computer-based methods.

[00224] In one aspect, provided herein is a method of designing a test compound based on fit within CMA binding pocket of CRBN, comprising: (a) generating on a computer, three-dimensional structural features of a CRBN having a conformational change or alteration in the CMA binding pocket, (b) designing a test compound capable of selectively binding to said CMA binding pocket, (c) synthesizing said test compound, (d) contacting CRBN with said synthesized test compound, and (e) determining if said test compound binds to said CRBN. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN.

[00225] In one embodiment, the method comprises (i) generating (*e.g.,* on a computer) a three-dimensional structural features of a CRBN having a conformational change or alteration in the CMA binding pocket, (ii) designing a compound capable of selectively binding to said CMA binding pocket, (iii) synthesizing said compound, (iv) contacting a CRBN with said synthesized compound, and (v) identifying a synthesized compound that binds to said CMA binding pocket. In certain embodiments, the CMA binding pocket conformational change or alteration of the CRBN is defined by atomic coordinates as set forth in any one of Tables 3, 4, 5, 6 or 7; or a three dimensional structure as set forth in any one of FIGS. 12-18 or 20. In some embodiments, the CMA binding pocket comprises W380, W386 and/or W400. Exemplary CMA binding pockets are provided in FIGS. 12-20 and 22; and Tables 3-5. In some embodiments, the method further comprises methods provided in Example 6.10.

[00226] In certain embodiments, the test compounds are synthesized and assayed for a biological activity as provided elsewhere herein. For example, in some embodiments, the biological activity is a tumoricidal effect, apoptosis effect, anti-proliferation, increased proliferation, PBMC viability, toxicity, substrate degradation (*e.g.,* Aiolos or Ikaros degradation), an immune-mediated effect, IL-2 induction, or IL-2 repression.

[00227] In other embodiments, the test compounds are synthesized and assayed for a therapeutic activity as provided elsewhere herein.

5.3 Crystalline CRBN

[00228] Provided herein are crystalline forms of CRBN, for example, unbound CRBN or CRBN complexed with a CMA. In one embodiment, the crystalline form has atomic coordinates as set forth in any one of Tables 3, 4, 5, 6 or 7. In some embodiments, the crystalline form has a three dimensional structure as set forth in any one of FIGS. 12-18 or 20. In certain

embodiments, the CRBN is complexed with (or otherwise bound to) DDB1. In other embodiments, the CRBN is complexed with (or otherwise bound to) a CMA. In certain embodiments, the CMA is thalidomide, pomalidomide or lenalidomide. In other embodiments, the CRBN is complexed with (or otherwise bound to) DDB1 and a CMA. Exemplary crystals and methods of making the crystals are provided in Example 6.10 below.

5.3.1. Crystalline CRBN - Unbound

[00229] Provided herein is a crystalline CRBN. In certain embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00230] In one embodiment, the CRBN has a three-dimensional structure. In certain embodiments, the three-dimensional structure is determined by x-ray diffraction. In a specific embodiment, the three-dimensional structure has the following atomic coordinates In one embodiment, the crystalline form has atomic coordinates as set forth in any one of Tables 3, 4, 5, 6 or 7. In some embodiments, the crystalline form has a three dimensional structure as set forth in any one of FIGS. 12-18 or 20. In certain embodiments, the CRBN is complexed with (or otherwise bound to) DDB1. In other embodiments, the CRBN is complexed with (or otherwise bound to) a CMA. In certain embodiments, the CMA is thalidomide, pomalidomide or lenalidomide. In other embodiments, the CRBN is complexed with (or otherwise bound to) DDB and a CMA. Exemplary crystals and methods of making the crystals are provided in Example 6.10 below.

[00231] In a specific embodiment, the crystalline form has atomic coordinates set forth in Table 4. In other embodiments, the crystalline form has atomic coordinates set forth in Table 5. In other embodiments, the crystalline form has atomic coordinates set forth in Table 6. In other embodiments, the crystalline form has atomic coordinates set forth in Table 7.

[00232] In some embodiments, the crystalline form comprises a fragment of CRBN. In other embodiments, the crystalline form comprises a fragment of CRBN, either alone or in combination with DDB1 and/or a CMA provided herein.

[00233] Also provided herein is a method to obtain a crystalline CRBN, wherein said method comprises concentrating the CRBN and obtaining a crystal using methods provided in Example 6.10 below.

5.3.2. Crystalline CRBN - Bound

[00234] Provided herein is a crystal of a complex comprising CRBN and a CMA. In one embodiment, the CMA is an immunomodulatory compound provided herein (see, *e.g.,* Section 5.9 below). In other embodiments, the CMA is Compound C or an analog thereof. In certain embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00235] In one embodiment, the crystal of the complex has a three-dimensional structure. In certain embodiments, the three-dimensional structure is determined by x-ray diffraction. In one embodiment, the crystal has atomic coordinates as set forth in any one of Tables 3, 4, 5, 6 or 7. In some embodiments, the crystal has a three dimensional structure as set forth in any one of FIGS. 12-18 or 20. In certain embodiments, the CRBN is complexed with (or otherwise bound to) DDB1. In other embodiments, the CRBN is complexed with (or otherwise bound to) a CMA. In certain embodiments, the CMA is thalidomide, pomalidomide or lenalidomide. In other embodiments, the CRBN is complexed with (or otherwise bound to) DDB and a CMA. Exemplary crystals and methods of making the crystals are provided in Example 6.10 below.

[00236] In one embodiment, the crystal has atomic coordinates set forth in Table 3. In a specific embodiment, the crystal has atomic coordinates set forth in Table 4. In other embodiments, the crystal has atomic coordinates set forth in Table 5. In other embodiments, the crystal has atomic coordinates set forth in Table 6. In other embodiments, the crystal has atomic coordinates set forth in Table 7.

[00237] Generally speaking, those of skill in the art will understand that the term "coordinates" or "structure coordinates" refers to Cartesian coordinates derived from mathematical equations related to the patterns obtained on diffraction of a monochromatic beam of X-rays by the atoms (scattering centers) of a polypeptide in crystal form. The diffraction data are used to calculate an electron density map of the repeating unit of the crystal. The electron density maps are then used to estimate the positions of the individual atoms of the polypeptide to construct a polypeptide model. Those of skill in the art will also understand that a set of structure coordinates for a polypeptide model is a relative set of points that define a structure in three dimensions.

[00238] Those of skill in the art understand that a set of structure coordinates determined by X-ray crystallography is approximate and not without standard error. Due to inherent limitations of the resolution of diffraction data, the positions of individual atoms in a polypeptide model are necessarily approximate. Slight variations in atomic position within a polypeptide model will have little effect on overall shape and structure of the polypeptide model. If such variations are within an acceptable standard error as compared to the original coordinates, the resulting three-dimensional shape and structure is considered to be structurally equivalent. By way of example, those skilled in the art understand that a set of structure coordinates for a given polypeptide model having a root mean square deviation of non-hydrogen atoms of less than about 1.5 Å when superimposed on the non-hydrogen atom positions of a

second set of structure coordinates for a second polypeptide model are typically considered to be substantially identical or homologous.

[00239] It also is possible that an entirely different set of coordinates could define a similar or identical shape. Slight variations in structure coordinates also can be generated by mathematically manipulating the coordinates of a polypeptide model. For example, the structure coordinates set forth herein could be manipulated by crystallographic permutations of the structure coordinates, fractionalization of the structure coordinates, integer additions or subtractions to sets of the structure coordinates, inversion of the structure coordinates, or any combination thereof. Alternatively, modification in the crystal structure due to mutations, additions, substitutions, and/or deletions of amino acids, or other changes in any of the components that make up the crystal, could also account for variations in structure coordinates. If such variations are within an acceptable standard error as compared to the original coordinates, the resulting three-dimensional shape is considered to be the same as that of the unmodified crystal structure.

[00240] In some embodiments, the crystal comprises a fragment of CRBN. In other embodiments, the crystal comprises a fragment of CRBN, either alone or in combination with DDB1 and/or a CMA provided herein.

[00241] In certain embodiments, the three-dimensional structure is indicative of a conformational change or alteration in the CRBN. In some embodiments, the CRBN conformational change or alteration is as compared to an unbound CRBN. In other embodiments, the CRBN conformational change or alteration is as compared to complex comprising the CRBN and an analog of the CMA. In yet other embodiments, the CRBN conformational change or alteration is as compared to a complex comprising CRBN and a different CMA.

[00242] Also provided herein is a crystal of a complex comprising CRBN and a CMA, or an analog thereof. Also provided herein is a method of obtaining the crystal, comprising concentrating a purified complex of the CRBN and the CMA, or analog thereof, and obtaining the crystal. In certain embodiments, the method further comprises methods provided in Example 6.10 below.

[00243] Also provided herein is a crystal of a complex comprising CRBN and a compound, wherein said crystal has a three-dimensional structure as determined by x-ray diffraction having the following atomic coordinates In one embodiment, the crystal has atomic coordinates as set forth in any one of Tables 3, 4, 5, 6 or 7. In some embodiments, the crystal has a three dimensional structure as set forth in any one of FIGS. 12-18 or 20. In certain embodiments, the CRBN is complexed with (or otherwise bound to) DDB1. In other

embodiments, the CRBN is complexed with (or otherwise bound to) a CMA. In certain embodiments, the CMA is thalidomide, pomalidomide or lenalidomide. In other embodiments, the CRBN is complexed with (or otherwise bound to) DDB and a CMA. Exemplary crystals and methods of making the crystals are provided in Example 6.10 below.

[00244] In one embodiment, the crystal has atomic coordinates set forth in Table 3. In a specific embodiment, the crystal has atomic coordinates set forth in Table 4. In other embodiments, the crystal has atomic coordinates set forth in Table 5. In other embodiments, the crystal has atomic coordinates set forth in Table 6. In other embodiments, the crystal has atomic coordinates set forth in Table 7.

[00245] In some embodiments, the crystal comprises a fragment of CRBN. In other embodiments, the crystal comprises a fragment of CRBN, either alone or in combination with DDB1 and/or a CMA provided herein.

[00246] Also provided herein is a crystal of a complex comprising a CRBN and a compound, wherein said crystal has a three-dimensional structure as determined by x-ray diffraction, wherein said three-dimensional structure has atomic coordinates as set forth in any one of Tables 3, 4, 5, 6 or 7 indicative of CRBN conformational change or alteration. In some embodiments, the CRBN conformational change or alteration is as compared to a complex comprising CRBN and reference compound. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN.

[00247] In certain embodiments of the various compositions and methods provided herein, the CRBN is bound to DDB1. In some embodiments, the CRBN is bound to Cul4. In other embodiments, the CRBN is bound to Roc1. In some embodiments, the CRBN is bound to DDB1 and Cul4. In other embodiments, the CRBN is bound to DDB1 and Roc1. In yet other embodiments, the CRBN is bound to Cul4 and Roc1. In some embodiments, the CRBN is bound to DDB1, Cul4 and Roc1. In certain embodiments, CRBN that is bound to DDB1, Cul4 and/or Roc1 is a complex with DDB1, Cul4 and/or Roc1, respectively.

[00248] In some embodiments of the various compositions and methods provided herein, the CMA is an immunomodulatory compound provided herein (see, *e.g.,* Section 5.9 below). In certain embodiments, the CMA is thalidomide. In other embodiments, the CMA is pomalidomide. In some embodiments, the CMA is Compound B. In other embodiments, the

CMA is Compound C. In certain embodiments, the CMA is a thalidomide analog. In other embodiments, the CMA is a pomalidomide analog. In some embodiments, the CMA is a Compound B analog. In other embodiments, the CMA is a Compound C analog. In other embodiments, the CMA is not thalidomide. In other embodiments, the CMA is not pomalidomide. In some embodiments, the CMA is not Compound B. In other embodiments, the CMA is not Compound C. In other embodiments, the CMA is not a thalidomide analog. In other embodiments, the CMA is not a pomalidomide analog. In some embodiments, the CMA is not a Compound B analog. In other embodiments, the CMA is not a Compound C analog.

[00249] Also provided herein are methods of identifying a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) comprising: (i) obtaining a crystal comprising a complex comprising the CRBN and the compound, (ii) determining the three-dimensional structure of the crystal by x-ray diffraction to obtain atomic coordinates, and (iii) comparing said atomic coordinates with atomic coordinates provided in any one of Tables 3, 4, 5, 6 or 7, wherein a change or shift in atomic coordinates is indicative of a compound that induces said CRBN conformational change or alteration. In certain embodiments, the atomic coordinates define the CMA binding domain. Also provided herein are compounds identified by these methods. In some embodiments, the test compound induces a CRBN conformational change or alteration. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein.

5.4 Methods of Inducing a CRBN Conformational Change or Alteration

[00250] Provided herein are methods of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), said method comprising contacting the CRBN with a CMA.

[00251] In certain embodiments, a conformational change in the CMA-binding pocket is induced. In other embodiments, an alteration in the properties of the CRBN surface is induced.

In some embodiments, a CRBN surface adjacent to the CMA-binding pocket is altered. In other embodiments, one or more surrounding loops that are adjacent or otherwise surround the CMA binding pocket are altered. In certain embodiments, the properties of the CRBN surface are altered by the placement of a compound's appendages. In a specific embodiment, the compound is a CMA.

[00252] In some embodiments, the CRBN conformational change results in an altered substrate specificity, biological activity and/or therapeutic utility as compared to CRBN in the absence of the CMA. In some embodiments, the CRBN conformational change results in an altered substrate specificity, biological activity and/or therapeutic utility as compared to CRBN in the presence of a different CMA. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced.

[00253] Provided herein, in certain embodiments, is a method of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), comprising contacting the CRBN with a test compound, wherein said CRBN conformational change or alteration comprises a conformational change or alteration within the CMA binding pocket of the CRBN that is different than the conformational change or alteration within the CMA binding pocket of a CRBN contacted with a reference compound. In some embodiments, the CRBN conformational change or alteration results in a different biological activity. In some embodiments, the CRBN conformational change or alteration results in a different therapeutic utility. In other embodiments, the CRBN conformational change or alteration results in a different substrate specificity. In some embodiments, the test compound induces a CRBN conformational change or alteration. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional

structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00254] Also provided herein is a composition comprising a CRBN and a test compound, wherein said CRBN has a conformational change or alteration as compared to a reference compound. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the

conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00255] Also provided herein is a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) upon contact with said CRBN, as compared to the conformational change or alteration as compared to a reference compound. In some embodiments, the CRBN conformational change or alteration results in a different biological activity. In some embodiments, the CRBN conformational change or alteration results in a different therapeutic utility. In other embodiments, the CRBN conformational change or alteration results in a different substrate specificity. In some embodiments, the compound induces a CRBN conformational change or alteration. In other embodiments, the compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of

atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00256] Also provided herein is a complex comprising a CRBN and test compound, wherein said CRBN has a conformational change or alteration as compared to a conformational change or alteration of said CRBN contacted with a reference compound. I In some embodiments, the CRBN has a conformational change or alteration. In other embodiments, the CRBN has an alteration of the properties of the CRBN surface. n certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a

CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00257] In various embodiments of the methods provided herein, the compound is a compound provided herein (see, *e.g.,* Section 5.9 below). In other embodiments, the compound is not a compound provided herein. In various embodiments of the methods provided herein, the compound is a CMA. In certain embodiments, the CMA is thalidomide, lenalidomide, pomalidomide, 3-(5-amino-2-methyl-4-oxo-4*H*-quinazolin-3-yl)-piperidine-2,6-dione (Compound A) or 3-(4-((4-(morpholinomethyl)benzyl)oxy)-1-oxoisoindolin-2-yl)piperidine-2,6-dione, a stereoisomer thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. In certain embodiments of the methods provided herein, the CMA is not thalidomide, lenalidomide, pomalidomide, 3-(5-amino-2-methyl-4-oxo-4*H*-quinazolin-3-yl)-piperidine-2,6-dione (Compound A) or 3-(4-((4-(morpholinomethyl)benzyl)oxy)-1-oxoisoindolin-2-yl)piperidine-2,6-dione (Compound B), a stereoisomer thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. In an embodiment, the compound is lenalidomide. In another embodiment, the compound is Compound A. In some embodiments, the compound is not thalidomide. In other embodiments, the compound is not lenalidomide. In other embodiments, the compound is not Compound A. In some embodiments, the compound is not thalidomide, lenalidomide, Compound A, or any analog thereof.

[00258] In certain embodiments of the various compositions and methods provided herein, the substrate is a CRBN-associated protein.

[00259] In some embodiments, the CRBN-associated protein is Ikaros. In other embodiments, the CRBN-associated protein is Aiolos. In some embodiments, the CRBN-associated protein is Ikaros and Aiolos. In certain embodiments, the CRBN-associated protein is interferon. In other embodiments, the CRBN-associated protein is an interferon pathway protein. In some embodiments, the interferon pathway protein is interferon-induced

transmembrane protein 3 (IFITM3) and/or interferon regulatory factor 7 (IRF7). In one embodiment of the methods provided herein, the CRBN-associated protein is IKZF3 (Aiolos) having a molecular weight of 58 kDa. In another embodiment of the methods provided herein, the CRBN-associated protein is IKZF3 (Aiolos) having a molecular weight of 42 kDa. Other isoforms of Ikaros and/or Aiolos are also contemplated herein. In various embodiments of the methods provided herein, the CRBN-associated protein is interferon, an interferon pathway protein, casein kinase 1, alpha 1 (CSNK1A1), or a combination thereof. In other embodiments, the CRBN-associated protein is DDB1, DDB2, GSK3B, CUL4A, CUL4B, XBP-1, FAS1, RANBP6, DUS3L, PHGDH, AMPK, IRF4 or NFκB. In various embodiments of the methods provided herein, the CRBN-associated protein is DDB1, PABPC1, HNRNPR, RPL19, SYNCRIP, H2AFX, HSPA8, ALDOA, HIST1H2AA, HSPA1A, XRCC6, RPL12, RPL18A, RPL4, HNRNPA2B1, HNRNPC, RPS2, SEC24C, RPL9, USP15, SEC24A, CTPS, ABCE1, EEF1A1, IPO5, CPSF6, KCNAB2, C7ORF42, SMC4, GNB3, H2AFZ, HIST1H1C, HIST1H1D, HIST1H1E, ACTB, CSNK2A1, CRBN, DDX21, DHX9, DNAJC1, G3BP1, HSPA1B, IGF2BP2, RPL10A, RPL13A, RPL14, RPL15, RPL21, RPL3, RPL30, RPL7, RPL7A, RPLP1, RPLP2, MYH10, ILF3, NCL, RPS13, RPS16, RPS19, RPS6, SND1, EIF2S2, HNRNPH2, UBB, EEF1G, TBL1XR1, NACA, EIF4A1, FASN, PPAT, G3BP2, TUBA1A, UBAP2L, MCM2, UAP1, TUBA1C, EIF2S1, EIF3J, PRKDC, MCM7, RPL11, TUBA1B, STAT3, PTRH2, PABPC4, PTPRC, MACF1, UBE2O, DUT, GNB2L1, NUP88, H2AFJ, SEC23B, PDXK, ACLY, ARID1A, GBE1, HSPA9, DDX17, FUBP1, FBXO21, EWSR1, IFI16, YWHAE, UBA52, COPS6, GNAS, UBE2Q1, FERMT3, NAP1L2, TPD52, VAPA, EEF1AL3, DDIT4, NEDD8, HIST1H1A, HIST1H1B, or PCM1. Other isoforms of the aforementioned CRBN-associated proteins are also contemplated herein.

[00260] In various embodiments of the methods provided herein, the CRBN-associated protein is GSPT1, GSPT2, HBS1L, IKZF1, IKZF3, CK1a, eRF1, BIP, PERK, GCN2, eIF2a, ATF4, ATF3, DDIT3, PPP1R15A, TNFRSF10B, GADD45A, TNFRSF1A, TNFRSF1B, FAS, FADD, IRE1, XBP1, SEC24D, DNAJB9, EDEM1, EDEM2, HYOU1, ATF6, HSPA5, Caspase 3, Caspase 7, Caspase 8, BID, Caspase 9, PARP, Mcl-1, and BAD. In a particular embodiment, the CAP is GSPT1. In another embodiment, the CAP is IKZF1. In yet another embodiment, the CAP is CK1a.

5.4.1. Inducing a CRBN Conformational Change to Alter Substrate Specificity

[00261] Also provided herein are methods of inducing a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), said method comprising contacting the CRBN with a

CMA, wherein said CRBN conformational change or alteration results in an altered substrate specificity. In certain embodiments, the altered substrate specificity is as compared to a CRBN in the absence of the CMA. In other embodiments, the altered substrate specificity is as compared to a CRBN in the presence of a different CMA. In some embodiments, a CRBN conformational change or alteration is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced.

[00262] In one aspect, provided herein is a method of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), comprising contacting the CRBN with a test compound, wherein said CRBN conformational change or alteration results in a different substrate specificity as compared to the substrate specificity of a CRBN that is contacted with a reference compound. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-

dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00263] Substrate specificity can be assessed using any method known to those in the art. In some embodiments, substrate specificity is assessed using UbiScan. In other embodiments, substrate specificity is assessed by quantitating the level of a protein or mRNA of a CRBN-associated protein as provided elsewhere herein.

5.4.2. Inducing a CRBN Conformational Change to Modulate a Biological Activity or Therapeutic Efficacy

[00264] In some embodiments, CRBN conformational changes (*e.g.*, within the CMA-binding pocket of the CRBN) or an alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) following contact with a CMA results in an altered substrate specificity, wherein the altered substrate specificity, in turn, modulates downstream biological activity.

[00265] Provided herein are methods of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), said method comprising contacting the CRBN with a CMA, wherein said CRBN conformational change or alteration results in modulation of a biological activity in a cell or subject. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced.

[00266] In some embodiments, the conformational change or alteration occurs within the CMA binding pocket of the CRBN. In certain embodiments, the conformational change or alteration is assessed using any one of the methods provided herein. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein.

[00267] In another aspect, provided herein is a method of identifying a test compound that induces a specific biological activity, comprising contacting the test compound with CRBN, inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), and assessing conformational change or alteration within the CMA-binding pocket of the CRBN, wherein conformational change or alteration is indicative of a specific biological

activity. In some embodiments, the method further comprises assaying the specific biological activity. Also provided herein is a test compound identified by this method. In certain embodiments, the method further comprises administering said compound to a patient, wherein said biological activity is modulated in said patient. In certain embodiments, the patient has a disease, and wherein one or more symptoms of said disease are alleviated following said administration. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the test compound induces a CRBN conformational change or alteration. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual

polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00268] In some embodiments, the biological activity is a tumoricidal effect. In one embodiment, the biological activity is modulation of apoptosis. In other embodiment, the biological activity is modulation of proliferation, *e.g.,* an anti-proliferative effect. In some embodiments, the biological activity is modulation of PBMC viability. In certain embodiments, the biological activity is modulation of toxicity. In other embodiments, the biological activity is substrate degradation. In certain embodiments, the biological activity is degradation of Aiolos and/or Ikaros. In certain embodiments, the biological activity is a prevention of substrate degradation. In some embodiments, the substrate is a CRBN-associated protein. In some embodiments, the biological activity is an immune-mediated effect. In certain embodiments, the biological effect is modulation of IL-2. In yet other embodiments, the biological effect is an effect on fetal hemoglobin (HbF). In some embodiments, the effect is an effect on a CRBN-associated protein.

[00269] In certain embodiments, a biological activity is observed in one cell type, but not another cell type. In a specific embodiments, the biological activity is directly correlated with an observed CRBN conformational shift in the cell type(s). In an embodiments, the CRBN conformational shift is in a CMA-binding pocket of CRBN. Such conformational shifts can be assessed using any of the various methods provided elsewhere herein.

[00270] In some embodiments, a biological activity is observed in one tissue type, but not another tissue type. In a specific embodiments, the biological activity is directly correlated with an observed CRBN conformational shift in the tissue type(s). In an embodiments, the CRBN conformational shift is in a CMA-binding pocket of CRBN. Such conformational shifts can be assessed using any of the various methods provided elsewhere herein.

[00271] In certain embodiments, a biological activity is observed in one tumor (or cancer) type, but not another tumor (or cancer) type. In a specific embodiments, the biological activity is directly correlated with an observed CRBN conformational shift in the tumor (cancer) type(s). In an embodiments, the CRBN conformational shift is in a CMA-binding pocket of CRBN. Such conformational shifts can be assessed using any of the various methods provided elsewhere herein.

[00272] In some embodiments, a biological activity is observed in a solid tumor (or cancer), but not in a non-solid tumor (or cancer) (*e.g.,* a hematological tumor). In a specific embodiments, the biological activity is directly correlated with an observed CRBN conformational shift in the tumor(s) (or cancer(s)). In an embodiments, the CRBN

conformational shift is in a CMA-binding pocket of CRBN. Such conformational shifts can be assessed using any of the various methods provided elsewhere herein.

[00273] In some embodiments, a biological activity is observed in a non-solid tumor (or cancer) (*e.g.,* a hematological tumor), but not in a solid tumor(or cancer). In a specific embodiments, the biological activity is directly correlated with an observed CRBN conformational shift in the tumor(s) (or cancer(s)). In an embodiments, the CRBN conformational shift is in a CMA-binding pocket of CRBN. Such conformational shifts can be assessed using any of the various methods provided elsewhere herein.

[00274] In certain embodiments, the solid tumor or cancer is a breast, kidney, ovary, colon, bladder, brain, liver of prostate tumor or cancer. In some embodiments, the non-solid tumor is a blood (hematological) cancer.

[00275] In some embodiments, exemplary tumors or cancers include without limitation acute lymphoblastic leukemia, acute myeloid leukemia, Ewing's sarcoma, gestational trophoblastic carcinoma, Hodgkin's disease, non-Hodgkin's lymphoma, Burkitt's lymphoma diffuse large cell lymphoma, follicular mixed lymphoma, lymphoblastic lymphoma, rhabdomyosarcoma, testicular carcinoma, wilms's tumor, anal carcinoma, bladder carcinoma, breast carcinoma, chronic lymphocytic leukemia, chronic myelogenous leukemia, hairy cell leukemia, head and neck carcinoma, meningioma, neuro fibrosoma, angio fibrosoma, lung (small cell) carcinoma, multiple myeloma, Non-Hodgkin's lymphoma, follicular lymphoma, ovarian carcinoma, brain tumors (astrocytoma), cervical carcinoma, colorectal carcinoma, hepatocellular carcinoma, human large hepatocellular carcinoma, Kaposi's sarcoma, lung (non-small-cell) carcinoma, melanoma, pancreatic carcinoma, prostate carcinoma, soft tissue sarcoma, breast carcinoma, colorectal carcinoma (stage II), bone tumors, osteogenic sarcoma, ovarian carcinoma, uterine fibroids, testicular carcinoma, or combinations thereof.

[00276] In one aspect, provided herein is a method of inducing a biological activity in a cell comprising CRBN, comprising contacting said cell with a test compound, wherein said compound induces a conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) of said CRBN, and wherein said CRBN conformational change or alteration is as compared to a reference compound, and wherein the conformational change or alteration results in said biological activity. In some embodiments, a CRBN conformational change or alteration is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In some embodiments, the biological activity is a tumoricidal effect. In other embodiments, the biological activity is an apoptosis effect. In some embodiments, the biological activity is anti-proliferation. In yet other embodiments, the biological activity is

PBMC viability. In some embodiments, the biological activity is toxicity. In certain embodiments, the biological activity is substrate degradation. In one embodiments, the biological activity is Aiolos degradation. In another embodiments, the biological activity is Ikaros degradation. In other embodiments, the biological activity is an immune-mediated effect. In another embodiment, the biological activity is IL-2 induction. In some embodiments, the biological activity is IL-2 repression. In yet other embodiments, the biological activity is a HbF effect. Any combination of one, two, three or more of the aforementioned biological activities is also contemplated. In certain embodiments, the biological activity is based on specific cell type categories. In other embodiments, the biological activity is based on specific tissue type categories. In yet other embodiments, the biological activity is based on solid tumors or solid tumor categories. In some embodiments, the biological activity is based on non-solid tumor categories. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry,

vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In some embodiments, the reference compound is an immunomodulatory compound provided herein.

[00277] In certain embodiments, the biological activity being modulated by the CMA has a direct effect on therapeutic utility of the CMA in a subject.

[00278] In one aspect, provided herein is a method of inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise altering the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), comprising contacting the CRBN with a compound, wherein said CRBN conformational change or alteration results in a specific therapeutic utility. In some embodiments, a CRBN conformational change or alteration is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In some embodiments, the therapeutic utility is based on solid tumors or solid tumor categories. In other embodiments, the therapeutic utility is based on non-solid tumor categories. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-

dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00279] In another aspect, provided herein is a method of identifying a test compound that has a specific therapeutic utility, comprising contacting the test compound with CRBN, inducing a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise altering the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), and assessing the conformational change or alteration within the CMA-binding pocket of the CRBN, wherein a conformational change or alteration is indicative of the specific therapeutic utility. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. Also provided herein is a test compound identified by this method. In some embodiments, the method further comprises administering said compound to a patient having a disease, wherein one or more symptoms of said disease is alleviated following said administration. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-

dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00280] In certain embodiments of the methods provided herein, the contacting in step (a) is performed *in vitro*. In other embodiments, the contacting in step (a) is performed *in vivo*. In one embodiment, the CRBN is are contacted with the compound for a period of time, *e.g.,* 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, or 55 minutes, or 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, or 24 hours, or 2 or 3 or more days.

[00281] In some embodiments of the various methods provided herein, the therapeutic utility is the management or treatment of a CRBN-associated disease, disorder or a symptom thereof. In other embodiments, the therapeutic utility is the management or treatment of a cancer or tumor, or a symptom thereof. In some embodiments, the tumor or cancer is a liver cancer, kidney cancer, acute lymphoblastic leukemia, acute myeloid leukemia, Ewing's sarcoma, gestational trophoblastic carcinoma, Hodgkin's disease, non-Hodgkin's lymphoma, Burkitt's lymphoma diffuse large cell lymphoma, follicular mixed lymphoma, lymphoblastic lymphoma, rhabdomyosarcoma, testicular carcinoma, wilms's tumor, anal carcinoma, bladder carcinoma, breast carcinoma, chronic lymphocytic leukemia, chronic myelogenous leukemia, hairy cell leukemia, head and neck carcinoma, meningioma, neuro fibrosoma, angio fibrosoma, lung (small cell) carcinoma, multiple myeloma, Non-Hodgkin's lymphoma, follicular lymphoma, ovarian carcinoma, brain tumors (astrocytoma), cervical carcinoma, colorectal carcinoma, hepatocellular carcinoma, human large hepatocellular carcinoma, Kaposi's sarcoma, lung (non-small-cell) carcinoma, melanoma, pancreatic carcinoma, prostate carcinoma, soft tissue sarcoma, breast carcinoma, colorectal carcinoma (stage II), bone tumors, osteogenic sarcoma, ovarian carcinoma, uterine fibroids, testicular carcinoma, or combinations thereof. In some embodiments, the cancer or tumor is a lymphoma, leukemia, multiple myeloma, solid tumor, non-Hodgkin's lymphoma, DLBCL, mantle cell lymphoma, follicular lymphoma, acute myeloblastic leukemia, chronic lymphocytic leukemia, MDS or melanoma.

[00282] In another aspect, provided herein is a method of treating or alleviating one or more symptoms of a CRBN-mediated disease or disorder in a patient, comprising administering a test compound to the subject, wherein said compound induces a conformational change or alteration of said CRBN, and wherein said CRBN conformational change or alteration is as compared to a reference compound, and wherein said CRBN conformational change or

alteration results in treatment or alleviation of one or more symptoms of said disease or disorder. In certain embodiments, the disease or disorder is a cancer or tumor. In some embodiments, the test compound induces a CRBN conformational change or alteration. In other embodiments, the test compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof. In some embodiments provided herein is a (test) compound for use in a method of treating or alleviating one or more symptoms of a

CRBN-mediated disease or disorder in a patient, wherein the method comprises administering the (test) compound to a patient, wherein said compound is as described above.

[00283] Also provided herein is a method of alleviating one or more symptoms of a CRBN-associated disease, disorder, or a symptom thereof, in a patient, comprising administering a compound to the subject, wherein said compound induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein) in a cell of said subject. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In some embodiments, the CRBN conformational change or alteration is assessed using a method provided elsewhere herein. In certain embodiments, the CRBN conformational change or alteration comprises atomic coordinates as provided in any one of Tables 3-5, or FIGS. 12-18 or 20. In some embodiments, the CRBN conformational change or alteration results in alleviation of one or more symptoms of said CRBN-mediated disease or disorder in the patient. In some embodiments provided herein is a compound for use in a method of alleviating one or more symptoms of a CRBN-associated disease, disorder, or a symptom thereof, in a patient, the method comprises administering a compound to the subject.

[00284] In some embodiments of the various methods provided herein, the CRBN-associated disease or disorder is a cancer or tumor. In other embodiments, the CRBN-associated disease or disorder is not a cancer or tumor. In some embodiments, the tumor or cancer is a liver cancer, kidney cancer, acute lymphoblastic leukemia, acute myeloid leukemia, Ewing's sarcoma, gestational trophoblastic carcinoma, Hodgkin's disease, non-Hodgkin's lymphoma, Burkitt's lymphoma diffuse large cell lymphoma, follicular mixed lymphoma, lymphoblastic lymphoma, rhabdomyosarcoma, testicular carcinoma, wilms's tumor, anal carcinoma, bladder carcinoma, breast carcinoma, chronic lymphocytic leukemia, chronic myelogenous leukemia, hairy cell leukemia, head and neck carcinoma, meningioma, neuro fibrosoma, angio fibrosoma, lung (small cell) carcinoma, multiple myeloma, Non-Hodgkin's lymphoma, follicular lymphoma, ovarian carcinoma, brain tumors (astrocytoma), cervical carcinoma, colorectal carcinoma, hepatocellular carcinoma, human large hepatocellular carcinoma, Kaposi's sarcoma, lung (non-small-cell) carcinoma, melanoma, pancreatic carcinoma, prostate carcinoma, soft tissue sarcoma, breast carcinoma, colorectal carcinoma (stage II), bone tumors, osteogenic sarcoma, ovarian carcinoma, uterine fibroids, testicular carcinoma, or combinations thereof. In some embodiments, the cancer or tumor is a lymphoma, leukemia, multiple myeloma, solid tumor, non-Hodgkin's lymphoma, DLBCL, mantle cell lymphoma, follicular lymphoma, acute myeloblastic leukemia, chronic lymphocytic leukemia, MDS or melanoma.

5.4.3. Methods of Assaying a Specific Biological Activity

[00285] In certain embodiments of the methods provided herein, the method comprises assaying a specific biological activity. In certain embodiments, the biological activity is substrate degradation. In certain embodiments, the substrate is a CRBN-associated protein. In some embodiments, the CRBN-associated protein is detected and/or quantified. In some embodiments, the methods comprises: (a) contacting the sample with a first antibody that immunospecifically binds to the CRBN-associated protein; (b) contacting the sample bound to the first antibody with a second antibody with a detectable label, wherein the second antibody immunospecifically binds to the CRBN-associated protein, and wherein the second antibody immunospecifically binds to a different epitope on CRBN-associated protein than the first antibody; (c) detecting the presence of second antibody bound to the sample; and (d) determining the protein level of the CRBN-associated protein based on the amount of detectable label in the second antibody. In one embodiment, the CRBN-associated protein is Ikaros. In another embodiment, the CRBN-associated protein is Aiolos. In yet another embodiment, the CRBN-associated protein is Ikaros and Aiolos. In yet other embodiments, the CRBN-associated protein is interferon. In other embodiments, the CRBN-associated protein is an interferon pathway protein. In other embodiments, the interferon pathway protein is interferon-induced transmembrane protein 3 (IFITM3) and/or interferon regulatory factor 7 (IRF7). In yet other embodiments, the CRBN-associated protein is casein kinase 1, alpha 1 (CSNK1A1).

[00286] In other embodiments, the method comprises: (a) obtaining RNA from the sample; (b) contacting the RNA with a primer comprising a sequence specifically binding to a sequence in the RNA to generate a first DNA molecule having a sequence complementary to said RNA; (c) amplifying the DNA corresponding to a segment of a gene encoding the CRBN-associated protein; and (d) determining the RNA level of the CRBN-associated protein based on the amount of the amplified DNA. In one embodiment, the CRBN-associated protein is Ikaros. In another embodiment, the CRBN-associated protein is Aiolos. In yet another embodiment, the CRBN-associated protein is Ikaros and Aiolos. In yet other embodiments, the CRBN-associated protein is interferon. In other embodiments, the CRBN-associated protein is an interferon pathway protein. In other embodiments, the interferon pathway protein is interferon-induced transmembrane protein 3 (IFITM3) and/or interferon regulatory factor 7 (IRF7). In yet other embodiments, the CRBN-associated protein is casein kinase 1, alpha 1 (CSNK1A1).

[00287] In certain embodiments, the CRBN-associated protein is DDB1, DDB2, GSK3B, CUL4A, CUL4B, XBP-1, FAS1, RANBP6, DUS3L, PHGDH, AMPK, IRF4 or NFκB. In certain embodiments, the CRBN-associated protein is DDB1, PABPC1, HNRNPR, RPL19, SYNCRIP, H2AFX, HSPA8, ALDOA, HIST1H2AA, HSPA1A, XRCC6, RPL12, RPL18A,

RPL4, HNRNPA2B1, HNRNPC, RPS2, SEC24C, RPL9, USP15, SEC24A, CTPS, ABCE1, EEF1A1, IPO5, CPSF6, KCNAB2, C7ORF42, SMC4, GNB3, H2AFZ, HIST1H1C, HIST1H1D, HIST1H1E, ACTB, CSNK2A1, CRBN, DDX21, DHX9, DNAJC1, G3BP1, HSPA1B, IGF2BP2, RPL10A, RPL13A, RPL14, RPL15, RPL21, RPL3, RPL30, RPL7, RPL7A, RPLP1, RPLP2, MYH10, ILF3, NCL, RPS13, RPS16, RPS19, RPS6, SND1, EIF2S2, HNRNPH2, UBB, EEF1G, TBL1XR1, NACA, EIF4A1, FASN, PPAT, G3BP2, TUBA1A, UBAP2L, MCM2, UAP1, TUBA1C, EIF2S1, EIF3J, PRKDC, MCM7, RPL11, TUBA1B, STAT3, PTRH2, PABPC4, PTPRC, MACF1, UBE2O, DUT, GNB2L1, NUP88, H2AFJ, SEC23B, PDXK, ACLY, ARID1A, GBE1, HSPA9, DDX17, FUBP1, FBXO21, EWSR1, IFI16, YWHAE, UBA52, COPS6, GNAS, UBE2Q1, FERMT3, NAP1L2, TPD52, VAPA, EEF1AL3, DDIT4, NEDD8, HIST1H1A, HIST1H1B, PCM1. In some embodiments, these CRBN-associated proteins are evaluated in combination with other CRBN-associated proteins provided herein, such as Ikaros, Aiolos, interferon, an interferon pathway protein, and/or casein kinase 1, alpha 1.

[00288] In various embodiments of the methods provided herein, the CRBN-associated protein is GSPT1, GSPT2, HBS1L, IKZF1, IKZF3, CK1a, eRF1, BIP, PERK, GCN2, eIF2a, ATF4, ATF3, DDIT3, PPP1R15A, TNFRSF10B, GADD45A, TNFRSF1A, TNFRSF1B, FAS, FADD, IRE1, XBP1, SEC24D, DNAJB9, EDEM1, EDEM2, HYOU1, ATF6, HSPA5, Caspase 3, Caspase 7, Caspase 8, BID, Caspase 9, PARP, Mcl-1, and BAD. In a particular embodiment, the CAP is GSPT1. In another embodiment, the CAP is IKZF1. In yet another embodiment, the CAP is CK1a.

[00289] In certain embodiments of the various methods provided herein, the two or more of the steps are performed sequentially. In other embodiments of the methods provided herein, two or more of steps are performed in parallel (*e.g.*, at the same time).

[00290] Exemplary assays provided herein for the methods of detecting and quantifying the protein level of CRBN-associated protein are immunoassays such as western blot analysis, and an enzyme-linked immunosorbent assay (ELISA) (*e.g.*, a sandwich ELISA). An exemplary assay provided herein for the methods of detecting and quantifying the RNA level of a CRBN-associated protein is reverse transcription polymerase chain reaction (RT-PCR), *e.g.*, quantitative PCR or qPCR.

5.4.4. Types of Cells

[00291] In certain embodiments, the biological activity is based on specific cell type categories. Such cells can include any type of cells, *e.g.*, stem cells, blood cells (*e.g.*, peripheral blood mononuclear cells), lymphocytes, B cells, T cells, monocytes, granulocytes, immune cells, or tumor or cancer cells.

[00292] For example, B cells (B lymphocytes) include plasma B cells, memory B cells, B1 cells, B2 cells, marginal-zone B cells, and follicular B cells. B cells can express immunoglobulins (antibodies, B cell receptor). In one embodiment, the cells sre Karpas 422, TMD8, WSU-DLCL2, OCI-LY10, Karpas 1106P, HT, SUDHL-10, Riva, OCI-LY19, SUDHL-4, SUDHL-6, OCI-LY3, and Farage.

[00293] Specific cell populations can be obtained or assessed using a combination of commercially available antibodies (*e.g.*, Quest Diagnostic (San Juan Capistrano, Calif.); Dako (Denmark)).

[00294] In certain embodiments, the cell line is lenalidomide-resistant WSU-DLCL2 or TMD8 cell line. In certain embodiments, the cell line is a DLBCL cell line. In some embodiments, the cell line is a ABC-DLBCL (activated B cell-like DLBCL) cell line, for example, TMD8, OCI-LY10, Riva, or OCI-LY3 cell line. In other embodiments, the cell line is a GCB-DLBCL (germinal center B cell-like DLBCL) cell line, for example, Karpas 422, WSU-DLCL2, Karpas 1106P, HT, SUDHL-10, OCI-LY19, SUDHL-4, or SUDHL-6 cell line.

[00295] In some embodiments, the number and type of cells can be monitored, for example, by measuring changes in morphology and cell surface markers using standard cell detection techniques such as flow cytometry, cell sorting, immunocytochemistry (*e.g.*, staining with tissue specific or cell-marker specific antibodies) fluorescence activated cell sorting (FACS), magnetic activated cell sorting (MACS), by examination of the morphology of cells using light or confocal microscopy, and/or by measuring changes in gene expression using techniques well known in the art, such as PCR and gene expression profiling. These techniques can be used, too, to identify cells that are positive for one or more particular markers. Fluorescence activated cell sorting (FACS) is a well-known method for separating particles, including cells, based on the fluorescent properties of the particles (Kamarch, 1987, Methods Enzymol, 151:150-165). Laser excitation of fluorescent moieties in the individual particles results in a small electrical charge allowing electromagnetic separation of positive and negative particles from a mixture. In one embodiment, cell surface marker-specific antibodies or ligands are labeled with distinct fluorescent labels. Cells are processed through the cell sorter, allowing separation of cells based on their ability to bind to the antibodies used. FACS sorted particles may be directly deposited into individual wells of 96-well or 384-well plates to facilitate separation and cloning.

[00296] In certain embodiments, subsets of cells are used or detected in the methods provided herein. Methods to sort and isolate specific populations of cells are well-known in the art and can be based on cell size, morphology, or intracellular or extracellular markers. Such methods include, but are not limited to, flow cytometry, flow sorting, FACS, bead based

separation such as magnetic cell sorting, size-based separation (*e.g.*, a sieve, an array of obstacles, or a filter), sorting in a microfluidics device, antibody-based separation, sedimentation, affinity adsorption, affinity extraction, density gradient centrifugation, laser capture microdissection, *etc.*

[00297] In one embodiment, the RNA (*e.g.*, mRNA) or protein is purified and the presence or absence of a biomarker is measured by gene or protein expression analysis. In certain embodiments, the presence or absence of a biomarker is measured by quantitative real-time PCR (QRT-PCR), microarray, flow cytometry or immunofluorescence. In other embodiments, the presence or absence of a biomarker is measured by enzyme-linked immunosorbent assay-based methodologies (ELISA) or other similar methods known in the art.

5.4.5. Methods of Detecting mRNA Levels in a Sample

[00298] Several methods of detecting or quantitating mRNA levels are known in the art. Exemplary methods include but are not limited to northern blots, ribonuclease protection assays, PCR-based methods, and the like. The mRNA sequence, *e.g.*, the mRNA of CRBN or CRBN-associated proteins, or a fragment thereof, can be used to prepare a probe that is at least partially complementary. The probe can then be used to detect the mRNA sequence in a sample, using any suitable assay, such as PCR-based methods, Northern blotting, a dipstick assay, and the like.

[00299] In other embodiments, a nucleic acid assay for testing for immunomodulatory activity in a biological sample can be prepared. An assay typically contains a solid support and at least one nucleic acid contacting the support, where the nucleic acid corresponds to at least a portion of an mRNA that has altered expression during an immunomodulatory treatment in a patient, such as the mRNA of CRBN or CRBN-associated proteins. The assay can also have a means for detecting the altered expression of the mRNA in the sample.

[00300] The assay method can be varied depending on the type of mRNA information desired. Exemplary methods include but are not limited to Northern blots and PCR-based methods (*e.g.*, qRT-PCR). Methods such as qRT-PCR can also accurately quantitate the amount of the mRNA in a sample.

[00301] Any suitable assay platform can be used to determine the presence of the mRNA in a sample. For example, an assay may be in the form of a dipstick, a membrane, a chip, a disk, a test strip, a filter, a microsphere, a slide, a multiwell plate, or an optical fiber. An assay system may have a solid support on which a nucleic acid corresponding to the mRNA is attached. The solid support may comprise, for example, a plastic, silicon, a metal, a resin, glass, a membrane, a particle, a precipitate, a gel, a polymer, a sheet, a sphere, a polysaccharide, a capillary, a film a plate, or a slide. The assay components can be prepared and packaged together as a kit for detecting an mRNA.

[00302] The nucleic acid can be labeled, if desired, to make a population of labeled mRNAs. In general, a sample can be labeled using methods that are well known in the art (*e.g.*, using DNA ligase, terminal transferase, or by labeling the RNA backbone, etc.; *see, e.g.*, Ausubel, *et al.*, *Short Protocols in Molecular Biology*, 3rd ed., Wiley & Sons 1995 and Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual*, Third Edition, 2001 Cold Spring Harbor, N.Y.). In some embodiments, the sample is labeled with fluorescent label. Exemplary fluorescent dyes include but are not limited to xanthene dyes, fluorescein dyes, rhodamine dyes, fluorescein isothiocyanate (FITC), 6 carboxyfluorescein (FAM), 6 carboxy-2',4',7',4,7-hexachlorofluorescein (HEX), 6 carboxy 4', 5' dichloro 2', 7' dimethoxyfluorescein (JOE or J), N,N,N',N' tetramethyl 6 carboxyrhodamine (TAMRA or T), 6 carboxy X rhodamine (ROX or R), 5 carboxyrhodamine 6G (R6G5 or G5), 6 carboxyrhodamine 6G (R6G6 or G6), and rhodamine 110; cyanine dyes, *e.g.* Cy3, Cy5 and Cy7 dyes; Alexa dyes, *e.g.* Alexa-fluor-555; coumarin, Diethylaminocoumarin, umbelliferone; benzimide dyes, *e.g.* Hoechst 33258; phenanthridine dyes, *e.g.* Texas Red; ethidium dyes; acridine dyes; carbazole dyes; phenoxazine dyes; porphyrin dyes; polymethine dyes, BODIPY dyes, quinoline dyes, Pyrene, Fluorescein Chlorotriazinyl, R110, Eosin, JOE, R6G, Tetramethylrhodamine, Lissamine, ROX, Napthofluorescein, and the like.

[00303] In some embodiments, the mRNA sequences comprise at least one mRNA selected from the group consisting of the mRNA of DDB1, PABPC1, HNRNPR, RPL19, SYNCRIP, H2AFX, HSPA8, ALDOA, HIST1H2AA, HSPA1A, XRCC6, RPL12, RPL18A, RPL4, HNRNPA2B1, HNRNPC, RPS2, SEC24C, RPL9, USP15, SEC24A, CTPS, ABCE1, EEF1A1, IPO5, CPSF6, KCNAB2, C7ORF42, SMC4, GNB3, H2AFZ, HIST1H1C, HIST1H1D, HIST1H1E, ACTB, CSNK2A1, CRBN, DDX21, DHX9, DNAJC1, G3BP1, HSPA1B, IGF2BP2, RPL10A, RPL13A, RPL14, RPL15, RPL21, RPL3, RPL30, RPL7, RPL7A, RPLP1, RPLP2, MYH10, ILF3, NCL, RPS13, RPS16, RPS19, RPS6, SND1, EIF2S2, HNRNPH2, UBB, EEF1G, TBL1XR1, NACA, EIF4A1, FASN, PPAT, G3BP2, TUBA1A, UBAP2L, MCM2, UAP1, TUBA1C, EIF2S1, EIF3J, PRKDC, MCM7, RPL11, TUBA1B, STAT3, PTRH2, PABPC4, PTPRC, MACF1, UBE2O, DUT, GNB2L1, NUP88, H2AFJ, SEC23B, PDXK, ACLY, ARID1A, GBE1, HSPA9, DDX17, FUBP1, FBXO21, EWSR1, IFI16, YWHAE, UBA52, COPS6, GNAS, UBE2Q1, FERMT3, NAP1L2, TPD52, VAPA, EEF1AL3, DDIT4, NEDD8, HIST1H1A, HIST1H1B, PCM1, IKZF1, IKZF3, IFITM3, or CSNK1A1, or a fragment thereof. In one embodiment, the mRNA is Ikaros mRNA. In another embodiment, the mRNA is Aiolos mRNA. In another embodiment, the mRNA is IFITM3 mRNA. In another embodiment, the mRNA is CSNK1A1 mRNA. The nucleic acids may be present in specific, addressable locations on a solid support; each corresponding to at least a portion of mRNA

sequences that are differentially expressed upon treatment of an immunomodulatory compound in a cell or a patient.

[00304] A typical mRNA assay method can contain the steps of 1) obtaining surface-bound subject probes; 2) hybridization of a population of mRNAs to the surface-bound probes under conditions sufficient to provide for specific binding (3) post-hybridization washes to remove nucleic acids not bound in the hybridization; and (4) detection of the hybridized mRNAs. The reagents used in each of these steps and their conditions for use may vary depending on the particular application.

[00305] Hybridization can be carried out under suitable hybridization conditions, which may vary in stringency as desired. Typical conditions are sufficient to produce probe/target complexes on a solid surface between complementary binding members, *i.e.*, between surface-bound subject probes and complementary mRNAs in a sample. In certain embodiments, stringent hybridization conditions may be employed.

[00306] Hybridization is typically performed under stringent hybridization conditions. Standard hybridization techniques (*e.g.* under conditions sufficient to provide for specific binding of target mRNAs in the sample to the probes) are described in Kallioniemi *et al.*, *Science* 258:818-821 (1992) and WO 93/18186. Several guides to general techniques are available, *e.g.*, Tijssen, *Hybridization with Nucleic Acid Probes*, Parts I and II (Elsevier, Amsterdam 1993). For descriptions of techniques suitable for *in situ* hybridizations, see Gall *et al. Meth. Enzymol.*, 21:470-480 (1981); and Angerer *et al.* in *Genetic Engineering: Principles and Methods* (Setlow and Hollaender, Eds.) Vol 7, pgs 43-65 (Plenum Press, New York 1985). Selection of appropriate conditions, including temperature, salt concentration, polynucleotide concentration, hybridization time, stringency of washing conditions, and the like will depend on experimental design, including source of sample, identity of capture agents, degree of complementarity expected, etc., and may be determined as a matter of routine experimentation for those of ordinary skill in the art.

[00307] Those of ordinary skill will readily recognize that alternative but comparable hybridization and wash conditions can be utilized to provide conditions of similar stringency.

[00308] After the mRNA hybridization procedure, the surface bound polynucleotides are typically washed to remove unbound nucleic acids. Washing may be performed using any convenient washing protocol, where the washing conditions are typically stringent, as described above. The hybridization of the target mRNAs to the probes is then detected using standard techniques.

[00309] Other methods, such as PCR-based methods, can also be used to follow the expression of CRBN or CRB-associated proteins. Examples of PCR methods can be found in

the literature. Examples of PCR assays can be found in U.S. Patent No. 6,927,024, which is incorporated by reference herein in its entirety. Examples of RT-PCR methods can be found in U.S. Patent No. 7,122,799, which is incorporated by reference herein in its entirety. A method of fluorescent in situ PCR is described in U.S. Patent No. 7,186,507, which is incorporated by reference herein in its entirety.

[00310] In some embodiments, Real-Time Reverse Transcription-PCR (qRT-PCR) can be used for both the detection and quantification of RNA targets (Bustin, *et al.*, 2005, *Clin. Sci.*, 109:365-379). Quantitative results obtained by qRT-PCR are generally more informative than qualitative data. Thus, in some embodiments, qRT-PCR-based assays can be useful to measure mRNA levels during cell-based assays. The qRT-PCR method is also useful to monitor patient therapy. Examples of qRT-PCR-based methods can be found, for example, in U.S. Patent No. 7,101,663, which is incorporated by reference herein in its entirety.

[00311] In contrast to regular reverse transcriptase-PCR and analysis by agarose gels, real-time PCR gives quantitative results. An additional advantage of real-time PCR is the relative ease and convenience of use. Instruments for real-time PCR, such as the Applied Biosystems 7500, are available commercially, as are the reagents, such as TaqMan Sequence Detection chemistry. For example, TaqMan® Gene Expression Assays can be used, following the manufacturer's instructions. These kits are pre-formulated gene expression assays for rapid, reliable detection and quantification of human, mouse and rat mRNA transcripts. An exemplary PCR program, for example, is 50°C for 2 minutes, 95°C for 10 minutes, 40 cycles of 95°C for 15 seconds, then 60°C for 1 minute.

[00312] To determine the cycle number at which the fluorescence signal associated with a particular amplicon accumulation crosses the threshold (referred to as the CT), the data can be analyzed, for example, using a 7500 Real-Time PCR System Sequence Detection software v1.3 using the comparative CT relative quantification calculation method. Using this method, the output is expressed as a fold-change of expression levels. In some embodiments, the threshold level can be selected to be automatically determined by the software. In some embodiments, the threshold level is set to be above the baseline but sufficiently low to be within the exponential growth region of an amplification curve.

5.4.6. Methods of Detecting Polypeptide or Protein Levels in a Sample

[00313] Several protein detection and quantitation methods can be used to measure the level of CRBN-associated proteins. Any suitable protein quantitation method can be used. In some embodiments, antibody-based methods are used. Exemplary methods that can be used include but are not limited to immunoblotting (western blot), enzyme-linked immunosorbent assay (ELISA), immunohistochemistry, flow cytometry, cytometric bead array, mass

spectroscopy, and the like. Several types of ELISA are commonly used, including direct ELISA, indirect ELISA, and sandwich ELISA. In one embodiment, the CRBN-associated protein is Ikaros. In another embodiment, the CRBN-associated protein is Aiolos. In another embodiment, the CRBN-associated protein is interferon or an interferon pathway protein. In another embodiment, the CRBN-associated protein is casein kinase 1, alpha 1.

5.5 Substrate CRBN-Modifying Agents as Bridge to Substrate

[00314] Also provided herein are methods of using CMA as a bridge or "molecular glue" between CRBN, or a CRBN complex thereof, and a substrate.

[00315] Small molecules, such as plant auxins have previously been shown to promote protein-protein interactions in ubiquitin ligases. See, *e.g.,* Tan *et al.* (2007) "Mechanism of auxin perception by the TIR1 ubiquitin ligase" *Nature* 446:640-645. Auxins, such as indole-3-acetic acid (IAA), are plant hormones that control many aspects of plant growth. Recent genetic and molecular studies in *Arabidopsis* revealed a crucial intracellular auxin signaling pathway in which a ubiquitin-dependent proteolytic system has a key role in sensing and transducing the hormone signal to transcriptional programs. At the center of the signaling cascade is the ubiquitin-ligase complex, SCF^{TIR1}, which promotes the ubiquitin-dependent proteolysis of a family of transcriptional regulators known as Aux/IAAs in an auxin-dependent manner. TIR1, the F-box protein subunit of SCF^{TIR1} functions as the true auxin receptor. It has been shown that auxin binds directly to SCF^{TIR1} and promotes the interaction between TIR1 and Aux/IAAs. Using crystallographic analysis, Tan *et al.* showed that TIR1 has a auxin and substrate binding pocket, analogous to a three-wall room with an open ceiling. The natural auxin, IAA, binds and is tethered to the bottom of the TIR1 pocket. IAA7 degron peptide is the natural substrate and docks to the auxin-bound TIR1, enclosing the three-walled TIR1 pocket. While auxin binding does not induce significant conformational changes of the TIR1 hormone receptor, auxin does serve to enhance the substrate-binding activity of TIR1 by filling a cavity between the two proteins and extending the protein interaction interface. Upon interacting with both TIR1 and the substrate polypeptide, auxin mediates the formation of a continuous hydrophobic core among the three proteins, and acts as a "molecular glue" rather than an alosteric switch.

[00316] Jasomonites are another family of plant hormones that regulate plan growth, development and response to stress. See, *e.g.,* Shears *et al.* (2010) "Jasmonate perception by inositol-phosphate-potentiated COI1-JAZ co-receptor" *Nature* 468:400-407. COI1 shares high homology with TIR1 and is an F-box protein that functions as the substrate-recruiting module of the Skp1-Cul1-F-box protein (SCF) ubiquitin E3 ligase complex. The jasmonate zim domain (JAZ) family of transcriptional repressors are SCF^{COI1} substrate targets, which associate with COI1 in a hormone-dependent manner. Crystallographic studies reveals that the direct

interaction of jasmonite hormones with both the COI1 and JAZ protein is another example of utilization of a "molecular glue" mechanism to enhance the substrate-binding activity of the receptor.

5.6 Substrate Recruitment by CRBN-Modifying Agents

[00317] In certain embodiments, provided herein are methods of recruiting a substrate for ubiquitination by a E3 ubiquitination ligase complex comprising CRBN. In some embodiments, the method comprises contacting a CRBN with a CMA, resulting in a three-dimensional change of the CRBN (*e.g.,* in the CMA-binding pocket) as provided elsewhere herein. In some embodiments, the method results in a CRBN conformational change. In other embodiments, the method results in an alteration of the properties of a CRBN surface. In a specific embodiment, the CRBN conformational change or alteration results in recruitment and ubiquitination of the substrate. In certain embodiments, the substrate is not ubiquitinated by the E3 ubiquitination ligase complex in the absence of the CMA. In one embodiment, the compound induces a conformational change or alteration having atomic coordinates as set forth in any one of Tables 3, 4, 5, 6 or 7; or a three dimensional structure as set forth in any one of FIGS. 12-18 or 20. In certain embodiments, the conformational change or alteration is as compared to that having atomic coordinates as set forth in any one of Tables 3, 4, 5, 6 or 7; or a three dimensional structure as set forth in any one of FIGS. 12-18 or 20. In certain embodiments, an isoindolinone ring is exposed on the surface of a CRBN-CMA complex. In some embodiments, the isoindolinone ring of the CRBN-CMA complex forms part of a neomorphic interface in substrate recruitment. In certain embodiments, the unused hydrophobic and/or polar bonding potential of the CMA and adjacent protein surface alters substrate recruitment. In other embodiments, the unused hydrophobic and/or polar bonding potential of the CMA and adjacent protein surface enhances substrate recruitment.

[00318] In a one aspect, provided herein is a method of recruiting a substrate for ubiquitination by a E3 ubiquitination ligase complex comprising CRBN, said method comprising contacting said CRBN with a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), wherein said CRBN conformational change or alteration results in recruitment and ubiquitination of said substrate; and wherein said substrate is not ubiquitinated by said E3 ubiquitination ligase complex in the absence of said compound. In some embodiments, the conformational change or alteration is as compared to the CMA binding pocket when the CRBN is contacted with a reference compound. In some embodiments, a CRBN conformational change is induced. In other embodiments, an alteration of the properties of a CRBN surface are induced. In certain embodiments, the conformational

change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

[00319] In another aspect, provided herein is a method of identifying a substrate ubiquitinated by a E3 ubiquitination ligase complex comprising CRBN, said method comprising: (i) contacting said CRBN with a compound that induces a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or otherwise alters the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), wherein said CRBN conformational change or alteration results in ubiquitination of said substrate, (ii) assaying for ubiquitination of one or more substrates, and (iii) identifying said one or more ubiquitinated substrates; wherein said substrate is not ubiquitinated by said E3 ubiquitination ligase complex in the absence of

said compound. In some embodiments, the compound induces a CRBN conformational change or alteration. In other embodiments, the compound alters the properties of the CRBN surface. In certain embodiments, the properties of the CRBN surface are altered by the placement of compound appendages. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In some embodiments, the conformational change or alteration in said CMA binding pocket has an effect on W380, W386 and/or W400 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on E377 of CRBN. In other embodiments, the conformational change or alteration in said CMA binding pocket has an effect on V388 of CRBN. In certain embodiments, the conformational change or alteration in said CMA binding pocket has an effect on an adjacent region of the protein. Also provided is a substrate identified by this method. In some embodiments, the conformational change or alteration is as compared to the CMA binding pocket when the CRBN is contacted with a reference compound. In certain embodiments, the conformational change or alteration occurs in a CMA binding pocket of the CRBN. In an embodiment, the conformational change or alteration is assessed by x-ray crystallography. In another embodiment, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first crystal structure of CRBN and a reference compound, and (ii) determining a three-dimensional structure of the first crystal by x-ray diffraction to obtain a first set of atomic coordinates; (b) (i) obtaining a second crystal comprising CRBN and the test compound, and (ii) determining a three-dimensional structure of the second crystal by x-ray diffraction to obtain a second set of atomic coordinates; and (c) comparing said first set of atomic coordinates with said second set of atomic coordinates; wherein a difference in atomic coordinates is indicative of conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein). In certain embodiments, the conformational change or alteration is assessed by a method comprising (a) (i) obtaining a first three-dimensional structure of CRBN and a reference compound; (b) (i) obtaining a second three-dimensional structure of CRBN and the test compound; and (c) comparing said first three-dimensional structure with said second three-dimensional structure; wherein a difference in the first and second three-dimensional structures is indicative of a compound that induces a CRBN conformational change or alteration. In some embodiments, the first and/or second three-dimensional structures include a CMA binding domain of the CRBN. In other embodiments, the three-dimensional structure is assessed using x-ray crystallography, NMR spectroscopy, dual polarization interferometry, vibrational spectroscopy, or cryo-elecron microscopy. In some embodiments, the CRBN is further bound to DDB1, Cul4, Roc1, or any combination thereof.

5.7 Changes in Substrate Distribution and Abundance

[00320] Also provided herein are methods of modulating the distribution pattern and/or abundance of a substrate in a cell. In some embodiments, the method comprises contacting a CRBN with a CMA, resulting in a CRBN conformational change (*e.g.*, within the CMA-binding pocket of the CRBN) or other alteration of the properties of a CRBN surface (*e.g.*, on an adjacent region of the protein), as provided elsewhere herein. In some embodiments, the CRBN has a conformational change. In other embodiments, the CRBN has an alteration of the properties of the CRBN surface. In a specific embodiment, the CRBN conformational change or alteration results in a modulation of the distribution pattern of a substrate in a cell. In other embodiments, the CRBN conformational change or alteration results in a modulation of the abundance of a substate in a cell. In some embodiments, the modulation is an increase. In other embodiments, the modulation is a decrease. In certain embodiments, the substrate is a CRBN-associated protein.

5.8 Degron in Substrate and Methods for Identifying Substrates Based on Degron Information

[00321] As shown in the Examples, certain region (amino acid sequence or degron) of the substrate protein is important for its binding to CRBN and for its functionality, and such degron may be shared by various CRBN substrates and compound targets. Thus, in another aspect, provided herein are a degron in the CAP, and methods for searching new substrates of CRBN and/or targets of the treatment compound based on the degron information.

[00322] In some embodiments, provided herein is a degron in a CAP, wherein the degron is a structural degron. In some embodiments, the structural degron comprises an α-turn.

[00323] In certain embodiments, the degron comprises 4 amino acid residues, with positions designated as i, i+1, i+2, and i+3, respectively. In other embodiments, the degron further comprises an amino acid residue at position i-1.

[00324] In some embodiments, the amino acid residues at position i, i+1, or i+2 form hydrogen bonds with amino acid residues on CRBN. In one embodiment, the amino acid residue at position i form hydrogen bonds with amino acid residues on CRBN. In another embodiment, the amino acid residue at position i+1 form hydrogen bonds with amino acid residues on CRBN. In yet another embodiment, the amino acid residue at position i+2 form hydrogen bonds with amino acid residues on CRBN. In still another embodiment, the amino acid residues at positions i and i+1 form hydrogen bonds with amino acid residues on CRBN. In one embodiment, the amino acid residues at positions i and i+2 form hydrogen bonds with amino acid residues on CRBN. In another embodiment, the amino acid residues at positions i+1 and i+2 form hydrogen bonds with amino acid residues on CRBN. In yet another embodiment,

the amino acid residues at position i, i+1, and i+2 form hydrogen bonds with amino acid residues on CRBN.

[00325] In certain embodiments, the amino acid residue at position i+3 is Glycine (G).

[00326] In some embodiments, the degron is stabilized by internal hydrogen bonds from an ASX motif and a ST motif.

[00327] In certain embodiments, the degron comprises an ASX motif that starts with Aspartic Acid (D). In other embodiments, the degron comprises an ASX motif that starts with Asparagine (N).

[00328] In some embodiments, the degron comprises a ST motif that starts with Serine (S). In other embodiments, the degron comprises a ST motif that starts with Threonine (T).

[00329] In certain embodiments, the degron comprises an amino acid sequence of [D/N]XX[S/T]G, wherein X can be any amino acid residue. In one embodiment, the degron comprises an amino acid sequence of DXXSG. In another embodiment, the degron comprises an amino acid sequence of NXXSG. In yet another embodiment, the degron comprises an amino acid sequence of DXXTG. In still another embodiment, the degron comprises an amino acid sequence of NXXTG.

[00330] In some embodiments, the degron comprises an amino acid sequence of CXXCG, wherein X can be any amino acid residue. In certain embodiments, the degron comprises an amino acid sequence of NXXNG, wherein X can be any amino acid residue.

[00331] In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 300-450 of CRBN. In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 350-430 of CRBN. In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 351-422 of CRBN. In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 351-357 of CRBN. In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 377-400 of CRBN. In some embodiments, the CRBN is the isoform 1 of CRBN. In other embodiments, the CRBN is the isoform 2 of the CRBN. In some embodiments, the CRBN is the human CRBN.

[00332] In some embodiments, one or more amino acids of the degron form interactions with one or more amino acids selected from a group consisting of the amino acid residues 150, 352, 353, 355, 357, 377, 380, 386, 388, 397, and 400 of isoform 1 of human CRBN. In some embodiments, the interaction is a hydrogen bond. In other embodiments, the interaction is a Van der Waals interaction.

[00333] In some embodiments, the CAP is a substrate of CRBN. In one embodiment, the substrate of CRBN is GSPT1. In another embodiment, the substrate of CRBN is IKZF1. In yet another embodiment, the substrate of CRBN is CK1a.

[00334] In another aspect, provided herein is a method of identifying a CAP, comprising: (a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP; (b) testing the protein in a CRBN-binding assay; and (c) identifying the protein as a CAP if the protein specifically binds to CRBN in the CRBN-binding assay.

[00335] In yet another aspect, provided herein is a method of identifying a CAP, comprising: (a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP; (b) testing the protein in a CRBN-mediated degradation assay; and (c) identifying the protein as a CAP if the protein level decreases in the CRBN-mediated degradation assay.

[00336] In yet another aspect, provided herein is a method of identifying a target of a compound comprising: (a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP; (b) testing the protein in a CRBN-binding assay in the presence of the compound; and (c) identifying the protein as the target of the compound if the protein specifically binds to CRBN in the CRBN-binding assay.

[00337] In yet another aspect, provided herein is a method of identifying a target of a compound comprising: (a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP; (b) testing the protein in a CRBN-mediated degradation assay in the presence of the compound; and (c) identifying the protein as the target of the compound if the protein level decreases in the CRBN-mediated degradation assay.

[00338] In yet another aspect, provided herein is a method of identifying a CAP or a target of a compound comprising: searching for a protein that has a region of structural similarity to a degron region provided herein.

[00339] In some embodiments, provided herein is a method of identifying a CAP, comprising: (a) searching for a protein comprising a region having a similar structure of a degron in a known CAP; (b) testing the protein in a CRBN-binding assay or ubiquitinaion assay; and (c) identifying the protein as a CAP if the protein specifically binds to CRBN in the CRBN-binding assay ubiquitinaion assay. In some embodiments, the method comprises testing the protein in a CRBN-binding assay. In other embodiments, the method comprises testing the protein in an ubiquitinaion assay.

[00340] In other embodiments, provided herein is a method of identifying a CAP, comprising: (a) searching for a protein comprising a region having a similar structure of a degron in a known CAP; (b) testing the protein in a CRBN-mediated degradation assay,

ubiquitination assay or proteomics experiment; and (c) identifying the protein as a CAP if the protein level decreases in the CRBN-mediated degradation assay, ubiquitination assay or proteomics experiment. In some embodiments, the method comprises testing the protein in a CRBN-mediated degradation assay. In some embodiments, the method comprises testing the protein in an ubiquitination assay. In other embodiments, the method comprises testing the protein in a proteomics experiment.

[00341] In yet other embodiments, provided herein is a method of identifying a target of a compound comprising: (a) searching for a protein comprising a region having a similar structure of a degron in a known CAP; (b) testing the protein in a CRBN-binding assay or ubiquitination assay in the presence of the compound; and (c) identifying the protein as the target of the compound if the protein specifically binds to CRBN in the CRBN-binding assay or ubiquitination assay. In some embodiments, the method comprises testing the protein in a CRBN-binding assay. In other embodiments, the method comprises testing the protein in an ubiquitinaion assay.

[00342] In yet other embodiments, provided herein is a method of identifying a target of a compound comprising: (a) searching for a protein comprising a region having a similar structure of a degron in a known CAP; (b) testing the protein in a CRBN-mediated degradation assay, ubiquitination assay, or proteomics experiment in the presence of the compound; and (c) identifying the protein as the target of the compound if the protein level decreases in the CRBN-mediated degradation assay, ubiquitination assay or proteomics experiment. In some embodiments, the method comprises testing the protein in a CRBN-mediated degradation assay in the presence of the compound. In some embodiments, the method comprises testing the protein in an ubiquitination assay in the presence of the compound. In other embodiments, the method comprises testing the protein in a proteomics experiment in the presence of the compound.

[00343] In some embodiments of the various methods provided herein, the method comprises computationally searching for a protein based on the structural similarity to a degron provided herein. In one embodiment, the method provided herein comprises searching for a degron or a similar structure on the surface of proteins of known structure. In another embodiment, the method provided herein comprises searching for a similar structural feature to the known degron on the surface of proteins of known structure. In yet another embodiment, the method provided herein comprises searching for a glycine on the surface of proteins of known structure.

[00344] In yet another aspect, provided herein is a method of identifying a CAP or a target of a compound comprising: searching for a protein able to bind to a surface of CRBN

adjacent to the site of ligand binding via features other than the known degron, *e.g.*, by performing docking studies.

[00345] In some embodiments of the various methods provided herein, the method further comprises searching for proteins homologous to the proteins with the degron structure or predicted to have ability to bind CRBN.

[00346] In certain embodiments of the various methods provided herein, the CAP is a substrate of CRBN.

[00347] In some embodiments of the various methods provided herein, the amino acid sequence of the degron is [D/N]XX[S/T]G. In other embodiments, the amino acid sequence of the degron is CXXCG. In yet other embodiments, the amino acid sequence of the degron is NXXNG.

[00348] In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 300-450 of CRBN. In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 350-430 of CRBN. In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 351-422 of CRBN. In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 351-357 of CRBN. In some embodiments, one or more amino acids of the degron form hydrogen bonds with one or more amino acids within amino acid residues 377-400 of CRBN. In some embodiments, the CRBN is the isoform 1 of CRBN. In other embodiments, the CRBN is the isoform 2 of the CRBN. In some embodiments, the CRBN is the human CRBN.

[00349] In some embodiments, one or more amino acids of the degron form interactions with one or more amino acids selected from a group consisting of the amino acid residues 150, 352, 353, 355, 357, 377, 380, 386, 388, 397, and 400 of isoform 1 of human CRBN. In some embodiments, the interaction is a hydrogen bond. In other embodiments, the interaction is a Van der Waals interaction.

[00350] In some embodiments of the various methods provided herein, the compound is a CMA. In other embodiments of the various methods provided herein, the compound is an immunomodulatory compound. In still other embodiments of the various methods provided herein, the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E. In one embodiment, the compound is thalidomide. In another embodiment, the compound is lenalidomide. In yet another embodiment, the compound is pomalidomide. In still another embodiment, the compound is Compound A. In one embodiment, the compound is Compound

B. In another embodiment, the compound is Compound C. In yet another embodiment, the compound is Compound D. In still another embodiment, the compound is Compound E.

5.9 Compounds

[00351] Compounds for the methods provided herein include, but are not limited to, the immunomodulatory compounds, a group of compounds that can be useful to treat several types of human diseases, including certain cancers.

[00352] As used herein and unless otherwise indicated, the term "immunomodulatory compound" or "immunomodulatory agent" can encompass certain small organic molecules that inhibit LPS induced monocyte TNF-α, IL-1ß, IL-12, IL-6, MIP-1α, MCP-1, GM-CSF, G-CSF, and COX-2 production. Without being limited by a particular theory, one of the biological effects exerted by the immunomodulatory compounds disclosed herein is the reduction of myeloid cell TNF-α production. Immunomodulatory compounds disclosed herein may enhance the degradation of TNF-α mRNA. Further, without being limited by theory, immunomodulatory compounds disclosed herein may also be potent co-stimulators of T cells and increase cell proliferation dramatically in a dose dependent manner. Immunomodulatory compounds disclosed herein may also have a greater co-stimulatory effect on the CD8+ T cell subset than on the CD4+ T cell subset. In addition, the compounds may have anti-inflammatory properties against myeloid cell responses, yet efficiently co-stimulate T cells to produce greater amounts of IL-2, IFN-γ, and to enhance T cell proliferation and CD8+ T cell cytotoxic activity. Further, without being limited by a particular theory, immunomodulatory compounds disclosed herein may be capable of acting both indirectly through cytokine activation and directly on Natural Killer ("NK") cells and Natural Killer T ("NKT") cells, and increase the NK cells' ability to produce beneficial cytokines such as, but not limited to, IFN-γ, and to enhance NK and NKT cell cytotoxic activity.

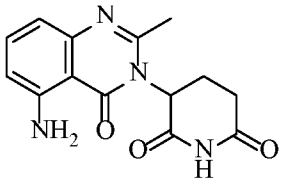
[00353] Exemplary immunomodulatory compounds provided herein include but are not limited to thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E.

[00354] In a specific embodiment, the compound is thalidomide.

[00355] In another specific embodiment, the compound is lenalidomide.

[00356] In yet another specific embodiment, the compound is pomalidomide.

[00357] In yet another specific embodiment, the compound is 3-(5-amino-2-methyl-4-oxo-4*H*-quinazolin-3-yl)-piperidine-2,6-dione ("Compound A"), which has the following structure:

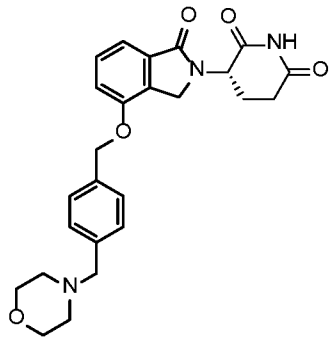


A

or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof.

[00358] Compound A can be prepared as described in U.S. Pat. No. 7,635,700, the disclosure of which is incorporated herein by reference in its entirety. The compound can be also synthesized according to other methods apparent to those of skill in the art based upon the teaching herein. In certain embodiments, Compound A is in a crystalline form described in U.S. Provisional Pat. App. No. 61/451,806, filed March 11, 2011, which is incorporated herein by reference in its entirety. In some embodiments, the hydrochloride salt of Compound A is used in the methods provided herein. Methods of treating, preventing and/or managing cancers and other diseases using Compound A are described in U.S. Provisional at. App. No. 61/451,995, filed March 11, 2011, which is incorporated herein by reference in its entirety.

[00359] In yet another specific embodiment, the compound is 3-(4-((4-(morpholinomethyl)benzyl)oxy)-1-oxoisoindolin-2-yl)piperidine-2,6-dione ("Compound B"), which has the following structure:

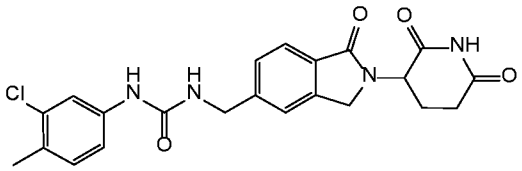


B

or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof.

[00360] Compound B and methods of preparing the same are described in U.S. Patent No. 8,518,972, which is incorporated herein by reference in its entirety.

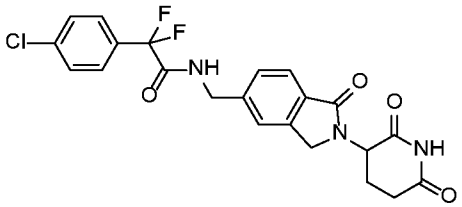
[00361] In yet another specific embodiment, the compound is 1-(3-chloro-4-methylphenyl)-3-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)urea ("Compound C"), which has the following structure:



C

or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. An exemplary method for preparing Compound C is illustrated in Section 6.6 below.

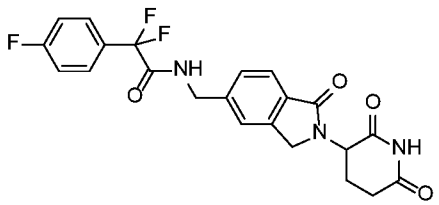
[00362] In yet another specific embodiment, the compound is 2-(4-chlorophenyl)-N-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)-2,2-difluoroacetamide ("Compound D"), which has the following structure:



D

or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof.

[00363] In yet another specific embodiment, the compound is 2-(4-flurophenyl)-N-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)-2,2-difluoroacetamide ("Compound E"), which has the following structure:



E

or a pharmaceutically acceptable salt, solvate, stereoisomer, isotopologue, prodrug, hydrate, co-crystal, clathrate, or a polymorph thereof.

[00364] Compounds D and E and methods of preparing the same are described in U.S. Patent No. 9,499,514, which is incorporated herein by reference in its entirety.

[00365] Various immunomodulatory compounds disclosed herein contain one or more chiral centers, and can exist as racemic mixtures of enantiomers or mixtures of diastereomers. Thus, also provided herein is the use of stereomerically pure forms of such compounds, as well as the use of mixtures of those forms. For example, mixtures comprising equal or unequal amounts of the enantiomers of a particular immunomodulatory compounds may be used. These

isomers may be asymmetrically synthesized or resolved using standard techniques such as chiral columns or chiral resolving agents. *See, e.g.*, Jacques, J., *et al., Enantiomers, Racemates and Resolutions* (Wiley-Interscience, New York, 1981); Wilen, S. H., *et al., Tetrahedron* 33:2725 (1977); Eliel, E. L., *Stereochemistry of Carbon Compounds* (McGraw-Hill, NY, 1962); and Wilen, S. H., *Tables of Resolving Agents and Optical Resolutions* p. 268 (E.L. Eliel, Ed., Univ. of Notre Dame Press, Notre Dame, IN, 1972).

[00366] All of the compounds described can either be commercially purchased or prepared according to the methods described in the patents or patent publications disclosed herein. Further, optically pure compounds can be asymmetrically synthesized or resolved using known resolving agents or chiral columns as well as other standard synthetic organic chemistry techniques.

[00367] In certain embodiments of the various compositions and methods provided herein, a CMA is an immunomodulatory compound provided herein. In other embodiments, a CMA is not an immunomodulatory compound provided herein.

[00368] It should be noted that if there is a discrepancy between a depicted structure and a name given that structure, the depicted structure is to be accorded more weight. In addition, if the stereochemistry of a structure or a portion of a structure is not indicated with, for example, bold or dashed lines, the structure or portion of the structure is to be interpreted as encompassing all stereoisomers of it.

5.10 Treatment for Patients with a CRBN-mediated Disease.

[00369] Also provided herein is a method of treating and preventing a CRBN-mediated disease, which comprises administering to a patient a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. In certain embodiments, the CRBN-mediated disease or disorder is a cancer. In certain embodiments provided herein is a compound provided herein for use in a method of treating and preventing a CRBN-mediated disease, the method comprises administering to a patient the compound, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof.

[00370] In another embodiment, provided herein is method of managing a CRBN-mediated disease, which comprises administering to a patient a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. In certain embodiments, the CRBN-mediated disease or disorder is a cancer. In certain embodiments provided herein is a compound provided herein for use in a method of managing a CRBN-mediated disease, the method

comprises administering to a patient the compound, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof.

[00371] Provided herein are methods of treating or managing lymphoma, particularly non-Hodgkin's lymphoma. In some embodiments, provided herein are methods for the treatment or management of non-Hodgkin's lymphoma (NHL), including but not limited to, diffuse large B-cell lymphoma (DLBCL), using prognostic factors. In certain embodiments provided herein is a compound provided herein for use in a method of treating or managing lymphoma, particularly non-Hodgkin's lymphoma.

[00372] Also provided herein are methods of treating patients who have been previously treated for a CRBN-mediated disease or disorder (*e.g.,* a cancer) but are non-responsive to standard therapies, as well as those who have not previously been treated. Also provided herein are methods of treating patients regardless of patient's age, although some diseases or disorders are more common in certain age groups. Also provided herein are methods of treating patients who have undergone surgery in an attempt to treat the disease or condition at issue, as well as those who have not. In some embodiments provided herein a compounds provided herein for use in methods of treating patients as mentioned above.

[00373] Because patients with cancer have heterogeneous clinical manifestations and varying clinical outcomes, the treatment given to a patient may vary, depending on his/her prognosis. The skilled clinician will be able to readily determine without undue experimentation specific secondary agents, types of surgery, and types of non-drug based standard therapy that can be effectively used to treat an individual patient with cancer.

[00374] As used herein, the term "cancer" includes, but is not limited to, solid tumors and blood born tumors. The term "cancer" refers to disease of skin tissues, organs, blood, and vessels, including, but not limited to, cancers of the bladder, bone, blood, brain, breast, cervix, chest, colon, endrometrium, esophagus, eye, head, kidney, liver, lymph nodes, lung, mouth, neck, ovaries, pancreas, prostate, rectum, stomach, testis, throat, and uterus. Specific cancers include, but are not limited to, advanced malignancy, amyloidosis, neuroblastoma, meningioma, hemangiopericytoma, multiple brain metastase, glioblastoma multiforms, glioblastoma, brain stem glioma, poor prognosis malignant brain tumor, malignant glioma, recurrent malignant giolma, anaplastic astrocytoma, anaplastic oligodendroglioma, neuroendocrine tumor, rectal adenocarcinoma, Dukes C & D colorectal cancer, unresectable colorectal carcinoma, metastatic hepatocellular carcinoma, Kaposi's sarcoma, karotype acute myeloblastic leukemia, Hodgkin's lymphoma, non-Hodgkin's lymphoma, cutaneous T-Cell lymphoma, cutaneous B-Cell lymphoma, diffuse large B-Cell lymphoma, low grade follicular lymphoma, malignant

melanoma, malignant mesothelioma, malignant pleural effusion mesothelioma syndrome, peritoneal carcinoma, papillary serous carcinoma, gynecologic sarcoma, soft tissue sarcoma, scleroderma, cutaneous vasculitis, Langerhans cell histiocytosis, leiomyosarcoma, fibrodysplasia ossificans progressive, hormone refractory prostate cancer, resected high-risk soft tissue sarcoma, unrescectable hepatocellular carcinoma, Waldenstrom's macroglobulinemia, smoldering myeloma, indolent myeloma, fallopian tube cancer, androgen independent prostate cancer, androgen dependent stage IV non-metastatic prostate cancer, hormone-insensitive prostate cancer, chemotherapy-insensitive prostate cancer, papillary thyroid carcinoma, follicular thyroid carcinoma, medullary thyroid carcinoma, and leiomyoma

[00375] In certain embodiments, the cancer is a blood borne tumor. In certain embodiments, the blood borne tumor is metastatic. In certain embodiments, the blood borne tumor is drug resistant. In certain embodiments, the cancer is myeloma or lymphoma.

[00376] In certain embodiments, the cancer is a solid tumor. In certain embodiments, the solid tumor is metastatic. In certain embodiments, the solid tumor is drug-resistant. In certain embodiments, the solid tumor is hepatocellular carcinoma, prostate cancer, ovarian cancer, or glioblastoma.

[00377] In one embodiment, provided herein are methods of preventing relapsed/refractory multiple myeloma in patients with impaired renal function or a symptom thereof, comprising administering an effective amount of a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, stereoisomer, tautomer or racemic mixtures thereof to a patient at risk of having relapsed/refractory multiple myeloma with impaired renal function. In one embodiment provided herein are compounds provided herein for use in the above-mentioned methods.

[00378] In certain embodiments, provided herein are methods for treating, preventing, and/or managing relapsed/refractory multiple myeloma in patients with impaired renal function. In certain embodiments provided herein are compounds provided herein for use in methods for treating, preventing, and/or managing relapsed/refractory multiple myeloma in patients with impaired renal function.

[00379] In certain embodiments, a therapeutically or prophylactically effective amount of the compound is from about 0.005 to about 1,000 mg per day, from about 0.01 to about 500 mg per day, from about 0.01 to about 250 mg per day, from about 0.01 to about 100 mg per day, from about 0.1 to about 100 mg per day, from about 0.5 to about 100 mg per day, from about 1 to about 100 mg per day, from about 0.01 to about 50 mg per day, from about 0.1 to about 50 mg per day, from about 0.5 to about 50 mg per day, from about 1 to about 50 mg per day, from about 0.02 to about 25 mg per day, or from about 0.05 to about 10 mg per day.

[00380] In certain embodiment, a therapeutically or prophylactically effective amount is from about 0.005 to about 1,000 mg per day, from about 0.01 to about 500 mg per day, from about 0.01 to about 250 mg per day, from about 0.01 to about 100 mg per day, from about 0.1 to about 100 mg per day, from about 0.5 to about 100 mg per day, from about 1 to about 100 mg per day, from about 0.01 to about 50 mg per day, from about 0.1 to about 50 mg per day, from about 0.5 to about 50 mg per day, from about 1 to about 50 mg per day, from about 0.02 to about 25 mg per day, or from about 0.05 to about 10 mg every other day.

[00381] In certain embodiments, the therapeutically or prophylactically effective amount is about 0.1, about 0.2, about 0.3. about 0.5, about 1, about 2, about 5, about 10, about 15, about 20, about 25, about 30, about 40, about 45, about 50, about 60, about 70, about 80, about 90, about 100, or about 150 mg per day.

[00382] In one embodiment, the recommended daily dose range of a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, for the conditions described herein lie within the range of from about 0.5 mg to about 50 mg per day, preferably given as a single once-a-day dose, or in divided doses throughout a day. In some embodiments, the dosage ranges from about 1 mg to about 50 mg per day. In other embodiments, the dosage ranges from about 0.5 to about 5 mg per day. Specific doses per day include 0.01, 0.05,. 0.1, 0.2, 0.3, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49 or 50 mg per day.

[00383] In a specific embodiment, the recommended starting dosage may be 0.01, 0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 1, 2, 3, 4, 5, 10, 15, 20, 25 or 50 mg per day. In another embodiment, the recommended starting dosage may be 0.5, 1, 2, 3, 4, or 5 mg per day. The dose may be escalated to 15, 20, 25, 30, 35, 40, 45 and 50 mg/day. In a specific embodiment, the compound can be administered in an amount of about 25 mg/day to patients with NHL (*e.g.*, DLBCL). In a particular embodiment, the compound can be administered in an amount of about 10 mg/day to patients with NHL (*e.g.*, DLBCL).

[00384] In certain embodiments, the therapeutically or prophylactically effective amount is from about 0.001 to about 100 mg/kg/day, from about 0.01 to about 50 mg/kg/day, from about 0.01 to about 25 mg/kg/day, from about 0.01 to about 10 mg/kg/day, from about 0.01 to about 9 mg/kg/day, 0.01 to about 8 mg/kg/day, from about 0.01 to about 7 mg/kg/day, from about 0.01 to about 6 mg/kg/day, from about 0.01 to about 5 mg/kg/day, from about 0.01 to about 4 mg/kg/day, from about 0.01 to about 3 mg/kg/day, from about 0.01 to about 2 mg/kg/day, or from about 0.01 to about 1 mg/kg/day.

[00385] The administered dose can also be expressed in units other than mg/kg/day. For example, doses for parenteral administration can be expressed as $mg/m^2/day$. One of ordinary skill in the art would readily know how to convert doses from mg/kg/day to $mg/m^2/day$ to given either the height or weight of a subject or both (*see,* www.fda.gov/cder/cancer/animalframe.htm). For example, a dose of 1 mg/kg/day for a 65 kg human is approximately equal to 38 $mg/m^2/day$.

[00386] In certain embodiments, the amount of the compound administered is sufficient to provide a plasma concentration of the compound at steady state, ranging from about 0.001 to about 500 μM, about 0.002 to about 200 μM, about 0.005 to about 100 μM, about 0.01 to about 50 μM, from about 1 to about 50 μM, about 0.02 to about 25 μM, from about 0.05 to about 20 μM, from about 0.1 to about 20 μM, from about 0.5 to about 20 μM, or from about 1 to about 20 μM.

[00387] In other embodiments, the amount of the compound administered is sufficient to provide a plasma concentration of the compound at steady state, ranging from about 5 to about 100 nM, about 5 to about 50 nM, about 10 to about 100 nM, about 10 to about 50 nM or from about 50 to about 100 nM.

[00388] As used herein, the term "plasma concentration at steady state" is the concentration reached after a period of administration of a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. Once steady state is reached, there are minor peaks and troughs on the time dependent curve of the plasma concentration of the compound.

[00389] In certain embodiments, the amount of the compound administered is sufficient to provide a maximum plasma concentration (peak concentration) of the compound, ranging from about 0.001 to about 500 μM, about 0.002 to about 200 μM, about 0.005 to about 100 μM, about 0.01 to about 50 μM, from about 1 to about 50 μM, about 0.02 to about 25 μM, from about 0.05 to about 20 μM, from about 0.1 to about 20 μM, from about 0.5 to about 20 μM,or from about 1 to about 20 μM.

[00390] In certain embodiments, the amount of the compound administered is sufficient to provide a minimum plasma concentration (trough concentration) of the compound, ranging from about 0.001 to about 500 μM, about 0.002 to about 200 μM, about 0.005 to about 100 μM, about 0.01 to about 50 μM, from about 1 to about 50 μM, about 0.01 to about 25 μM, from about 0.01 to about 20 μM, from about 0.02 to about 20 μM, from about 0.02 to about 20 μM, or from about 0.01 to about 20 μM.

[00391] In certain embodiments, the amount of the compound administered is sufficient to provide an area under the curve (AUC) of the compound, ranging from about 100 to about 100,000 ng*hr/mL, from about 1,000 to about 50,000 ng*hr/mL, from about 5,000 to about 25,000 ng*hr/mL, or from about 5,000 to about 10,000 ng*hr/mL.

[00392] In certain embodiments, the patient to be treated with one of the methods provided herein has not been treated with anticancer therapy prior to the administration of a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. In certain embodiments, the patient to be treated with one of the methods provided herein has been treated with anticancer therapy prior to the administration of a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. In certain embodiments, the patient to be treated with one of the methods provided herein has developed drug resistance to the anticancer therapy.

[00393] The methods provided herein encompass treating a patient regardless of patient's age, although some diseases or disorders are more common in certain age groups. Further provided herein is a method for treating a patient who has undergone surgery in an attempt to treat the disease or condition at issue, as well in one who has not. Because the subjects with cancer have heterogeneous clinical manifestations and varying clinical outcomes, the treatment given to a particular subject may vary, depending on his/her prognosis. The skilled clinician will be able to readily determine without undue experimentation, specific secondary agents, types of surgery, and types of non-drug based standard therapy that can be effectively used to treat an individual subject with cancer.

[00394] Depending on the disease to be treated and the subject's condition, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, may be administered by oral, parenteral (*e.g.*, intramuscular, intraperitoneal, intravenous, CIV, intracistemal injection or infusion, subcutaneous injection, or implant), inhalation, nasal, vaginal, rectal, sublingual, or topical (*e.g.*, transdermal or local) routes of administration. A compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, may be formulated, alone or together, in suitable dosage unit with pharmaceutically acceptable excipients, carriers, adjuvants and vehicles, appropriate for each route of administration.

[00395] In one embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal,

clathrate, or polymorph thereof, is administered orally. In another embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered parenterally. In yet another embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered intravenously.

[00396] A compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, can be delivered as a single dose such as, *e.g.*, a single bolus injection, or oral tablets or pills; or over time, such as, *e.g.*, continuous infusion over time or divided bolus doses over time. The compound can be administered repeatedly if necessary, for example, until the patient experiences stable disease or regression, or until the patient experiences disease progression or unacceptable toxicity. For example, stable disease for solid tumors generally means that the perpendicular diameter of measurable lesions has not increased by 25% or more from the last measurement. Response Evaluation Criteria in Solid Tumors (RECIST) Guidelines, *Journal of the National Cancer Institute* 92(3): 205-216 (2000). Stable disease or lack thereof is determined by methods known in the art such as evaluation of patient symptoms, physical examination, visualization of the tumor that has been imaged using X-ray, CAT, PET, or MRI scan and other commonly accepted evaluation modalities.

[00397] A compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, can be administered once daily (QD), or divided into multiple daily doses such as twice daily (BID), three times daily (TID), and four times daily (QID). In addition, the administration can be continuous (*i.e.*, daily for consecutive days or every day), intermittent, *e.g.*, in cycles (*i.e.*, including days, weeks, or months of rest without drug). As used herein, the term "daily" is intended to mean that a therapeutic compound is administered once or more than once each day, for example, for a period of time. The term "continuous" is intended to mean that a therapeutic compound is administered daily for an uninterrupted period of at least 10 days to 52 weeks. The term "intermittent" or "intermittently" as used herein is intended to mean stopping and starting at either regular or irregular intervals. For example, intermittent administration of a compound provided herein is administration for one to six days per week, administration in cycles (*e.g.*, daily administration for two to eight consecutive weeks, then a rest period with no administration for up to one week), or administration on alternate days. The term "cycling" as used herein is intended to mean that a therapeutic compound is administered daily or continuously but with a rest period.

[00398] In some embodiments, the frequency of administration is in the range of about a daily dose to about a monthly dose. In certain embodiments, administration is once a day, twice a day, three times a day, four times a day, once every other day, twice a week, once every week, once every two weeks, once every three weeks, or once every four weeks. In one embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered once a day. In another embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered twice a day. In yet another embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered three times a day. In still another embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered four times a day.

[00399] In certain embodiments, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered once per day from one day to six months, from one week to three months, from one week to four weeks, from one week to three weeks, or from one week to two weeks. In certain embodiments, a compound provided herein, or a pharmaceutically acceptable salt or solvate thereof, is administered once per day for one week, two weeks, three weeks, or four weeks. In one embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered once per day for one week. In another embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered once per day for two weeks. In yet another embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered once per day for three weeks. In still another embodiment, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered once per day for four weeks.

[00400] Further provided herein are methods for achieving one or more clinical endpoints associated with various hematological cancers such as AML and/or MDS comprising

administering a therapeutically effective amount of the compound provided herein to a patient in need thereof.

[00401] Further provided herein are methods for increasing the overall survival (OS), complete remission rate (CRR), objective response rate (ORR), time to progression, relapse free survival (RFS), progression-free survival (PFS) event-free survival, duration of remission, duration of response, and/or time to remission/response of a patient having a hematological cancer comprising administering an effective amount of the compound provided herein. In certain embodiment, the ORR includes all responses of complete remission (CR) (i.e., morphologic leukemia-free state, morphologic CR, cytogenetic CR, molecular CR, and morphologic CR with incomplete blood recovery), and partial remission.

[00402] As used herein, Overall survival (OS) means the time from randomization in a clinical trial until death from any cause. Progression-free survival (PFS) means the time from randomization in a clinical trial until progression or death. Event-free survival (EFS) means the time from study entry until any treatment failure, including disease progression, treatment discontinuation for any reason, or death. Overall response rate (ORR) means the sum of the percentage of patients who achieve complete and partial responsess. Duration of response (DoR) is the time from achieving a response until relapse or disease progression.

[00403] As used herein, "hematological cancer" includes myeloma, lymphoma and leukemia. In one embodiment, the myeloma is multiple myeloma. In some embodiments, the leukemia is, for example, acute myelogenous leukemia (AML), acute lymphocytic leukemia (ALL), adult T-cell leukemia, chronic lymphocytic leukemia (CLL), hairy cell leukemia, myelodysplasia, myeloproliferative disorders, chronic myelogenous leukemia (CML), myelodysplastic syndrome (MDS), human lymphotropic virus-type 1 (HTLV-1) leukemia, mastocytosis, or B-cell acute lymphoblastic leukemia. In some embodiments, the lymphoma is, for example, diffuse large B-cell lymphoma (DLBCL), B-cell immunoblastic lymphoma, small non-cleaved cell lymphoma, human lymphotropic virus-type 1 (HTLV-1) leukemia/lymphoma, adult T-cell lymphoma, peripheral T-cell lymphoma (PTCL), cutaneous T-cell lymphoma (CTCL), mantle cell lymphoma (MCL), Hodgkin lymphoma (HL), non-Hodgkin lymphoma (NHL), AIDS-related lymphoma, follicular lymphoma, small lymphocytic lymphoma, T-cell/histiocyte rich large B-cell lymphoma, transformed lymphoma, primary mediastinal (thymic) large B-cell lymphoma, splenic marginal zone lymphoma, Richter's transformation, nodal marginal zone lymphoma, or ALK-positive large B-cell lymphoma. In one embodiment, the hematological cancer is indolent lymphoma including, for example, DLBCL, follicular lymphoma, or marginal zone lymphoma.

5.11 Combination Therapy With A Second Active Agent

[00404] A compound provided herein, or an enantiomer or a mixture of enantiomers thereof; or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, can also be combined or used in combination with other therapeutic agents useful in the treatment and/or prevention of cancer described herein.

[00405] As used herein, the term "in combination" includes the use of more than one therapy (*e.g.*, one or more prophylactic and/or therapeutic agents). However, the use of the term "in combination" does not restrict the order in which therapies (*e.g.*, prophylactic and/or therapeutic agents) are administered to a patient with a disease or disorder. A first therapy (*e.g.*, a prophylactic or therapeutic agent such as a compound provided herein, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof) can be administered prior to (*e.g.*, 5 minutes, 15 minutes, 30 minutes, 45 minutes, 1 hour, 2 hours, 4 hours, 6 hours, 12 hours, 24 hours, 48 hours, 72 hours, 96 hours, 1 week, 2 weeks, 3 weeks, 4 weeks, 5 weeks, 6 weeks, 8 weeks, or 12 weeks before), concomitantly with, or subsequent to (*e.g.*, 5 minutes, 15 minutes, 30 minutes, 45 minutes, 1 hour, 2 hours, 4 hours, 6 hours, 12 hours, 24 hours, 48 hours, 72 hours, 96 hours, 1 week, 2 weeks, 3 weeks, 4 weeks, 5 weeks, 6 weeks, 8 weeks, or 12 weeks after) the administration of a second therapy (*e.g.*, a prophylactic or therapeutic agent) to the subject. Triple therapy is also contemplated herein.

[00406] Administration of a compound provided herein and one or more second active agents to a patient can occur simultaneously or sequentially by the same or different routes of administration. The suitability of a particular route of administration employed for a particular active agent will depend on the active agent itself (*e.g.*, whether it can be administered orally without decomposing prior to entering the blood stream) and the cancer being treated.

[00407] The route of administration of a compound provided herein is independent of the route of administration of a second therapy. In one embodiment, a compound provided herein is administered orally. In another embodiment, a compound provided herein is administered intravenously. Thus, in accordance with these embodiments, a compound provided herein is administered orally or intravenously, and the second therapy can be administered orally, parenterally, intraperitoneally, intravenously, intraarterially, transdermally, sublingually, intramuscularly, rectally, transbuccally, intranasally, liposomally, via inhalation, vaginally, intraoccularly, via local delivery by catheter or stent, subcutaneously, intraadiposally, intraarticularly, intrathecally, or in a slow release dosage form. In one embodiment, a compound provided herein and a second therapy are administered by the same mode of administration, orally or by IV. In another embodiment, a compound provided herein is

administered by one mode of administration, *e.g.*, by IV, whereas the second agent (an anticancer agent) is administered by another mode of administration, *e.g.*, orally.

[00408] In one embodiment, the second active agent is administered intravenously or subcutaneously and once or twice daily in an amount of from about 1 to about 1000 mg, from about 5 to about 500 mg, from about 10 to about 350 mg, or from about 50 to about 200 mg. The specific amount of the second active agent will depend on the specific agent used, the type of disease being treated or managed, the severity and stage of disease, and the amount of a compound provided herein provided herein and any optional additional active agents concurrently administered to the patient. In certain embodiments, the second active agent is oblimersen (GENASENSE®), GM-CSF, G-CSF, SCF, EPO, taxotere, irinotecan, dacarbazine, transretinoic acid, topotecan, pentoxifylline, ciprofloxacin, dexamethasone, vincristine, doxorubicin, COX-2 inhibitor, IL2, IL8, IL18, IFN, Ara-C, vinorelbine, or a combination thereof.

[00409] In certain embodiments, GM-CSF, G-CSF, SCF or EPO is administered subcutaneously during about five days in a four or six week cycle in an amount ranging from about 1 to about 750 mg/m^2/day, from about 25 to about 500 mg/m^2/day, from about 50 to about 250 mg/m^2/day, or from about 50 to about 200 mg/m^2/day. In certain embodiments, GM-CSF may be administered in an amount of from about 60 to about 500 mcg/m^2 intravenously over 2 hours or from about 5 to about 12 mcg/m^2/day subcutaneously. In certain embodiments, G-CSF may be administered subcutaneously in an amount of about 1 mcg/kg/day initially and can be adjusted depending on rise of total granulocyte counts. The maintenance dose of G-CSF may be administered in an amount of about 300 (in smaller patients) or 480 mcg subcutaneously. In certain embodiments, EPO may be administered subcutaneously in an amount of 10,000 Unit 3 times per week.

[00410] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with melphalan and dexamethasone to patients with amyloidosis. In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, and steroids can be administered to patients with amyloidosis.

[00411] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with

gemcitabine and cisplatinum to patients with locally advanced or metastatic transitional cell bladder cancer.

[00412] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with a second active ingredient as follows: temozolomide to pediatric patients with relapsed or progressive brain tumors or recurrent neuroblastoma; celecoxib, etoposide and cyclophosphamide for relapsed or progressive CNS cancer; temodar to patients with recurrent or progressive meningioma, malignant meningioma, hemangiopericytoma, multiple brain metastases, relapased brain tumors, or newly diagnosed glioblastoma multiforms; irinotecan to patients with recurrent glioblastoma; carboplatin to pediatric patients with brain stem glioma; procarbazine to pediatric patients with progressive malignant gliomas; cyclophosphamide to patients with poor prognosis malignant brain tumors, newly diagnosed or recurrent glioblastoma multiforms; Gliadel® for high grade recurrent malignant gliomas; temozolomide and tamoxifen for anaplastic astrocytoma; or topotecan for gliomas, glioblastoma, anaplastic astrocytoma or anaplastic oligodendroglioma.

[00413] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with methotrexate, cyclophosphamide, taxane, abraxane, lapatinib, herceptin, aromatase inhibitors, selective estrogen modulators, estrogen receptor antagonists, and/or PLX3397 (Plexxikon) to patients with metastatic breast cancer.

[00414] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with temozolomide to patients with neuroendocrine tumors.

[00415] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with gemcitabine to patients with recurrent or metastatic head or neck cancer.

[00416] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with gemcitabine to patients with pancreatic cancer.

[00417] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with colon cancer in combination with ARISA®, avastatin, taxol, and/or taxotere.

[00418] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with capecitabine and/or PLX4032 (Plexxikon) to patients with refractory colorectal cancer or patients who fail first line therapy or have poor performance in colon or rectal adenocarcinoma.

[00419] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with fluorouracil, leucovorin, and irinotecan to patients with Dukes C & D colorectal cancer or to patients who have been previously treated for metastatic colorectal cancer.

[00420] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with refractory colorectal cancer in combination with capecitabine, xeloda, and/or CPT-11.

[00421] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with capecitabine and irinotecan to patients with refractory colorectal cancer or to patients with unresectable or metastatic colorectal carcinoma.

[00422] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered alone or in combination with interferon alpha or capecitabine to patients with unresectable or metastatic hepatocellular carcinoma; or with cisplatin and thiotepa to patients with primary or metastatic liver cancer.

[00423] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with pegylated interferon alpha to patients with Kaposi's sarcoma.

[00424] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with fludarabine, carboplatin, and/or topotecan to patients with refractory or relapsed or high-risk acuted myelogenous leukemia.

[00425] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with liposomal daunorubicin, topotecan and/or cytarabine to patients with unfavorable karotype acute myeloblastic leukemia.

[00426] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with gemcitabine, abraxane, erlotinib, geftinib, and/or irinotecan to patients with non-small cell lung cancer.

[00427] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with carboplatin and irinotecan to patients with non-small cell lung cancer.

[00428] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered with doxetaxol to patients with non-small cell lung cancer who have been previously treated with carbo/VP 16 and radiotherapy.

[00429] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with carboplatin and/or taxotere, or in combination with carboplatin, pacilitaxel and/or thoracic radiotherapy to patients with non-small cell lung cancer.

[00430] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with taxotere to patients with stage IIIB or IV non-small cell lung cancer.

[00431] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically

acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with oblimersen (Genasense®) to patients with small cell lung cancer.

[00432] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with ABT-737 (Abbott Laboratories) and/or obatoclax (GX15-070) to patients with lymphoma and other blood cancers.

[00433] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered alone or in combination with a second active ingredient such as vinblastine or fludarabine to patients with various types of lymphoma, including, but not limited to, Hodgkin's lymphoma, non-Hodgkin's lymphoma, cutaneous T-Cell lymphoma, cutaneous B-Cell lymphoma, diffuse large B-Cell lymphoma or relapsed or refractory low grade follicular lymphoma.

[00434] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with taxotere, IL-2, IFN, GM-CSF, PLX4032 (Plexxikon) and/or dacarbazine to patients with various types or stages of melanoma.

[00435] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered alone or in combination with vinorelbine to patients with malignant mesothelioma, or stage IIIB non-small cell lung cancer with pleural implants or malignant pleural effusion mesothelioma syndrome.

[00436] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with various types or stages of multiple myeloma in combination with dexamethasone, zoledronic acid, palmitronate, GM-CSF, biaxin, vinblastine, melphalan, busulphan, cyclophosphamide, IFN, palmidronate, prednisone, bisphosphonate, celecoxib, arsenic trioxide, PEG INTRON-A, vincristine, or a combination thereof.

[00437] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to

patients with relapsed or refractory multiple myeloma in combination with doxorubicin (Doxil®), vincristine and/or dexamethasone (Decadron®).

[00438] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with various types or stages of ovarian cancer such as peritoneal carcinoma, papillary serous carcinoma, refractory ovarian cancer or recurrent ovarian cancer, in combination with taxol, carboplatin, doxorubicin, gemcitabine, cisplatin, xeloda, paclitaxel, dexamethasone, or a combination thereof.

[00439] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with various types or stages of prostate cancer, in combination with xeloda, 5 FU/LV, gemcitabine, irinotecan plus gemcitabine, cyclophosphamide, vincristine, dexamethasone, GM-CSF, celecoxib, taxotere, ganciclovir, paclitaxel, adriamycin, docetaxel, estramustine, Emcyt, denderon or a combination thereof.

[00440] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with various types or stages of renal cell cancer, in combination with capecitabine, IFN, tamoxifen, IL-2, GM-CSF, Celebrex®, or a combination thereof.

[00441] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with various types or stages of gynecologic, uterus or soft tissue sarcoma cancer in combination with IFN, a COX-2 inhibitor such as Celebrex®, and/or sulindac.

[00442] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with various types or stages of solid tumors in combination with celebrex, etoposide, cyclophosphamide, docetaxel, apecitabine, IFN, tamoxifen, IL-2, GM-CSF, or a combination thereof.

[00443] In certain embodiments, a compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to

patients with scleroderma or cutaneous vasculitis in combination with celebrex, etoposide, cyclophosphamide, docetaxel, apecitabine, IFN, tamoxifen, IL-2, GM-CSF, or a combination thereof.

[00444] Also encompassed herein is a method of increasing the dosage of an anti-cancer drug or agent that can be safely and effectively administered to a patient, which comprises administering to the patient (*e.g.*, a human) or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof. Patients that can benefit by this method are those likely to suffer from an adverse effect associated with anti-cancer drugs for treating a specific cancer of the skin, subcutaneous tissue, lymph nodes, brain, lung, liver, bone, intestine, colon, heart, pancreas, adrenal, kidney, prostate, breast, colorectal, or combinations thereof. The administration of a compound provided herein, *e.g.*, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, alleviates or reduces adverse effects which are of such severity that it would otherwise limit the amount of anti-cancer drug.

[00445] In one embodiment, a compound provided herein, *e.g.*, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered orally and daily in an amount ranging from about 0.1 to about 150 mg, from about 1 to about 50 mg, or from about 2 to about 25 mg, prior to, during, or after the occurrence of the adverse effect associated with the administration of an anti-cancer drug to a patient. In certain embodiments, a compound provided herein, *e.g.*, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered in combination with specific agents such as heparin, aspirin, coumadin, or G-CSF to avoid adverse effects that are associated with anti-cancer drugs such as but not limited to neutropenia or thrombocytopenia.

[00446] In one embodiment, a compound provided herein, *e.g.*, a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, is administered to patients with diseases and disorders associated with or characterized by, undesired angiogenesis in combination with additional active ingredients, including, but not limited to, anti-cancer drugs, anti-inflammatories, antihistamines, antibiotics, and steroids.

[00447] In another embodiment, encompassed herein is a method of treating, preventing and/or managing cancer, which comprises administering a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate,

hydrate, co-crystal, clathrate, or polymorph thereof, in conjunction with (*e.g.* before, during, or after) conventional therapy including, but not limited to, surgery, immunotherapy, biological therapy, radiation therapy, or other non-drug based therapy presently used to treat, prevent or manage cancer. The combined use of the compound provided herein and conventional therapy may provide a unique treatment regimen that is unexpectedly effective in certain patients. Without being limited by theory, it is believed that a compound provided herein may provide additive or synergistic effects when given concurrently with conventional therapy. In certain embodiments provided herein is a compound provided herein for use in a method of treating, preventing and/or managing cancer, wherein the method comprises the above defined administration step.

[00448] As discussed elsewhere herein, encompassed herein is a method of reducing, treating and/or preventing adverse or undesired effects associated with conventional therapy including, but not limited to, surgery, chemotherapy, radiation therapy, hormonal therapy, biological therapy and immunotherapy. Also encompassed herein is a compound provided herein for use in a method of reducing, treating and/or preventing adverse or undesired effects associated with conventional therapy including, but not limited to, surgery, chemotherapy, radiation therapy, hormonal therapy, biological therapy and immunotherapy. A compound provided herein, *e.g.,* a compound provided herein, or an enantiomer or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt, solvate, hydrate, co-crystal, clathrate, or polymorph thereof, and other active ingredient can be administered to a patient prior to, during, or after the occurrence of the adverse effect associated with conventional therapy.

[00449] In one embodiment, a compound provided herein can be administered in an amount ranging from about 0.1 to about 150 mg, from about 1 to about 25 mg, or from about 2 to about 10 mg orally and daily alone, or in combination with a second active agent disclosed herein (*see, e.g.*, section 5.4), prior to, during, or after the use of conventional therapy.

[00450] The following examples are offered by way of illustration, and not by way of limitation.

6. EXAMPLES

6.1 Preparation of 3-(4-amino-1-oxo-1,3-dihydro-isoindol-2-yl)-piperidine-2,6-dione (lenalidomide)

Methyl 2-bromomethyl-3-nitrobenzoate

[00451] A stirred mixture of methyl 2-methyl-3-nitrobenzoate (14.0 g, 71.7 mmol) and N-bromosuccinimide (15.3 g, 86.1 mmol) in carbon tetrachloride (200 mL) was heated under gentle reflux for 15 hours while a 100W bulb situated 2 cm away was shining on the flask. The mixture was filtered and the solid was washed with methylene chloride (50 mL). The filtrate

was washed with water (2x100 mL), brine (100 mL) and dried. The solvent was removed *in vacuo* and the residue was purified by flash chromatography (hexane/ethyl acetate, 8/2) to afford 19 g (96%) of the product as a yellow solid: mp 70.0-71.5°C; 1H NMR ($CDC1_3$) δ 8.12-8.09(dd, J=1.3 and 7.8 Hz, 1H), 7.97-7.94(dd, J=1.3 and 8.2 Hz, 1H), 7.54(t, J=8.0 Hz, 1H). 5.15(s, 2H), 4.00(s, 3H); ^{13}C NMR ($CDC1_3$) δ 165.85, 150.58, 134.68, 132.38, 129.08, 127.80, 53.06, 22.69; HPLC, Water Nove-Pak/C18, 3.9x150 mm, 4 micron, 1mL/min, 240 nm, 40/60 $CH_3CN/0.1\%H_3PO_4$(aq) 7.27 min(98.92%); Anal. Calcd for $C_9H_8NO_4Br$: C, 39.44; H, 2.94; N, 5.1 1 ; Br, 29.15. Found : C, 39.46; H, 3.00; N, 5.00; Br, 29.1 1.

t-Butyl N-(1-oxo-4-nitroisoindolin-2-yl)-L-glutamine

[00452] Triethylamine (2.9 g, 28.6 mmol) was added dropwise to a stirred mixture of methyl 2-bromomethyl-3-nitrobenzoate (3.5 g, 13.0 mmol) and L-glutamine t-butyl ester hydrochloride (3.1 g, 13.0 mmol) in tetrahydrofuran (90 mL). The mixture was heated to reflux for 24 hours. To the cooled mixture was added methylene chloride (150 mL) and the mixture was washed with water (2 x 40 mL), brine (40 mL) and dried. The solvent was removed in vacuo and the residue was purified by flash chromatography (3% CH_3OH in methylene chloride) to afford 2.84 g (60%) of crude product which was used directly in the next reaction: 1H NMR ($CDC1_3$) δ 8.40(d, J=8.1 Hz, 1H), 8.15(d, J=7.5 Hz, 1H), 7.71(t, J=7.8 Hz, 1H), 5.83(s, 1H), 5.61(s, 1H), 5.12(d, J=19.4 Hz, 1H), 5.04-4.98(m, 1H), 4.92(d, J=19.4 Hz, 1H), 2.49-2.22(m, 4H). 1.46(s, 9H); HPLC, Waters Nova-Pak C18, 3.9x150 mm, 4 micron, 1 mL/min, 240 nm, 25/75 $CH_3CN/0.1\%H_3PO_4$(aq) 6.75 min(99.94%).

N-(1-oxo-4-nitroisoindolin-2-yl)-L-glutamine

[00453] Hydrogen chloride gas was bubbled into a stirred 5°C solution of t-butyl N-(1-oxo-4-nitro-isoindolin-2-yl)-L-glutamine (3.6 g, 9.9 mmol) in methylene chloride (60 mL) for 1 hour. The mixture was then stirred at room temperature for another hour. Ether (40 mL) was added and the resulting mixture was stirred for 30 minutes. The slurry was filtered, washed with ether and dried to afford 3.3 g of the product: 1H NMR (DMSO-d_6) δ 8.45(d, J=8.1 Hz, 1H), 8.15(d, J=7.5 Hz, 1H), 7.83(t, J=7.9 Hz. 1H), 7.24(s, 1H), 6.76(s, 1H), 4.93(s, 2H), 4.84-4.78(dd, J=4.8amd 10.4 Hz, 1H), 2.34-2.10(m, 4H); ^{13}C NMR (DMSO-d_6) δ 173.03, 171.88, 165.96, 143.35, 137.49, 134.77, 130.10, 129.61, 126.95, 53.65, 48.13, 31.50, 24.69; Anal. Calcd for $C_{13}H_{13}N_3O_6$: C, 50.82; H, 4.26; N, 13.68. Found : C, 50.53; H. 4.37; N, 13.22.

(S)-3-(1-oxo-4-nitroisoindolin-2-yl)piperidine-2,6-dione

[00454] A stirred suspension mixture of N-(1-oxo-4-nitroisoindolin-2-yl)-L-glutamine (3.2 g, 10.5 mmol) in anhydrous methylene chloride (150 mL) was cooled to -40°C with isopropanol/dry ice bath. Thionyl chloride (0.82 mL, 11.3 mmol) was added dropwise to the cooled mixture followed by pyridine (0.9 g. 1 1.3 mmol). After 30 min, triethylamine (1.2 g,

11.5 mmol) was added and the mixture was stirred at -30 to -40°C for 3 hours. The mixture was poured into ice water (200 mL) and the aqueous layer was extracted with methylene chloride (40 mL). The methylene chloride solution was washed with water (2 x 60 mL), brine (60 mL) and dried. The solvent was removed in vacuo and the solid residue was slurried with ethyl acetate (20 mL) to give 2.2 g (75%) of the product as a white solid: mp 285°C; 1H NMR (DMSO-d_6) δ : 1.04(s, 1H), 8.49-8.45(dd, J=0.8 and 8.2 Hz, 1H), 8.21-8.17(dd, J=7.3 Hz, 1H), 7.84(t, J=7.6 Hz, 1H), 5.23-5.15(dd, J=4.9 and 13.0 Hz, 1H), 4.96(dd, J=19.3 and 32.4 Hz, 2H), 3.00-2.85(m, 1H), 2.64-2.49(m, 2H), 2.08-1.98(m, 1H); ^{13}C NMR (DMSO- d_6) δ 172.79, 170.69, 165.93, 143.33, 137.40, 134.68, 130.15, 129.60, 127.02, 51.82, 48.43, 31.16. 22.23; HPLC, Waters Nove-Pak/C18, 3.9x150 mm, 4 micron, 1 mL/min, 240 nm, 20/80 CH_3CN/0.1%H_3PO_4(aq) 3.67 min(100%); Anal. Calcd for $C_{13}H_nN_3O_5$: C, 53.98; H, 3.83; N, 14.53. Found : C, 53.92; H, 3.70; N, 14.10.

3-(4-amino-1-oxo-1,3-dihydro-isoindol-2-yl)-piperidine-2,6-dione

[00455] A mixture of (S)-3-(1-oxo-4-nitroisoindolin-2-yl)piperidine-2,6-dione (1.0 g, 3.5 mmol) and 10% Pd/C (0.3 g) in methanol (600 mL) was hydrogenated in a Parr-Shaker apparatus at 50 psi of hydrogen for 5 hours. The mixture was filtered through Celite and the filtrate was concentrated in vacuo. The solid was slurried in hot ethyl acetate for 30 min, filtered and dried to afford 0.46 g (51%) of the product as a white solid: mp 235.5-239°C; ^{1}H NMR (DMSO-d_6) δ 11.01 (s, 1H). 7.19(t, J=7.6 Hz, 1H). 6.90(d. J=7.3 Hz, 1H), 6.78(d, J=7.8 Hz, 1H), 5.42(s, 2H). 5.12(dd. J=5.1 and 13.1 Hz, 1H), 4.17(dd, J=17.0 and 28.8 Hz, 2H), 2.92-2.85(m, 1H). 2.64-2.49(m, 1H). 2.34-2.27(m, 1H), 2.06-1.99(m, 1H); ^{13}C NMR (DMSO-d_6) δ 172.85, 171.19, 168.84, 143.58, 132.22. 128.79, 125.56, 1 16.37, 1 10.39, 51.48, 45.49, 31.20, 22.74; HPLC. Waters Nova-Pak/C18, 3.9x150 mm, 4 micron, 1 mL/min, 240 nm, 10/90 CH_3CN/0.1%H_3PO_4(aq) 0.96 min(100%); Chiral analysis, Daicel Chiral Pak AD, 40/60 Hexane/IPA, 6.60 min(99.42%); Anal. Calcd for $C_{13}H_{13}N_3O_3$: C, 60.23; H, 5.05; N, 16.21. Found : C, 59.96; H. 4.98; N, 15.84.

[00456] 3-(4-Amino-1-oxo-1,3-dihydro-isoindol-2-yl)-piperidine-2,6-dione may also be prepared by methods known in the art, for example, as provided in *Drugs of the Future*, 2003, 28(5): 425-431, the entirety of which is incorporated by reference.

6.2 Preparation of 3-(5-amino-2-methyl-4-oxo-4H-quinazolin-3-yl)- piperidine-2,6-dione (Compound A)

[00457] To a solution of potassium hydroxide (16.1 g, 286 mmol) in water (500 mL), was added 3-nitrophthalimide (25.0 g, 130 mmol) in portion at 0 °C. The suspension was stirred at 0 °C for 3 hrs, and then heated to 30 °C for 3 hrs. To the solution, was added HCl (100 mL, 6N). The resulting suspension was cooled to 0 °C for 1 hr. The suspension was filtered and

washed with cold water (2 x 10 mL) to give 3-nitro-phthalamic acid as a white solid (24.6 g, 90% yield): ^{1}H NMR (DMSO-d_6) δ 7.69 (brs, 1H, NH*H*), 7.74 (t, *J* = 8 Hz, 1H, Ar), 7.92 (dd, *J* = 1, 8 Hz, 1H, Ar), 8.13 (dd, *J* = 1, 8 Hz, 1H, Ar), 8.15 (brs, 1H, NH*H*), 13.59 (s, 1H, O*H*); ^{13}C NMR (DMSO-d_6) δ 125.33, 129.15, 130.25, 132.54, 136.72, 147.03, 165.90, 167.31.

[00458] To a mixture of 3-nitro-phthalamic acid (24.6 g, 117 mmol) and potassium hydroxide (6.56 g, 117 mmol) in water (118 mL), was added a mixture of bromine (6 mL), potassium hydroxide (13.2 g, 234 mmol) in water (240 mL) at 0 °C, followed by addition of a solution of potassium hydroxide (19.8 g, 351 mmol) in water (350 mL). After 5 minutes at 0 °C, the mixture was heated in a 100 °C oil bath for 1 hr. The reaction solution was cooled to room temperature, and then, in an ice-water bath for 30 minutes. To the mixture, a solution of HCl (240 mL, 2N) was added dropwise at 0 °C, and the resulting mixture was kept for 1 hr. The suspension was filtered and washed with water (5 mL) to give 2-amino-6-nitro-benzoic acid as yellow solid (15.6 g, 73% yield): HPLC: Waters Symmetry C_{18}, 5μm, 3.9 x 150 mm, 1 mL/min, 240 nm, CH_3CN/0.1% H_3PO_4, 5% grad to 95% over 5 min, 5.83 min (85%); ^{1}H NMR (DMSO-d_6) δ 6.90 (dd, *J* = 1, 8 Hz, 1H, Ar), 7.01 (dd, *J* = 1, 9 Hz, 1H, Ar), 7.31 (t, *J* = 8 Hz, 1H, Ar), 8.5-9.5 (brs, 3H, O*H*, NH_2); ^{13}C NMR (DMSO-d_6) δ 105.58, 110.14, 120.07, 131.74, 149.80, 151.36, 166.30; LCMS: MH = 183.

[00459] A mixture of 2-amino-6-nitro-benzoic acid (1.5 g, 8.2 mmol) in acetic anhydride (15 mL) was heated at 200 °C for 30 minutes in a microwave oven. The mixture was filtered and washed with ethyl acetate (20 mL). The filtrate was concentrated *in vacuo*. The solid was stirred in ether (20 mL) for 2 hrs. The suspension was filtered and washed with ether (20 mL) to give 2-methyl-5-nitro-benzo[d][1,3]oxazin-4-one as a light brown solid (1.4 g, 85% yield): HPLC: Waters Symmetry C_{18}, 5μm, 3.9 x 150 mm, 1 mL/min, 240 nm, CH_3CN/0.1% H_3PO_4, 5% grad 95% in 5 min, 5.36 min (92%); ^{1}H NMR (DMSO-d_6) δ 2.42 (s, 3H, CH_3), 7.79 (dd, *J* = 1, 8 Hz, 1H, Ar), 7.93 (dd, *J* = 1, 8 Hz, 1H, Ar), 8.06 (t, *J* = 8 Hz, 1H, Ar); ^{13}C NMR (DMSO-d_6) δ 20.87, 107.79, 121.54, 128.87, 137.19, 147.12, 148.46, 155.18, 161.78; LCMS: MH = 207.

[00460] Two vials each with a suspension of 5-nitro-2-methyl-benzo[d][1,3]oxazin-4-one (0.60 g, 2.91 mmol) and 3-amino-piperidine-2,6-dione hydrogen chloride (0.48 g, 2.91 mmol) in pyridine (15 mL) were heated at 170 °C for 10 minutes in a microwave oven. The suspension was filtered and washed with pyridine (5 mL). The filtrate was concentrated *in vacuo*. The resulting mixture was stirred in HCl (30 mL, 1N), ethyl acetate (15 mL) and ether (15 mL) for 2 hrs. The suspension was filtered and washed with water (30 mL) and ethyl acetate (30 mL) to give a dark brown solid, which was stirred with methanol (50 mL) at room temperature overnight. The suspension was filtered and washed with methanol to give 3-(2-

methyl-5-nitro-4-oxo-4H-quinazolin-3-yl)-piperidine-2,6-dione as a black solid (490 mg, 27% yield). The solid was used in the next step without further purification.

[00461] A mixture of 3-(2-methyl-5-nitro-4-oxo-4H-quinazolin-3-yl)-piperidine-2,6-dione (250 mg) and $Pd(OH)_2$ on carbon (110 mg) in DMF (40 mL) was shaken under hydrogen (50 psi) for 12 hrs. The suspension was filtered through a pad of Celite and washed with DMF (10 mL). The filtrate was concentrated *in vacuo* and the resulting oil was purified by flash column chromatography (silica gel, methanol/methylene chloride) to give 3-(5-amino-2-methyl-4-oxo-4H-quinazolin-3-yl)-piperidine-2,6-dione as a white solid (156 mg, 69% yield): HPLC: Waters Symmetry C_{18}, 5μm, 3.9 x 150 mm, 1 mL/min, 240 nm, 10/90 CH_3CN/0.1% H_3PO_4, 3.52 min (99.9%); mp: 293-295 °C; ^{1}H NMR (DMSO-d_6) δ 2.10-2.17 (m, 1H, CH*H*), 2.53 (s, 3H, CH_3), 2.59-2.69 (m, 2H, CH_2), 2.76-2.89 (m, 1H, CH*H*), 5.14 (dd, J = 6, 11 Hz, 1H, NC*H*), 6.56 (d, J = 8 Hz, 1H, Ar), 6.59 (d, J = 8 Hz, 1H, Ar), 7.02 (s, 2H, NH_2), 7.36 (t, J = 8 Hz, 1H, Ar), 10.98 (s, 1H, N*H*); ^{13}C NMR (DMSO-d_6) δ 20.98, 23.14, 30.52, 55.92, 104.15, 110.48, 111.37, 134.92, 148.17, 150.55, 153.62, 162.59, 169.65, 172.57; LCMS: MH = 287; Anal. Calcd. for $C_{14}H_{14}N_4O_3$ + 0.3 H_2O: C, 57.65; H, 5.05; N, 19.21. Found: C, 57.50; H, 4.73; N, 19.00.

6.3 Unbound CRBN Crystal Structure

[00462] This example describes the preparation of a CRBN crystal. Cereblon immunomodulatory agent-binding domain can be purified as follows: The gene encoding the thalidomide binding domain (TBD) of human CRBN (amino acids 319-427) or mouse CRBN (amino acids 322-430) is codon optimized and inserted into a pGEX6P-3 vector for expression as a GST-fusion protein in E. coli. BL21 (DE3) Star cells transformed with either plasmid are grown to OD 0.6 in TB media supplemented with 50 μM zinc acetate, and induced with 0.5 mM IPTG for 4 hours at 37 C. Cells are resuspended in lysis buffer containing 50 mM Tris pH 7, 150 mM NaCl, 10% glycerol, 2 mM TECP, 1 mM DTT, 100 U/mL benzonase (Novagen), 1X Protease Inhibitor Cocktail-EDTA free (SD Biosciences), 0.5 mg/mL lysozyme (Sigma), and sonicated for 30 s before ultracentrifuation for 30 min at 100,000 x g. GST-fused CRBN is then bound to glutathione affinity resin, washed in 50 mM Tris pH 7, 150 mM NaCl, 10% glycerol, 2 mM TCEP, 1 mM DTT, and eluted in the same buffer with the addition of 40 mM reduced glutathione. The GST tag is removed by overnight cleavage at 4 C with PreScission™ Protease (1U/mg protein, GE Healthcare). CRBN TBD is further purified with ion-exchange chromatography by diluting the cleaved protein to 75 mM NaCl usign 50 mM Tris pH 7, 2mM TCEP and 1 mM DTT, and binding to either a Mono S column (mouse TBD) or heparin column (human TBD). Protein is eluted using a gradient from 90 mM to 1M NaCl and pooled for size exclusion chromatography. Mouse CRBN TBD can be purified by size exclusion over an S75

16/600 in 5 mM sodium acetate pH 6, 10 mM TECP, and 5 mM DTT. Human CRBN TBD can be purified over an S75 16/600 in 20 mM MES pH 6, 200 mM NaCl, 10 mM TCEP and 1 mM DTT. Either the human or the mouse protein can be concentrated to 17 mg/mL. Alternatively, residues of murine 321-429 fused to GST can be expressed in E. coli. Cells are lysed by sonication and the soluble fraction purified using GST-trap, ion exchange and size-exclusion chromatography. Protein can be concentrated to 28mg/ml in 50mM acetate buffer, pH 6.0, 1mM DTT, 10mM TCEP. Crystals can be obtained by sitting drop vapor diffusion by mixing the protein buffer 1:1 with and equilibrating against a mother liquor of crystallization buffer. For the mouse unbound TBD, the crystallization buffer contains 100mM Sodium acetate pH 5, 600-800mM Ammonium sulfate. Crystals can be grown at 4 degrees centrigrade and cryoprotected by addition of 20% glycerol and frozen under liquid nitrogen.

6.4 CRBN-Drug Complex Crystal Structures

[00463] This example describes the preparation of a crystal of CRBN complexed with a second compound used to study structure-activity relationships.

[00464] A crystal of CRBN complexed with a Apo was prepared and used as a negative control. In addition, a crystal of CRBN complexed with thalidomide, pomalidomide, Compound B, or Compound C was prepared.

[00465] FIG. 2 depicts identical projections of certain CMA binding surfaces of CRBN and shows protein conformational changes.

[00466] FIG. 3A depicts the crystal structure of CRBN prior to Compound B binding, and FIG. 3B depicts the crystal structure of Compound B in CRBN, in which the drug can act as a "molecular glue" or bridge with a substrate, such as a CRBN-associated protein.

[00467] FIG. 4 depicts a complex of CRBN and Compound B or thalidomide. A 50^{o} rotation of "pthalimide" ring in Compound B relative to thalidomide or pomalidomide is observed. Such a rotation can allows for different biological effects downstream, as well as the resulting therapeutic effects.

6.5 Aiolos Degradation Assay for Identification of CMAs

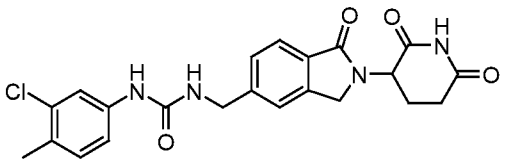
[00468] The example describes an exemplary method for assaying a CRBN-mediated biological activity, and specifically Aiolos degradation.

[00469] Immunohistochemistry is performed using standard methods. For example, Immunohistochemistry is performed on the Bond-Max® automated slide stainer (Leica Microsystems) using the associated Bond Polymer Refine® Detection Kit. Four micron thick FFPE sections are deparaffinized on the instrument. Antigen retrieval is performed with Epitope Retrieval™ 2 (pH 9.0) for 20 minutes at 100°C. The slides are blocked for endogenous peroxidase activity with Peroxide Block for 5 minutes at room temperature. Sections are then

incubated with rabbit polyclonal antibody to Aiolos (Santa Cruz, sc-101982) at a 1/1000 dilution for 15 minutes at room temperature, followed by incubation with HRP labeled Polymer for 8 minutes at room temperature. Enzymatic detection of anti-Aiolos antibody is accomplished with hydrogen peroxide substrate and diaminobenzidine tetrahydrochloride (DAB) chromogen at room temperature for 10 minutes. Slides are counterstained with Hematoxylin for 5 minutes at room temperature.

6.6 Production of Compound C Analogs

[00470] This example describes the production of Compound C, and analogs thereof. *1-(3-Chloro-4-methyl-phenyl)-3-[2-(2,6-dioxo-piperidin-3-yl)-1-oxo-2,3-dihydro-1H-isoindol-5-ylmethyl]-urea.*



[00471] **Step 1**: A mechanically stirred mixture of 4-bromo-2-methyl-benzoic acid (100 g, 465 mmol), iodomethane (95 g, 670 mmol) and sodium bicarbonate (112 g, 1340 mmol) in DMF (325 mL) was heated at 80 °C overnight. The reaction mixture was cooled to room temperature and partitioned between water (1500 mL) and 4:1 hexanes:ethyl acetate (1500 mL). The organic layer was washed with water and dried (Na_2SO_4). The solvent was removed under vacuum to give 110 g of 4-bromo-2-methyl-benzoic acid methyl ester as an oil, in 100% yield; ^{1}H NMR (DMSO-d_6) δ 2.51 (s, 3H), 3.84 (s, 3H), 7.40-7.78 (m, 3H).

[00472] **Step 2**: A mechanically stirred mixture of 4-bromo-2-methyl-benzoic acid methyl ester (115 g, 500 mmol), N-bromosuccinimide (90 g, 500 mmol) and AIBN (3.1 g) in acetonitrile (700 mL) was warmed over 45 minutes to a gentle reflux, and held at reflux for 21 hours. The reaction mixture was cooled to room temperature, diluted with saturated aqueous sodium bisulfite, and concentrated *in vacuo*. The residue was partitioned between water and 1:1 hexanes:ethyl acetate. The organic phase was washed with water, brine, and filtered through a pad of silica gel. The solvent was removed under vacuum to give an oil/solid mixture, which was digested in ether and filtered. The filtrate was chromatographed on silica gel using a hexanes-ethyl acetate gradient, eluting the product at 4:1 hexanes-ethyl acetate and providing 102 g of 4-bromo-2-bromomethyl-benzoic acid methyl ester, in 66% yield; ^{1}H NMR (DMSO-d_6) δ 3.87 (s, 3H), 4.99 (s, 2H), 7.67-7.97 (m, 3H).

[00473] **Step 3**: A mechanically stirred mixture of 4-bromo-2-bromomethyl-benzoic acid methyl ester (121 g, 390 mmol) and 3-amino-piperidine-2,6-dione hydrochloride (64.2 g, 390 mmol) in DMF (400 mL) was treated dropwise with triethylamine (98.5 g, 980 mmol) over

75 minutes. After the addition was completed, the reaction mixture was stirred at room temperature overnight. The mixture was quenched sequentially with acetic acid (50mL), water (2500mL) and a 1:1 mixture of ethyl acetate and hexanes (600 mL). After stirring the mixture for 20 minutes, the solid was filtered, washed with water and air dried overnight. The solid was stirred in acetic acid (200 mL) and refluxed for 2 hours. The mixture was cooled to room temperature and filtered. The solid was washed with additional acetic acid, hexanes and air dried overnight to give 25.4 g of 3-(5-bromo-1-oxo-1,3-dihydro-isoindol-2-yl)-piperidine-2,6-dione as a grey solid, in 20% yield; ^{1}H NMR (DMSO-d_6) δ 1.97-2.04 (m, 1H), 2.32-2.46 (m, 1H), 2.56-2.63 (m, 1H), 2.85-2.97 (m, 1H), 4.34 (d, J = 17.7 Hz, 1H), 4.47 (d, J = 17.7 Hz, 1H), 5.11 (dd, J = 13.2 Hz, J = 5.1 Hz, 1H), 7.67 (d, J = 8.1 Hz, 1H), 7.72 (dd, J = 8.1 Hz, J = 1.5 Hz, 1H), 7.89 (d, J = 0.9 Hz, 1H), 11.00 (s, 1H).

[00474] **Step 4**: A mechanically stirred mixture of 3-(5-bromo-1-oxo-1,3-dihydro-isoindol-2-yl)-piperidine-2,6-dione (25.2 g, 78 mmol), bis(diphenylphosphino)ferrocene (2.0 g), tris(dibenzylideneacetone)dipalladium (2.0 g) and zinc cyanide (9.4 g, 80 mmol) in DMF (300 mL) was heated to 120 °C and stirred at this temperature for 19 hours. The reaction mixture was cooled to 40 °C, and another 9.4 g of zinc cyanide, 2 g of bis(diphenylphosphino)ferrocene and 2 g of tris(dibenzylideneacetone)dipalladium were added. The mixture was stirred at 120 °C for 2 hours, cooled to room temperature and quenched with water (900 mL). The solid was filtered, washed with additional water and air dried overnight. The solid was stirred in hot acetic acid (200 mL) for 20 minutes. The solid was filtered, washed with additional acetic acid, ethyl acetate and hexanes, and air dried to give 30.8 g of crude 2-(2,6-dioxo-piperidin-3-yl)-1-oxo-2,3-dihydro-1H-isoindole-5-carbonitrile as a gray solid; ^{1}H NMR (DMSO-d_6) δ 1.99-2.06 (m, 1H), 2.35-2.45 (m, 1H), 2.57-2.63 (m, 1H), 2.86-2.98 (m, 1H), 4.42 (d, J = 17.7 Hz, 1H), 4.55 (d, J = 17.7 Hz, 1H), 5.15 (dd, J = 13.2 Hz, J = 5.1 Hz, 1H), 7.91 (d, J = 7.8 Hz, 1H), 7.99 (dd, J = 7.8 Hz, J = 0.9 Hz, 1H), 8.16 (s, 1H), 11.03 (s, 1H).

[00475] **Step 5**: A mixture of 2-(2,6-dioxo-piperidin-3-yl)-1-oxo-2,3-dihydro-1H-isoindole-5-carbonitrile (9.2 g, 34 mmol), 10% Pd-C (1.7 g) and concentrated HCl (5.3 g) in N-methylpyrrolidone (300 mL) was hydrogenated at 58 psi overnight. The crude reaction mixture was filtered through Celite, and the catalyst washed with water. The combined filtrate was concentrated *in vacuo*, and the product, 3-(5-aminomethyl-1-oxo-1,3-dihydro-isoindol-2-yl)-piperidine-2,6-dione hydrochloride, was isolated by fractional crystallization of the residue from isopropanol-water (1.9 g, 18%); ^{1}H NMR (DMSO-d_6) δ 1.85-2.20 (m, 1H), 2.35-2.45 (m, 1H), 2.58-2.80 (m, 1H), 2.87-2.99 (m, 1H), 4.16 (s, 2H), 4.35 (d, J = 17.5 Hz, 1H), 4.49 (d, J = 17.5 Hz, 1H), 5.13 (dd, J = 13.2 Hz, J = 4.8 Hz, 1H), 7.63 (d, J = 7.8 Hz, 1H), 7.72 (s, 1H), 7.79 (d, J = 7.8 Hz, 1H), 8.43 (br, 3H), 11.01 (s, 1H).

[00476] **Step 6**: A mixture of 3-(5-aminomethyl-1-oxo-1,3-dihydro-isoindol-2-yl)-piperidine-2,6-dione hydrochloride (0.50 g, 1.6 mmol), 3-chloro-4-methylphenyl isocyanate (0.27 g, 1.6 mmol) and TEA (0.32 g, 3.2 mmol) in THF (25 mL) was heated to 40 °C with stirring under N_2. After 3 hours, an additional portion of 3-chloro-4-methylisocyanate (0.17 g, 1.1 mmol) was added, and stirring proceeded for 2 hours. The mixture was filtered, and the filter was washed with ethyl acetate. The solid was triturated with 10 mL of 1:1 acetone-DMF and filtered. The filter was washed with acetone, and the solid was dried under vacuum, providing 430 mg of the product, in 60% yield; mp 258-260 °C; HPLC, Waters Symmetry C-18, 3.9 x 150 mm, 5 μm, 1 mL/min, 240 nm, 40/60 CH_3CN/0.1 % H_3PO_4, 4.49 (98.75%); ^{1}H NMR (DMSO-d_6) δ 1.90-1.96 (m, 1H), 2.16 (s, 3H), 2.25-2.39 (m, 1H), 2.50-2.55 (m, 1H), 2.78-2.91 (m, 1H), 4.24 (d, J = 18.0 Hz, 1H), 4.33-4.41 (m, 3H), 5.04 (dd, J = 13.5 Hz, J = 4.5 Hz, 1H), 6.73 (t, J = 6.0 Hz, 1H), 7.04-7.13 (m, 2H), 7.36-7.44 (m, 2H), 7.59-7.44 (m, 2H), 8.69 (s, 1H), 10.92 (s, 1H); ^{13}C NMR (DMSO-d_6) δ 18.7, 22.5, 31.2, 42.8, 47.1, 51.5, 116.4, 117.6, 121.9, 122.9, 126.9, 127.4, 130.3, 131.0, 133.0, 139.6, 142.4, 144.7, 155.1, 167.9, 171.0, 172.9; Anal. Calcd for $C_{22}H_{21}ClN_4O_4$: C, 59.93; H, 4.80; N, 12.71. Found: C, 59.77; H, 4.61; N, 12.69.

6.7 CRBN is Required for the Anti-Proliferative Effect of Compound C in Hematological and Solid Tumors

Lenalidomide competes with Compound A and Compound C for CRBN

[00477] TMD8 (ABC) or Karpas 422 (GCB) cells were treated with either lenalidomide; Compound A; Compound A and 100 μM lenalidomide, Compound C; or Compound C and 100 μM lenalidomide. Cells were cultured and cell-passaged long-term in lenalidomide or Compound A. The cells were then analyzed for proliferation using a ^{3}H-thymidine incorporation assay.

[00478] FIG. 5 shows that lenalidomide competes with Compound A and Compound C for CRBN. FIG. 5A shows that co-treatment with Compound A and 10 μM lenalidomide blocks anti-proliferative effects of Compound A, though competition of binding to the CRBN complex. Likewise, FIG. 5B shows that co-treatment with Compound C and 10 μM lenalidomide blocks anti-proliferative effects of Compound C, though competition of binding to the CRBN complex. Co-culture of Lenalidomide with either Compound A or Compound C dampens the activity of these compounds as they target the same binding pocket with relative affinity.

6.8 Effect of Compound C Analogs on CRBN Substrates

[00479] This example shows the effects of Compound C analogs on CRBN substrates.

6.8.1. Compound C induces early apoptosis in the MM cell line H929

[00480] The multiple myeloma cell line, H929, was cultured and treated with Compound C or other CMA analogs at various concentrations from 0.01 nM to 1000 nM. Apoptosis was assessed at 24 hrs. later.

[00481] As shown in FIG. 6, Compound C induced early apoptosis in the multiple myeloma (MM) cell line H929, whereas other CMAs did not.

6.8.2. Compound C is potent across a panel of solid tumor lines

[00482] The potency of Compound C was assessed across a panel of tumor cell lines, including B-lymphoma, breast, CNS, colon, kidney, leukemia, lung, melanoma, multiple myeloma, ovary and prostate.

[00483] As shown in FIG. 7, Compound C is potent across a panel of tumor lines. While there was a differential cytotoxicity across the cancer cell panel, Compound C had an overall low Therapeutic Index (*i.e.*, toxic effects at low doses). Of note, traditional immunomodulatory agents have no activity in solid tumor cell lines.

6.8.3. CRBN is required for anti-proliferative activity of Compound C in MM cells

[00484] Next, it was determined if Compound C binds CRBN in U266 multiple myeloma cells, and whether CRBN was required for Compound C activity in those cells.

[00485] As shown in FIG. 8, Compound C binds CRBN protein MM cell extracts. Immunoblot analysis of extracts prepared from U266 multiple myeloma cells and pre-incubated with vehicle DMSO (D), Pomalidomide (Pom) or Compound C at the indicated concentrations, and bound to thalidomide analog affinity beads, washed and eluted with SDS buffer as previously described (Ito *et al*, 2010; Lopez-Girona *et al*, 2012). Samples were subjected to SDS-PAGE and immunoblot analysis using anti-CRBN 65-76 (1:10,000 dilution; Red signal) and anti-DDB1 (Cell Signaling) (1:2,000 dilution; Green signal). A LI-COR Odissey system was used to quantify CRBN band density and relative amounts of CRBN were determined by averaging at least three DMSO controls and expressing CRBN in each competition sample as percent inhibition of CRBN protein relative to the averaged controls as 100% binding. Moreover, FIGS. 9 and 10 show that CRBN is required for the anti-proliferative activity of Compound C in myeloma cells. FIG 9 shows CRBN immunoblot of extracts from DF15, DF15R shows lack of CRBN protein expression in DF15R cells. β-Tubulin immunoblot used as loading control. Cell proliferation assay of DF15 (sensitive), DF15R (resistant; CRBNnull) cells treated with a dose response of Compound C. Assays were done in triplicate and error bars represent s.d. Data for each cell line was normalized to treatment with vehicle (DMSO). FIG 10 shows CRBN immunoblot of extracts from DF15, DF15R and DF15R cells re-expressing full length

CRBN wild type (CRBNWT) or re-expressing RFP control. β-Tubulin immunoblot used as loading control. Cell proliferation assay of DF15 (sensitive), DF15R (resistant; CRBNnull), DF15R-hCRBNWT (human CRBN), DF15R-RFP cells treated with a dose response of Compound C. Data shows that re-expression of human CRBN in DF15R cells recues Compound C anti-proliferative activity. Assays were done in triplicate and error bars represent s.d. Data for each cell line was normalized to treatment with vehicle (DMSO).

6.8.4. CRBN is required for anti-proliferative activity in breast cancer cells

[00486] Breast cancer cells (MDA-MB-231) were treated with CRBN siRNA or a negative control. Compound C was added at a concentration between 0 to 100 μM, and CRBN levels were assessed at 48 hours post treatment. CRBN was significantly reduced in treated cells, as compared to a negative control receiving no siRNA (data not shown).

[00487] Compound C-mediated growth inhibition and pro-apoptotic activity were also assessed. As shown in FIG. 11, CRBN is required for both inhibition and pro-apoptotic activity of Compound C in the MDA-MB-213 breast cancer cells.

6.9 Structural Basis for Differentiated Responsiveness to Thalidomide-class Drugs Defined by the Crystal Structure of a Lenalidomide:Human Cereblon: DDB1 Complex

[00488] The ubiquitin-proteasome pathway (UPP) is the principal mechanism by which proteins become marked for degradation contributing to intracellular protein homeostasis. Dysregulation of this key protein homeostatic mechanism is implicated in the etiology of diseases including cancer, neurological conditions and metabolic diseases (Petroski et al. BMC Biochem, 2008. 9Suppl1:S7. Drugs that modulate the ubiquitin-proteasome pathway therefore have the potential to impact a wide range of biological processes and diseases including cancer. Thalidomide (THAL) and related immunomodulatory agents, such as lenalidomide (LEN) and pomalidomide (POM), have shown anticancer effects in different indications by the direct inhibition of cancer cell proliferation, modulation of the tumor microenvironment, and immunomodulation or stimulation (Ramsay et al., Blood, 2012. 120(7):1412-21; Quach et al., Leukemia, 2010. 24(1):22-32; Ramsay et al., Blood, 2013. 121(14): p. 2704-14; Eve et al, Br J Haematol., 2012. 159(2):154-63).

[00489] Cereblon (CRBN), first identified as a genetic cause of inherited autosomal recessive mental retardation, is a component of a ubiquitin E3 cullin4-ring ligase (CRL4) complex, and is the direct target of THAL and other immunomodulatory agent drugs. CRL4 ubiquitin ligases are formed by a Cullin protein (CUL4), which acts as an assembly factor that provides a scaffold for assembly of a RING-box domain protein (RBX1) and the adaptor protein Damaged DNA Binding Protein 1 (DDB1) (Angers et al., Nature, 2006. 443(7111):590-3).

RBX1 is the docking site for the activated E2 protein, and DDB1 recruits substrate specificity receptors or DCAFs (DDB1-cullin4-associated-factors) to form the substrate-presenting side of the CRL4 complex (Angers et al., Nature, 2006. 443(7111):590-3; He et al., Genes Dev, 2006. 20(21):2949-54; Higa et al. Nat Cell Biol, 2006. 8(11): p. 1277-83). Roughly 60 DCAFs have been identified. These DCAFs are characterized by the presence of a WD-repeat domain (Higa et al. Nat Cell Biol, 2006. 8(11):1277-83). Biochemical and genetic evidence has shown that CRBN is a DCAF for CRL4 (Angers et al., Nature, 2006. 443(7111):590-3, Ito et al., Science, 2010. 327(5971):1345-50), and that binding of immunomodulatory agent compounds to CRBN affects CRL4CRBN ubiquitin E3 ligase activity thus mediating the anti-proliferative effects on multiple myeloma (MM) cells and the immunomodulatory effects on T cells (Ito et al., Science, 2010. 327(5971):1345-50; Lopez-Girona et al., Leukemia, 2012. 26(11):2326-35; Zhu et al., Blood. 2011. 118(18):4771-9).

[00490] Recently, several groups have identified the transcription factors Ikaros and Aiolos as substrates of the CRL4CRBN-immunomodulatory agent drug complex, thus explaining many of the therapeutic effects of immunomodulatory agent compounds on immune and tumor cells. These reports describe that binding of immunomodulatory agent compounds to CRBN promotes recruitment of Ikaros or Aiolos to CRL4CRBN resulting in the increased ubiquitylation and proteasomal-dependent degradation of these transcription factors in both MM and T cells. In myeloma cells, targeted knockdown of Ikaros and Aiolos mimics the decrease of the myeloma survival factor, IRF4, as well as the decrease in cell viability observed with immunomodulatory agent treatment. In T cells, Ikaros and Aiolos are known repressors of interleukin-2 (IL-2) transcription, and knockdown of either protein produces an increase in IL-2 similar to immunomodulatory agent drug treatment (Gandhi et al., Br J Haematol.; Lu et al., Science; Kronke, et al., Science, 2014. 343(6168):301-5.). These findings demonstrated that immunomodulatory agent binding confers new functionality to the CRL4CRBN complexes, raising the possibility that an immunomodulatory agent conferred neo-morphic structure is involved.

[00491] One further feature of historical and developmental importance in the pharmacology of lenalidomide and related drugs is the species specificity which these compounds exhibit. For example, it has been shown that mice and rats are insensitive to the teratogenic effects of thalidomide and lenalidomidE (Newman *et al.*, Reprod Toxicol, 1993. 7(4):359-90), while primates, including humans, are sensitive. Consistent with the species differences in pharmacology, we demonstrate that mouse splenocytes are resistant to the IL-2 inducing effects of pomalidomide and that in a mouse A20 cell line engineered to express

human cereblon and human Aiolos, mouse Aiolos is not degraded in the presence of lenalidomide while human Aiolos is.

6.9.1. Summary

[00492] The Cul4:Rbx1:DDB1:Cereblon E3 ubiquitin ligase complex has been identified as the molecular target of a therapeutically important class of molecules known as immunomodulatory agent drugs or immunomodulatory Drugs. Immunomodulatory agent drugs directly bind Cereblon (CRBN) and in the process modulate the activity of the E3 ubiquitin ligase and the resulting stability of its client proteins. The recently described lenalidomide-mediated recruitment of the transcription factors Ikaros (IKZF1) and Aiolos (IKZF3) to the E3 complex promoting enhanced ubiquitination and degradation provides insight into the molecular basis for therapeutic activity of immunomodulatory agent drugs in multiple myeloma and other B cell malignancies.

[00493] Herein we describe the crystal structure of human CRBN bound to DDB1 and the immunomodulatory agent drug lenalidomide. CRBN binds DDB1 in the same cleft utilized by other DDB1 and Cullin Associated Factors (DCAFs); however, the interactions are non-canonical and involve more extensive interactions with both the beta-propeller A and C domains. The immunomodulatory agent binding site is comprised of a tryptophan ringed hydrophobic pocket which binds the glutarimid moiety common to lenalidomide, thalidomide, and pomalidomide. This binding conformation orients lenalidomide's isoindolinone ring towards solvent with the functional consequence of altering the substrate recognition properties of the E3 ligase.

[00494] Using structure guided point mutations and lentiviral knock-in myeloma models, we show that key immunomodulatory agent drug binding site residues are critical for drug-mediated myeloma cell antiproliferative effects. Importantly, a species specific CRBN polymorphism in rodents proximal to the lenalidomide binding site provides explanation for the long appreciated species specific responsiveness in humans and primates compared with rodents.

6.9.2. Materials and Methods

6.9.2.1 Structural determination

[00495] Cereblon immunomodulatory agent-binding domain was purified as follows: The gene encoding the thalidomide binding domain (TBD) of human CRBN (amino acids 319-427) or mouse CRBN (amino acids 322-430) was codon optimized and inserted into a pGEX6P-3 vector for expression as a GST-fusion protein in E. coli. BL21 (DE3) Star cells transformed with either plasmid were grown to OD 0.6 in TB media supplemented with 50 μM zinc acetate, and induced with 0.5 mM IPTG for 4 hours at 37 C. Cells were resuspended in lysis buffer

containing 50 mM Tris pH 7, 150 mM NaCl, 10% glycerol, 2 mM TECP, 1 mM DTT, 100 U/mL benzonase (Novagen), 1X Protease Inhibitor Cocktail-EDTA free (SD Biosciences), 0.5 mg/mL lysozyme (Sigma), and sonicated for 30 s before ultracentrifuation for 30 min at 100,000 x g. GST-fused CRBN was then bound to glutathione affinity resin, washed in 50 mM Tris pH 7, 150 mM NaCl, 10% glycerol, 2 mM TCEP, 1 mM DTT, and eluted in the same buffer with the addition of 40 mM reduced glutathione. The GST tag was removed by overnight cleavage at 4 C with PreScission Protease (1U/mg protein, GE Healthcare). CRBN TBD was further purified with ion-exchange chromatography by diluting the cleaved protein to 75 mM NaCl usign 50 mM Tris pH 7, 2mM TCEP and 1 mM DTT, and binding to either a Mono S column (mouse TBD) or heparin column (human TBD). Protein was eluted using a gradient from 90 mM to 1M NaCl and pooled for size exclusion chromatography. Mouse CRBN TBD was purified by size exclusion over an S75 16/600 in 5 mM sodium acetate pH 6, 10 mM TECP, and 5 mM DTT. Human CRBN TBD was purified over an S75 16/600 in 20 mM MES pH 6, 200 mM NaCl, 10 mM TCEP and 1 mM DTT. Either the human or the mouse protein was concentrated to 17 mg/mL. Alternatively, residues of murine 321-429 fused to GST were expressed in E. coli. Cells were lysed by sonication and the soluble fraction purified using GST-trap, ion exchange and size-exclusion chromatography. Protein was concentration to 28mg/ml in 50mM acetate buffer, pH 6.0, 1mM DTT, 10mM TCEP. Crystals were obtained by sitting drop vapor diffusion by mixing the protein buffer 1:1 with and equilibrating against a mother liquor of crystallization buffer. For the mouse unbound TBD, the crystallization buffer contained 100mM Sodium acetate pH 5, 600-800mM Ammonium sulfate. Crystals were grown at 4 degrees centrigrade and cryoprotected by addition of 20% glycerol and frozen under liquid nitrogen. Human TBD crystallized in both 100 mM sodium cacodylate pH 6.5, 200 mM ammonium sulfate, and 30% PEG 8,000, and 100 mM sodium cacodylate pH 6.5, 200 mM lithium sulfate, 25% PEG 2000 MME at 4 degrees centrigrade. Crystals were cryoprotected by the addition of 20% ethylene glycol prior to freezing. Crystals of murine TBD in complex with Compound B were formed by sitting drop vapor diffusion. Compound B was added to the protein to a final concentration of 1mM, and the protein droplet was mixed 1:1 with, and subsequently equilibrated against a reservoir solution of 100mM MES pH 6.5, 10mM zinc sulfate heptahydrate, 25 % PEG MME 550 and incubated at 4 degrees centrigrade. Crystals were cryoprotected by addition of 20% glycerol and frozen under liquid nitrogen.

[00496] The structure of murine cereblon thal-binding domain was solved by single wavelength anomalous dispersion using intrinsically bound zinc ions. Briefly, 480 degrees of data were collected from a single crystal at 1.0A wavelength. Data were integrated and scaled using HKL2000 (Otwinowski *et al.*, Methods in Enzymology, 1997. 276:307-326). Phasing and

automated model building were performed with Crank in CCP4i, using the following subprograms: AFRO/CRUNCH2/BP3/SOLOMON/Buccaneer (Abrahams *et al.,* Acta Crystallogr D Biol Crystallogr, 1996. 52(Pt 1):30-42; de Graaff, R.A., *et al.,* Acta Crystallogr D Biol Crystallogr, 2001. 57(Pt 12):1857-62; Pannu *et al.,* Acta Crystallogr D Biol Crystallogr, 2004. 60(Pt 1): 22-7; Pannu *et al.,* Acta Crystallogr D Biol Crystallogr, 2011. 67(Pt 4):331-7). Subsequent manual model building and refinement were performed using Coot and Refmac5, respectively (Murshudov *et al.,* Acta Crystallogr D Biol Crystallogr, 2011. 67(Pt 4):355-67; Emsley *et al.,* Acta Crystallogr D Biol Crystallogr, 2010. 66(Pt 4):486-501). Subsequent structures were solved by molecular replacement using Phaser (McCoy *et al.,* J Appl Crystallogr, 2007. 40(Pt 4): 658-674).

[00497] Human CRBN (amino acids 40-442) fused to a N-terminal ZZ-6xHis tag with a thrombin cleavage site and full length human DDB1 with or without a C-terminal strep-tag were co-expressed in SF9 insect cells using ESF921 medium supplemented with 50 μM zinc acetate. Cells wereresuspended in 8 volumes Lysis Buffer (50 mM Tris pH 7.5, 500 mM NaCl, 10% Glycerol, 10 mM Imidazole, 1 mM TCEP) plus 1X protease inhibitor cocktail and 2,000 Units TurboNuclease for 1 hour at 4°C. The lysate was centrifuged at 105,000xg for 1 hour and the supernatant was loaded to 5 mL Ni-NTA, pre-equilibrated in lysis buffer. CRBN-DDB1 was eluted using a stepwise method with Elution Buffer (50 mM Tris pH 7.5, 500 mM NaCl, 10% Glycerol, 500 mM Imidazole, 1 mM TCEP). Peak fractions were pooled and the ZZ-6XHis tag was cleaved by incubation with thombin overnight at 4 C (1 mg thrombin/100 mg target protein, Enzyme Research). Protein was subsequently diluted to 200 mM NaCl. Diluted complex was immediately applied to a HiTrap™ ANX 5 mL column (GE Lifesciences). Sample was loaded under a Tris pH 7.5 environment and changed on-column to Bis-Tris pH 6.0. Protein was eluted using a linear gradient from 200 mM to 1M NaCl. CRBN-DDB1 complex protein was polish purified by S-400 gel filtration (GE Lifesciences). Complexed protein, as identified by SDS-PAGE, was pooled and setup in crystallization or stored at -80 °C in protein buffer (10 mM MES pH 6.0, 200 mM NaCl, 5 mM TCEP).CRBN-DDB1at 30.2 mg/ml in storage buffer consisting of 10 mM MES pH6.0, 200 mM NaCl, 5 mM TCEP, or in an alternative buffer of 10 mM HEPES pH 7, 250 mM NaCl, 3 mM TCEP. CRBN-DDB1 was crystallized by sitting drop vapor diffusion. 1 mM lenalidomide was added to the mixture of CRBN-DDB1-Lenalidomide mixed 1:1 with, and subsequently equilibrated against, a reservoir solution containing 18% (w/v) PEG 10K (Hampton Research, Aliso Viejo, CA) and 100 mM HEPES pH 7.5 (Hampton Research, Aliso Viejo, CA). Initial crystallization conditions were identified by sparse matrix screening. Co-crystals appeared in seven days and reached dimensions of 0.10 mm x 0.025 mm x 0.025mm by 21 days. Before data collection, crystals were cryoprotected in the reservoir

solution supplemented with 20% Ethylene glycol and frozen in liquid nitrogen. The structure of human cereblon:DDB1 was solved by molecular replacement using Phaser (McCoy *et al.,* J Appl Crystallogr, 2007. 40(Pt 4): 658-674), with DDB1 (PDB code 3EOC) and the murine cereblon TBD as search models. Subsequent manual model building and refinement were performed using Coot and Refmac5, respectively (Murshudov *et al.,* Acta Crystallogr D Biol Crystallogr, 2011. 67(Pt 4):355-67; Emsley *et al.,* Acta Crystallogr D Biol Crystallogr, 2010. 66(Pt 4):486-501). For the human CRBN-DDB1- Compound B structure, Compound B was added to the protein at 1 mM and was mixed 1:1 with buffer containing 200 mM sodium fluoride and 20% PEG 3350 and equilibrated against a mother liquor containing the same buffer at 20C. Crystals were cryoprotected by the addition of 20% ethylene glycol.

6.9.2.2 Cell lines

[00498] The DF15R cell line, previously shown to lack detectable CRBN protein, was grown and cultured as previously described (Lopez-Girona *et al.*, Leukemia, 2012. 26(11):2326-35).

6.9.2.3 Wild-type and mutant CRBN plasmids

[00499] Lentiviral expression vectors were produced in-house. Lentiviral particles were generated using HEK-293T cells and infection was done utilizing spinoculation methodology. Selection was performed 1 week after initial infection. DF15 and DF15R cells were transduce and a pool of puromycin-resistant cells selected and screened by Western blotting analysis with anti-CRBN antibody (Lopez-Girona *et al.*, Leukemia, 2012. 26(11):2326-35). We confirmed the presence of the corresponding CRBN mutant versions by DNA genomic sequencing in all cell lines.

6.9.2.4 CRBN short hairpin RNA (shRNA) constructs

[00500] Inducible shRNA constructs targeting CRBN or a control construct (Open Biosystems) were transduced using spinoculation methodology into the multiple myeloma cell lines H929 and U266. Stably transduced cells were selected with puromycin. Inducible shRNA expression (marked by RFP) was monitored by fluorescence microscopy and flow cytometry using 1 μg/mL doxycycline. CRBN protein expression was quantified by Western blotting. Cell proliferation and viability were assessed by 7AAD/flow cytometry assays.

6.9.2.5 Immunoblot and Immunohistochemistry

[00501] Western blotting was performed with antibodies to Aiolos (Santa Cruz) IRF4, c-Myc, p21, p27, and ppRb (Ser608). CRBN65 antibody was used for CRBN protein detection (Lopez-Girona *et al.*, Leukemia, 2012. 26(11):2326-35). Cereblon immunohistochemistry (IHC) was performed on the Bond-Max® automated slide stainer (Leica Microsystems, Buffalo

Grove, Illinois) using the Bond Polymer Refine® Detection system. Formalin fixed paraffin embedded (FFPE) cell pellets were sectioned at four micron thick and deparaffinized on the Bond-Max instrument. Antigen retrieval was performed with Epitope Retrieval® 2 (ER2, pH 9.0) for 20 min at 100° C. The slides were blocked for endogenous peroxidase activity with Peroxide Block for 5 minutes at room temperature. Sections were then incubated with the rabbit monoclonal antibody CRBN65 at a 1:4,000 dilution for 15 min at room temperature. Post-Primary and horseradish peroxidase (HRP) labeled Polymer were incubated at the instrument's default conditions. Antigen-antibody complex was then visualized with hydrogen peroxide substrate and diaminobenzidine tetrahydrochloride (DAB) chromogen. Slides were counterstained with hematoxylin.

6.9.2.6 Thalidomide analog bead assay to measure compound binding to endogenous CRBN

[00502] Coupling of thalidomide analog to FG-magnetic nanoparticle beads (Tamagawa Seiko Co. Tokyo, Japan) was carried out as described (Ito *et al.,* Science, 2010. 327(5971):1345-50), and cell extract binding assays to these beads were performed with minor modifications. DF15, DF15R or DF15R derived cell line extracts were prepared in NP 40 lysis buffer (0.5% NP40, 50 mM Tris HCl (pH 8.0), 150 mM NaCl, 0.5 mM DTT, 0.25 mM PMSF, 1x protease inhibitor mix (Roche, Indianapolis, IN) at approximately 2 x 108 cells per ml (20 mg protein/ml). Cell debris and nucleic acids were cleared by centrifugation (14,000 rpm 30 min 4oC). In competition experiments 0.5 ml (3-5 mg protein) aliquots of the resulting extracts were preincubated (15 min room temp.) with 5 µl DMSO (control) or 5 µl compound at varying concentrations in DMSO. Thalidomide analog-coupled beads (0.3-0.5mg) were added to protein extracts and samples rotated (2 hours, 4°C). Beads were washed three times with 0.5 ml NP40 buffer, and then bound proteins were eluted with SDS-PAGE sample buffer. Samples were subjected to SDS-PAGE and immunoblot analysis, performed using anti-CRBN 65-76 (Lopez-Girona *et al.*, Leukemia, 2012. 26(11):2326-35) (1:10,000 dilution) for all studies; other antisera dilutions were DDB1 (1:2,000 dilution) or β-actin (1:10,000 dilution). In thalidomide affinity bead competition assays, a LI-COR Odessey™ system was used to quantify CRBN band density and relative amounts of CRBN were determined by averaging at least three DMSO controls and expressing CRBN in each competition sample as percent inhibition of CRBN protein relative to the averaged controls as 100% binding.

6.9.3. Results

6.9.3.1 Crystal structure of CRBN in complex with DDB1 and Lenalidomide

[00503] The structure of CRBN reveals that CRBN is a DCAF that does not exhibit a WD-repeat architecture typical of the class. The CRBN structure (FIG. 12) reveals two distinct domains: an N-terminal Lon-like domain (LLD), and a C-terminal TBD. The structure reveals that the DDB1 and immunomodulatory agent binding sites occur on opposite sides of the cereblon surface. A human polymorphism linked to mental retardation has been found in CRBN resulting in premature truncation of CRBN at amino acid 419. The deleted region occurs within the immunomodulatory agent binding domain, with a short helical region and a β-strand removed (deleted region shown in red in FIG. 12). The deleted region occurs at the interface between the LLD and TBD, and truncation of these residues might be expected to deleteriously affect the domain structure and stability of CRBN.

[00504] The CRBN Lon-like domain (LLD) spans residues 76-318 and contains the DDB1 binding motif. Structural alignment with *Bacillus subtilis* Lon N-terminal domain yields an RMSD of 2.4 Angstroms over 165 aligned residues (FIG. 13) (Duman *et al.*, J Mol Biol, 2010. 401(4): p. 653-70). However, as shown in FIG. 13, the DDB1 binding motif and the immunomodulatory agent binding site do not exhibit any homology with the examined Lon domains. When compared to *B. subtilis* Lon, the DDB1 binding motif appears to have been inserted into the Lon-like domain, and is composed of a series of helices between CRBN residues 188 and 248. CRBN binds between the beta propeller A (BPA) and the beta propeller C (BPC) domains of DDB1 in a similar location to other DCAFs (*e.g.* DDB2 or DCAF9), as well as to the viral DDB1binding proteins Hbx and SV5V (Li *et al.*, Nat Struct Mol Biol, 2010. 17(1): p. 105-11). However, although CRBN binds to DDB1 in the same region, the nature of the interaction with DDB1 exhibits differences compared to DDB2, SV5V or Hbx. Previously studied DCAFs position a helix-turn-helix motif in the DDB1 binding site which predominantly forms interactions with the BPC domain (FIG. 14, helices c and d) (Li *et al.*, Nat Struct Mol Biol, 2010. 17(1): p. 105-11). CRBN interacts with DDB1via a series of helices; however, these do not superpose with the DCAFs which have been structurally characterized (FIG. 14). In CRBN, residues 221-248 form helices which interact with the DDB1 BPC domain (helix a and b, FIG. 14). CRBN residues 191-197 also interact with DDB1 BPC in a proximal region to DDB2 (FIG. 13). However, as well as interacting with the BPC domain, CRBN also positions a helix composed of residues 198 to 209 to interact with the BPA domain of DDB1, the first example of such an interaction (helix e, FIG. 14). After the DDB1 binding motif, structural homology with the Lon domain is restored between residue 249 and 318 which form a 4-helix bundle, thus leading to the immunomodulatory agent binding domain, or thalidomide binding domain (TBD) at residues 319-428.

[00505] The TBD is located on the face of CRBN which is oriented away from the DDB1-binding site. The TBD is composed of a six-stranded antiparallel β-sheet core, with a structural zinc ion, coordinated by four cysteine residues, located ~18 Å from the immunomodulatory agent binding site (FIG. 18). The immunomodulatory agent binding pocket itself is formed by three tryptophan residues, Trp380, Trp386, and Trp400, with a phenylalanine residue at the base (Phe402) (FIG. 18). These residues form a small hydrophobic pocket (tri-Trp pocket) in which the glutarimide portion of lenalidomide is accommodated. Within the tri-Trp pocket there are two hydrogen bonds between the glutarimide ring and the protein backbone at residues His378 and Trp380 (FIG. 13), and a further hydrogen bond with the sidechain of His378. The isoindolinone ring of lenalidomide is not enclosed within the hydrophobic pocket, and instead presents on the surface of the protein interacting with a beta-turn encompassing residues 351-353 (indicated by the symbol β in FIG 13). The carbonyl oxygen of the isoindolinone ring is oriented towards the sidechain of His357; however, the distance is slightly too long for a hydrogen bond to form (4.1 Å). Similarly, the aniline amino group of lenalidomide is oriented towards Glu377, but at a distance too great for an interaction to be made (5.5 Å).

[00506] In determining whether CMA drug interaction with CRBN may serve to alter the specificity of the Cul4 ubiquitin ligase complex by recruitment of new partners or altering the substrate affinity of its client substrates, it is intriguing that the isoindolinone ring is exposed on the surface of the CRBN-immunomodulatory agent complex, indicating that this part of the immunomodulatory agent molecule would be available to form part of a 'neomorphic' interface in substrate recruitment. In this instance, the unused hydrophobic and polar bonding potential of the immunomodulatory agent and the adjacent protein surface could play a key role in altering/enhancing binding partner recruitment.

[00507] The TBD can be expressed and purified in isolation, and we have used this system to obtain crystal structures of the murine CRBN TBD in complex with thalidomide and pomalidomide. The TBD structure was initially solved by taking advantage of the predicted zinc binding site in a single wavelength anomalous dispersion experiment at a normal synchrotron wavelength of 1.0 Å. We noted that the electron density favors the S-enantiomer of thalidomide, which was crystallized as a racemic mixture. We subsequently confirmed that S-thalidomide binds CRBN more tightly than the R-enantiomer by competition for thalidomide immobilized beads (FIG. 21) consistent with previous results using the conformationally stable R- and S-methyl-pomalidomide analogs (Lopez-Girona *et al.*, Leukemia. 26(11):2326-35). The core features of the immunomodulatory agent binding site which interact with the glutarimide ring are well conserved between the lenalidomide, thalidomide and pomalidomide structures, with

the three tryptophans providing the key interactions to the glutarimide ring. The two hydrogen bonds to His378 and Trp380 are also conserved; however, the third hydrogen bond to the sidechain of His378 is not made. There is a striking difference between the lenalidomide structure and the others: the two beta-strands composed of residues 346-363 are absent in both the thalidomide and the pomalidomide structures (FIGS. 15, 16 and 17). There are four protein-drug pairs in the asymmetric unit for both the thalidomide and pomalidomide structures. In all proteins in the asymmetric unit in the pomalidomide structure the beta-strand region is completely disordered (FIG. 17). The same is true for one protein (chain A) in the thalidomide structure (FIG. 16); however, in chains B and D the beta-strands have adopted an alternative conformation where these residues bind the phthalimide ring of thalidomide from an adjacent molecule in the asymmetric unit (FIG. 20). This reciprocal arrangement forms a dimer in the crystal lattice, with Tyr355 stacking against the accessible surface of the immunomodulatory agent. There is no evidence of dimerization in the presence or absence of immunomodulatory agent (data not shown). The change in conformation provides a substantial change in the surface of CRBN in the immunomodulatory agent binding site vicinity, with the intriguing potential to influence binding partner recruitment. The extent to which different conformations are influenced by protein truncation or the lattice environment is unknown.

[00508] The alternative substitutions on the isoindolinone / phthalimide ring provide a second potential mechanism by which to selectively recruit binding partners to the Cul4:DDB1:CRBN E3 ligase complex. Lenalidomide and pomalidomide differ from thalidomide in possessing an NH_2 substitution on the isoindolinone / phthalimide ring. In the lenalidomide structure this NH_2 moiety is oriented towards Glu377, where in the pomalidomide structure this group appears to be able to orient into either direction as the electron density supports differing orientations in the different chains in the asymmetric unit (data not shown).

[00509] We further sought to confirm that the immunomodulatory agents binding pocket is present in the absence of ligand by determining the structure of apo TBD. This structure clearly shows that the pocket can exist in a similar conformation in the absence of ligand (Table 2)

Table 2. Crystallographic Statistics

Protein: Ligand	**CRBN:DDB1: Lenalidomide**	**CRBN(TBD): Pomalidomide**	**CRBN(TBD): Thalidomide**
Data collection site	CLS CMCF-08ID	ALS 8.2.1	APS SER-CAT 22ID
Wavelength (Å)	1.0	1.0	1.0

Resolution Range (Å)	50-3.0 (3.12-3.01)*	50-2.0 (2.11-2.00)	50-1.88 (1.95-1.88)
Spacegroup	$P2_12_12_1$	$I23$	$I23$
Cell dimensions (Å)	71.8 129.1 198.7	143.3 143.3 143.3	143.1 143.1 143.1
Angles (deg)	90 90 90	90 90 90	90 90 90
No. of observations	228444	83521	1750276
No. of unique observations	37313	25718	76864
Completeness (%)	98.5 (85.8)*	92.3 (92.4)	99.9 (100.0)
$I / \sigma I$	10.1 (2.6)	10.1 (5.4)	38.4 (6.6)
$R_{merge\ (\%)}$	18.1 (72.3)	9.0 (24.5)	8.9 (59.9)
Refinement statistics			
R_{work} / R_{free}	20.3 / 27.8	19.7 / 24.0	**18.0 / 22.9**
RMSD for bond length (Å)	0.012	0.017	0.014
RMSD for bond angles (deg)	1.25	1.723	1.676

* Figures in parentheses are for the outer resolution shell.

[00510] Table 3 below sets forth the atomic coordinates for CRBN:DDB1:Lenalidomide.

[00511] Table 4 below sets forth the atomic coordinates for CRBN(TBD):Pomalidomide.

[00512] Table 5 below sets forth the atomic coordinates for CRBN(TBD): Thalidomide.

[00513] Table 6 below sets forth the atomic coordinates for CRBN: DDB1: Compound B.

[00514] Table 7 below sets forth the atomic coordinates for CRBN (TBD): Compound B.

[00515] Table 8 below sets forth the atomic coordinates for unbound CRBN—CRBN (TBD) (Apo).

TABLE 3. Atomic coordinates for CRBN:DDB1:Lenalidomide (Human protein)

```
HEADER    ----                                    XX-XXX-9-   xxxx
COMPND    ---
REMARK    3
REMARK    3 REFINEMENT.
REMARK    3   PROGRAM     : REFMAC 5.6.0117
REMARK    3   AUTHORS     :
REMARK    3
REMARK    3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK    3
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REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   3.01
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  50.00
REMARK   3   DATA CUTOFF            (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.40
REMARK   3   NUMBER OF REFLECTIONS             :   35396
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD          : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION  : RANDOM
REMARK   3   R VALUE     (WORKING + TEST SET) : 0.20710
REMARK   3   R VALUE            (WORKING SET) :  0.20340
REMARK   3   FREE R VALUE                     :  0.27777
REMARK   3   FREE R VALUE TEST SET SIZE   (%) :  5.0
REMARK   3   FREE R VALUE TEST SET COUNT      :  1857
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED           :      20
REMARK   3   BIN RESOLUTION RANGE HIGH           :    3.010
REMARK   3   BIN RESOLUTION RANGE LOW            :    3.088
REMARK   3   REFLECTION IN BIN     (WORKING SET) :     2223
REMARK   3   BIN COMPLETENESS (WORKING+TEST) (%) :    92.95
REMARK   3   BIN R VALUE           (WORKING SET) :    0.275
REMARK   3   BIN FREE R VALUE SET COUNT          :      111
REMARK   3   BIN FREE R VALUE                    :    0.352
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   ALL ATOMS                :    11099
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT           (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  30.828
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) :    -1.53
REMARK   3    B22 (A**2) :     1.71
REMARK   3    B33 (A**2) :    -0.18
REMARK   3    B12 (A**2) :     0.00
REMARK   3    B13 (A**2) :     0.00
REMARK   3    B23 (A**2) :     0.00
REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                            (A): NULL
REMARK   3   ESU BASED ON FREE R VALUE                       (A):   0.477
REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                 (A):   0.336
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):  39.724
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.917
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.868
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES        COUNT    RMS    WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS        (A): 11303 ; 0.012 ; 0.020
REMARK   3   BOND ANGLES REFINED ATOMS   (DEGREES): 15349 ; 1.252 ; 1.961
REMARK   3   TORSION ANGLES, PERIOD 1    (DEGREES):  1409 ; 7.786 ; 5.000
REMARK   3   TORSION ANGLES, PERIOD 2    (DEGREES):   477 ;40.149 ;24.528
REMARK   3   TORSION ANGLES, PERIOD 3    (DEGREES):  1873 ;20.308 ;15.000
REMARK   3   TORSION ANGLES, PERIOD 4    (DEGREES):    51 ;21.422 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS       (A**3):  1785 ; 0.086 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS      (A):  8406 ; 0.008 ; 0.021
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.     COUNT   RMS    WEIGHT
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3  TWIN DETAILS
REMARK   3   NUMBER OF TWIN DOMAINS  : NULL
REMARK   3
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :    5
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REMARK   3   ATOM RECORD CONTAINS RESIDUAL B FACTORS ONLY
REMARK   3
REMARK   3   TLS GROUP :     1
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A   393        A   708
REMARK   3    ORIGIN FOR THE GROUP (A):  -0.3068  15.1336  -7.6399
REMARK   3    T TENSOR
REMARK   3      T11:   0.1628 T22:   0.2998
REMARK   3      T33:   0.0298 T12:  -0.1471
REMARK   3      T13:  -0.0098 T23:   0.0105
REMARK   3    L TENSOR
REMARK   3      L11:   2.6533 L22:   2.7126
REMARK   3      L33:   2.2970 L12:   0.8261
REMARK   3      L13:   0.1789 L23:  -0.4504
REMARK   3    S TENSOR
REMARK   3      S11:   0.1379 S12:  -0.2573 S13:   0.2315
REMARK   3      S21:   0.3045 S22:  -0.1549 S23:  -0.0219
REMARK   3      S31:  -0.3251 S32:   0.4142 S33:   0.0170
REMARK   3
REMARK   3   TLS GROUP :     2
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A     1        A   392
REMARK   3    ORIGIN FOR THE GROUP (A): -13.1472   3.8365 -65.2475
REMARK   3    T TENSOR
REMARK   3      T11:   0.1525 T22:   0.1346
REMARK   3      T33:   0.1167 T12:  -0.0151
REMARK   3      T13:   0.0090 T23:   0.0399
REMARK   3    L TENSOR
REMARK   3      L11:   0.4911 L22:   1.1590
REMARK   3      L33:   0.6814 L12:  -0.1378
REMARK   3      L13:  -0.0803 L23:   0.3506
REMARK   3    S TENSOR
REMARK   3      S11:   0.0271 S12:   0.0480 S13:  -0.0068
REMARK   3      S21:  -0.1494 S22:  -0.0207 S23:  -0.0650
REMARK   3      S31:   0.0348 S32:  -0.0012 S33:  -0.0065
REMARK   3
REMARK   3   TLS GROUP :     3
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A   709        A  1200
REMARK   3    ORIGIN FOR THE GROUP (A): -21.4420  29.8478 -47.2567
REMARK   3    T TENSOR
REMARK   3      T11:   0.1311 T22:   0.1037
REMARK   3      T33:   0.1785 T12:  -0.0149
REMARK   3      T13:   0.0266 T23:   0.0153
REMARK   3    L TENSOR
REMARK   3      L11:   0.8961 L22:   0.4909
REMARK   3      L33:   0.5067 L12:  -0.2898
REMARK   3      L13:  -0.1289 L23:  -0.0031
REMARK   3    S TENSOR
REMARK   3      S11:  -0.0251 S12:  -0.0059 S13:   0.0840
REMARK   3      S21:   0.0400 S22:   0.0368 S23:   0.0082
REMARK   3      S31:  -0.0496 S32:  -0.0305 S33:  -0.0117
REMARK   3
REMARK   3   TLS GROUP :     4
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   C   187        C   256
REMARK   3    ORIGIN FOR THE GROUP (A): -31.3124  19.6121 -66.7413
REMARK   3    T TENSOR
REMARK   3      T11:   0.2983 T22:   0.1909
REMARK   3      T33:   0.1527 T12:   0.0117
REMARK   3      T13:  -0.0659 T23:   0.0171
REMARK   3    L TENSOR
REMARK   3      L11:   0.3674 L22:   3.0198
REMARK   3      L33:   0.7357 L12:  -0.5710
REMARK   3      L13:  -0.2040 L23:  -0.2416
REMARK   3    S TENSOR
REMARK   3      S11:   0.1361 S12:   0.0628 S13:  -0.0342
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REMARK   3      S21:  -0.0897 S22:  -0.0133 S23:   0.1583
REMARK   3      S31:   0.2257 S32:  -0.0128 S33:  -0.1229
REMARK   3
REMARK   3   TLS GROUP :     5
REMARK   3    NUMBER OF COMPONENTS GROUP :    2
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   C     1        C   186
REMARK   3    RESIDUE RANGE :   C   257        C   500
REMARK   3    ORIGIN FOR THE GROUP (A): -36.9305  47.0483 -87.0978
REMARK   3    T TENSOR
REMARK   3      T11:   0.2231 T22:   0.1289
REMARK   3      T33:   0.1194 T12:   0.0228
REMARK   3      T13:  -0.0118 T23:   0.0144
REMARK   3    L TENSOR
REMARK   3      L11:   1.1260 L22:   0.9557
REMARK   3      L33:   1.7495 L12:  -0.4292
REMARK   3      L13:   0.7316 L23:  -0.9160
REMARK   3    S TENSOR
REMARK   3      S11:  -0.0115 S12:  -0.0943 S13:   0.0603
REMARK   3      S21:   0.0310 S22:  -0.1114 S23:  -0.0638
REMARK   3      S31:  -0.1272 S32:  -0.0142 S33:   0.1229
REMARK   3
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED :  MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.20
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS:
REMARK   3  HYDROGENS HAVE BEEN USED IF PRESENT IN THE INPUT
REMARK   3  U VALUES      : RESIDUAL ONLY
REMARK   3
LINKR           ALA A  46                   LEU A  49               gap
LINKR           GLN A  93                   SER A  97               gap
LINKR           GLN A 209                   ASN A 211               gap
LINKR           LYS A 287                   THR A 296               gap
LINKR           ASN A 337                   GLU A 342               gap
LINKR           GLU A 368                   GLN A 372               gap
LINKR           PRO A 417                   GLU A 420               gap
LINKR           GLU A 535                   VAL A 538               gap
LINKR           LEU A 546                   GLY A 551               gap
LINKR           LEU A 576                   HIS A 578               gap
LINKR           ASP A 625                   LYS A 627               gap
LINKR           SER A 643                   SER A 645               gap
LINKR           ASP A 744                   THR A 749               gap
LINKR           SER A 767                   GLU A 784               gap
LINKR           ASP A 980                   GLU A 987               gap
LINKR           VAL A1013                   THR A1024               gap
LINKR           THR A1078                   LYS A1081               gap
LINKR           GLY A1117                   ASP A1121               gap
LINKR           SER C 126                   GLU C 132               gap
LINKR           ARG C 172                   GLY C 176               gap
LINKR           VAL C 213                   TYR C 221               gap
LINKR           ASP C 265                   SER C 272               gap
CRYST1   71.862  129.117  198.677  90.00  90.00  90.00 P 21 21 21
SCALE1      0.013916  0.000000  0.000000        0.00000
SCALE2      0.000000  0.007745  0.000000        0.00000
SCALE3      0.000000  0.000000  0.005033        0.00000
ATOM      1  N   SER A   2      -7.923  44.191 -51.658  1.00 21.42           N
ATOM      2  CA  SER A   2      -8.131  42.928 -50.873  1.00 22.29           C
ATOM      3  CB  SER A   2      -9.616  42.524 -50.829  1.00 23.04           C
ATOM      4  OG  SER A   2      -9.849  41.431 -49.937  1.00 22.96           O
ATOM      5  C   SER A   2      -7.266  41.758 -51.369  1.00 21.69           C
ATOM      6  O   SER A   2      -7.189  41.478 -52.568  1.00 22.35           O
ATOM      7  N   TYR A   3      -6.655  41.068 -50.406  1.00 20.49           N
ATOM      8  CA  TYR A   3      -5.609  40.085 -50.637  1.00 18.61           C
ATOM      9  CB  TYR A   3      -4.275  40.712 -50.280  1.00 18.10           C
ATOM     10  CG  TYR A   3      -4.027  42.055 -50.906  1.00 18.01           C
ATOM     11  CD1 TYR A   3      -3.470  42.150 -52.184  1.00 17.99           C
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ATOM     12  CE1 TYR A   3      -3.214  43.380 -52.767  1.00 17.92           C
ATOM     13  CZ  TYR A   3      -3.514  44.537 -52.072  1.00 17.79           C
ATOM     14  OH  TYR A   3      -3.261  45.734 -52.674  1.00 17.76           O
ATOM     15  CE2 TYR A   3      -4.065  44.480 -50.797  1.00 17.83           C
ATOM     16  CD2 TYR A   3      -4.321  43.239 -50.221  1.00 17.87           C
ATOM     17  C   TYR A   3      -5.839  38.900 -49.707  1.00 17.88           C
ATOM     18  O   TYR A   3      -5.794  39.056 -48.487  1.00 18.43           O
ATOM     19  N   ASN A   4      -6.071  37.719 -50.263  1.00 16.80           N
ATOM     20  CA  ASN A   4      -6.498  36.592 -49.443  1.00 16.25           C
ATOM     21  CB  ASN A   4      -7.962  36.234 -49.742  1.00 16.86           C
ATOM     22  CG  ASN A   4      -8.860  37.457 -49.820  1.00 17.49           C
ATOM     23  OD1 ASN A   4      -9.601  37.758 -48.885  1.00 17.63           O
ATOM     24  ND2 ASN A   4      -8.782  38.185 -50.937  1.00 18.31           N
ATOM     25  C   ASN A   4      -5.607  35.356 -49.542  1.00 15.38           C
ATOM     26  O   ASN A   4      -4.938  35.137 -50.559  1.00 15.70           O
ATOM     27  N   TYR A   5      -5.628  34.551 -48.483  1.00 13.98           N
ATOM     28  CA  TYR A   5      -4.844  33.334 -48.371  1.00 13.09           C
ATOM     29  CB  TYR A   5      -4.060  33.422 -47.057  1.00 12.98           C
ATOM     30  CG  TYR A   5      -3.119  32.283 -46.708  1.00 12.85           C
ATOM     31  CD1 TYR A   5      -1.776  32.309 -47.089  1.00 12.66           C
ATOM     32  CE1 TYR A   5      -0.905  31.276 -46.739  1.00 12.60           C
ATOM     33  CZ  TYR A   5      -1.373  30.211 -45.981  1.00 12.76           C
ATOM     34  OH  TYR A   5      -0.544  29.165 -45.629  1.00 12.48           O
ATOM     35  CE2 TYR A   5      -2.699  30.180 -45.570  1.00 12.91           C
ATOM     36  CD2 TYR A   5      -3.555  31.216 -45.920  1.00 12.83           C
ATOM     37  C   TYR A   5      -5.817  32.142 -48.389  1.00 12.75           C
ATOM     38  O   TYR A   5      -6.718  32.060 -47.559  1.00 12.62           O
ATOM     39  N   VAL A   6      -5.675  31.245 -49.364  1.00 12.53           N
ATOM     40  CA  VAL A   6      -6.528  30.041 -49.427  1.00 12.16           C
ATOM     41  CB  VAL A   6      -7.111  29.740 -50.827  1.00 12.01           C
ATOM     42  CG1 VAL A   6      -8.440  29.031 -50.691  1.00 11.90           C
ATOM     43  CG2 VAL A   6      -7.288  30.990 -51.653  1.00 12.31           C
ATOM     44  C   VAL A   6      -5.702  28.833 -49.073  1.00 12.07           C
ATOM     45  O   VAL A   6      -4.670  28.568 -49.694  1.00 12.04           O
ATOM     46  N   VAL A   7      -6.173  28.079 -48.093  1.00 12.02           N
ATOM     47  CA  VAL A   7      -5.498  26.863 -47.702  1.00 12.08           C
ATOM     48  CB  VAL A   7      -4.578  27.110 -46.494  1.00 12.20           C
ATOM     49  CG1 VAL A   7      -5.380  27.211 -45.197  1.00 12.19           C
ATOM     50  CG2 VAL A   7      -3.503  26.036 -46.419  1.00 12.40           C
ATOM     51  C   VAL A   7      -6.512  25.751 -47.424  1.00 12.19           C
ATOM     52  O   VAL A   7      -7.632  26.022 -46.987  1.00 12.49           O
ATOM     53  N   THR A   8      -6.115  24.513 -47.704  1.00 11.94           N
ATOM     54  CA  THR A   8      -6.921  23.338 -47.435  1.00 11.84           C
ATOM     55  CB  THR A   8      -6.411  22.153 -48.265  1.00 12.28           C
ATOM     56  OG1 THR A   8      -6.498  22.463 -49.660  1.00 12.25           O
ATOM     57  CG2 THR A   8      -7.205  20.874 -47.954  1.00 12.37           C
ATOM     58  C   THR A   8      -6.830  22.926 -45.970  1.00 11.59           C
ATOM     59  O   THR A   8      -5.750  22.794 -45.424  1.00 11.59           O
ATOM     60  N   ALA A   9      -7.972  22.701 -45.341  1.00 11.44           N
ATOM     61  CA  ALA A   9      -7.986  22.193 -43.978  1.00 11.07           C
ATOM     62  CB  ALA A   9      -8.969  22.975 -43.138  1.00 11.25           C
ATOM     63  C   ALA A   9      -8.325  20.707 -43.946  1.00 10.83           C
ATOM     64  O   ALA A   9      -7.970  20.018 -43.003  1.00 10.79           O
ATOM     65  N   GLN A  10      -9.046  20.236 -44.963  1.00 10.58           N
ATOM     66  CA  GLN A  10      -9.366  18.824 -45.128  1.00 10.39           C
ATOM     67  CB  GLN A  10     -10.749  18.509 -44.551  1.00 10.35           C
ATOM     68  CG  GLN A  10     -11.327  17.163 -44.976  1.00 10.22           C
ATOM     69  CD  GLN A  10     -10.452  16.009 -44.547  1.00 10.19           C
ATOM     70  OE1 GLN A  10     -10.178  15.849 -43.359  1.00 10.42           O
ATOM     71  NE2 GLN A  10      -9.994  15.203 -45.508  1.00  9.87           N
ATOM     72  C   GLN A  10      -9.337  18.504 -46.615  1.00 10.53           C
ATOM     73  O   GLN A  10     -10.120  19.056 -47.385  1.00 10.94           O
ATOM     74  N   LYS A  11      -8.430  17.622 -47.022  1.00 10.37           N
ATOM     75  CA  LYS A  11      -8.288  17.259 -48.424  1.00 10.13           C
ATOM     76  CB  LYS A  11      -7.092  16.342 -48.611  1.00 10.25           C
ATOM     77  CG  LYS A  11      -5.742  16.959 -48.350  1.00 10.41           C
ATOM     78  CD  LYS A  11      -4.705  15.953 -48.785  1.00 10.73           C
ATOM     79  CE  LYS A  11      -3.386  16.161 -48.090  1.00 11.15           C
ATOM     80  NZ  LYS A  11      -2.882  14.810 -47.710  1.00 11.49           N
ATOM     81  C   LYS A  11      -9.533  16.529 -48.888  1.00  9.93           C
ATOM     82  O   LYS A  11     -10.219  15.929 -48.083  1.00  9.94           O
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ATOM     83  N   PRO A  12      -9.809  16.553 -50.194  1.00  9.83           N
ATOM     84  CA  PRO A  12     -11.014  15.897 -50.738  1.00  9.94           C
ATOM     85  CB  PRO A  12     -10.818  15.986 -52.256  1.00 10.02           C
ATOM     86  CG  PRO A  12      -9.763  17.026 -52.460  1.00 10.06           C
ATOM     87  CD  PRO A  12      -8.900  17.031 -51.246  1.00  9.78           C
ATOM     88  C   PRO A  12     -11.095  14.440 -50.332  1.00  9.90           C
ATOM     89  O   PRO A  12     -10.087  13.739 -50.400  1.00  9.98           O
ATOM     90  N   THR A  13     -12.271  13.985 -49.903  1.00 10.05           N
ATOM     91  CA  THR A  13     -12.422  12.584 -49.438  1.00 10.17           C
ATOM     92  CB  THR A  13     -13.153  12.464 -48.087  1.00  9.80           C
ATOM     93  OG1 THR A  13     -14.470  13.013 -48.207  1.00  9.74           O
ATOM     94  CG2 THR A  13     -12.403  13.188 -47.005  1.00  9.47           C
ATOM     95  C   THR A  13     -13.124  11.688 -50.452  1.00 10.50           C
ATOM     96  O   THR A  13     -12.867  10.478 -50.486  1.00 10.93           O
ATOM     97  N   ALA A  14     -14.002  12.271 -51.272  1.00 10.59           N
ATOM     98  CA  ALA A  14     -14.754  11.506 -52.276  1.00 10.84           C
ATOM     99  CB  ALA A  14     -15.799  12.385 -52.914  1.00 10.95           C
ATOM    100  C   ALA A  14     -13.875  10.845 -53.355  1.00 10.99           C
ATOM    101  O   ALA A  14     -12.929  11.459 -53.837  1.00 11.15           O
ATOM    102  N   VAL A  15     -14.202   9.607 -53.734  1.00 11.13           N
ATOM    103  CA  VAL A  15     -13.449   8.870 -54.766  1.00 11.38           C
ATOM    104  CB  VAL A  15     -13.386   7.360 -54.447  1.00 11.25           C
ATOM    105  CG1 VAL A  15     -12.963   6.561 -55.675  1.00 11.41           C
ATOM    106  CG2 VAL A  15     -12.418   7.111 -53.303  1.00 11.07           C
ATOM    107  C   VAL A  15     -13.947   9.092 -56.215  1.00 11.67           C
ATOM    108  O   VAL A  15     -15.065   8.742 -56.538  1.00 12.02           O
ATOM    109  N   ASN A  16     -13.092   9.654 -57.072  0.50 11.92           N
ATOM    110  CA  ASN A  16     -13.407   9.906 -58.480  0.50 12.12           C
ATOM    111  CB  ASN A  16     -12.411  10.891 -59.054  0.50 12.15           C
ATOM    112  CG  ASN A  16     -12.697  12.292 -58.644  0.50 12.38           C
ATOM    113  OD1 ASN A  16     -12.750  12.611 -57.453  0.50 12.39           O
ATOM    114  ND2 ASN A  16     -12.892  13.156 -59.632  0.50 12.72           N
ATOM    115  C   ASN A  16     -13.326   8.673 -59.337  0.50 12.42           C
ATOM    116  O   ASN A  16     -14.118   8.480 -60.250  0.50 12.08           O
ATOM    117  N   GLY A  17     -12.311   7.870 -59.056  1.00 13.20           N
ATOM    118  CA  GLY A  17     -11.928   6.736 -59.890  1.00 14.55           C
ATOM    119  C   GLY A  17     -11.012   5.806 -59.122  1.00 15.30           C
ATOM    120  O   GLY A  17     -10.434   6.209 -58.115  1.00 15.79           O
ATOM    121  N   CYS A  18     -10.882   4.566 -59.585  1.00 15.81           N
ATOM    122  CA  CYS A  18     -10.156   3.552 -58.840  1.00 17.16           C
ATOM    123  CB  CYS A  18     -11.029   2.994 -57.700  1.00 17.76           C
ATOM    124  SG  CYS A  18     -12.709   2.452 -58.177  1.00 20.76           S
ATOM    125  C   CYS A  18      -9.681   2.444 -59.773  1.00 18.24           C
ATOM    126  O   CYS A  18     -10.489   1.730 -60.349  1.00 20.21           O
ATOM    127  N   VAL A  19      -8.367   2.300 -59.926  1.00 18.29           N
ATOM    128  CA  VAL A  19      -7.780   1.333 -60.878  1.00 17.71           C
ATOM    129  CB  VAL A  19      -7.087   2.100 -62.049  1.00 17.28           C
ATOM    130  CG1 VAL A  19      -5.701   2.574 -61.650  1.00 16.84           C
ATOM    131  CG2 VAL A  19      -7.028   1.261 -63.320  1.00 17.29           C
ATOM    132  C   VAL A  19      -6.814   0.322 -60.187  1.00 17.49           C
ATOM    133  O   VAL A  19      -6.242   0.608 -59.127  1.00 17.47           O
ATOM    134  N   THR A  20      -6.647  -0.859 -60.770  1.00 17.31           N
ATOM    135  CA  THR A  20      -5.632  -1.804 -60.276  1.00 17.57           C
ATOM    136  CB  THR A  20      -6.232  -3.101 -59.712  1.00 17.48           C
ATOM    137  OG1 THR A  20      -7.084  -3.694 -60.694  1.00 17.58           O
ATOM    138  CG2 THR A  20      -7.019  -2.828 -58.442  1.00 17.55           C
ATOM    139  C   THR A  20      -4.668  -2.191 -61.374  1.00 17.89           C
ATOM    140  O   THR A  20      -4.873  -1.847 -62.537  1.00 18.11           O
ATOM    141  N   GLY A  21      -3.623  -2.918 -61.001  1.00 18.04           N
ATOM    142  CA  GLY A  21      -2.567  -3.277 -61.933  1.00 18.71           C
ATOM    143  C   GLY A  21      -1.241  -3.263 -61.227  1.00 19.10           C
ATOM    144  O   GLY A  21      -1.200  -3.239 -59.996  1.00 19.56           O
ATOM    145  N   HIS A  22      -0.152  -3.269 -61.990  1.00 19.40           N
ATOM    146  CA  HIS A  22       1.170  -3.424 -61.381  1.00 20.26           C
ATOM    147  CB  HIS A  22       1.823  -4.717 -61.846  1.00 21.59           C
ATOM    148  CG  HIS A  22       0.972  -5.933 -61.584  1.00 23.17           C
ATOM    149  ND1 HIS A  22      -0.212  -6.134 -62.203  1.00 24.33           N
ATOM    150  CE1 HIS A  22      -0.768  -7.274 -61.751  1.00 24.58           C
ATOM    151  NE2 HIS A  22       0.063  -7.806 -60.837  1.00 24.54           N
ATOM    152  CD2 HIS A  22       1.144  -7.002 -60.709  1.00 23.79           C
ATOM    153  C   HIS A  22       2.037  -2.227 -61.591  1.00 19.84           C
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ATOM    154  O   HIS A  22       2.707  -2.086 -62.621  1.00 20.42           O
ATOM    155  N   PHE A  23       2.033  -1.353 -60.590  1.00 18.33           N
ATOM    156  CA  PHE A  23       2.565  -0.020 -60.735  1.00 17.77           C
ATOM    157  CB  PHE A  23       1.480   1.004 -60.404  1.00 17.35           C
ATOM    158  CG  PHE A  23       1.892   2.426 -60.621  1.00 16.71           C
ATOM    159  CD1 PHE A  23       2.126   2.905 -61.894  1.00 16.37           C
ATOM    160  CE1 PHE A  23       2.509   4.216 -62.090  1.00 16.61           C
ATOM    161  CZ  PHE A  23       2.643   5.068 -61.012  1.00 16.74           C
ATOM    162  CE2 PHE A  23       2.401   4.605 -59.735  1.00 16.88           C
ATOM    163  CD2 PHE A  23       2.024   3.289 -59.546  1.00 16.73           C
ATOM    164  C   PHE A  23       3.800   0.213 -59.888  1.00 17.99           C
ATOM    165  O   PHE A  23       4.784   0.761 -60.381  1.00 18.85           O
ATOM    166  N   THR A  24       3.751  -0.189 -58.622  1.00 18.14           N
ATOM    167  CA  THR A  24       4.893  -0.021 -57.719  1.00 18.89           C
ATOM    168  CB  THR A  24       4.486  -0.155 -56.233  1.00 18.69           C
ATOM    169  OG1 THR A  24       3.705  -1.340 -56.046  1.00 18.28           O
ATOM    170  CG2 THR A  24       3.674   1.035 -55.800  1.00 18.88           C
ATOM    171  C   THR A  24       6.043  -0.993 -58.023  1.00 19.74           C
ATOM    172  O   THR A  24       7.164  -0.787 -57.566  1.00 20.39           O
ATOM    173  N   SER A  25       5.749  -2.025 -58.822  1.00 20.41           N
ATOM    174  CA  SER A  25       6.622  -3.185 -59.067  1.00 20.32           C
ATOM    175  CB  SER A  25       7.111  -3.769 -57.725  1.00 20.28           C
ATOM    176  OG  SER A  25       7.028  -5.184 -57.675  1.00 20.57           O
ATOM    177  C   SER A  25       5.806  -4.218 -59.873  1.00 20.44           C
ATOM    178  O   SER A  25       4.571  -4.192 -59.830  1.00 20.80           O
ATOM    179  N   ALA A  26       6.470  -5.108 -60.617  1.00 20.07           N
ATOM    180  CA  ALA A  26       5.746  -6.166 -61.356  1.00 20.11           C
ATOM    181  CB  ALA A  26       6.639  -6.840 -62.380  1.00 19.97           C
ATOM    182  C   ALA A  26       5.141  -7.207 -60.421  1.00 20.30           C
ATOM    183  O   ALA A  26       4.154  -7.860 -60.759  1.00 20.64           O
ATOM    184  N   GLU A  27       5.739  -7.351 -59.244  1.00 20.61           N
ATOM    185  CA  GLU A  27       5.282  -8.313 -58.253  1.00 20.91           C
ATOM    186  CB  GLU A  27       6.433  -8.709 -57.316  1.00 20.86           C
ATOM    187  C   GLU A  27       4.070  -7.793 -57.464  1.00 20.66           C
ATOM    188  O   GLU A  27       3.112  -8.527 -57.248  1.00 20.36           O
ATOM    189  N   ASP A  28       4.110  -6.527 -57.050  1.00 20.59           N
ATOM    190  CA  ASP A  28       3.005  -5.933 -56.290  1.00 20.28           C
ATOM    191  CB  ASP A  28       3.362  -4.503 -55.851  1.00 20.79           C
ATOM    192  CG  ASP A  28       4.696  -4.421 -55.103  1.00 21.97           C
ATOM    193  OD1 ASP A  28       5.139  -5.467 -54.572  1.00 21.99           O
ATOM    194  OD2 ASP A  28       5.299  -3.307 -55.036  1.00 22.11           O
ATOM    195  C   ASP A  28       1.717  -5.902 -57.120  1.00 19.66           C
ATOM    196  O   ASP A  28       1.763  -5.825 -58.345  1.00 19.97           O
ATOM    197  N   LEU A  29       0.572  -5.970 -56.452  1.00 18.76           N
ATOM    198  CA  LEU A  29      -0.690  -5.534 -57.057  1.00 17.92           C
ATOM    199  CB  LEU A  29      -1.778  -6.607 -56.923  1.00 18.23           C
ATOM    200  CG  LEU A  29      -3.231  -6.212 -57.243  1.00 18.16           C
ATOM    201  CD1 LEU A  29      -3.535  -6.226 -58.734  1.00 17.53           C
ATOM    202  CD2 LEU A  29      -4.171  -7.137 -56.489  1.00 18.27           C
ATOM    203  C   LEU A  29      -1.126  -4.249 -56.367  1.00 17.31           C
ATOM    204  O   LEU A  29      -1.214  -4.181 -55.132  1.00 17.65           O
ATOM    205  N   ASN A  30      -1.387  -3.221 -57.150  1.00 16.28           N
ATOM    206  CA  ASN A  30      -1.701  -1.944 -56.557  1.00 15.87           C
ATOM    207  CB  ASN A  30      -0.800  -0.864 -57.124  1.00 15.82           C
ATOM    208  CG  ASN A  30       0.643  -1.116 -56.821  1.00 15.96           C
ATOM    209  OD1 ASN A  30       1.038  -1.174 -55.665  1.00 16.17           O
ATOM    210  ND2 ASN A  30       1.437  -1.300 -57.855  1.00 16.26           N
ATOM    211  C   ASN A  30      -3.135  -1.552 -56.745  1.00 15.62           C
ATOM    212  O   ASN A  30      -3.783  -1.945 -57.710  1.00 16.26           O
ATOM    213  N   LEU A  31      -3.636  -0.772 -55.812  1.00 14.98           N
ATOM    214  CA  LEU A  31      -4.886  -0.109 -56.021  1.00 14.75           C
ATOM    215  CB  LEU A  31      -5.848  -0.414 -54.869  1.00 14.48           C
ATOM    216  CG  LEU A  31      -7.126   0.412 -54.726  1.00 14.07           C
ATOM    217  CD1 LEU A  31      -7.984   0.348 -55.983  1.00 13.99           C
ATOM    218  CD2 LEU A  31      -7.888  -0.072 -53.510  1.00 13.77           C
ATOM    219  C   LEU A  31      -4.556   1.370 -56.113  1.00 14.66           C
ATOM    220  O   LEU A  31      -3.905   1.912 -55.220  1.00 14.56           O
ATOM    221  N   LEU A  32      -4.959   1.999 -57.220  1.00 14.48           N
ATOM    222  CA  LEU A  32      -4.801   3.443 -57.397  1.00 14.27           C
ATOM    223  CB  LEU A  32      -4.130   3.769 -58.727  1.00 14.26           C
ATOM    224  CG  LEU A  32      -2.604   3.758 -58.730  1.00 14.43           C
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ATOM    225  CD1 LEU A  32      -2.052   2.351 -58.558  1.00 14.50           C
ATOM    226  CD2 LEU A  32      -2.104   4.339 -60.032  1.00 14.66           C
ATOM    227  C   LEU A  32      -6.147   4.131 -57.308  1.00 13.95           C
ATOM    228  O   LEU A  32      -7.060   3.785 -58.047  1.00 13.86           O
ATOM    229  N   ILE A  33      -6.247   5.104 -56.399  1.00 13.61           N
ATOM    230  CA  ILE A  33      -7.499   5.793 -56.086  1.00 13.36           C
ATOM    231  CB  ILE A  33      -7.874   5.579 -54.609  1.00 13.17           C
ATOM    232  CG1 ILE A  33      -7.966   4.100 -54.279  1.00 13.23           C
ATOM    233  CD1 ILE A  33      -8.277   3.831 -52.824  1.00 13.39           C
ATOM    234  CG2 ILE A  33      -9.192   6.257 -54.279  1.00 13.29           C
ATOM    235  C   ILE A  33      -7.376   7.304 -56.320  1.00 13.55           C
ATOM    236  O   ILE A  33      -6.506   7.965 -55.740  1.00 13.95           O
ATOM    237  N   ALA A  34      -8.250   7.862 -57.141  1.00 13.28           N
ATOM    238  CA  ALA A  34      -8.242   9.303 -57.338  1.00 13.46           C
ATOM    239  CB  ALA A  34      -8.482   9.640 -58.798  1.00 13.49           C
ATOM    240  C   ALA A  34      -9.256  10.032 -56.448  1.00 13.71           C
ATOM    241  O   ALA A  34     -10.446   9.726 -56.451  1.00 13.94           O
ATOM    242  N   LYS A  35      -8.772  11.000 -55.689  1.00 13.73           N
ATOM    243  CA  LYS A  35      -9.634  11.907 -54.974  1.00 13.74           C
ATOM    244  CB  LYS A  35      -9.301  11.870 -53.489  1.00 13.64           C
ATOM    245  CG  LYS A  35      -9.925  10.690 -52.773  1.00 13.75           C
ATOM    246  CD  LYS A  35      -8.974  10.076 -51.777  1.00 13.86           C
ATOM    247  CE  LYS A  35      -9.725   9.324 -50.698  1.00 14.04           C
ATOM    248  NZ  LYS A  35      -9.243   9.724 -49.347  1.00 14.20           N
ATOM    249  C   LYS A  35      -9.436  13.305 -55.549  1.00 14.30           C
ATOM    250  O   LYS A  35      -8.653  14.102 -55.011  1.00 14.27           O
ATOM    251  N   ASN A  36     -10.141  13.582 -56.658  1.00 14.67           N
ATOM    252  CA  ASN A  36     -10.099  14.885 -57.368  1.00 14.86           C
ATOM    253  CB  ASN A  36     -10.785  15.992 -56.550  1.00 14.52           C
ATOM    254  CG  ASN A  36     -10.960  17.286 -57.325  1.00 14.26           C
ATOM    255  OD1 ASN A  36     -11.093  17.288 -58.540  1.00 14.27           O
ATOM    256  ND2 ASN A  36     -10.999  18.393 -56.610  1.00 14.18           N
ATOM    257  C   ASN A  36      -8.694  15.311 -57.792  1.00 15.53           C
ATOM    258  O   ASN A  36      -8.268  15.027 -58.913  1.00 15.76           O
ATOM    259  N   THR A  37      -7.982  15.997 -56.901  1.00 16.35           N
ATOM    260  CA  THR A  37      -6.615  16.454 -57.187  1.00 17.25           C
ATOM    261  CB  THR A  37      -6.415  17.944 -56.816  1.00 16.76           C
ATOM    262  OG1 THR A  37      -6.870  18.166 -55.477  1.00 17.00           O
ATOM    263  CG2 THR A  37      -7.183  18.833 -57.735  1.00 15.73           C
ATOM    264  C   THR A  37      -5.554  15.610 -56.464  1.00 18.24           C
ATOM    265  O   THR A  37      -4.379  15.983 -56.417  1.00 18.84           O
ATOM    266  N   ARG A  38      -5.966  14.476 -55.903  1.00 19.00           N
ATOM    267  CA  ARG A  38      -5.054  13.627 -55.132  1.00 19.34           C
ATOM    268  CB  ARG A  38      -5.478  13.595 -53.668  1.00 20.22           C
ATOM    269  CG  ARG A  38      -5.476  14.947 -52.989  1.00 21.38           C
ATOM    270  CD  ARG A  38      -4.253  15.072 -52.101  1.00 23.51           C
ATOM    271  NE  ARG A  38      -3.219  15.991 -52.594  1.00 24.85           N
ATOM    272  CZ  ARG A  38      -2.030  16.173 -52.009  1.00 25.56           C
ATOM    273  NH1 ARG A  38      -1.158  17.028 -52.524  1.00 26.93           N
ATOM    274  NH2 ARG A  38      -1.697  15.502 -50.912  1.00 25.36           N
ATOM    275  C   ARG A  38      -5.018  12.213 -55.686  1.00 18.91           C
ATOM    276  O   ARG A  38      -6.016  11.716 -56.182  1.00 18.96           O
ATOM    277  N   LEU A  39      -3.861  11.569 -55.596  1.00 19.09           N
ATOM    278  CA  LEU A  39      -3.708  10.186 -56.030  1.00 19.20           C
ATOM    279  CB  LEU A  39      -2.821  10.132 -57.268  1.00 19.25           C
ATOM    280  CG  LEU A  39      -2.565   8.776 -57.919  1.00 19.14           C
ATOM    281  CD1 LEU A  39      -3.672   8.456 -58.897  1.00 18.93           C
ATOM    282  CD2 LEU A  39      -1.230   8.819 -58.639  1.00 19.57           C
ATOM    283  C   LEU A  39      -3.101   9.334 -54.916  1.00 19.42           C
ATOM    284  O   LEU A  39      -1.944   9.530 -54.550  1.00 19.82           O
ATOM    285  N   GLU A  40      -3.884   8.399 -54.374  1.00 19.42           N
ATOM    286  CA  GLU A  40      -3.405   7.492 -53.323  1.00 19.08           C
ATOM    287  CB  GLU A  40      -4.510   7.223 -52.288  1.00 19.78           C
ATOM    288  CG  GLU A  40      -5.000   8.454 -51.518  1.00 20.88           C
ATOM    289  CD  GLU A  40      -6.265   8.201 -50.662  1.00 21.77           C
ATOM    290  OE1 GLU A  40      -6.884   7.102 -50.753  1.00 22.31           O
ATOM    291  OE2 GLU A  40      -6.648   9.116 -49.884  1.00 21.32           O
ATOM    292  C   GLU A  40      -2.951   6.179 -53.960  1.00 18.42           C
ATOM    293  O   GLU A  40      -3.660   5.630 -54.814  1.00 18.54           O
ATOM    294  N   ILE A  41      -1.762   5.705 -53.573  1.00 17.46           N
ATOM    295  CA  ILE A  41      -1.226   4.408 -54.042  1.00 16.82           C
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ATOM    296  CB  ILE A  41       0.136   4.537 -54.736  1.00 16.24           C
ATOM    297  CG1 ILE A  41       0.078   5.580 -55.848  1.00 16.54           C
ATOM    298  CD1 ILE A  41       1.427   6.108 -56.287  1.00 16.67           C
ATOM    299  CG2 ILE A  41       0.561   3.183 -55.273  1.00 15.87           C
ATOM    300  C   ILE A  41      -1.055   3.397 -52.907  1.00 16.92           C
ATOM    301  O   ILE A  41      -0.162   3.529 -52.049  1.00 16.63           O
ATOM    302  N   TYR A  42      -1.902   2.375 -52.934  1.00 16.72           N
ATOM    303  CA  TYR A  42      -1.865   1.293 -51.972  1.00 16.23           C
ATOM    304  CB  TYR A  42      -3.278   0.982 -51.515  1.00 16.28           C
ATOM    305  CG  TYR A  42      -3.962   2.064 -50.724  1.00 16.19           C
ATOM    306  CD1 TYR A  42      -4.647   3.090 -51.359  1.00 16.23           C
ATOM    307  CE1 TYR A  42      -5.297   4.067 -50.633  1.00 16.31           C
ATOM    308  CZ  TYR A  42      -5.274   4.016 -49.254  1.00 16.34           C
ATOM    309  OH  TYR A  42      -5.919   4.982 -48.525  1.00 16.51           O
ATOM    310  CE2 TYR A  42      -4.603   3.009 -48.598  1.00 16.22           C
ATOM    311  CD2 TYR A  42      -3.961   2.035 -49.335  1.00 16.16           C
ATOM    312  C   TYR A  42      -1.286   0.032 -52.600  1.00 16.16           C
ATOM    313  O   TYR A  42      -1.293  -0.125 -53.821  1.00 16.19           O
ATOM    314  N   VAL A  43      -0.792  -0.863 -51.753  1.00 16.21           N
ATOM    315  CA  VAL A  43      -0.483  -2.229 -52.152  1.00 16.58           C
ATOM    316  CB  VAL A  43       0.892  -2.701 -51.603  1.00 16.48           C
ATOM    317  CG1 VAL A  43       1.083  -4.193 -51.820  1.00 16.14           C
ATOM    318  CG2 VAL A  43       2.033  -1.933 -52.244  1.00 16.53           C
ATOM    319  C   VAL A  43      -1.560  -3.093 -51.539  1.00 16.83           C
ATOM    320  O   VAL A  43      -1.840  -2.966 -50.341  1.00 16.44           O
ATOM    321  N   VAL A  44      -2.167  -3.960 -52.350  1.00 17.67           N
ATOM    322  CA  VAL A  44      -3.139  -4.952 -51.842  1.00 19.01           C
ATOM    323  CB  VAL A  44      -3.959  -5.594 -52.984  1.00 18.32           C
ATOM    324  CG1 VAL A  44      -5.099  -6.409 -52.417  1.00 18.51           C
ATOM    325  CG2 VAL A  44      -4.513  -4.531 -53.907  1.00 17.88           C
ATOM    326  C   VAL A  44      -2.397  -6.039 -51.042  1.00 19.99           C
ATOM    327  O   VAL A  44      -1.315  -6.456 -51.440  1.00 20.39           O
ATOM    328  N   THR A  45      -2.956  -6.474 -49.913  1.00 21.50           N
ATOM    329  CA  THR A  45      -2.272  -7.447 -49.040  1.00 23.54           C
ATOM    330  CB  THR A  45      -1.721  -6.802 -47.745  1.00 23.33           C
ATOM    331  OG1 THR A  45      -2.680  -5.865 -47.230  1.00 24.12           O
ATOM    332  CG2 THR A  45      -0.394  -6.107 -47.993  1.00 22.47           C
ATOM    333  C   THR A  45      -3.183  -8.612 -48.662  1.00 25.59           C
ATOM    334  O   THR A  45      -3.306  -9.563 -49.420  1.00 28.20           O
ATOM    335  N   ALA A  46      -3.809  -8.531 -47.486  1.00 26.36           N
ATOM    336  CA  ALA A  46      -4.686  -9.588 -46.962  1.00 26.41           C
ATOM    337  CB  ALA A  46      -4.002 -10.952 -47.024  1.00 25.04           C
ATOM    338  C   ALA A  46      -5.078  -9.250 -45.524  1.00 27.07           C
ATOM    339  O   ALA A  46      -4.278  -8.681 -44.766  1.00 27.05           O
ATOM    340  N   LEU A  49      -4.930  -3.391 -47.266  1.00 15.89           N
ATOM    341  CA  LEU A  49      -4.219  -2.368 -48.040  1.00 16.33           C
ATOM    342  CB  LEU A  49      -5.164  -1.269 -48.551  1.00 16.09           C
ATOM    343  CG  LEU A  49      -6.494  -1.475 -49.276  1.00 16.39           C
ATOM    344  CD1 LEU A  49      -7.012  -0.116 -49.720  1.00 16.16           C
ATOM    345  CD2 LEU A  49      -6.358  -2.396 -50.477  1.00 16.90           C
ATOM    346  C   LEU A  49      -3.131  -1.681 -47.217  1.00 16.62           C
ATOM    347  O   LEU A  49      -3.414  -1.098 -46.171  1.00 16.47           O
ATOM    348  N   ARG A  50      -1.894  -1.725 -47.707  1.00 16.85           N
ATOM    349  CA  ARG A  50      -0.827  -0.922 -47.142  1.00 16.87           C
ATOM    350  CB  ARG A  50       0.458  -1.747 -47.072  1.00 18.25           C
ATOM    351  CG  ARG A  50       1.740  -0.961 -46.824  1.00 19.73           C
ATOM    352  CD  ARG A  50       2.925  -1.899 -46.601  1.00 21.58           C
ATOM    353  NE  ARG A  50       3.240  -2.744 -47.765  1.00 23.27           N
ATOM    354  CZ  ARG A  50       4.012  -2.364 -48.791  1.00 24.85           C
ATOM    355  NH1 ARG A  50       4.555  -1.143 -48.813  1.00 25.26           N
ATOM    356  NH2 ARG A  50       4.247  -3.202 -49.801  1.00 24.60           N
ATOM    357  C   ARG A  50      -0.653   0.337 -48.004  1.00 16.33           C
ATOM    358  O   ARG A  50      -0.352   0.233 -49.187  1.00 15.97           O
ATOM    359  N   PRO A  51      -0.895   1.529 -47.420  1.00 16.03           N
ATOM    360  CA  PRO A  51      -0.627   2.779 -48.103  1.00 15.93           C
ATOM    361  CB  PRO A  51      -1.022   3.836 -47.071  1.00 15.60           C
ATOM    362  CG  PRO A  51      -1.027   3.139 -45.774  1.00 15.51           C
ATOM    363  CD  PRO A  51      -1.512   1.770 -46.108  1.00 16.07           C
ATOM    364  C   PRO A  51       0.846   2.889 -48.411  1.00 16.28           C
ATOM    365  O   PRO A  51       1.665   2.475 -47.605  1.00 17.49           O
ATOM    366  N   VAL A  52       1.191   3.436 -49.566  1.00 16.17           N
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ATOM    367  CA  VAL A  52       2.570   3.462 -49.975  1.00 16.05           C
ATOM    368  CB  VAL A  52       2.783   2.412 -51.057  1.00 15.96           C
ATOM    369  CG1 VAL A  52       3.841   2.833 -52.051  1.00 16.73           C
ATOM    370  CG2 VAL A  52       3.145   1.104 -50.402  1.00 16.42           C
ATOM    371  C   VAL A  52       3.032   4.865 -50.390  1.00 16.75           C
ATOM    372  O   VAL A  52       4.129   5.295 -50.029  1.00 16.63           O
ATOM    373  N   LYS A  53       2.176   5.583 -51.116  1.00 17.59           N
ATOM    374  CA  LYS A  53       2.508   6.900 -51.646  1.00 17.84           C
ATOM    375  CB  LYS A  53       3.426   6.764 -52.851  1.00 18.04           C
ATOM    376  CG  LYS A  53       3.829   8.079 -53.492  1.00 17.80           C
ATOM    377  CD  LYS A  53       4.566   8.948 -52.502  1.00 17.82           C
ATOM    378  CE  LYS A  53       5.404   9.981 -53.222  1.00 18.20           C
ATOM    379  NZ  LYS A  53       5.435  11.256 -52.443  1.00 19.40           N
ATOM    380  C   LYS A  53       1.254   7.616 -52.088  1.00 18.73           C
ATOM    381  O   LYS A  53       0.414   7.038 -52.790  1.00 18.86           O
ATOM    382  N   GLU A  54       1.146   8.882 -51.684  1.00 19.21           N
ATOM    383  CA  GLU A  54       0.078   9.779 -52.111  1.00 18.91           C
ATOM    384  CB  GLU A  54      -0.794  10.117 -50.907  1.00 19.31           C
ATOM    385  CG  GLU A  54      -1.981  11.019 -51.205  1.00 20.85           C
ATOM    386  CD  GLU A  54      -1.824  12.442 -50.669  1.00 21.22           C
ATOM    387  OE1 GLU A  54      -2.856  13.142 -50.561  1.00 21.48           O
ATOM    388  OE2 GLU A  54      -0.688  12.864 -50.344  1.00 21.10           O
ATOM    389  C   GLU A  54       0.692  11.048 -52.742  1.00 18.99           C
ATOM    390  O   GLU A  54       1.616  11.650 -52.184  1.00 19.58           O
ATOM    391  N   VAL A  55       0.218  11.439 -53.917  1.00 18.94           N
ATOM    392  CA  VAL A  55       0.718  12.673 -54.550  1.00 19.06           C
ATOM    393  CB  VAL A  55       1.627  12.410 -55.761  1.00 19.24           C
ATOM    394  CG1 VAL A  55       2.975  11.864 -55.304  1.00 19.62           C
ATOM    395  CG2 VAL A  55       0.936  11.499 -56.765  1.00 19.33           C
ATOM    396  C   VAL A  55      -0.399  13.588 -54.997  1.00 19.09           C
ATOM    397  O   VAL A  55      -1.564  13.181 -55.046  1.00 19.98           O
ATOM    398  N   GLY A  56      -0.035  14.825 -55.328  1.00 18.29           N
ATOM    399  CA  GLY A  56      -1.011  15.841 -55.698  1.00 17.00           C
ATOM    400  C   GLY A  56      -0.713  16.402 -57.059  1.00 16.19           C
ATOM    401  O   GLY A  56       0.404  16.807 -57.339  1.00 16.18           O
ATOM    402  N   MET A  57      -1.717  16.395 -57.921  1.00 15.87           N
ATOM    403  CA  MET A  57      -1.634  17.090 -59.182  1.00 15.36           C
ATOM    404  CB  MET A  57      -2.694  16.588 -60.142  1.00 16.07           C
ATOM    405  CG  MET A  57      -2.867  15.091 -60.202  1.00 17.01           C
ATOM    406  SD  MET A  57      -1.495  14.346 -61.077  1.00 18.54           S
ATOM    407  CE  MET A  57      -1.605  15.162 -62.680  1.00 17.61           C
ATOM    408  C   MET A  57      -1.935  18.540 -58.931  1.00 14.64           C
ATOM    409  O   MET A  57      -2.617  18.888 -57.973  1.00 14.20           O
ATOM    410  N   TYR A  58      -1.415  19.383 -59.806  1.00 14.28           N
ATOM    411  CA  TYR A  58      -2.023  20.671 -60.063  1.00 13.71           C
ATOM    412  CB  TYR A  58      -0.977  21.674 -60.561  1.00 13.50           C
ATOM    413  CG  TYR A  58       0.118  22.015 -59.579  1.00 13.16           C
ATOM    414  CD1 TYR A  58      -0.065  21.871 -58.216  1.00 13.18           C
ATOM    415  CE1 TYR A  58       0.940  22.200 -57.322  1.00 13.36           C
ATOM    416  CZ  TYR A  58       2.146  22.691 -57.796  1.00 13.36           C
ATOM    417  OH  TYR A  58       3.154  23.027 -56.916  1.00 13.44           O
ATOM    418  CE2 TYR A  58       2.342  22.859 -59.148  1.00 13.20           C
ATOM    419  CD2 TYR A  58       1.331  22.522 -60.026  1.00 13.29           C
ATOM    420  C   TYR A  58      -3.086  20.413 -61.135  1.00 13.36           C
ATOM    421  O   TYR A  58      -2.937  20.820 -62.300  1.00 13.06           O
ATOM    422  N   GLY A  59      -4.145  19.706 -60.740  1.00 13.13           N
ATOM    423  CA  GLY A  59      -5.161  19.261 -61.690  1.00 13.12           C
ATOM    424  C   GLY A  59      -6.279  18.400 -61.130  1.00 13.30           C
ATOM    425  O   GLY A  59      -6.064  17.554 -60.247  1.00 13.50           O
ATOM    426  N   LYS A  60      -7.487  18.622 -61.637  1.00 13.17           N
ATOM    427  CA  LYS A  60      -8.581  17.712 -61.389  1.00 13.09           C
ATOM    428  CB  LYS A  60      -9.909  18.381 -61.714  1.00 13.32           C
ATOM    429  CG  LYS A  60     -10.312  19.480 -60.730  1.00 13.94           C
ATOM    430  CD  LYS A  60     -11.657  20.123 -61.084  1.00 14.12           C
ATOM    431  CE  LYS A  60     -12.830  19.180 -60.824  1.00 14.11           C
ATOM    432  NZ  LYS A  60     -13.199  19.143 -59.384  1.00 14.26           N
ATOM    433  C   LYS A  60      -8.373  16.473 -62.252  1.00 13.29           C
ATOM    434  O   LYS A  60      -8.359  16.561 -63.490  1.00 12.95           O
ATOM    435  N   ILE A  61      -8.165  15.324 -61.601  1.00 13.66           N
ATOM    436  CA  ILE A  61      -8.001  14.052 -62.322  1.00 14.04           C
ATOM    437  CB  ILE A  61      -7.565  12.892 -61.396  1.00 13.83           C
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ATOM    438  CG1 ILE A  61      -6.159  13.138 -60.833  1.00 13.72           C
ATOM    439  CD1 ILE A  61      -5.883  12.404 -59.536  1.00 13.45           C
ATOM    440  CG2 ILE A  61      -7.643  11.551 -62.122  1.00 13.61           C
ATOM    441  C   ILE A  61      -9.323  13.703 -62.984  1.00 14.51           C
ATOM    442  O   ILE A  61     -10.333  13.522 -62.299  1.00 14.52           O
ATOM    443  N   ALA A  62      -9.301  13.637 -64.315  1.00 14.99           N
ATOM    444  CA  ALA A  62     -10.483  13.351 -65.122  1.00 15.40           C
ATOM    445  CB  ALA A  62     -10.713  14.473 -66.114  1.00 15.29           C
ATOM    446  C   ALA A  62     -10.384  12.004 -65.864  1.00 16.28           C
ATOM    447  O   ALA A  62     -11.405  11.447 -66.277  1.00 17.15           O
ATOM    448  N   VAL A  63      -9.162  11.508 -66.071  1.00 16.28           N
ATOM    449  CA  VAL A  63      -8.930  10.196 -66.674  1.00 16.31           C
ATOM    450  CB  VAL A  63      -8.684  10.286 -68.193  1.00 15.95           C
ATOM    451  CG1 VAL A  63      -8.443   8.904 -68.787  1.00 15.64           C
ATOM    452  CG2 VAL A  63      -9.838  10.973 -68.896  1.00 16.07           C
ATOM    453  C   VAL A  63      -7.683   9.601 -66.033  1.00 17.40           C
ATOM    454  O   VAL A  63      -6.681  10.308 -65.843  1.00 18.75           O
ATOM    455  N   MET A  64      -7.720   8.310 -65.722  1.00 17.20           N
ATOM    456  CA  MET A  64      -6.615   7.672 -65.044  1.00 17.41           C
ATOM    457  CB  MET A  64      -6.715   7.947 -63.542  1.00 17.02           C
ATOM    458  CG  MET A  64      -5.728   7.183 -62.686  1.00 17.37           C
ATOM    459  SD  MET A  64      -6.143   7.123 -60.932  1.00 17.40           S
ATOM    460  CE  MET A  64      -7.354   5.806 -60.929  1.00 17.99           C
ATOM    461  C   MET A  64      -6.638   6.175 -65.354  1.00 18.36           C
ATOM    462  O   MET A  64      -7.488   5.447 -64.860  1.00 18.73           O
ATOM    463  N   GLU A  65      -5.714   5.723 -66.191  1.00 19.30           N
ATOM    464  CA  GLU A  65      -5.663   4.323 -66.575  1.00 20.87           C
ATOM    465  CB  GLU A  65      -6.141   4.140 -68.020  1.00 22.24           C
ATOM    466  CG  GLU A  65      -7.640   4.327 -68.226  1.00 24.79           C
ATOM    467  CD  GLU A  65      -8.517   3.265 -67.538  1.00 27.35           C
ATOM    468  OE1 GLU A  65      -8.029   2.139 -67.205  1.00 27.72           O
ATOM    469  OE2 GLU A  65      -9.726   3.561 -67.347  1.00 28.00           O
ATOM    470  C   GLU A  65      -4.263   3.746 -66.427  1.00 21.45           C
ATOM    471  O   GLU A  65      -3.270   4.459 -66.595  1.00 22.49           O
ATOM    472  N   LEU A  66      -4.187   2.452 -66.121  1.00 20.92           N
ATOM    473  CA  LEU A  66      -2.923   1.742 -66.156  1.00 21.07           C
ATOM    474  CB  LEU A  66      -2.810   0.804 -64.962  1.00 21.30           C
ATOM    475  CG  LEU A  66      -2.585   1.454 -63.595  1.00 21.62           C
ATOM    476  CD1 LEU A  66      -2.397   0.384 -62.532  1.00 20.76           C
ATOM    477  CD2 LEU A  66      -1.390   2.402 -63.623  1.00 21.50           C
ATOM    478  C   LEU A  66      -2.762   0.965 -67.463  1.00 21.33           C
ATOM    479  O   LEU A  66      -3.730   0.423 -67.996  1.00 21.48           O
ATOM    480  N   PHE A  67      -1.538   0.907 -67.976  1.00 21.23           N
ATOM    481  CA  PHE A  67      -1.270   0.192 -69.212  1.00 21.64           C
ATOM    482  CB  PHE A  67      -1.595   1.086 -70.401  1.00 21.19           C
ATOM    483  CG  PHE A  67      -0.642   2.232 -70.576  1.00 20.82           C
ATOM    484  CD1 PHE A  67      -0.748   3.372 -69.787  1.00 20.94           C
ATOM    485  CE1 PHE A  67       0.140   4.428 -69.947  1.00 20.56           C
ATOM    486  CZ  PHE A  67       1.136   4.353 -70.901  1.00 19.99           C
ATOM    487  CE2 PHE A  67       1.249   3.222 -71.691  1.00 20.14           C
ATOM    488  CD2 PHE A  67       0.366   2.172 -71.530  1.00 20.34           C
ATOM    489  C   PHE A  67       0.188  -0.249 -69.268  1.00 23.05           C
ATOM    490  O   PHE A  67       1.050   0.391 -68.659  1.00 23.15           O
ATOM    491  N   ARG A  68       0.469  -1.338 -69.991  1.00 24.67           N
ATOM    492  CA  ARG A  68       1.855  -1.792 -70.153  1.00 26.52           C
ATOM    493  CB  ARG A  68       2.066  -3.217 -69.648  1.00 26.18           C
ATOM    494  CG  ARG A  68       3.529  -3.495 -69.327  1.00 26.87           C
ATOM    495  CD  ARG A  68       3.759  -4.910 -68.843  1.00 28.29           C
ATOM    496  NE  ARG A  68       3.047  -5.195 -67.595  1.00 29.60           N
ATOM    497  CZ  ARG A  68       3.634  -5.558 -66.462  1.00 29.23           C
ATOM    498  NH1 ARG A  68       4.947  -5.695 -66.410  1.00 29.16           N
ATOM    499  NH2 ARG A  68       2.902  -5.801 -65.385  1.00 29.71           N
ATOM    500  C   ARG A  68       2.366  -1.690 -71.573  1.00 28.42           C
ATOM    501  O   ARG A  68       1.977  -2.477 -72.425  1.00 28.33           O
ATOM    502  N   PRO A  69       3.281  -0.742 -71.823  1.00 31.15           N
ATOM    503  CA  PRO A  69       3.901  -0.696 -73.140  1.00 33.29           C
ATOM    504  CB  PRO A  69       4.782   0.560 -73.077  1.00 33.00           C
ATOM    505  CG  PRO A  69       5.081   0.744 -71.632  1.00 32.69           C
ATOM    506  CD  PRO A  69       3.897   0.209 -70.877  1.00 32.13           C
ATOM    507  C   PRO A  69       4.758  -1.939 -73.368  1.00 35.12           C
ATOM    508  O   PRO A  69       5.312  -2.487 -72.419  1.00 36.02           O
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ATOM    509  N   LYS A  70       4.843  -2.376 -74.622  1.00 37.95           N
ATOM    510  CA  LYS A  70       5.699  -3.490 -75.032  1.00 38.43           C
ATOM    511  CB  LYS A  70       5.707  -3.580 -76.562  1.00 40.38           C
ATOM    512  CG  LYS A  70       5.855  -4.990 -77.119  1.00 42.56           C
ATOM    513  CD  LYS A  70       6.124  -4.970 -78.624  1.00 43.16           C
ATOM    514  CE  LYS A  70       7.334  -4.107 -78.982  1.00 43.72           C
ATOM    515  NZ  LYS A  70       8.585  -4.529 -78.284  1.00 42.23           N
ATOM    516  C   LYS A  70       7.131  -3.333 -74.492  1.00 37.13           C
ATOM    517  O   LYS A  70       7.695  -2.234 -74.499  1.00 34.62           O
ATOM    518  N   GLY A  71       7.698  -4.437 -74.006  1.00 37.86           N
ATOM    519  CA  GLY A  71       9.049  -4.443 -73.458  1.00 38.73           C
ATOM    520  C   GLY A  71       9.233  -3.420 -72.352  1.00 40.73           C
ATOM    521  O   GLY A  71      10.205  -2.666 -72.343  1.00 42.01           O
ATOM    522  N   GLU A  72       8.273  -3.374 -71.436  1.00 41.59           N
ATOM    523  CA  GLU A  72       8.399  -2.596 -70.208  1.00 41.02           C
ATOM    524  CB  GLU A  72       7.412  -1.434 -70.201  1.00 41.92           C
ATOM    525  CG  GLU A  72       7.697  -0.361 -69.156  1.00 44.49           C
ATOM    526  CD  GLU A  72       8.362   0.885 -69.729  1.00 46.15           C
ATOM    527  OE1 GLU A  72       8.813   1.727 -68.926  1.00 46.10           O
ATOM    528  OE2 GLU A  72       8.431   1.035 -70.973  1.00 47.23           O
ATOM    529  C   GLU A  72       8.129  -3.550 -69.043  1.00 40.25           C
ATOM    530  O   GLU A  72       7.348  -4.501 -69.175  1.00 39.52           O
ATOM    531  N   SER A  73       8.780  -3.298 -67.911  1.00 39.18           N
ATOM    532  CA  SER A  73       8.810  -4.265 -66.809  1.00 39.60           C
ATOM    533  CB  SER A  73      10.149  -4.194 -66.052  1.00 42.24           C
ATOM    534  OG  SER A  73      10.672  -2.871 -66.025  1.00 43.46           O
ATOM    535  C   SER A  73       7.620  -4.179 -65.838  1.00 38.72           C
ATOM    536  O   SER A  73       7.283  -5.180 -65.187  1.00 38.17           O
ATOM    537  N   LYS A  74       7.002  -2.989 -65.757  1.00 35.19           N
ATOM    538  CA  LYS A  74       5.819  -2.712 -64.923  1.00 31.04           C
ATOM    539  CB  LYS A  74       6.239  -2.206 -63.543  1.00 31.01           C
ATOM    540  CG  LYS A  74       7.492  -1.358 -63.570  1.00 31.73           C
ATOM    541  CD  LYS A  74       7.680  -0.535 -62.309  1.00 32.50           C
ATOM    542  CE  LYS A  74       8.567   0.663 -62.631  1.00 33.98           C
ATOM    543  NZ  LYS A  74       9.203   1.275 -61.436  1.00 34.98           N
ATOM    544  C   LYS A  74       4.929  -1.674 -65.612  1.00 29.38           C
ATOM    545  O   LYS A  74       5.381  -0.984 -66.522  1.00 28.62           O
ATOM    546  N   ASP A  75       3.672  -1.557 -65.169  1.00 27.74           N
ATOM    547  CA  ASP A  75       2.702  -0.658 -65.804  1.00 25.57           C
ATOM    548  CB  ASP A  75       1.298  -0.833 -65.211  1.00 25.78           C
ATOM    549  CG  ASP A  75       0.796  -2.261 -65.285  1.00 26.85           C
ATOM    550  OD1 ASP A  75       1.487  -3.112 -65.888  1.00 26.71           O
ATOM    551  OD2 ASP A  75      -0.298  -2.538 -64.730  1.00 27.57           O
ATOM    552  C   ASP A  75       3.106   0.790 -65.647  1.00 24.44           C
ATOM    553  O   ASP A  75       3.718   1.166 -64.649  1.00 24.83           O
ATOM    554  N   LEU A  76       2.762   1.598 -66.647  1.00 22.78           N
ATOM    555  CA  LEU A  76       2.788   3.052 -66.522  1.00 20.94           C
ATOM    556  CB  LEU A  76       3.443   3.679 -67.747  1.00 20.70           C
ATOM    557  CG  LEU A  76       4.871   3.232 -68.065  1.00 20.35           C
ATOM    558  CD1 LEU A  76       5.254   3.673 -69.461  1.00 20.15           C
ATOM    559  CD2 LEU A  76       5.861   3.774 -67.049  1.00 20.45           C
ATOM    560  C   LEU A  76       1.358   3.593 -66.323  1.00 20.28           C
ATOM    561  O   LEU A  76       0.369   2.859 -66.492  1.00 20.28           O
ATOM    562  N   LEU A  77       1.257   4.868 -65.951  1.00 18.91           N
ATOM    563  CA  LEU A  77      -0.016   5.465 -65.577  1.00 17.83           C
ATOM    564  CB  LEU A  77       0.022   5.871 -64.106  1.00 17.81           C
ATOM    565  CG  LEU A  77      -1.189   6.569 -63.475  1.00 18.16           C
ATOM    566  CD1 LEU A  77      -2.401   5.654 -63.369  1.00 17.75           C
ATOM    567  CD2 LEU A  77      -0.796   7.075 -62.101  1.00 17.99           C
ATOM    568  C   LEU A  77      -0.324   6.676 -66.436  1.00 17.28           C
ATOM    569  O   LEU A  77       0.460   7.618 -66.482  1.00 17.17           O
ATOM    570  N   PHE A  78      -1.463   6.653 -67.122  1.00 16.86           N
ATOM    571  CA  PHE A  78      -1.908   7.823 -67.881  1.00 16.56           C
ATOM    572  CB  PHE A  78      -2.521   7.423 -69.222  1.00 16.27           C
ATOM    573  CG  PHE A  78      -3.109   8.580 -69.978  1.00 16.08           C
ATOM    574  CD1 PHE A  78      -2.283   9.551 -70.546  1.00 16.00           C
ATOM    575  CE1 PHE A  78      -2.823  10.620 -71.240  1.00 15.79           C
ATOM    576  CZ  PHE A  78      -4.202  10.736 -71.369  1.00 15.77           C
ATOM    577  CE2 PHE A  78      -5.035   9.784 -70.810  1.00 15.73           C
ATOM    578  CD2 PHE A  78      -4.487   8.712 -70.113  1.00 15.99           C
ATOM    579  C   PHE A  78      -2.912   8.659 -67.098  1.00 16.28           C
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ATOM    580  O   PHE A  78      -3.903   8.133 -66.586  1.00 16.53           O
ATOM    581  N   ILE A  79      -2.651   9.956 -67.003  1.00 15.55           N
ATOM    582  CA  ILE A  79      -3.604  10.855 -66.381  1.00 15.37           C
ATOM    583  CB  ILE A  79      -3.027  11.597 -65.151  1.00 15.42           C
ATOM    584  CG1 ILE A  79      -2.470  10.620 -64.109  1.00 15.66           C
ATOM    585  CD1 ILE A  79      -3.519   9.975 -63.237  1.00 15.63           C
ATOM    586  CG2 ILE A  79      -4.087  12.483 -64.516  1.00 14.95           C
ATOM    587  C   ILE A  79      -3.973  11.892 -67.394  1.00 15.22           C
ATOM    588  O   ILE A  79      -3.116  12.352 -68.154  1.00 15.76           O
ATOM    589  N   LEU A  80      -5.248  12.258 -67.405  1.00 14.63           N
ATOM    590  CA  LEU A  80      -5.697  13.452 -68.092  1.00 14.17           C
ATOM    591  CB  LEU A  80      -6.605  13.086 -69.257  1.00 14.25           C
ATOM    592  CG  LEU A  80      -7.206  14.230 -70.064  1.00 14.17           C
ATOM    593  CD1 LEU A  80      -6.189  14.783 -71.053  1.00 14.21           C
ATOM    594  CD2 LEU A  80      -8.433  13.708 -70.779  1.00 14.07           C
ATOM    595  C   LEU A  80      -6.450  14.306 -67.098  1.00 13.83           C
ATOM    596  O   LEU A  80      -7.366  13.811 -66.424  1.00 13.85           O
ATOM    597  N   THR A  81      -6.064  15.577 -66.997  1.00 13.26           N
ATOM    598  CA  THR A  81      -6.741  16.515 -66.094  1.00 13.11           C
ATOM    599  CB  THR A  81      -5.778  17.579 -65.573  1.00 13.38           C
ATOM    600  OG1 THR A  81      -5.349  18.393 -66.678  1.00 13.95           O
ATOM    601  CG2 THR A  81      -4.570  16.937 -64.883  1.00 13.07           C
ATOM    602  C   THR A  81      -7.902  17.241 -66.780  1.00 12.73           C
ATOM    603  O   THR A  81      -8.002  17.265 -68.008  1.00 12.80           O
ATOM    604  N   ALA A  82      -8.765  17.849 -65.980  1.00 12.33           N
ATOM    605  CA  ALA A  82      -9.926  18.548 -66.501  1.00 12.21           C
ATOM    606  CB  ALA A  82     -10.780  19.063 -65.364  1.00 11.82           C
ATOM    607  C   ALA A  82      -9.510  19.691 -67.421  1.00 12.54           C
ATOM    608  O   ALA A  82     -10.281  20.104 -68.286  1.00 12.73           O
ATOM    609  N   LYS A  83      -8.283  20.184 -67.240  1.00 12.76           N
ATOM    610  CA  LYS A  83      -7.733  21.256 -68.072  1.00 12.87           C
ATOM    611  CB  LYS A  83      -6.882  22.220 -67.253  1.00 12.57           C
ATOM    612  CG  LYS A  83      -7.712  23.277 -66.563  1.00 12.27           C
ATOM    613  CD  LYS A  83      -6.862  24.241 -65.767  1.00 12.09           C
ATOM    614  CE  LYS A  83      -7.761  25.176 -64.995  1.00 12.25           C
ATOM    615  NZ  LYS A  83      -7.043  26.375 -64.526  1.00 12.05           N
ATOM    616  C   LYS A  83      -6.936  20.730 -69.243  1.00 13.50           C
ATOM    617  O   LYS A  83      -6.251  21.495 -69.932  1.00 13.97           O
ATOM    618  N   TYR A  84      -7.038  19.422 -69.468  1.00 14.00           N
ATOM    619  CA  TYR A  84      -6.518  18.775 -70.670  1.00 14.21           C
ATOM    620  CB  TYR A  84      -6.957  19.525 -71.922  1.00 14.06           C
ATOM    621  CG  TYR A  84      -8.469  19.551 -72.134  1.00 14.22           C
ATOM    622  CD1 TYR A  84      -9.149  18.401 -72.549  1.00 14.34           C
ATOM    623  CE1 TYR A  84     -10.512  18.409 -72.761  1.00 14.07           C
ATOM    624  CZ  TYR A  84     -11.216  19.570 -72.572  1.00 14.10           C
ATOM    625  OH  TYR A  84     -12.574  19.531 -72.800  1.00 14.76           O
ATOM    626  CE2 TYR A  84     -10.578  20.736 -72.172  1.00 13.78           C
ATOM    627  CD2 TYR A  84      -9.212  20.723 -71.955  1.00 13.80           C
ATOM    628  C   TYR A  84      -5.012  18.632 -70.622  1.00 14.85           C
ATOM    629  O   TYR A  84      -4.355  18.585 -71.655  1.00 15.24           O
ATOM    630  N   ASN A  85      -4.471  18.555 -69.410  1.00 15.35           N
ATOM    631  CA  ASN A  85      -3.086  18.186 -69.221  1.00 15.87           C
ATOM    632  CB  ASN A  85      -2.579  18.664 -67.866  1.00 16.36           C
ATOM    633  CG  ASN A  85      -2.848  20.130 -67.625  1.00 16.90           C
ATOM    634  OD1 ASN A  85      -3.724  20.486 -66.833  1.00 17.34           O
ATOM    635  ND2 ASN A  85      -2.103  20.996 -68.316  1.00 16.93           N
ATOM    636  C   ASN A  85      -2.981  16.687 -69.260  1.00 16.17           C
ATOM    637  O   ASN A  85      -3.536  16.012 -68.404  1.00 16.34           O
ATOM    638  N   ALA A  86      -2.289  16.165 -70.265  1.00 16.98           N
ATOM    639  CA  ALA A  86      -1.962  14.743 -70.313  1.00 17.48           C
ATOM    640  CB  ALA A  86      -1.994  14.233 -71.747  1.00 17.21           C
ATOM    641  C   ALA A  86      -0.602  14.485 -69.699  1.00 17.82           C
ATOM    642  O   ALA A  86       0.253  15.369 -69.659  1.00 17.63           O
ATOM    643  N   CYS A  87      -0.408  13.269 -69.214  1.00 18.91           N
ATOM    644  CA  CYS A  87       0.926  12.804 -68.868  1.00 20.48           C
ATOM    645  CB  CYS A  87       1.411  13.458 -67.572  1.00 21.28           C
ATOM    646  SG  CYS A  87       0.420  13.012 -66.133  1.00 23.89           S
ATOM    647  C   CYS A  87       0.991  11.280 -68.748  1.00 21.10           C
ATOM    648  O   CYS A  87      -0.043  10.617 -68.551  1.00 21.98           O
ATOM    649  N   ILE A  88       2.205  10.737 -68.883  1.00 20.33           N
ATOM    650  CA  ILE A  88       2.488   9.361 -68.520  1.00 19.91           C
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ATOM    651  CB  ILE A  88       3.037   8.556 -69.712  1.00 19.63           C
ATOM    652  CG1 ILE A  88       1.955   8.415 -70.784  1.00 19.60           C
ATOM    653  CD1 ILE A  88       2.481   8.083 -72.163  1.00 19.48           C
ATOM    654  CG2 ILE A  88       3.494   7.169 -69.276  1.00 19.49           C
ATOM    655  C   ILE A  88       3.457   9.370 -67.340  1.00 20.40           C
ATOM    656  O   ILE A  88       4.445  10.105 -67.351  1.00 20.21           O
ATOM    657  N   LEU A  89       3.149   8.555 -66.325  1.00 21.14           N
ATOM    658  CA  LEU A  89       3.863   8.548 -65.037  1.00 21.61           C
ATOM    659  CB  LEU A  89       2.947   9.044 -63.917  1.00 21.22           C
ATOM    660  CG  LEU A  89       2.298  10.413 -64.100  1.00 21.49           C
ATOM    661  CD1 LEU A  89       1.230  10.608 -63.036  1.00 21.52           C
ATOM    662  CD2 LEU A  89       3.316  11.547 -64.080  1.00 20.93           C
ATOM    663  C   LEU A  89       4.412   7.177 -64.645  1.00 22.25           C
ATOM    664  O   LEU A  89       3.797   6.146 -64.921  1.00 22.05           O
ATOM    665  N   GLU A  90       5.562   7.189 -63.973  1.00 23.53           N
ATOM    666  CA  GLU A  90       6.244   5.974 -63.535  1.00 24.36           C
ATOM    667  CB  GLU A  90       7.516   5.743 -64.371  1.00 25.04           C
ATOM    668  CG  GLU A  90       8.437   4.657 -63.833  1.00 27.32           C
ATOM    669  CD  GLU A  90       9.446   4.123 -64.856  1.00 29.81           C
ATOM    670  OE1 GLU A  90      10.132   4.936 -65.530  1.00 30.52           O
ATOM    671  OE2 GLU A  90       9.579   2.871 -64.960  1.00 30.18           O
ATOM    672  C   GLU A  90       6.588   6.086 -62.062  1.00 24.23           C
ATOM    673  O   GLU A  90       7.006   7.138 -61.594  1.00 23.97           O
ATOM    674  N   TYR A  91       6.397   4.992 -61.339  1.00 25.16           N
ATOM    675  CA  TYR A  91       6.792   4.885 -59.938  1.00 25.94           C
ATOM    676  CB  TYR A  91       5.949   3.794 -59.280  1.00 25.62           C
ATOM    677  CG  TYR A  91       6.065   3.653 -57.774  1.00 25.57           C
ATOM    678  CD1 TYR A  91       6.990   2.785 -57.207  1.00 25.52           C
ATOM    679  CE1 TYR A  91       7.080   2.630 -55.840  1.00 25.88           C
ATOM    680  CZ  TYR A  91       6.221   3.332 -55.012  1.00 26.31           C
ATOM    681  OH  TYR A  91       6.311   3.178 -53.640  1.00 26.59           O
ATOM    682  CE2 TYR A  91       5.280   4.186 -55.549  1.00 25.81           C
ATOM    683  CD2 TYR A  91       5.200   4.332 -56.923  1.00 25.80           C
ATOM    684  C   TYR A  91       8.271   4.522 -59.851  1.00 27.65           C
ATOM    685  O   TYR A  91       8.771   3.734 -60.657  1.00 27.72           O
ATOM    686  N   LYS A  92       8.968   5.099 -58.876  1.00 30.26           N
ATOM    687  CA  LYS A  92      10.364   4.758 -58.598  1.00 31.87           C
ATOM    688  CB  LYS A  92      11.303   5.808 -59.195  1.00 33.60           C
ATOM    689  CG  LYS A  92      11.576   5.666 -60.683  1.00 36.58           C
ATOM    690  CD  LYS A  92      12.145   4.291 -61.029  1.00 39.45           C
ATOM    691  CE  LYS A  92      12.086   4.024 -62.531  1.00 40.32           C
ATOM    692  NZ  LYS A  92      11.629   2.630 -62.819  1.00 40.98           N
ATOM    693  C   LYS A  92      10.593   4.696 -57.096  1.00 33.74           C
ATOM    694  O   LYS A  92      10.348   5.684 -56.392  1.00 33.72           O
ATOM    695  N   GLN A  93      11.054   3.542 -56.606  1.00 35.51           N
ATOM    696  CA  GLN A  93      11.507   3.407 -55.209  1.00 35.80           C
ATOM    697  CB  GLN A  93      11.491   1.944 -54.752  1.00 36.21           C
ATOM    698  CG  GLN A  93      11.582   1.746 -53.241  1.00 36.09           C
ATOM    699  CD  GLN A  93      10.221   1.640 -52.563  1.00 36.63           C
ATOM    700  OE1 GLN A  93       9.197   2.040 -53.123  1.00 37.34           O
ATOM    701  NE2 GLN A  93      10.206   1.092 -51.351  1.00 35.70           N
ATOM    702  C   GLN A  93      12.918   3.971 -55.068  1.00 36.68           C
ATOM    703  O   GLN A  93      13.897   3.319 -55.438  1.00 37.43           O
ATOM    704  N   SER A  97      13.490   8.811 -51.448  1.00 29.35           N
ATOM    705  CA  SER A  97      13.044   7.434 -51.272  1.00 29.85           C
ATOM    706  CB  SER A  97      12.416   7.236 -49.879  1.00 30.84           C
ATOM    707  OG  SER A  97      12.771   5.973 -49.324  1.00 31.74           O
ATOM    708  C   SER A  97      12.068   7.017 -52.387  1.00 29.36           C
ATOM    709  O   SER A  97      12.340   6.042 -53.101  1.00 28.29           O
ATOM    710  N   ILE A  98      10.947   7.750 -52.531  1.00 27.91           N
ATOM    711  CA  ILE A  98       9.978   7.513 -53.632  1.00 27.53           C
ATOM    712  CB  ILE A  98       8.614   6.971 -53.140  1.00 26.33           C
ATOM    713  CG1 ILE A  98       8.787   5.812 -52.168  1.00 25.31           C
ATOM    714  CD1 ILE A  98       7.518   5.478 -51.426  1.00 25.67           C
ATOM    715  CG2 ILE A  98       7.756   6.542 -54.326  1.00 25.63           C
ATOM    716  C   ILE A  98       9.687   8.743 -54.503  1.00 28.34           C
ATOM    717  O   ILE A  98       9.258   9.790 -54.005  1.00 28.48           O
ATOM    718  N   ASP A  99       9.897   8.590 -55.808  1.00 29.68           N
ATOM    719  CA  ASP A  99       9.538   9.620 -56.786  1.00 30.53           C
ATOM    720  CB  ASP A  99      10.751  10.051 -57.633  1.00 33.48           C
ATOM    721  CG  ASP A  99      12.007  10.308 -56.809  1.00 36.29           C
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ATOM    722  OD1 ASP A  99      12.512   9.360 -56.159  1.00 37.80           O
ATOM    723  OD2 ASP A  99      12.523  11.451 -56.859  1.00 37.58           O
ATOM    724  C   ASP A  99       8.481   9.073 -57.739  1.00 28.89           C
ATOM    725  O   ASP A  99       8.511   7.892 -58.093  1.00 29.01           O
ATOM    726  N   ILE A 100       7.554   9.935 -58.153  1.00 26.65           N
ATOM    727  CA  ILE A 100       6.740   9.686 -59.338  1.00 25.33           C
ATOM    728  CB  ILE A 100       5.255   9.975 -59.082  1.00 24.53           C
ATOM    729  CG1 ILE A 100       4.731   8.984 -58.042  1.00 24.62           C
ATOM    730  CD1 ILE A 100       3.291   9.189 -57.641  1.00 25.31           C
ATOM    731  CG2 ILE A 100       4.466   9.876 -60.383  1.00 23.67           C
ATOM    732  C   ILE A 100       7.271  10.556 -60.470  1.00 24.83           C
ATOM    733  O   ILE A 100       7.345  11.778 -60.330  1.00 25.68           O
ATOM    734  N   ILE A 101       7.661   9.939 -61.582  1.00 23.60           N
ATOM    735  CA  ILE A 101       8.349  10.696 -62.630  1.00 23.30           C
ATOM    736  CB  ILE A 101       9.782  10.182 -62.898  1.00 24.02           C
ATOM    737  CG1 ILE A 101       9.762   8.803 -63.562  1.00 24.01           C
ATOM    738  CD1 ILE A 101      11.110   8.116 -63.584  1.00 25.13           C
ATOM    739  CG2 ILE A 101      10.601  10.197 -61.605  1.00 24.71           C
ATOM    740  C   ILE A 101       7.560  10.831 -63.922  1.00 22.24           C
ATOM    741  O   ILE A 101       6.741   9.971 -64.249  1.00 21.69           O
ATOM    742  N   THR A 102       7.815  11.919 -64.641  1.00 21.27           N
ATOM    743  CA  THR A 102       7.065  12.239 -65.847  1.00 21.26           C
ATOM    744  CB  THR A 102       6.762  13.740 -65.927  1.00 20.65           C
ATOM    745  OG1 THR A 102       6.144  14.153 -64.709  1.00 20.56           O
ATOM    746  CG2 THR A 102       5.841  14.050 -67.097  1.00 20.12           C
ATOM    747  C   THR A 102       7.782  11.775 -67.117  1.00 21.84           C
ATOM    748  O   THR A 102       8.773  12.380 -67.558  1.00 21.81           O
ATOM    749  N   ARG A 103       7.262  10.701 -67.701  1.00 22.07           N
ATOM    750  CA  ARG A 103       7.815  10.141 -68.920  1.00 22.65           C
ATOM    751  CB  ARG A 103       7.335   8.703 -69.092  1.00 23.13           C
ATOM    752  CG  ARG A 103       7.925   7.755 -68.069  1.00 24.69           C
ATOM    753  CD  ARG A 103       9.306   7.277 -68.487  1.00 25.58           C
ATOM    754  NE  ARG A 103       9.200   6.243 -69.512  1.00 26.02           N
ATOM    755  CZ  ARG A 103       9.120   4.941 -69.253  1.00 26.57           C
ATOM    756  NH1 ARG A 103       9.153   4.496 -68.001  1.00 26.13           N
ATOM    757  NH2 ARG A 103       9.023   4.078 -70.250  1.00 27.75           N
ATOM    758  C   ARG A 103       7.422  10.979 -70.130  1.00 22.68           C
ATOM    759  O   ARG A 103       8.220  11.182 -71.046  1.00 22.88           O
ATOM    760  N   ALA A 104       6.186  11.466 -70.114  1.00 21.99           N
ATOM    761  CA  ALA A 104       5.613  12.173 -71.234  1.00 21.21           C
ATOM    762  CB  ALA A 104       4.939  11.191 -72.167  1.00 21.02           C
ATOM    763  C   ALA A 104       4.599  13.144 -70.690  1.00 21.15           C
ATOM    764  O   ALA A 104       4.031  12.898 -69.631  1.00 21.85           O
ATOM    765  N   HIS A 105       4.375  14.250 -71.396  1.00 20.67           N
ATOM    766  CA  HIS A 105       3.324  15.196 -71.016  1.00 20.08           C
ATOM    767  CB  HIS A 105       3.642  15.874 -69.687  1.00 20.60           C
ATOM    768  CG  HIS A 105       4.629  17.006 -69.802  1.00 21.11           C
ATOM    769  ND1 HIS A 105       5.954  16.800 -69.966  1.00 21.52           N
ATOM    770  CE1 HIS A 105       6.583  17.990 -70.036  1.00 21.81           C
ATOM    771  NE2 HIS A 105       5.656  18.959 -69.926  1.00 21.81           N
ATOM    772  CD2 HIS A 105       4.443  18.387 -69.779  1.00 21.08           C
ATOM    773  C   HIS A 105       3.083  16.229 -72.065  1.00 19.22           C
ATOM    774  O   HIS A 105       3.964  16.542 -72.855  1.00 19.43           O
ATOM    775  N   GLY A 106       1.879  16.779 -72.060  1.00 18.30           N
ATOM    776  CA  GLY A 106       1.522  17.839 -72.970  1.00 17.95           C
ATOM    777  C   GLY A 106       0.055  18.174 -72.884  1.00 17.69           C
ATOM    778  O   GLY A 106      -0.754  17.349 -72.452  1.00 17.54           O
ATOM    779  N   ASN A 107      -0.299  19.385 -73.305  1.00 17.44           N
ATOM    780  CA  ASN A 107      -1.686  19.793 -73.251  1.00 17.36           C
ATOM    781  CB  ASN A 107      -1.815  21.265 -72.897  1.00 16.68           C
ATOM    782  CG  ASN A 107      -3.217  21.618 -72.481  1.00 16.91           C
ATOM    783  OD1 ASN A 107      -4.099  21.748 -73.323  1.00 17.30           O
ATOM    784  ND2 ASN A 107      -3.446  21.731 -71.174  1.00 16.82           N
ATOM    785  C   ASN A 107      -2.488  19.445 -74.508  1.00 17.78           C
ATOM    786  O   ASN A 107      -2.256  20.003 -75.571  1.00 18.44           O
ATOM    787  N   VAL A 108      -3.447  18.535 -74.364  1.00 18.34           N
ATOM    788  CA  VAL A 108      -4.233  18.028 -75.496  1.00 18.94           C
ATOM    789  CB  VAL A 108      -4.666  16.563 -75.274  1.00 18.38           C
ATOM    790  CG1 VAL A 108      -3.453  15.634 -75.270  1.00 17.82           C
ATOM    791  CG2 VAL A 108      -5.476  16.436 -73.988  1.00 18.32           C
ATOM    792  C   VAL A 108      -5.475  18.861 -75.836  1.00 20.41           C
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ATOM    793  O   VAL A 108      -6.387  18.376 -76.501  1.00 20.72           O
ATOM    794  N   GLN A 109      -5.514  20.112 -75.391  1.00 22.38           N
ATOM    795  CA  GLN A 109      -6.621  20.997 -75.731  1.00 23.63           C
ATOM    796  CB  GLN A 109      -6.537  22.285 -74.927  1.00 24.33           C
ATOM    797  CG  GLN A 109      -7.580  23.317 -75.304  1.00 25.70           C
ATOM    798  CD  GLN A 109      -8.071  24.084 -74.106  1.00 27.11           C
ATOM    799  OE1 GLN A 109      -7.267  24.576 -73.306  1.00 28.84           O
ATOM    800  NE2 GLN A 109      -9.397  24.178 -73.955  1.00 26.37           N
ATOM    801  C   GLN A 109      -6.643  21.327 -77.223  1.00 24.51           C
ATOM    802  O   GLN A 109      -5.612  21.277 -77.905  1.00 23.56           O
ATOM    803  N   ASP A 110      -7.836  21.653 -77.712  1.00 25.74           N
ATOM    804  CA  ASP A 110      -8.016  22.170 -79.049  1.00 26.80           C
ATOM    805  CB  ASP A 110      -8.933  21.248 -79.847  1.00 26.77           C
ATOM    806  CG  ASP A 110      -8.213  20.006 -80.348  1.00 26.78           C
ATOM    807  OD1 ASP A 110      -6.974  19.920 -80.183  1.00 26.62           O
ATOM    808  OD2 ASP A 110      -8.885  19.112 -80.906  1.00 27.29           O
ATOM    809  C   ASP A 110      -8.567  23.588 -79.012  1.00 27.84           C
ATOM    810  O   ASP A 110      -9.335  23.933 -78.127  1.00 27.41           O
ATOM    811  N   ARG A 111      -8.156  24.408 -79.978  1.00 30.03           N
ATOM    812  CA  ARG A 111      -8.589  25.806 -80.044  1.00 31.12           C
ATOM    813  CB  ARG A 111      -7.853  26.565 -81.160  1.00 31.12           C
ATOM    814  C   ARG A 111     -10.098  25.889 -80.242  1.00 31.49           C
ATOM    815  O   ARG A 111     -10.770  26.707 -79.607  1.00 32.37           O
ATOM    816  N   ILE A 112     -10.618  25.037 -81.123  1.00 30.32           N
ATOM    817  CA  ILE A 112     -12.046  24.955 -81.378  1.00 29.53           C
ATOM    818  CB  ILE A 112     -12.335  24.707 -82.877  1.00 29.86           C
ATOM    819  C   ILE A 112     -12.563  23.809 -80.534  1.00 29.06           C
ATOM    820  O   ILE A 112     -11.883  23.384 -79.602  1.00 29.92           O
ATOM    821  N   GLY A 113     -13.758  23.313 -80.844  1.00 28.44           N
ATOM    822  CA  GLY A 113     -14.264  22.098 -80.211  1.00 27.59           C
ATOM    823  C   GLY A 113     -15.298  22.316 -79.125  1.00 27.02           C
ATOM    824  O   GLY A 113     -15.002  22.876 -78.071  1.00 26.48           O
ATOM    825  N   ARG A 114     -16.522  21.873 -79.405  1.00 27.22           N
ATOM    826  CA  ARG A 114     -17.592  21.804 -78.416  1.00 26.30           C
ATOM    827  CB  ARG A 114     -18.965  21.751 -79.110  1.00 24.56           C
ATOM    828  C   ARG A 114     -17.378  20.538 -77.589  1.00 26.59           C
ATOM    829  O   ARG A 114     -17.428  19.424 -78.141  1.00 27.58           O
ATOM    830  N   PRO A 115     -17.117  20.694 -76.272  1.00 25.94           N
ATOM    831  CA  PRO A 115     -17.047  19.544 -75.371  1.00 25.63           C
ATOM    832  CB  PRO A 115     -17.006  20.189 -73.987  1.00 24.50           C
ATOM    833  CG  PRO A 115     -16.374  21.511 -74.215  1.00 24.29           C
ATOM    834  CD  PRO A 115     -16.873  21.961 -75.558  1.00 25.32           C
ATOM    835  C   PRO A 115     -18.294  18.679 -75.500  1.00 26.28           C
ATOM    836  O   PRO A 115     -19.405  19.204 -75.539  1.00 26.09           O
ATOM    837  N   SER A 116     -18.104  17.368 -75.575  1.00 28.03           N
ATOM    838  CA  SER A 116     -19.217  16.428 -75.719  1.00 30.71           C
ATOM    839  CB  SER A 116     -18.691  15.055 -76.113  1.00 30.73           C
ATOM    840  OG  SER A 116     -17.847  15.153 -77.246  1.00 30.70           O
ATOM    841  C   SER A 116     -20.087  16.313 -74.465  1.00 32.58           C
ATOM    842  O   SER A 116     -19.583  16.344 -73.342  1.00 33.75           O
ATOM    843  N   GLU A 117     -21.393  16.163 -74.676  1.00 35.42           N
ATOM    844  CA  GLU A 117     -22.387  16.139 -73.594  1.00 36.56           C
ATOM    845  CB  GLU A 117     -23.811  15.976 -74.159  1.00 39.54           C
ATOM    846  CG  GLU A 117     -24.151  16.870 -75.345  1.00 42.64           C
ATOM    847  CD  GLU A 117     -25.388  16.398 -76.094  1.00 45.62           C
ATOM    848  OE1 GLU A 117     -25.231  15.703 -77.135  1.00 45.00           O
ATOM    849  OE2 GLU A 117     -26.515  16.718 -75.636  1.00 47.14           O
ATOM    850  C   GLU A 117     -22.112  14.994 -72.645  1.00 35.37           C
ATOM    851  O   GLU A 117     -22.367  15.099 -71.445  1.00 37.23           O
ATOM    852  N   THR A 118     -21.600  13.897 -73.200  1.00 34.25           N
ATOM    853  CA  THR A 118     -21.293  12.692 -72.429  1.00 32.66           C
ATOM    854  CB  THR A 118     -21.485  11.424 -73.297  1.00 33.17           C
ATOM    855  OG1 THR A 118     -22.733  10.809 -72.950  1.00 33.59           O
ATOM    856  CG2 THR A 118     -20.345  10.411 -73.111  1.00 32.33           C
ATOM    857  C   THR A 118     -19.918  12.751 -71.733  1.00 30.72           C
ATOM    858  O   THR A 118     -19.463  11.776 -71.142  1.00 32.67           O
ATOM    859  N   GLY A 119     -19.278  13.912 -71.792  1.00 28.18           N
ATOM    860  CA  GLY A 119     -18.071  14.169 -71.030  1.00 24.65           C
ATOM    861  C   GLY A 119     -16.856  13.552 -71.664  1.00 22.55           C
ATOM    862  O   GLY A 119     -16.965  12.826 -72.644  1.00 22.36           O
ATOM    863  N   ILE A 120     -15.699  13.859 -71.088  1.00 20.92           N
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ATOM    864  CA  ILE A 120     -14.408  13.296 -71.481  1.00 19.43           C
ATOM    865  CB  ILE A 120     -13.282  13.879 -70.594  1.00 18.56           C
ATOM    866  CG1 ILE A 120     -13.174  15.402 -70.794  1.00 17.68           C
ATOM    867  CD1 ILE A 120     -11.965  16.051 -70.162  1.00 17.00           C
ATOM    868  CG2 ILE A 120     -11.968  13.158 -70.855  1.00 18.71           C
ATOM    869  C   ILE A 120     -14.401  11.766 -71.372  1.00 19.19           C
ATOM    870  O   ILE A 120     -14.990  11.209 -70.450  1.00 19.37           O
ATOM    871  N   ILE A 121     -13.756  11.097 -72.325  1.00 18.83           N
ATOM    872  CA  ILE A 121     -13.545   9.652 -72.259  1.00 18.96           C
ATOM    873  CB  ILE A 121     -14.552   8.885 -73.131  1.00 18.80           C
ATOM    874  CG1 ILE A 121     -15.965   9.035 -72.581  1.00 19.28           C
ATOM    875  CD1 ILE A 121     -17.015   8.237 -73.328  1.00 19.92           C
ATOM    876  CG2 ILE A 121     -14.163   7.418 -73.226  1.00 18.73           C
ATOM    877  C   ILE A 121     -12.126   9.297 -72.716  1.00 19.65           C
ATOM    878  O   ILE A 121     -11.722   9.629 -73.838  1.00 20.25           O
ATOM    879  N   GLY A 122     -11.371   8.629 -71.845  1.00 19.77           N
ATOM    880  CA  GLY A 122     -10.027   8.182 -72.181  1.00 19.74           C
ATOM    881  C   GLY A 122     -10.000   6.676 -72.281  1.00 20.28           C
ATOM    882  O   GLY A 122     -10.538   5.992 -71.420  1.00 20.81           O
ATOM    883  N   ILE A 123      -9.385   6.158 -73.336  1.00 20.19           N
ATOM    884  CA  ILE A 123      -9.258   4.721 -73.515  1.00 20.51           C
ATOM    885  CB  ILE A 123     -10.386   4.137 -74.394  1.00 20.75           C
ATOM    886  CG1 ILE A 123     -10.654   5.026 -75.618  1.00 20.88           C
ATOM    887  CD1 ILE A 123     -11.463   4.358 -76.716  1.00 20.73           C
ATOM    888  CG2 ILE A 123     -11.655   3.955 -73.580  1.00 20.64           C
ATOM    889  C   ILE A 123      -7.909   4.363 -74.124  1.00 21.16           C
ATOM    890  O   ILE A 123      -7.417   5.052 -75.022  1.00 21.17           O
ATOM    891  N   ILE A 124      -7.311   3.292 -73.613  1.00 21.66           N
ATOM    892  CA  ILE A 124      -6.063   2.761 -74.145  1.00 22.44           C
ATOM    893  CB  ILE A 124      -5.006   2.578 -73.036  1.00 21.59           C
ATOM    894  CG1 ILE A 124      -4.737   3.907 -72.343  1.00 21.81           C
ATOM    895  CD1 ILE A 124      -3.284   4.153 -71.992  1.00 22.24           C
ATOM    896  CG2 ILE A 124      -3.719   1.994 -73.602  1.00 21.83           C
ATOM    897  C   ILE A 124      -6.358   1.411 -74.784  1.00 23.88           C
ATOM    898  O   ILE A 124      -7.026   0.581 -74.181  1.00 24.64           O
ATOM    899  N   ASP A 125      -5.874   1.182 -76.001  1.00 25.36           N
ATOM    900  CA  ASP A 125      -6.102  -0.108 -76.645  1.00 26.92           C
ATOM    901  CB  ASP A 125      -5.807  -0.034 -78.143  1.00 27.76           C
ATOM    902  CG  ASP A 125      -4.333  -0.133 -78.453  1.00 29.50           C
ATOM    903  OD1 ASP A 125      -3.816  -1.269 -78.498  1.00 28.74           O
ATOM    904  OD2 ASP A 125      -3.701   0.928 -78.677  1.00 31.63           O
ATOM    905  C   ASP A 125      -5.301  -1.220 -75.947  1.00 27.48           C
ATOM    906  O   ASP A 125      -4.364  -0.932 -75.201  1.00 26.88           O
ATOM    907  N   PRO A 126      -5.680  -2.490 -76.183  1.00 27.72           N
ATOM    908  CA  PRO A 126      -5.086  -3.637 -75.497  1.00 28.38           C
ATOM    909  CB  PRO A 126      -5.945  -4.814 -75.964  1.00 27.62           C
ATOM    910  CG  PRO A 126      -7.179  -4.207 -76.528  1.00 27.56           C
ATOM    911  CD  PRO A 126      -6.755  -2.901 -77.097  1.00 27.28           C
ATOM    912  C   PRO A 126      -3.623  -3.909 -75.847  1.00 29.52           C
ATOM    913  O   PRO A 126      -2.924  -4.543 -75.065  1.00 29.93           O
ATOM    914  N   GLU A 127      -3.172  -3.468 -77.016  1.00 32.33           N
ATOM    915  CA  GLU A 127      -1.782  -3.700 -77.442  1.00 35.39           C
ATOM    916  CB  GLU A 127      -1.704  -4.019 -78.940  1.00 38.15           C
ATOM    917  CG  GLU A 127      -2.187  -5.408 -79.339  1.00 43.14           C
ATOM    918  CD  GLU A 127      -1.930  -5.707 -80.815  1.00 49.66           C
ATOM    919  OE1 GLU A 127      -2.040  -4.767 -81.653  1.00 53.44           O
ATOM    920  OE2 GLU A 127      -1.614  -6.878 -81.145  1.00 50.14           O
ATOM    921  C   GLU A 127      -0.926  -2.482 -77.120  1.00 35.28           C
ATOM    922  O   GLU A 127       0.238  -2.390 -77.531  1.00 34.93           O
ATOM    923  N   CYS A 128      -1.529  -1.539 -76.398  1.00 34.85           N
ATOM    924  CA  CYS A 128      -0.870  -0.306 -75.981  1.00 33.48           C
ATOM    925  CB  CYS A 128       0.118  -0.586 -74.839  1.00 33.97           C
ATOM    926  SG  CYS A 128      -0.689  -1.172 -73.327  1.00 36.74           S
ATOM    927  C   CYS A 128      -0.192   0.421 -77.133  1.00 31.45           C
ATOM    928  O   CYS A 128       0.949   0.851 -77.009  1.00 32.11           O
ATOM    929  N   ARG A 129      -0.902   0.548 -78.252  1.00 29.95           N
ATOM    930  CA  ARG A 129      -0.423   1.340 -79.385  1.00 29.76           C
ATOM    931  CB  ARG A 129      -1.076   0.903 -80.700  1.00 29.41           C
ATOM    932  CG  ARG A 129      -0.907  -0.557 -81.071  1.00 29.77           C
ATOM    933  CD  ARG A 129       0.546  -0.937 -81.265  1.00 29.84           C
ATOM    934  NE  ARG A 129       0.697  -1.784 -82.441  1.00 30.10           N
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ATOM    935  CZ  ARG A 129       1.353  -1.426 -83.541  1.00 30.27           C
ATOM    936  NH1 ARG A 129       1.947  -0.238 -83.620  1.00 29.24           N
ATOM    937  NH2 ARG A 129       1.426  -2.266 -84.564  1.00 30.92           N
ATOM    938  C   ARG A 129      -0.700   2.822 -79.164  1.00 29.33           C
ATOM    939  O   ARG A 129       0.170   3.662 -79.390  1.00 29.85           O
ATOM    940  N   MET A 130      -1.914   3.138 -78.720  1.00 28.46           N
ATOM    941  CA  MET A 130      -2.327   4.529 -78.568  1.00 27.35           C
ATOM    942  CB  MET A 130      -3.093   4.968 -79.815  1.00 27.89           C
ATOM    943  CG  MET A 130      -4.457   4.310 -79.934  1.00 28.31           C
ATOM    944  SD  MET A 130      -5.073   4.307 -81.616  1.00 28.28           S
ATOM    945  CE  MET A 130      -4.170   2.937 -82.313  1.00 27.53           C
ATOM    946  C   MET A 130      -3.194   4.797 -77.334  1.00 25.84           C
ATOM    947  O   MET A 130      -3.725   3.882 -76.715  1.00 25.49           O
ATOM    948  N   ILE A 131      -3.319   6.071 -76.995  1.00 24.20           N
ATOM    949  CA  ILE A 131      -4.423   6.552 -76.196  1.00 22.81           C
ATOM    950  CB  ILE A 131      -3.951   7.635 -75.212  1.00 22.74           C
ATOM    951  CG1 ILE A 131      -2.924   7.055 -74.248  1.00 23.03           C
ATOM    952  CD1 ILE A 131      -1.809   8.021 -73.925  1.00 23.81           C
ATOM    953  CG2 ILE A 131      -5.114   8.225 -74.431  1.00 22.50           C
ATOM    954  C   ILE A 131      -5.429   7.145 -77.176  1.00 22.12           C
ATOM    955  O   ILE A 131      -5.063   7.900 -78.083  1.00 21.78           O
ATOM    956  N   GLY A 132      -6.693   6.782 -77.009  1.00 21.60           N
ATOM    957  CA  GLY A 132      -7.773   7.393 -77.781  1.00 21.48           C
ATOM    958  C   GLY A 132      -8.553   8.347 -76.902  1.00 21.27           C
ATOM    959  O   GLY A 132      -9.025   7.965 -75.838  1.00 22.28           O
ATOM    960  N   LEU A 133      -8.680   9.595 -77.329  1.00 20.88           N
ATOM    961  CA  LEU A 133      -9.356  10.600 -76.518  1.00 20.61           C
ATOM    962  CB  LEU A 133      -8.427  11.759 -76.179  1.00 20.41           C
ATOM    963  CG  LEU A 133      -7.284  11.366 -75.262  1.00 20.24           C
ATOM    964  CD1 LEU A 133      -6.398  12.567 -74.993  1.00 20.01           C
ATOM    965  CD2 LEU A 133      -7.841  10.780 -73.977  1.00 20.20           C
ATOM    966  C   LEU A 133     -10.575  11.137 -77.198  1.00 20.55           C
ATOM    967  O   LEU A 133     -10.502  11.625 -78.330  1.00 19.72           O
ATOM    968  N   ARG A 134     -11.698  11.035 -76.494  1.00 21.09           N
ATOM    969  CA  ARG A 134     -12.923  11.667 -76.915  1.00 21.89           C
ATOM    970  CB  ARG A 134     -14.091  10.691 -76.869  1.00 23.69           C
ATOM    971  CG  ARG A 134     -15.296  11.114 -77.708  1.00 25.41           C
ATOM    972  CD  ARG A 134     -15.976  12.355 -77.149  1.00 26.47           C
ATOM    973  NE  ARG A 134     -17.392  12.123 -76.905  1.00 27.92           N
ATOM    974  CZ  ARG A 134     -17.894  11.777 -75.723  1.00 30.38           C
ATOM    975  NH1 ARG A 134     -17.094  11.615 -74.674  1.00 30.51           N
ATOM    976  NH2 ARG A 134     -19.201  11.597 -75.586  1.00 32.62           N
ATOM    977  C   ARG A 134     -13.184  12.845 -76.015  1.00 21.60           C
ATOM    978  O   ARG A 134     -13.527  12.681 -74.844  1.00 21.54           O
ATOM    979  N   LEU A 135     -13.003  14.034 -76.584  1.00 21.32           N
ATOM    980  CA  LEU A 135     -13.128  15.288 -75.869  1.00 20.71           C
ATOM    981  CB  LEU A 135     -11.825  16.066 -75.971  1.00 19.99           C
ATOM    982  CG  LEU A 135     -10.560  15.308 -75.562  1.00 20.28           C
ATOM    983  CD1 LEU A 135      -9.317  16.112 -75.915  1.00 20.04           C
ATOM    984  CD2 LEU A 135     -10.575  14.953 -74.074  1.00 20.31           C
ATOM    985  C   LEU A 135     -14.259  16.099 -76.476  1.00 21.43           C
ATOM    986  O   LEU A 135     -15.066  16.695 -75.767  1.00 22.14           O
ATOM    987  N   TYR A 136     -14.329  16.102 -77.801  1.00 21.72           N
ATOM    988  CA  TYR A 136     -15.289  16.930 -78.500  1.00 21.20           C
ATOM    989  CB  TYR A 136     -14.550  18.038 -79.237  1.00 21.07           C
ATOM    990  CG  TYR A 136     -13.502  18.716 -78.379  1.00 21.35           C
ATOM    991  CD1 TYR A 136     -13.865  19.403 -77.219  1.00 21.43           C
ATOM    992  CE1 TYR A 136     -12.912  20.022 -76.422  1.00 21.19           C
ATOM    993  CZ  TYR A 136     -11.579  19.963 -76.774  1.00 20.99           C
ATOM    994  OH  TYR A 136     -10.656  20.603 -75.979  1.00 20.83           O
ATOM    995  CE2 TYR A 136     -11.189  19.286 -77.920  1.00 21.12           C
ATOM    996  CD2 TYR A 136     -12.149  18.671 -78.719  1.00 21.14           C
ATOM    997  C   TYR A 136     -16.188  16.140 -79.453  1.00 21.43           C
ATOM    998  O   TYR A 136     -15.866  15.019 -79.890  1.00 20.95           O
ATOM    999  N   ASP A 137     -17.336  16.725 -79.754  1.00 21.13           N
ATOM   1000  CA  ASP A 137     -18.197  16.179 -80.769  1.00 21.20           C
ATOM   1001  CB  ASP A 137     -19.501  16.969 -80.812  1.00 21.95           C
ATOM   1002  CG  ASP A 137     -20.231  16.967 -79.465  1.00 22.94           C
ATOM   1003  OD1 ASP A 137     -20.256  15.911 -78.791  1.00 23.17           O
ATOM   1004  OD2 ASP A 137     -20.785  18.021 -79.077  1.00 23.77           O
ATOM   1005  C   ASP A 137     -17.459  16.225 -82.105  1.00 20.61           C
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ATOM   1006  O   ASP A 137     -16.637  17.102 -82.331  1.00 20.24           O
ATOM   1007  N   GLY A 138     -17.712  15.243 -82.963  1.00 20.88           N
ATOM   1008  CA  GLY A 138     -17.093  15.197 -84.288  1.00 20.27           C
ATOM   1009  C   GLY A 138     -15.692  14.612 -84.372  1.00 20.22           C
ATOM   1010  O   GLY A 138     -15.341  14.030 -85.384  1.00 20.94           O
ATOM   1011  N   LEU A 139     -14.881  14.766 -83.327  1.00 19.84           N
ATOM   1012  CA  LEU A 139     -13.475  14.338 -83.397  1.00 19.79           C
ATOM   1013  CB  LEU A 139     -12.535  15.537 -83.210  1.00 19.30           C
ATOM   1014  CG  LEU A 139     -12.736  16.760 -84.100  1.00 18.95           C
ATOM   1015  CD1 LEU A 139     -12.450  18.035 -83.329  1.00 18.75           C
ATOM   1016  CD2 LEU A 139     -11.872  16.674 -85.343  1.00 19.12           C
ATOM   1017  C   LEU A 139     -13.096  13.219 -82.417  1.00 20.06           C
ATOM   1018  O   LEU A 139     -13.684  13.095 -81.351  1.00 21.08           O
ATOM   1019  N   PHE A 140     -12.099  12.423 -82.790  1.00 19.98           N
ATOM   1020  CA  PHE A 140     -11.536  11.401 -81.922  1.00 20.61           C
ATOM   1021  CB  PHE A 140     -11.926  10.006 -82.431  1.00 20.82           C
ATOM   1022  CG  PHE A 140     -11.423   8.860 -81.574  1.00 21.15           C
ATOM   1023  CD1 PHE A 140     -12.103   8.478 -80.410  1.00 21.07           C
ATOM   1024  CE1 PHE A 140     -11.651   7.415 -79.632  1.00 21.03           C
ATOM   1025  CZ  PHE A 140     -10.520   6.704 -80.015  1.00 20.94           C
ATOM   1026  CE2 PHE A 140      -9.842   7.059 -81.176  1.00 21.25           C
ATOM   1027  CD2 PHE A 140     -10.297   8.125 -81.954  1.00 21.15           C
ATOM   1028  C   PHE A 140     -10.022  11.595 -81.935  1.00 21.36           C
ATOM   1029  O   PHE A 140      -9.378  11.408 -82.971  1.00 21.91           O
ATOM   1030  N   LYS A 141      -9.456  12.004 -80.797  1.00 21.63           N
ATOM   1031  CA  LYS A 141      -8.014  12.298 -80.723  1.00 21.27           C
ATOM   1032  CB  LYS A 141      -7.701  13.369 -79.663  1.00 20.64           C
ATOM   1033  CG  LYS A 141      -6.255  13.874 -79.689  1.00 19.81           C
ATOM   1034  CD  LYS A 141      -6.076  15.179 -78.934  1.00 19.04           C
ATOM   1035  CE  LYS A 141      -7.061  16.225 -79.421  1.00 18.83           C
ATOM   1036  NZ  LYS A 141      -6.577  17.602 -79.173  1.00 18.95           N
ATOM   1037  C   LYS A 141      -7.207  11.031 -80.456  1.00 21.39           C
ATOM   1038  O   LYS A 141      -7.629  10.164 -79.684  1.00 22.05           O
ATOM   1039  N   VAL A 142      -6.047  10.929 -81.098  1.00 20.50           N
ATOM   1040  CA  VAL A 142      -5.207   9.763 -80.950  1.00 19.90           C
ATOM   1041  CB  VAL A 142      -5.192   8.912 -82.250  1.00 19.53           C
ATOM   1042  CG1 VAL A 142      -3.939   8.065 -82.336  1.00 19.39           C
ATOM   1043  CG2 VAL A 142      -6.431   8.025 -82.338  1.00 19.31           C
ATOM   1044  C   VAL A 142      -3.808  10.201 -80.567  1.00 19.77           C
ATOM   1045  O   VAL A 142      -3.183  10.985 -81.271  1.00 19.50           O
ATOM   1046  N   ILE A 143      -3.338   9.713 -79.425  1.00 20.16           N
ATOM   1047  CA  ILE A 143      -1.922   9.829 -79.065  1.00 20.71           C
ATOM   1048  CB  ILE A 143      -1.713  10.311 -77.611  1.00 20.37           C
ATOM   1049  CG1 ILE A 143      -2.371  11.669 -77.388  1.00 20.26           C
ATOM   1050  CD1 ILE A 143      -2.994  11.808 -76.017  1.00 20.84           C
ATOM   1051  CG2 ILE A 143      -0.230  10.361 -77.269  1.00 19.82           C
ATOM   1052  C   ILE A 143      -1.212   8.477 -79.254  1.00 21.29           C
ATOM   1053  O   ILE A 143      -1.480   7.504 -78.524  1.00 21.06           O
ATOM   1054  N   PRO A 144      -0.312   8.408 -80.248  1.00 21.45           N
ATOM   1055  CA  PRO A 144       0.581   7.262 -80.351  1.00 21.51           C
ATOM   1056  CB  PRO A 144       1.389   7.558 -81.619  1.00 21.19           C
ATOM   1057  CG  PRO A 144       1.149   9.005 -81.921  1.00 20.88           C
ATOM   1058  CD  PRO A 144      -0.222   9.286 -81.426  1.00 20.81           C
ATOM   1059  C   PRO A 144       1.502   7.139 -79.133  1.00 21.84           C
ATOM   1060  O   PRO A 144       2.091   8.121 -78.688  1.00 21.41           O
ATOM   1061  N   LEU A 145       1.575   5.937 -78.581  1.00 23.09           N
ATOM   1062  CA  LEU A 145       2.541   5.613 -77.553  1.00 24.87           C
ATOM   1063  CB  LEU A 145       1.939   4.598 -76.578  1.00 24.50           C
ATOM   1064  CG  LEU A 145       0.677   5.031 -75.820  1.00 24.70           C
ATOM   1065  CD1 LEU A 145      -0.043   3.840 -75.196  1.00 24.36           C
ATOM   1066  CD2 LEU A 145       1.005   6.079 -74.764  1.00 23.92           C
ATOM   1067  C   LEU A 145       3.779   5.036 -78.243  1.00 27.01           C
ATOM   1068  O   LEU A 145       3.788   3.866 -78.636  1.00 28.30           O
ATOM   1069  N   ASP A 146       4.814   5.853 -78.421  1.00 28.58           N
ATOM   1070  CA  ASP A 146       5.942   5.440 -79.259  1.00 30.41           C
ATOM   1071  CB  ASP A 146       5.989   6.253 -80.565  1.00 30.94           C
ATOM   1072  CG  ASP A 146       5.371   5.506 -81.746  1.00 30.83           C
ATOM   1073  OD1 ASP A 146       5.197   4.271 -81.661  1.00 31.21           O
ATOM   1074  OD2 ASP A 146       5.068   6.155 -82.767  1.00 30.98           O
ATOM   1075  C   ASP A 146       7.306   5.433 -78.568  1.00 31.83           C
ATOM   1076  O   ASP A 146       8.255   4.802 -79.058  1.00 32.96           O
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ATOM   1077  N   ARG A 147       7.392   6.111 -77.427  1.00 31.33           N
ATOM   1078  CA  ARG A 147       8.648   6.264 -76.679  1.00 31.32           C
ATOM   1079  CB  ARG A 147       9.629   5.088 -76.893  1.00 29.74           C
ATOM   1080  C   ARG A 147       9.271   7.573 -77.096  1.00 31.10           C
ATOM   1081  O   ARG A 147       9.675   8.373 -76.247  1.00 32.96           O
ATOM   1082  N   ASP A 148       9.331   7.799 -78.405  1.00 30.18           N
ATOM   1083  CA  ASP A 148       9.811   9.064 -78.940  1.00 29.15           C
ATOM   1084  CB  ASP A 148      10.421   8.872 -80.336  1.00 28.53           C
ATOM   1085  C   ASP A 148       8.707  10.136 -78.951  1.00 28.46           C
ATOM   1086  O   ASP A 148       8.907  11.209 -79.502  1.00 29.93           O
ATOM   1087  N   ASN A 149       7.555   9.847 -78.333  1.00 26.72           N
ATOM   1088  CA  ASN A 149       6.480  10.838 -78.180  1.00 24.78           C
ATOM   1089  CB  ASN A 149       5.129  10.265 -78.642  1.00 24.37           C
ATOM   1090  CG  ASN A 149       4.089  11.350 -78.928  1.00 24.34           C
ATOM   1091  OD1 ASN A 149       4.390  12.550 -78.901  1.00 24.24           O
ATOM   1092  ND2 ASN A 149       2.860  10.929 -79.219  1.00 23.72           N
ATOM   1093  C   ASN A 149       6.381  11.384 -76.747  1.00 24.38           C
ATOM   1094  O   ASN A 149       5.311  11.343 -76.115  1.00 24.38           O
ATOM   1095  N   LYS A 150       7.500  11.909 -76.248  1.00 23.61           N
ATOM   1096  CA  LYS A 150       7.567  12.504 -74.912  1.00 23.02           C
ATOM   1097  CB  LYS A 150       9.016  12.852 -74.551  1.00 22.42           C
ATOM   1098  C   LYS A 150       6.643  13.726 -74.735  1.00 23.09           C
ATOM   1099  O   LYS A 150       6.172  13.992 -73.638  1.00 23.48           O
ATOM   1100  N   GLU A 151       6.371  14.457 -75.810  1.00 23.37           N
ATOM   1101  CA  GLU A 151       5.451  15.598 -75.730  1.00 23.90           C
ATOM   1102  CB  GLU A 151       5.943  16.734 -76.607  1.00 25.04           C
ATOM   1103  CG  GLU A 151       7.180  17.436 -76.083  1.00 26.49           C
ATOM   1104  CD  GLU A 151       7.803  18.330 -77.132  1.00 26.97           C
ATOM   1105  OE1 GLU A 151       7.247  18.390 -78.250  1.00 27.05           O
ATOM   1106  OE2 GLU A 151       8.843  18.963 -76.845  1.00 27.40           O
ATOM   1107  C   GLU A 151       3.976  15.281 -76.065  1.00 23.62           C
ATOM   1108  O   GLU A 151       3.170  16.200 -76.281  1.00 22.96           O
ATOM   1109  N   LEU A 152       3.632  13.990 -76.092  1.00 22.95           N
ATOM   1110  CA  LEU A 152       2.268  13.520 -76.401  1.00 22.39           C
ATOM   1111  CB  LEU A 152       1.394  13.507 -75.148  1.00 22.22           C
ATOM   1112  CG  LEU A 152       1.905  12.665 -73.984  1.00 22.59           C
ATOM   1113  CD1 LEU A 152       1.112  13.012 -72.739  1.00 22.49           C
ATOM   1114  CD2 LEU A 152       1.835  11.172 -74.279  1.00 21.91           C
ATOM   1115  C   LEU A 152       1.545  14.270 -77.521  1.00 22.03           C
ATOM   1116  O   LEU A 152       0.338  14.485 -77.441  1.00 21.60           O
ATOM   1117  N   LYS A 153       2.290  14.661 -78.558  1.00 22.04           N
ATOM   1118  CA  LYS A 153       1.702  15.215 -79.786  1.00 21.22           C
ATOM   1119  CB  LYS A 153       2.799  15.626 -80.787  1.00 20.44           C
ATOM   1120  C   LYS A 153       0.743  14.170 -80.382  1.00 20.59           C
ATOM   1121  O   LYS A 153       0.941  12.954 -80.201  1.00 20.13           O
ATOM   1122  N   ALA A 154      -0.303  14.642 -81.062  1.00 19.71           N
ATOM   1123  CA  ALA A 154      -1.429  13.777 -81.408  1.00 19.13           C
ATOM   1124  CB  ALA A 154      -2.411  13.712 -80.235  1.00 19.68           C
ATOM   1125  C   ALA A 154      -2.146  14.220 -82.666  1.00 18.42           C
ATOM   1126  O   ALA A 154      -1.872  15.279 -83.191  1.00 18.07           O
ATOM   1127  N   PHE A 155      -3.082  13.398 -83.133  1.00 18.67           N
ATOM   1128  CA  PHE A 155      -3.911  13.749 -84.282  1.00 19.14           C
ATOM   1129  CB  PHE A 155      -3.357  13.154 -85.579  1.00 19.07           C
ATOM   1130  CG  PHE A 155      -3.241  11.656 -85.571  1.00 18.85           C
ATOM   1131  CD1 PHE A 155      -4.347  10.853 -85.844  1.00 18.79           C
ATOM   1132  CE1 PHE A 155      -4.235   9.472 -85.857  1.00 18.70           C
ATOM   1133  CZ  PHE A 155      -3.010   8.880 -85.598  1.00 18.75           C
ATOM   1134  CE2 PHE A 155      -1.900   9.667 -85.329  1.00 18.66           C
ATOM   1135  CD2 PHE A 155      -2.013  11.045 -85.330  1.00 18.67           C
ATOM   1136  C   PHE A 155      -5.364  13.351 -84.097  1.00 19.79           C
ATOM   1137  O   PHE A 155      -5.663  12.368 -83.408  1.00 19.82           O
ATOM   1138  N   ASN A 156      -6.254  14.126 -84.728  1.00 20.50           N
ATOM   1139  CA  ASN A 156      -7.702  13.918 -84.651  1.00 20.81           C
ATOM   1140  CB  ASN A 156      -8.416  15.261 -84.601  1.00 21.24           C
ATOM   1141  CG  ASN A 156      -8.175  16.007 -83.313  1.00 21.30           C
ATOM   1142  OD1 ASN A 156      -7.463  17.005 -83.304  1.00 20.95           O
ATOM   1143  ND2 ASN A 156      -8.783  15.538 -82.216  1.00 21.75           N
ATOM   1144  C   ASN A 156      -8.239  13.160 -85.845  1.00 20.58           C
ATOM   1145  O   ASN A 156      -7.705  13.282 -86.931  1.00 21.05           O
ATOM   1146  N   ILE A 157      -9.314  12.404 -85.643  1.00 20.79           N
ATOM   1147  CA  ILE A 157     -10.038  11.755 -86.740  1.00 21.13           C
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ATOM   1148  CB  ILE A 157      -9.974  10.214 -86.645  1.00 21.13           C
ATOM   1149  CG1 ILE A 157      -8.531   9.741 -86.396  1.00 21.40           C
ATOM   1150  CD1 ILE A 157      -8.387   8.253 -86.120  1.00 21.25           C
ATOM   1151  CG2 ILE A 157     -10.545   9.588 -87.909  1.00 21.33           C
ATOM   1152  C   ILE A 157     -11.503  12.196 -86.731  1.00 21.47           C
ATOM   1153  O   ILE A 157     -12.136  12.207 -85.689  1.00 21.83           O
ATOM   1154  N   ARG A 158     -12.040  12.565 -87.889  1.00 22.28           N
ATOM   1155  CA  ARG A 158     -13.436  12.993 -87.969  1.00 23.01           C
ATOM   1156  CB  ARG A 158     -13.742  13.648 -89.326  1.00 22.33           C
ATOM   1157  C   ARG A 158     -14.387  11.824 -87.689  1.00 23.89           C
ATOM   1158  O   ARG A 158     -14.168  10.698 -88.138  1.00 23.82           O
ATOM   1159  N   LEU A 159     -15.417  12.100 -86.901  1.00 25.68           N
ATOM   1160  CA  LEU A 159     -16.498  11.154 -86.666  1.00 27.15           C
ATOM   1161  CB  LEU A 159     -16.728  10.926 -85.163  1.00 26.45           C
ATOM   1162  CG  LEU A 159     -15.675  10.080 -84.450  1.00 26.50           C
ATOM   1163  CD1 LEU A 159     -16.187   9.550 -83.124  1.00 25.90           C
ATOM   1164  CD2 LEU A 159     -15.276   8.929 -85.348  1.00 26.75           C
ATOM   1165  C   LEU A 159     -17.762  11.689 -87.291  1.00 28.46           C
ATOM   1166  O   LEU A 159     -18.191  12.797 -86.979  1.00 28.72           O
ATOM   1167  N   GLU A 160     -18.351  10.904 -88.183  1.00 30.46           N
ATOM   1168  CA  GLU A 160     -19.672  11.216 -88.697  1.00 32.15           C
ATOM   1169  CB  GLU A 160     -20.118  10.144 -89.691  1.00 35.24           C
ATOM   1170  CG  GLU A 160     -19.556  10.321 -91.090  1.00 38.16           C
ATOM   1171  CD  GLU A 160     -20.514  11.058 -92.012  1.00 43.43           C
ATOM   1172  OE1 GLU A 160     -21.706  11.204 -91.649  1.00 45.95           O
ATOM   1173  OE2 GLU A 160     -20.086  11.479 -93.114  1.00 46.22           O
ATOM   1174  C   GLU A 160     -20.666  11.357 -87.531  1.00 31.20           C
ATOM   1175  O   GLU A 160     -21.436  12.318 -87.476  1.00 32.34           O
ATOM   1176  N   GLU A 161     -20.606  10.427 -86.584  1.00 29.59           N
ATOM   1177  CA  GLU A 161     -21.498  10.427 -85.428  1.00 28.98           C
ATOM   1178  CB  GLU A 161     -21.559   9.029 -84.813  1.00 29.63           C
ATOM   1179  CG  GLU A 161     -22.089   7.956 -85.755  1.00 30.27           C
ATOM   1180  CD  GLU A 161     -21.113   7.560 -86.859  1.00 32.69           C
ATOM   1181  OE1 GLU A 161     -19.929   7.970 -86.814  1.00 33.66           O
ATOM   1182  OE2 GLU A 161     -21.533   6.823 -87.783  1.00 33.80           O
ATOM   1183  C   GLU A 161     -21.081  11.466 -84.385  1.00 27.52           C
ATOM   1184  O   GLU A 161     -19.954  11.460 -83.905  1.00 27.08           O
ATOM   1185  N   LEU A 162     -22.008  12.356 -84.047  1.00 27.25           N
ATOM   1186  CA  LEU A 162     -21.720  13.525 -83.211  1.00 27.63           C
ATOM   1187  CB  LEU A 162     -22.414  14.758 -83.779  1.00 26.35           C
ATOM   1188  CG  LEU A 162     -21.789  15.361 -85.034  1.00 25.70           C
ATOM   1189  CD1 LEU A 162     -22.857  16.039 -85.873  1.00 25.47           C
ATOM   1190  CD2 LEU A 162     -20.681  16.339 -84.680  1.00 25.35           C
ATOM   1191  C   LEU A 162     -22.121  13.357 -81.748  1.00 28.97           C
ATOM   1192  O   LEU A 162     -21.598  14.051 -80.875  1.00 29.65           O
ATOM   1193  N   HIS A 163     -23.060  12.447 -81.489  1.00 29.80           N
ATOM   1194  CA  HIS A 163     -23.501  12.154 -80.130  1.00 28.90           C
ATOM   1195  CB  HIS A 163     -25.007  12.377 -79.976  1.00 31.33           C
ATOM   1196  CG  HIS A 163     -25.538  13.534 -80.797  1.00 35.52           C
ATOM   1197  ND1 HIS A 163     -25.051  14.794 -80.684  1.00 37.41           N
ATOM   1198  CE1 HIS A 163     -25.701  15.604 -81.546  1.00 36.70           C
ATOM   1199  NE2 HIS A 163     -26.607  14.863 -82.213  1.00 36.79           N
ATOM   1200  CD2 HIS A 163     -26.535  13.584 -81.776  1.00 35.98           C
ATOM   1201  C   HIS A 163     -23.117  10.756 -79.762  1.00 27.12           C
ATOM   1202  O   HIS A 163     -23.924   9.832 -79.834  1.00 26.20           O
ATOM   1203  N   VAL A 164     -21.862  10.585 -79.375  1.00 25.78           N
ATOM   1204  CA  VAL A 164     -21.406   9.298 -78.869  1.00 25.97           C
ATOM   1205  CB  VAL A 164     -19.923   9.029 -79.218  1.00 25.34           C
ATOM   1206  CG1 VAL A 164     -19.425   7.783 -78.504  1.00 24.90           C
ATOM   1207  CG2 VAL A 164     -19.742   8.890 -80.728  1.00 23.72           C
ATOM   1208  C   VAL A 164     -21.646   9.195 -77.358  1.00 25.79           C
ATOM   1209  O   VAL A 164     -21.224  10.062 -76.593  1.00 26.38           O
ATOM   1210  N   ILE A 165     -22.345   8.139 -76.950  1.00 25.75           N
ATOM   1211  CA  ILE A 165     -22.632   7.871 -75.541  1.00 26.20           C
ATOM   1212  CB  ILE A 165     -23.836   6.921 -75.380  1.00 26.83           C
ATOM   1213  CG1 ILE A 165     -24.974   7.289 -76.348  1.00 27.34           C
ATOM   1214  CD1 ILE A 165     -25.973   8.277 -75.791  1.00 28.90           C
ATOM   1215  CG2 ILE A 165     -24.285   6.854 -73.924  1.00 26.01           C
ATOM   1216  C   ILE A 165     -21.435   7.242 -74.819  1.00 26.30           C
ATOM   1217  O   ILE A 165     -21.112   7.630 -73.699  1.00 27.54           O
ATOM   1218  N   ASP A 166     -20.790   6.263 -75.445  1.00 26.10           N
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ATOM   1219  CA  ASP A 166     -19.677   5.570 -74.806  1.00 26.58           C
ATOM   1220  CB  ASP A 166     -20.231   4.610 -73.749  1.00 28.65           C
ATOM   1221  CG  ASP A 166     -19.158   4.052 -72.829  1.00 29.92           C
ATOM   1222  OD1 ASP A 166     -18.046   4.651 -72.750  1.00 30.77           O
ATOM   1223  OD2 ASP A 166     -19.439   3.004 -72.192  1.00 29.65           O
ATOM   1224  C   ASP A 166     -18.780   4.824 -75.812  1.00 26.18           C
ATOM   1225  O   ASP A 166     -19.268   4.298 -76.811  1.00 26.45           O
ATOM   1226  N   VAL A 167     -17.477   4.768 -75.535  1.00 24.94           N
ATOM   1227  CA  VAL A 167     -16.518   4.128 -76.448  1.00 23.88           C
ATOM   1228  CB  VAL A 167     -15.891   5.161 -77.405  1.00 23.79           C
ATOM   1229  CG1 VAL A 167     -15.296   6.329 -76.623  1.00 23.13           C
ATOM   1230  CG2 VAL A 167     -14.857   4.493 -78.314  1.00 23.21           C
ATOM   1231  C   VAL A 167     -15.394   3.324 -75.762  1.00 23.51           C
ATOM   1232  O   VAL A 167     -14.845   3.746 -74.733  1.00 23.65           O
ATOM   1233  N   LYS A 168     -15.050   2.183 -76.370  1.00 22.37           N
ATOM   1234  CA  LYS A 168     -14.023   1.270 -75.875  1.00 21.50           C
ATOM   1235  CB  LYS A 168     -14.676   0.115 -75.117  1.00 20.74           C
ATOM   1236  CG  LYS A 168     -14.195  -0.052 -73.690  1.00 20.70           C
ATOM   1237  CD  LYS A 168     -15.163   0.619 -72.733  1.00 20.65           C
ATOM   1238  CE  LYS A 168     -14.454   1.475 -71.703  1.00 20.92           C
ATOM   1239  NZ  LYS A 168     -15.309   1.671 -70.497  1.00 21.35           N
ATOM   1240  C   LYS A 168     -13.314   0.687 -77.074  1.00 21.94           C
ATOM   1241  O   LYS A 168     -13.923   0.546 -78.134  1.00 23.69           O
ATOM   1242  N   PHE A 169     -12.038   0.340 -76.922  1.00 21.89           N
ATOM   1243  CA  PHE A 169     -11.341  -0.523 -77.891  1.00 21.42           C
ATOM   1244  CB  PHE A 169      -9.835  -0.389 -77.740  1.00 20.91           C
ATOM   1245  CG  PHE A 169      -9.288   0.914 -78.213  1.00 21.29           C
ATOM   1246  CD1 PHE A 169      -9.129   1.164 -79.575  1.00 21.40           C
ATOM   1247  CE1 PHE A 169      -8.593   2.368 -80.014  1.00 21.62           C
ATOM   1248  CZ  PHE A 169      -8.204   3.333 -79.091  1.00 21.43           C
ATOM   1249  CE2 PHE A 169      -8.346   3.088 -77.732  1.00 21.34           C
ATOM   1250  CD2 PHE A 169      -8.886   1.887 -77.299  1.00 21.57           C
ATOM   1251  C   PHE A 169     -11.712  -1.986 -77.648  1.00 21.87           C
ATOM   1252  O   PHE A 169     -11.936  -2.385 -76.506  1.00 23.56           O
ATOM   1253  N   LEU A 170     -11.754  -2.795 -78.696  1.00 21.49           N
ATOM   1254  CA  LEU A 170     -12.044  -4.216 -78.515  1.00 21.60           C
ATOM   1255  CB  LEU A 170     -12.935  -4.730 -79.637  1.00 21.28           C
ATOM   1256  CG  LEU A 170     -14.284  -4.040 -79.802  1.00 21.30           C
ATOM   1257  CD1 LEU A 170     -14.875  -4.430 -81.144  1.00 21.61           C
ATOM   1258  CD2 LEU A 170     -15.230  -4.389 -78.661  1.00 20.93           C
ATOM   1259  C   LEU A 170     -10.778  -5.052 -78.441  1.00 22.19           C
ATOM   1260  O   LEU A 170      -9.700  -4.596 -78.824  1.00 22.62           O
ATOM   1261  N   TYR A 171     -10.917  -6.279 -77.946  1.00 22.88           N
ATOM   1262  CA  TYR A 171      -9.821  -7.242 -77.945  1.00 23.91           C
ATOM   1263  CB  TYR A 171      -9.836  -8.098 -76.679  1.00 22.49           C
ATOM   1264  CG  TYR A 171      -9.645  -7.356 -75.384  1.00 21.77           C
ATOM   1265  CD2 TYR A 171      -8.382  -7.194 -74.833  1.00 21.30           C
ATOM   1266  CE2 TYR A 171      -8.209  -6.535 -73.633  1.00 20.92           C
ATOM   1267  CZ  TYR A 171      -9.314  -6.038 -72.964  1.00 20.91           C
ATOM   1268  OH  TYR A 171      -9.164  -5.381 -71.774  1.00 20.93           O
ATOM   1269  CE1 TYR A 171     -10.577  -6.196 -73.482  1.00 21.16           C
ATOM   1270  CD1 TYR A 171     -10.738  -6.852 -74.684  1.00 21.79           C
ATOM   1271  C   TYR A 171      -9.915  -8.173 -79.149  1.00 25.86           C
ATOM   1272  O   TYR A 171     -10.998  -8.397 -79.701  1.00 25.36           O
ATOM   1273  N   GLY A 172      -8.768  -8.728 -79.537  1.00 28.47           N
ATOM   1274  CA  GLY A 172      -8.718  -9.801 -80.530  1.00 30.12           C
ATOM   1275  C   GLY A 172      -9.069  -9.361 -81.934  1.00 30.35           C
ATOM   1276  O   GLY A 172      -9.875 -10.000 -82.610  1.00 29.19           O
ATOM   1277  N   CYS A 173      -8.454  -8.268 -82.373  1.00 32.15           N
ATOM   1278  CA  CYS A 173      -8.713  -7.724 -83.703  1.00 33.31           C
ATOM   1279  CB  CYS A 173      -9.333  -6.329 -83.600  1.00 32.29           C
ATOM   1280  SG  CYS A 173     -11.009  -6.360 -82.933  1.00 31.25           S
ATOM   1281  C   CYS A 173      -7.440  -7.677 -84.522  1.00 34.11           C
ATOM   1282  O   CYS A 173      -6.331  -7.664 -83.961  1.00 34.68           O
ATOM   1283  N   GLN A 174      -7.597  -7.648 -85.846  1.00 32.89           N
ATOM   1284  CA  GLN A 174      -6.444  -7.548 -86.733  1.00 32.00           C
ATOM   1285  CB  GLN A 174      -6.803  -8.059 -88.128  1.00 32.72           C
ATOM   1286  C   GLN A 174      -5.851  -6.116 -86.771  1.00 31.11           C
ATOM   1287  O   GLN A 174      -4.802  -5.885 -87.378  1.00 31.59           O
ATOM   1288  N   ALA A 175      -6.527  -5.173 -86.109  1.00 29.24           N
ATOM   1289  CA  ALA A 175      -6.038  -3.797 -85.934  1.00 27.27           C
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ATOM   1290  CB  ALA A 175      -6.322  -2.966 -87.177  1.00 27.07           C
ATOM   1291  C   ALA A 175      -6.737  -3.178 -84.730  1.00 26.41           C
ATOM   1292  O   ALA A 175      -7.799  -3.670 -84.318  1.00 26.11           O
ATOM   1293  N   PRO A 176      -6.152  -2.102 -84.150  1.00 25.35           N
ATOM   1294  CA  PRO A 176      -6.882  -1.357 -83.118  1.00 24.40           C
ATOM   1295  CB  PRO A 176      -6.013  -0.124 -82.909  1.00 23.94           C
ATOM   1296  CG  PRO A 176      -4.634  -0.641 -83.133  1.00 24.18           C
ATOM   1297  CD  PRO A 176      -4.740  -1.680 -84.221  1.00 24.68           C
ATOM   1298  C   PRO A 176      -8.286  -0.984 -83.581  1.00 23.51           C
ATOM   1299  O   PRO A 176      -8.471  -0.495 -84.690  1.00 22.92           O
ATOM   1300  N   THR A 177      -9.266  -1.244 -82.729  1.00 23.65           N
ATOM   1301  CA  THR A 177     -10.664  -1.188 -83.131  1.00 23.59           C
ATOM   1302  CB  THR A 177     -11.179  -2.610 -83.430  1.00 22.91           C
ATOM   1303  OG1 THR A 177     -10.374  -3.202 -84.452  1.00 22.69           O
ATOM   1304  CG2 THR A 177     -12.621  -2.591 -83.874  1.00 22.98           C
ATOM   1305  C   THR A 177     -11.518  -0.575 -82.027  1.00 23.68           C
ATOM   1306  O   THR A 177     -11.515  -1.073 -80.899  1.00 25.01           O
ATOM   1307  N   ILE A 178     -12.248   0.496 -82.336  1.00 22.71           N
ATOM   1308  CA  ILE A 178     -13.168   1.066 -81.350  1.00 22.05           C
ATOM   1309  CB  ILE A 178     -13.116   2.606 -81.291  1.00 21.61           C
ATOM   1310  CG1 ILE A 178     -13.648   3.242 -82.579  1.00 21.50           C
ATOM   1311  CD1 ILE A 178     -13.941   4.726 -82.447  1.00 21.18           C
ATOM   1312  CG2 ILE A 178     -11.707   3.079 -80.983  1.00 21.50           C
ATOM   1313  C   ILE A 178     -14.604   0.592 -81.540  1.00 22.74           C
ATOM   1314  O   ILE A 178     -15.077   0.432 -82.675  1.00 23.39           O
ATOM   1315  N   CYS A 179     -15.272   0.333 -80.416  1.00 22.61           N
ATOM   1316  CA  CYS A 179     -16.682  -0.031 -80.396  1.00 22.65           C
ATOM   1317  CB  CYS A 179     -16.863  -1.407 -79.791  1.00 22.78           C
ATOM   1318  SG  CYS A 179     -18.600  -1.853 -79.608  1.00 24.39           S
ATOM   1319  C   CYS A 179     -17.419   0.971 -79.542  1.00 22.86           C
ATOM   1320  O   CYS A 179     -17.073   1.166 -78.385  1.00 24.43           O
ATOM   1321  N   PHE A 180     -18.438   1.610 -80.096  1.00 22.45           N
ATOM   1322  CA  PHE A 180     -19.084   2.719 -79.405  1.00 22.06           C
ATOM   1323  CB  PHE A 180     -18.450   4.051 -79.829  1.00 22.28           C
ATOM   1324  CG  PHE A 180     -18.701   4.411 -81.265  1.00 22.90           C
ATOM   1325  CD1 PHE A 180     -17.936   3.857 -82.279  1.00 23.73           C
ATOM   1326  CE1 PHE A 180     -18.188   4.164 -83.607  1.00 24.56           C
ATOM   1327  CZ  PHE A 180     -19.204   5.042 -83.929  1.00 24.67           C
ATOM   1328  CE2 PHE A 180     -19.972   5.598 -82.924  1.00 23.90           C
ATOM   1329  CD2 PHE A 180     -19.719   5.281 -81.605  1.00 23.21           C
ATOM   1330  C   PHE A 180     -20.590   2.749 -79.642  1.00 22.13           C
ATOM   1331  O   PHE A 180     -21.079   2.354 -80.704  1.00 22.59           O
ATOM   1332  N   VAL A 181     -21.321   3.216 -78.638  1.00 22.10           N
ATOM   1333  CA  VAL A 181     -22.749   3.493 -78.775  1.00 21.84           C
ATOM   1334  CB  VAL A 181     -23.534   3.069 -77.513  1.00 22.00           C
ATOM   1335  CG1 VAL A 181     -24.923   3.694 -77.483  1.00 21.70           C
ATOM   1336  CG2 VAL A 181     -23.620   1.552 -77.446  1.00 22.25           C
ATOM   1337  C   VAL A 181     -22.943   4.979 -79.081  1.00 21.27           C
ATOM   1338  O   VAL A 181     -22.283   5.838 -78.501  1.00 21.14           O
ATOM   1339  N   TYR A 182     -23.825   5.262 -80.028  1.00 21.01           N
ATOM   1340  CA  TYR A 182     -24.100   6.618 -80.458  1.00 20.46           C
ATOM   1341  CB  TYR A 182     -23.277   6.960 -81.706  1.00 19.68           C
ATOM   1342  CG  TYR A 182     -23.793   6.325 -82.988  1.00 19.34           C
ATOM   1343  CD1 TYR A 182     -23.398   5.033 -83.365  1.00 18.95           C
ATOM   1344  CE1 TYR A 182     -23.893   4.453 -84.529  1.00 18.72           C
ATOM   1345  CZ  TYR A 182     -24.790   5.169 -85.334  1.00 18.16           C
ATOM   1346  OH  TYR A 182     -25.283   4.608 -86.482  1.00 17.33           O
ATOM   1347  CE2 TYR A 182     -25.191   6.443 -84.979  1.00 18.11           C
ATOM   1348  CD2 TYR A 182     -24.696   7.015 -83.819  1.00 18.71           C
ATOM   1349  C   TYR A 182     -25.591   6.725 -80.745  1.00 20.92           C
ATOM   1350  O   TYR A 182     -26.273   5.707 -80.932  1.00 20.38           O
ATOM   1351  N   GLN A 183     -26.092   7.955 -80.765  1.00 22.25           N
ATOM   1352  CA  GLN A 183     -27.485   8.214 -81.089  1.00 23.44           C
ATOM   1353  CB  GLN A 183     -28.243   8.694 -79.863  1.00 23.57           C
ATOM   1354  CG  GLN A 183     -29.746   8.699 -80.071  1.00 24.41           C
ATOM   1355  CD  GLN A 183     -30.487   9.174 -78.857  1.00 25.18           C
ATOM   1356  OE1 GLN A 183     -30.276  10.288 -78.395  1.00 26.29           O
ATOM   1357  NE2 GLN A 183     -31.357   8.329 -78.320  1.00 25.99           N
ATOM   1358  C   GLN A 183     -27.640   9.235 -82.210  1.00 24.62           C
ATOM   1359  O   GLN A 183     -26.882  10.217 -82.287  1.00 24.31           O
ATOM   1360  N   ASP A 184     -28.625   8.983 -83.075  1.00 25.56           N
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ATOM   1361  CA  ASP A 184     -29.054   9.941 -84.089  1.00 26.67           C
ATOM   1362  CB  ASP A 184     -28.357   9.672 -85.439  1.00 26.27           C
ATOM   1363  CG  ASP A 184     -28.767   8.350 -86.073  1.00 26.40           C
ATOM   1364  OD1 ASP A 184     -29.828   7.797 -85.723  1.00 26.63           O
ATOM   1365  OD2 ASP A 184     -28.027   7.867 -86.950  1.00 26.86           O
ATOM   1366  C   ASP A 184     -30.586   9.899 -84.192  1.00 27.86           C
ATOM   1367  O   ASP A 184     -31.230   9.217 -83.377  1.00 27.28           O
ATOM   1368  N   PRO A 185     -31.176  10.631 -85.179  1.00 29.19           N
ATOM   1369  CA  PRO A 185     -32.642  10.710 -85.353  1.00 29.34           C
ATOM   1370  CB  PRO A 185     -32.791  11.532 -86.632  1.00 28.78           C
ATOM   1371  CG  PRO A 185     -31.624  12.455 -86.584  1.00 29.42           C
ATOM   1372  CD  PRO A 185     -30.490  11.632 -86.025  1.00 29.03           C
ATOM   1373  C   PRO A 185     -33.394   9.377 -85.480  1.00 29.96           C
ATOM   1374  O   PRO A 185     -34.573   9.317 -85.141  1.00 30.82           O
ATOM   1375  N   GLN A 186     -32.732   8.326 -85.955  1.00 30.37           N
ATOM   1376  CA  GLN A 186     -33.395   7.031 -86.112  1.00 30.40           C
ATOM   1377  CB  GLN A 186     -32.817   6.247 -87.302  1.00 30.32           C
ATOM   1378  C   GLN A 186     -33.348   6.204 -84.828  1.00 30.46           C
ATOM   1379  O   GLN A 186     -34.088   5.230 -84.700  1.00 32.09           O
ATOM   1380  N   GLY A 187     -32.489   6.599 -83.882  1.00 29.55           N
ATOM   1381  CA  GLY A 187     -32.383   5.918 -82.581  1.00 28.32           C
ATOM   1382  C   GLY A 187     -30.967   5.792 -82.022  1.00 28.11           C
ATOM   1383  O   GLY A 187     -30.111   6.655 -82.265  1.00 27.13           O
ATOM   1384  N   ARG A 188     -30.734   4.714 -81.261  1.00 27.44           N
ATOM   1385  CA  ARG A 188     -29.413   4.393 -80.704  1.00 26.77           C
ATOM   1386  CB  ARG A 188     -29.467   4.246 -79.184  1.00 26.72           C
ATOM   1387  CG  ARG A 188     -29.646   5.551 -78.462  1.00 26.79           C
ATOM   1388  CD  ARG A 188     -28.940   5.599 -77.115  1.00 27.35           C
ATOM   1389  NE  ARG A 188     -29.392   6.794 -76.397  1.00 27.10           N
ATOM   1390  CZ  ARG A 188     -29.238   7.014 -75.101  1.00 26.63           C
ATOM   1391  NH1 ARG A 188     -28.614   6.134 -74.327  1.00 26.42           N
ATOM   1392  NH2 ARG A 188     -29.718   8.127 -74.583  1.00 26.87           N
ATOM   1393  C   ARG A 188     -28.828   3.119 -81.299  1.00 26.74           C
ATOM   1394  O   ARG A 188     -29.537   2.119 -81.478  1.00 25.82           O
ATOM   1395  N   HIS A 189     -27.523   3.156 -81.571  1.00 26.87           N
ATOM   1396  CA  HIS A 189     -26.838   2.056 -82.259  1.00 27.54           C
ATOM   1397  CB  HIS A 189     -26.820   2.315 -83.757  1.00 26.15           C
ATOM   1398  CG  HIS A 189     -28.037   3.045 -84.244  1.00 25.42           C
ATOM   1399  ND1 HIS A 189     -29.166   2.406 -84.603  1.00 24.99           N
ATOM   1400  CE1 HIS A 189     -30.091   3.313 -84.957  1.00 25.16           C
ATOM   1401  NE2 HIS A 189     -29.558   4.537 -84.805  1.00 24.77           N
ATOM   1402  CD2 HIS A 189     -28.298   4.407 -84.358  1.00 24.58           C
ATOM   1403  C   HIS A 189     -25.437   1.858 -81.772  1.00 28.85           C
ATOM   1404  O   HIS A 189     -24.779   2.804 -81.325  1.00 29.55           O
ATOM   1405  N   VAL A 190     -24.976   0.615 -81.841  1.00 28.92           N
ATOM   1406  CA  VAL A 190     -23.572   0.314 -81.643  1.00 28.80           C
ATOM   1407  CB  VAL A 190     -23.360  -0.959 -80.791  1.00 29.59           C
ATOM   1408  CG1 VAL A 190     -24.178  -2.132 -81.324  1.00 30.15           C
ATOM   1409  CG2 VAL A 190     -21.880  -1.318 -80.720  1.00 29.68           C
ATOM   1410  C   VAL A 190     -22.886   0.195 -83.004  1.00 28.72           C
ATOM   1411  O   VAL A 190     -23.442  -0.370 -83.953  1.00 28.34           O
ATOM   1412  N   LYS A 191     -21.691   0.762 -83.095  1.00 29.09           N
ATOM   1413  CA  LYS A 191     -20.894   0.708 -84.311  1.00 29.81           C
ATOM   1414  CB  LYS A 191     -20.942   2.053 -85.033  1.00 30.22           C
ATOM   1415  CG  LYS A 191     -20.592   1.994 -86.509  1.00 31.00           C
ATOM   1416  CD  LYS A 191     -20.908   3.312 -87.211  1.00 31.44           C
ATOM   1417  CE  LYS A 191     -21.005   3.132 -88.724  1.00 30.99           C
ATOM   1418  NZ  LYS A 191     -21.571   4.336 -89.387  1.00 30.24           N
ATOM   1419  C   LYS A 191     -19.465   0.378 -83.919  1.00 30.13           C
ATOM   1420  O   LYS A 191     -19.099   0.471 -82.743  1.00 30.38           O
ATOM   1421  N   THR A 192     -18.672  -0.054 -84.891  1.00 30.43           N
ATOM   1422  CA  THR A 192     -17.241  -0.240 -84.686  1.00 31.22           C
ATOM   1423  CB  THR A 192     -16.819  -1.726 -84.657  1.00 31.67           C
ATOM   1424  OG1 THR A 192     -17.333  -2.401 -85.816  1.00 31.80           O
ATOM   1425  CG2 THR A 192     -17.314  -2.417 -83.391  1.00 30.89           C
ATOM   1426  C   THR A 192     -16.510   0.428 -85.822  1.00 31.35           C
ATOM   1427  O   THR A 192     -17.030   0.504 -86.938  1.00 32.20           O
ATOM   1428  N   TYR A 193     -15.317   0.932 -85.530  1.00 30.36           N
ATOM   1429  CA  TYR A 193     -14.421   1.411 -86.563  1.00 29.75           C
ATOM   1430  CB  TYR A 193     -14.279   2.935 -86.532  1.00 28.84           C
ATOM   1431  CG  TYR A 193     -15.450   3.745 -87.085  1.00 28.44           C
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ATOM   1432  CD1 TYR A 193     -16.015   3.466 -88.337  1.00 27.25           C
ATOM   1433  CE1 TYR A 193     -17.070   4.221 -88.829  1.00 27.08           C
ATOM   1434  CZ  TYR A 193     -17.559   5.287 -88.075  1.00 28.17           C
ATOM   1435  OH  TYR A 193     -18.602   6.067 -88.524  1.00 28.24           O
ATOM   1436  CE2 TYR A 193     -17.004   5.589 -86.846  1.00 28.45           C
ATOM   1437  CD2 TYR A 193     -15.954   4.830 -86.364  1.00 28.37           C
ATOM   1438  C   TYR A 193     -13.071   0.784 -86.323  1.00 30.33           C
ATOM   1439  O   TYR A 193     -12.759   0.375 -85.209  1.00 31.44           O
ATOM   1440  N   GLU A 194     -12.283   0.703 -87.385  1.00 30.63           N
ATOM   1441  CA  GLU A 194     -10.914   0.245 -87.324  1.00 30.39           C
ATOM   1442  CB  GLU A 194     -10.665  -0.717 -88.481  1.00 33.28           C
ATOM   1443  CG  GLU A 194      -9.698  -1.856 -88.210  1.00 36.64           C
ATOM   1444  CD  GLU A 194      -9.817  -2.961 -89.255  1.00 39.41           C
ATOM   1445  OE1 GLU A 194      -8.951  -3.035 -90.165  1.00 41.19           O
ATOM   1446  OE2 GLU A 194     -10.795  -3.744 -89.181  1.00 40.37           O
ATOM   1447  C   GLU A 194     -10.081   1.493 -87.506  1.00 28.80           C
ATOM   1448  O   GLU A 194     -10.434   2.365 -88.281  1.00 28.62           O
ATOM   1449  N   VAL A 195      -8.994   1.604 -86.770  1.00 27.88           N
ATOM   1450  CA  VAL A 195      -8.129   2.754 -86.915  1.00 26.68           C
ATOM   1451  CB  VAL A 195      -7.591   3.243 -85.559  1.00 25.80           C
ATOM   1452  CG1 VAL A 195      -6.633   4.409 -85.748  1.00 25.06           C
ATOM   1453  CG2 VAL A 195      -8.745   3.634 -84.650  1.00 25.68           C
ATOM   1454  C   VAL A 195      -6.987   2.318 -87.782  1.00 26.77           C
ATOM   1455  O   VAL A 195      -6.177   1.491 -87.376  1.00 28.27           O
ATOM   1456  N   SER A 196      -6.933   2.848 -88.991  1.00 26.48           N
ATOM   1457  CA  SER A 196      -5.819   2.553 -89.869  1.00 26.51           C
ATOM   1458  CB  SER A 196      -6.175   2.892 -91.319  1.00 26.66           C
ATOM   1459  OG  SER A 196      -5.091   2.631 -92.188  1.00 27.38           O
ATOM   1460  C   SER A 196      -4.586   3.325 -89.396  1.00 26.37           C
ATOM   1461  O   SER A 196      -4.512   4.543 -89.535  1.00 26.59           O
ATOM   1462  N   LEU A 197      -3.644   2.606 -88.794  1.00 26.30           N
ATOM   1463  CA  LEU A 197      -2.357   3.174 -88.391  1.00 26.62           C
ATOM   1464  CB  LEU A 197      -1.436   2.058 -87.892  1.00 25.98           C
ATOM   1465  CG  LEU A 197      -1.433   1.653 -86.416  1.00 26.02           C
ATOM   1466  CD1 LEU A 197      -2.704   2.057 -85.684  1.00 26.04           C
ATOM   1467  CD2 LEU A 197      -1.174   0.159 -86.277  1.00 26.00           C
ATOM   1468  C   LEU A 197      -1.665   3.974 -89.518  1.00 27.51           C
ATOM   1469  O   LEU A 197      -1.223   5.110 -89.298  1.00 28.12           O
ATOM   1470  N   ARG A 198      -1.591   3.382 -90.714  1.00 26.99           N
ATOM   1471  CA  ARG A 198      -0.976   4.019 -91.888  1.00 27.63           C
ATOM   1472  CB  ARG A 198      -0.863   2.978 -93.019  1.00 27.98           C
ATOM   1473  CG  ARG A 198      -0.380   3.447 -94.391  1.00 26.45           C
ATOM   1474  CD  ARG A 198      -1.111   2.639 -95.458  1.00 26.14           C
ATOM   1475  NE  ARG A 198      -0.277   2.268 -96.606  1.00 26.85           N
ATOM   1476  CZ  ARG A 198      -0.416   2.748 -97.849  1.00 26.13           C
ATOM   1477  NH1 ARG A 198      -1.361   3.650 -98.127  1.00 25.69           N
ATOM   1478  NH2 ARG A 198       0.395   2.323 -98.820  1.00 24.41           N
ATOM   1479  C   ARG A 198      -1.752   5.268 -92.351  1.00 28.01           C
ATOM   1480  O   ARG A 198      -1.227   6.384 -92.349  1.00 26.73           O
ATOM   1481  N   GLU A 199      -3.011   5.068 -92.720  1.00 29.48           N
ATOM   1482  CA  GLU A 199      -3.837   6.136 -93.273  1.00 30.79           C
ATOM   1483  CB  GLU A 199      -5.058   5.549 -94.013  1.00 33.00           C
ATOM   1484  CG  GLU A 199      -4.718   4.459 -95.036  1.00 35.57           C
ATOM   1485  CD  GLU A 199      -5.941   3.774 -95.657  1.00 37.42           C
ATOM   1486  OE1 GLU A 199      -7.019   3.734 -95.012  1.00 37.84           O
ATOM   1487  OE2 GLU A 199      -5.813   3.253 -96.797  1.00 37.41           O
ATOM   1488  C   GLU A 199      -4.278   7.154 -92.208  1.00 30.22           C
ATOM   1489  O   GLU A 199      -4.779   8.224 -92.547  1.00 31.90           O
ATOM   1490  N   LYS A 200      -4.076   6.824 -90.931  1.00 28.90           N
ATOM   1491  CA  LYS A 200      -4.519   7.669 -89.811  1.00 27.59           C
ATOM   1492  CB  LYS A 200      -3.641   8.911 -89.681  1.00 27.26           C
ATOM   1493  CG  LYS A 200      -2.387   8.624 -88.897  1.00 27.19           C
ATOM   1494  CD  LYS A 200      -1.301   9.656 -89.115  1.00 27.29           C
ATOM   1495  CE  LYS A 200       0.046   9.004 -88.861  1.00 27.37           C
ATOM   1496  NZ  LYS A 200       0.112   7.658 -89.517  1.00 26.79           N
ATOM   1497  C   LYS A 200      -5.980   8.049 -89.942  1.00 26.94           C
ATOM   1498  O   LYS A 200      -6.346   9.222 -89.882  1.00 26.83           O
ATOM   1499  N   GLU A 201      -6.813   7.034 -90.118  1.00 26.14           N
ATOM   1500  CA  GLU A 201      -8.199   7.243 -90.481  1.00 25.32           C
ATOM   1501  CB  GLU A 201      -8.291   7.478 -91.988  1.00 25.76           C
ATOM   1502  CG  GLU A 201      -9.435   8.383 -92.389  1.00 27.20           C
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ATOM   1503  CD  GLU A 201      -9.186   9.859 -92.101  1.00 28.10           C
ATOM   1504  OE1 GLU A 201      -8.167  10.423 -92.578  1.00 27.31           O
ATOM   1505  OE2 GLU A 201     -10.041  10.466 -91.414  1.00 29.44           O
ATOM   1506  C   GLU A 201      -9.036   6.039 -90.081  1.00 23.71           C
ATOM   1507  O   GLU A 201      -8.505   4.959 -89.832  1.00 22.65           O
ATOM   1508  N   PHE A 202     -10.345   6.226 -90.008  1.00 23.07           N
ATOM   1509  CA  PHE A 202     -11.218   5.115 -89.686  1.00 23.55           C
ATOM   1510  CB  PHE A 202     -12.539   5.582 -89.074  1.00 23.46           C
ATOM   1511  CG  PHE A 202     -12.420   6.012 -87.647  1.00 24.09           C
ATOM   1512  CD1 PHE A 202     -11.781   5.196 -86.704  1.00 24.64           C
ATOM   1513  CE1 PHE A 202     -11.667   5.599 -85.380  1.00 24.17           C
ATOM   1514  CZ  PHE A 202     -12.188   6.819 -84.987  1.00 23.65           C
ATOM   1515  CE2 PHE A 202     -12.821   7.633 -85.913  1.00 23.46           C
ATOM   1516  CD2 PHE A 202     -12.941   7.229 -87.231  1.00 23.94           C
ATOM   1517  C   PHE A 202     -11.471   4.224 -90.887  1.00 23.84           C
ATOM   1518  O   PHE A 202     -11.632   4.691 -92.018  1.00 24.14           O
ATOM   1519  N   ASN A 203     -11.488   2.929 -90.622  1.00 24.43           N
ATOM   1520  CA  ASN A 203     -11.818   1.942 -91.614  1.00 25.87           C
ATOM   1521  CB  ASN A 203     -10.677   0.926 -91.750  1.00 26.41           C
ATOM   1522  CG  ASN A 203      -9.729   1.245 -92.900  1.00 27.01           C
ATOM   1523  OD1 ASN A 203      -9.238   2.370 -93.044  1.00 27.27           O
ATOM   1524  ND2 ASN A 203      -9.461   0.243 -93.723  1.00 27.79           N
ATOM   1525  C   ASN A 203     -13.109   1.249 -91.219  1.00 26.46           C
ATOM   1526  O   ASN A 203     -13.417   1.125 -90.030  1.00 26.09           O
ATOM   1527  N   LYS A 204     -13.877   0.812 -92.210  1.00 27.50           N
ATOM   1528  CA  LYS A 204     -15.061   0.014 -91.928  1.00 28.53           C
ATOM   1529  CB  LYS A 204     -15.606  -0.606 -93.216  1.00 29.27           C
ATOM   1530  CG  LYS A 204     -16.958  -1.290 -93.067  1.00 29.82           C
ATOM   1531  CD  LYS A 204     -17.241  -2.183 -94.264  1.00 31.19           C
ATOM   1532  CE  LYS A 204     -16.315  -3.397 -94.291  1.00 31.96           C
ATOM   1533  NZ  LYS A 204     -16.005  -3.824 -95.687  1.00 31.84           N
ATOM   1534  C   LYS A 204     -14.714  -1.065 -90.885  1.00 27.82           C
ATOM   1535  O   LYS A 204     -13.799  -1.867 -91.078  1.00 26.77           O
ATOM   1536  N   GLY A 205     -15.422  -1.044 -89.764  1.00 27.76           N
ATOM   1537  CA  GLY A 205     -15.170  -2.000 -88.685  1.00 28.67           C
ATOM   1538  C   GLY A 205     -15.764  -3.386 -88.904  1.00 28.70           C
ATOM   1539  O   GLY A 205     -16.508  -3.602 -89.866  1.00 28.44           O
ATOM   1540  N   PRO A 206     -15.456  -4.331 -87.993  1.00 28.50           N
ATOM   1541  CA  PRO A 206     -15.907  -5.726 -88.065  1.00 29.54           C
ATOM   1542  CB  PRO A 206     -15.412  -6.326 -86.740  1.00 28.82           C
ATOM   1543  CG  PRO A 206     -14.289  -5.456 -86.317  1.00 28.98           C
ATOM   1544  CD  PRO A 206     -14.631  -4.081 -86.798  1.00 28.45           C
ATOM   1545  C   PRO A 206     -17.434  -5.914 -88.189  1.00 31.10           C
ATOM   1546  O   PRO A 206     -17.883  -6.866 -88.840  1.00 31.00           O
ATOM   1547  N   TRP A 207     -18.208  -5.017 -87.570  1.00 32.66           N
ATOM   1548  CA  TRP A 207     -19.661  -5.166 -87.439  1.00 33.85           C
ATOM   1549  CB  TRP A 207     -19.989  -6.382 -86.582  1.00 33.95           C
ATOM   1550  CG  TRP A 207     -19.161  -6.483 -85.316  1.00 33.72           C
ATOM   1551  CD1 TRP A 207     -17.971  -7.181 -85.137  1.00 33.60           C
ATOM   1552  NE1 TRP A 207     -17.508  -7.041 -83.852  1.00 33.99           N
ATOM   1553  CE2 TRP A 207     -18.340  -6.271 -83.125  1.00 33.45           C
ATOM   1554  CD2 TRP A 207     -19.441  -5.871 -84.009  1.00 33.98           C
ATOM   1555  CE3 TRP A 207     -20.455  -5.061 -83.502  1.00 34.90           C
ATOM   1556  CZ3 TRP A 207     -20.385  -4.666 -82.157  1.00 34.82           C
ATOM   1557  CH2 TRP A 207     -19.322  -5.065 -81.328  1.00 34.52           C
ATOM   1558  CZ2 TRP A 207     -18.280  -5.875 -81.800  1.00 33.55           C
ATOM   1559  C   TRP A 207     -20.310  -3.949 -86.829  1.00 36.06           C
ATOM   1560  O   TRP A 207     -19.630  -3.016 -86.393  1.00 35.38           O
ATOM   1561  N   LYS A 208     -21.643  -3.963 -86.788  1.00 37.78           N
ATOM   1562  CA  LYS A 208     -22.440  -2.891 -86.178  1.00 38.59           C
ATOM   1563  CB  LYS A 208     -22.447  -1.632 -87.064  1.00 38.30           C
ATOM   1564  CG  LYS A 208     -23.436  -1.670 -88.219  1.00 37.96           C
ATOM   1565  CD  LYS A 208     -22.950  -0.843 -89.399  1.00 38.94           C
ATOM   1566  CE  LYS A 208     -24.014  -0.798 -90.485  1.00 39.77           C
ATOM   1567  NZ  LYS A 208     -23.473  -1.005 -91.857  1.00 39.49           N
ATOM   1568  C   LYS A 208     -23.867  -3.389 -85.915  1.00 39.21           C
ATOM   1569  O   LYS A 208     -24.243  -4.471 -86.372  1.00 38.66           O
ATOM   1570  N   GLN A 209     -24.655  -2.600 -85.183  1.00 39.76           N
ATOM   1571  CA  GLN A 209     -26.003  -3.007 -84.781  1.00 39.69           C
ATOM   1572  CB  GLN A 209     -25.937  -4.262 -83.877  1.00 41.60           C
ATOM   1573  CG  GLN A 209     -27.036  -4.432 -82.831  1.00 43.27           C
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ATOM   1574  CD  GLN A 209     -28.396  -4.738 -83.426  1.00 42.94           C
ATOM   1575  OE1 GLN A 209     -29.162  -3.822 -83.742  1.00 42.95           O
ATOM   1576  NE2 GLN A 209     -28.718  -6.028 -83.551  1.00 41.02           N
ATOM   1577  C   GLN A 209     -26.749  -1.859 -84.114  1.00 37.69           C
ATOM   1578  O   GLN A 209     -27.763  -1.399 -84.630  1.00 36.15           O
ATOM   1579  N   ASN A 211     -30.512  -1.432 -84.300  1.00 31.68           N
ATOM   1580  CA  ASN A 211     -30.771  -0.409 -83.303  1.00 32.92           C
ATOM   1581  CB  ASN A 211     -32.033   0.381 -83.665  1.00 31.58           C
ATOM   1582  C   ASN A 211     -30.886  -1.015 -81.895  1.00 34.40           C
ATOM   1583  O   ASN A 211     -31.819  -1.766 -81.615  1.00 35.72           O
ATOM   1584  N   VAL A 212     -29.929  -0.683 -81.021  1.00 34.41           N
ATOM   1585  CA  VAL A 212     -29.894  -1.192 -79.634  1.00 32.85           C
ATOM   1586  CB  VAL A 212     -28.534  -0.919 -78.946  1.00 32.03           C
ATOM   1587  CG1 VAL A 212     -27.435  -1.766 -79.574  1.00 31.19           C
ATOM   1588  CG2 VAL A 212     -28.190   0.564 -78.991  1.00 30.35           C
ATOM   1589  C   VAL A 212     -31.006  -0.603 -78.768  1.00 32.29           C
ATOM   1590  O   VAL A 212     -31.848   0.154 -79.257  1.00 32.29           O
ATOM   1591  N   GLU A 213     -31.003  -0.954 -77.482  1.00 31.61           N
ATOM   1592  CA  GLU A 213     -31.993  -0.431 -76.541  1.00 31.40           C
ATOM   1593  CB  GLU A 213     -31.747  -0.988 -75.144  1.00 31.73           C
ATOM   1594  CG  GLU A 213     -32.941  -0.853 -74.222  1.00 33.60           C
ATOM   1595  CD  GLU A 213     -32.563  -0.853 -72.751  1.00 35.20           C
ATOM   1596  OE1 GLU A 213     -31.764  -1.724 -72.331  1.00 35.36           O
ATOM   1597  OE2 GLU A 213     -33.080   0.021 -72.014  1.00 35.65           O
ATOM   1598  C   GLU A 213     -31.958   1.095 -76.509  1.00 30.71           C
ATOM   1599  O   GLU A 213     -30.895   1.698 -76.641  1.00 31.04           O
ATOM   1600  N   ALA A 214     -33.126   1.710 -76.337  1.00 30.32           N
ATOM   1601  CA  ALA A 214     -33.259   3.172 -76.309  1.00 30.22           C
ATOM   1602  CB  ALA A 214     -34.678   3.559 -75.933  1.00 29.33           C
ATOM   1603  C   ALA A 214     -32.280   3.852 -75.361  1.00 31.17           C
ATOM   1604  O   ALA A 214     -31.848   4.973 -75.611  1.00 31.91           O
ATOM   1605  N   GLU A 215     -31.929   3.158 -74.283  1.00 31.76           N
ATOM   1606  CA  GLU A 215     -31.313   3.778 -73.127  1.00 31.10           C
ATOM   1607  CB  GLU A 215     -32.266   3.653 -71.943  1.00 32.49           C
ATOM   1608  CG  GLU A 215     -32.093   4.723 -70.880  1.00 34.34           C
ATOM   1609  CD  GLU A 215     -32.505   6.094 -71.352  1.00 34.85           C
ATOM   1610  OE1 GLU A 215     -31.677   7.028 -71.219  1.00 36.66           O
ATOM   1611  OE2 GLU A 215     -33.648   6.233 -71.847  1.00 33.85           O
ATOM   1612  C   GLU A 215     -29.965   3.139 -72.809  1.00 30.84           C
ATOM   1613  O   GLU A 215     -29.317   3.473 -71.811  1.00 30.20           O
ATOM   1614  N   ALA A 216     -29.555   2.212 -73.671  1.00 30.68           N
ATOM   1615  CA  ALA A 216     -28.214   1.635 -73.639  1.00 29.99           C
ATOM   1616  CB  ALA A 216     -27.961   0.838 -74.910  1.00 29.10           C
ATOM   1617  C   ALA A 216     -27.189   2.746 -73.506  1.00 29.69           C
ATOM   1618  O   ALA A 216     -27.276   3.753 -74.212  1.00 31.05           O
ATOM   1619  N   SER A 217     -26.225   2.572 -72.603  1.00 28.96           N
ATOM   1620  CA  SER A 217     -25.233   3.615 -72.361  1.00 28.67           C
ATOM   1621  CB  SER A 217     -25.764   4.615 -71.348  1.00 28.16           C
ATOM   1622  OG  SER A 217     -26.039   3.976 -70.125  1.00 27.90           O
ATOM   1623  C   SER A 217     -23.851   3.139 -71.929  1.00 29.31           C
ATOM   1624  O   SER A 217     -22.932   3.938 -71.826  1.00 30.80           O
ATOM   1625  N   MET A 218     -23.683   1.851 -71.674  1.00 30.27           N
ATOM   1626  CA  MET A 218     -22.395   1.391 -71.178  1.00 30.13           C
ATOM   1627  CB  MET A 218     -22.529   0.872 -69.763  1.00 32.83           C
ATOM   1628  CG  MET A 218     -21.197   0.765 -69.052  1.00 38.16           C
ATOM   1629  SD  MET A 218     -21.312  -0.189 -67.529  1.00 45.93           S
ATOM   1630  CE  MET A 218     -22.435   0.857 -66.599  1.00 40.00           C
ATOM   1631  C   MET A 218     -21.756   0.341 -72.072  1.00 28.53           C
ATOM   1632  O   MET A 218     -22.355  -0.683 -72.370  1.00 28.48           O
ATOM   1633  N   VAL A 219     -20.533   0.607 -72.499  1.00 26.75           N
ATOM   1634  CA  VAL A 219     -19.814  -0.330 -73.338  1.00 25.90           C
ATOM   1635  CB  VAL A 219     -19.142   0.374 -74.538  1.00 26.68           C
ATOM   1636  CG1 VAL A 219     -18.560  -0.655 -75.501  1.00 26.66           C
ATOM   1637  CG2 VAL A 219     -20.136   1.267 -75.266  1.00 26.74           C
ATOM   1638  C   VAL A 219     -18.765  -1.057 -72.510  1.00 24.67           C
ATOM   1639  O   VAL A 219     -18.037  -0.436 -71.737  1.00 24.45           O
ATOM   1640  N   ILE A 220     -18.708  -2.373 -72.668  1.00 23.56           N
ATOM   1641  CA  ILE A 220     -17.724  -3.196 -71.984  1.00 23.46           C
ATOM   1642  CB  ILE A 220     -18.389  -4.079 -70.913  1.00 23.65           C
ATOM   1643  CG1 ILE A 220     -18.909  -3.216 -69.751  1.00 23.94           C
ATOM   1644  CD1 ILE A 220     -19.905  -3.916 -68.837  1.00 23.96           C
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ATOM   1645  CG2 ILE A 220     -17.423  -5.150 -70.427  1.00 23.22           C
ATOM   1646  C   ILE A 220     -17.038  -4.082 -73.010  1.00 23.66           C
ATOM   1647  O   ILE A 220     -17.693  -4.865 -73.697  1.00 24.86           O
ATOM   1648  N   ALA A 221     -15.724  -3.954 -73.134  1.00 23.10           N
ATOM   1649  CA  ALA A 221     -14.987  -4.787 -74.065  1.00 23.40           C
ATOM   1650  CB  ALA A 221     -13.799  -4.033 -74.630  1.00 22.94           C
ATOM   1651  C   ALA A 221     -14.553  -6.098 -73.390  1.00 24.47           C
ATOM   1652  O   ALA A 221     -13.815  -6.104 -72.393  1.00 24.74           O
ATOM   1653  N   VAL A 222     -15.045  -7.207 -73.923  1.00 24.96           N
ATOM   1654  CA  VAL A 222     -14.801  -8.510 -73.339  1.00 25.78           C
ATOM   1655  CB  VAL A 222     -15.947  -9.470 -73.688  1.00 25.88           C
ATOM   1656  CG1 VAL A 222     -15.716 -10.838 -73.081  1.00 27.48           C
ATOM   1657  CG2 VAL A 222     -17.275  -8.905 -73.213  1.00 25.16           C
ATOM   1658  C   VAL A 222     -13.472  -9.032 -73.874  1.00 27.25           C
ATOM   1659  O   VAL A 222     -13.223  -8.940 -75.082  1.00 28.38           O
ATOM   1660  N   PRO A 223     -12.600  -9.553 -72.983  1.00 28.37           N
ATOM   1661  CA  PRO A 223     -11.277 -10.032 -73.387  1.00 30.57           C
ATOM   1662  CB  PRO A 223     -10.579 -10.311 -72.050  1.00 28.69           C
ATOM   1663  CG  PRO A 223     -11.289  -9.458 -71.077  1.00 28.92           C
ATOM   1664  CD  PRO A 223     -12.718  -9.520 -71.518  1.00 29.13           C
ATOM   1665  C   PRO A 223     -11.283 -11.293 -74.261  1.00 34.13           C
ATOM   1666  O   PRO A 223     -12.342 -11.788 -74.666  1.00 33.68           O
ATOM   1667  N   GLU A 224     -10.087 -11.803 -74.528  1.00 38.30           N
ATOM   1668  CA  GLU A 224      -9.901 -12.868 -75.488  1.00 42.84           C
ATOM   1669  CB  GLU A 224      -8.548 -12.730 -76.194  1.00 44.92           C
ATOM   1670  CG  GLU A 224      -8.657 -12.522 -77.691  1.00 47.93           C
ATOM   1671  CD  GLU A 224      -7.316 -12.619 -78.388  1.00 51.61           C
ATOM   1672  OE1 GLU A 224      -7.305 -12.810 -79.623  1.00 54.35           O
ATOM   1673  OE2 GLU A 224      -6.272 -12.507 -77.705  1.00 53.67           O
ATOM   1674  C   GLU A 224     -10.049 -14.286 -74.961  1.00 45.23           C
ATOM   1675  O   GLU A 224      -9.109 -14.868 -74.415  1.00 50.26           O
ATOM   1676  N   PRO A 225     -11.268 -14.796 -74.999  1.00 45.04           N
ATOM   1677  CA  PRO A 225     -11.436 -15.922 -75.892  1.00 42.48           C
ATOM   1678  CB  PRO A 225     -11.815 -17.084 -74.957  1.00 41.54           C
ATOM   1679  CG  PRO A 225     -11.974 -16.486 -73.586  1.00 44.50           C
ATOM   1680  CD  PRO A 225     -12.032 -14.987 -73.759  1.00 45.55           C
ATOM   1681  C   PRO A 225     -12.585 -15.518 -76.814  1.00 40.96           C
ATOM   1682  O   PRO A 225     -12.447 -15.550 -78.029  1.00 40.45           O
ATOM   1683  N   PHE A 226     -13.675 -15.046 -76.214  1.00 40.06           N
ATOM   1684  CA  PHE A 226     -14.888 -14.695 -76.931  1.00 39.76           C
ATOM   1685  CB  PHE A 226     -16.083 -14.667 -75.969  1.00 43.33           C
ATOM   1686  CG  PHE A 226     -16.157 -15.861 -75.049  1.00 47.14           C
ATOM   1687  CD1 PHE A 226     -16.045 -17.161 -75.549  1.00 48.45           C
ATOM   1688  CE1 PHE A 226     -16.105 -18.260 -74.700  1.00 49.77           C
ATOM   1689  CZ  PHE A 226     -16.299 -18.075 -73.339  1.00 50.79           C
ATOM   1690  CE2 PHE A 226     -16.421 -16.789 -72.827  1.00 51.35           C
ATOM   1691  CD2 PHE A 226     -16.350 -15.690 -73.681  1.00 50.20           C
ATOM   1692  C   PHE A 226     -14.776 -13.365 -77.661  1.00 37.65           C
ATOM   1693  O   PHE A 226     -15.412 -13.170 -78.699  1.00 37.27           O
ATOM   1694  N   GLY A 227     -13.966 -12.455 -77.118  1.00 36.18           N
ATOM   1695  CA  GLY A 227     -13.897 -11.078 -77.612  1.00 32.64           C
ATOM   1696  C   GLY A 227     -15.278 -10.447 -77.616  1.00 31.15           C
ATOM   1697  O   GLY A 227     -16.182 -10.898 -76.912  1.00 31.68           O
ATOM   1698  N   GLY A 228     -15.449  -9.403 -78.411  1.00 29.35           N
ATOM   1699  CA  GLY A 228     -16.759  -8.771 -78.558  1.00 27.00           C
ATOM   1700  C   GLY A 228     -17.058  -7.701 -77.531  1.00 25.20           C
ATOM   1701  O   GLY A 228     -16.173  -7.269 -76.783  1.00 25.26           O
ATOM   1702  N   ALA A 229     -18.311  -7.266 -77.504  1.00 23.57           N
ATOM   1703  CA  ALA A 229     -18.716  -6.191 -76.622  1.00 22.36           C
ATOM   1704  CB  ALA A 229     -18.875  -4.903 -77.411  1.00 21.89           C
ATOM   1705  C   ALA A 229     -20.009  -6.527 -75.895  1.00 22.21           C
ATOM   1706  O   ALA A 229     -20.910  -7.162 -76.459  1.00 22.38           O
ATOM   1707  N   ILE A 230     -20.087  -6.101 -74.637  1.00 21.80           N
ATOM   1708  CA  ILE A 230     -21.324  -6.132 -73.868  1.00 21.72           C
ATOM   1709  CB  ILE A 230     -21.063  -6.683 -72.455  1.00 21.75           C
ATOM   1710  CG1 ILE A 230     -20.922  -8.199 -72.523  1.00 21.59           C
ATOM   1711  CD1 ILE A 230     -20.459  -8.817 -71.233  1.00 21.82           C
ATOM   1712  CG2 ILE A 230     -22.178  -6.299 -71.488  1.00 21.71           C
ATOM   1713  C   ILE A 230     -21.888  -4.719 -73.792  1.00 21.79           C
ATOM   1714  O   ILE A 230     -21.130  -3.762 -73.629  1.00 21.97           O
ATOM   1715  N   ILE A 231     -23.209  -4.590 -73.924  1.00 21.67           N
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ATOM   1716  CA  ILE A 231     -23.881  -3.293 -73.807  1.00 22.17           C
ATOM   1717  CB  ILE A 231     -24.546  -2.845 -75.142  1.00 21.62           C
ATOM   1718  CG1 ILE A 231     -23.565  -2.904 -76.321  1.00 21.68           C
ATOM   1719  CD1 ILE A 231     -22.327  -2.039 -76.188  1.00 21.31           C
ATOM   1720  CG2 ILE A 231     -25.125  -1.447 -75.015  1.00 21.49           C
ATOM   1721  C   ILE A 231     -24.934  -3.320 -72.696  1.00 23.01           C
ATOM   1722  O   ILE A 231     -25.899  -4.072 -72.770  1.00 23.93           O
ATOM   1723  N   ILE A 232     -24.746  -2.501 -71.668  1.00 23.83           N
ATOM   1724  CA  ILE A 232     -25.734  -2.376 -70.596  1.00 24.82           C
ATOM   1725  CB  ILE A 232     -25.052  -2.112 -69.231  1.00 24.87           C
ATOM   1726  CG1 ILE A 232     -23.901  -3.097 -68.972  1.00 24.65           C
ATOM   1727  CD1 ILE A 232     -24.326  -4.511 -68.626  1.00 24.13           C
ATOM   1728  CG2 ILE A 232     -26.070  -2.142 -68.096  1.00 24.97           C
ATOM   1729  C   ILE A 232     -26.695  -1.223 -70.904  1.00 26.09           C
ATOM   1730  O   ILE A 232     -26.255  -0.152 -71.322  1.00 25.85           O
ATOM   1731  N   GLY A 233     -27.997  -1.449 -70.694  1.00 27.62           N
ATOM   1732  CA  GLY A 233     -29.029  -0.409 -70.855  1.00 29.52           C
ATOM   1733  C   GLY A 233     -29.906  -0.204 -69.624  1.00 32.48           C
ATOM   1734  O   GLY A 233     -29.444  -0.321 -68.491  1.00 33.12           O
ATOM   1735  N   GLN A 234     -31.178   0.113 -69.841  1.00 35.79           N
ATOM   1736  CA  GLN A 234     -32.116   0.288 -68.733  1.00 38.37           C
ATOM   1737  CB  GLN A 234     -33.232   1.263 -69.090  1.00 41.39           C
ATOM   1738  CG  GLN A 234     -33.113   2.613 -68.400  1.00 44.93           C
ATOM   1739  CD  GLN A 234     -33.858   2.666 -67.086  1.00 47.29           C
ATOM   1740  OE1 GLN A 234     -33.257   2.567 -66.013  1.00 49.39           O
ATOM   1741  NE2 GLN A 234     -35.181   2.819 -67.161  1.00 47.35           N
ATOM   1742  C   GLN A 234     -32.704  -1.019 -68.263  1.00 40.13           C
ATOM   1743  O   GLN A 234     -32.795  -1.245 -67.055  1.00 40.62           O
ATOM   1744  N   GLU A 235     -33.126  -1.871 -69.201  1.00 41.75           N
ATOM   1745  CA  GLU A 235     -33.531  -3.234 -68.830  1.00 43.55           C
ATOM   1746  CB  GLU A 235     -35.061  -3.418 -68.786  1.00 47.09           C
ATOM   1747  CG  GLU A 235     -35.462  -4.694 -68.027  1.00 49.80           C
ATOM   1748  CD  GLU A 235     -36.888  -4.696 -67.505  1.00 52.00           C
ATOM   1749  OE1 GLU A 235     -37.633  -5.640 -67.845  1.00 52.60           O
ATOM   1750  OE2 GLU A 235     -37.259  -3.774 -66.740  1.00 52.21           O
ATOM   1751  C   GLU A 235     -32.869  -4.360 -69.625  1.00 41.20           C
ATOM   1752  O   GLU A 235     -33.101  -5.542 -69.341  1.00 41.06           O
ATOM   1753  N   SER A 236     -32.036  -4.014 -70.598  1.00 36.56           N
ATOM   1754  CA  SER A 236     -31.339  -5.056 -71.341  1.00 32.91           C
ATOM   1755  CB  SER A 236     -31.773  -5.108 -72.811  1.00 32.30           C
ATOM   1756  OG  SER A 236     -32.425  -3.921 -73.204  1.00 32.43           O
ATOM   1757  C   SER A 236     -29.827  -5.013 -71.206  1.00 30.49           C
ATOM   1758  O   SER A 236     -29.220  -3.948 -71.091  1.00 31.15           O
ATOM   1759  N   ILE A 237     -29.244  -6.203 -71.185  1.00 27.70           N
ATOM   1760  CA  ILE A 237     -27.811  -6.398 -71.239  1.00 25.90           C
ATOM   1761  CB  ILE A 237     -27.313  -7.108 -69.957  1.00 24.12           C
ATOM   1762  CG1 ILE A 237     -27.414  -6.155 -68.777  1.00 23.51           C
ATOM   1763  CD1 ILE A 237     -27.319  -6.827 -67.436  1.00 23.62           C
ATOM   1764  CG2 ILE A 237     -25.885  -7.594 -70.099  1.00 23.58           C
ATOM   1765  C   ILE A 237     -27.613  -7.246 -72.485  1.00 25.70           C
ATOM   1766  O   ILE A 237     -28.253  -8.282 -72.630  1.00 26.10           O
ATOM   1767  N   THR A 238     -26.759  -6.789 -73.394  1.00 26.10           N
ATOM   1768  CA  THR A 238     -26.696  -7.352 -74.747  1.00 28.01           C
ATOM   1769  CB  THR A 238     -27.337  -6.399 -75.794  1.00 29.62           C
ATOM   1770  OG1 THR A 238     -28.498  -5.758 -75.242  1.00 30.87           O
ATOM   1771  CG2 THR A 238     -27.750  -7.167 -77.028  1.00 30.15           C
ATOM   1772  C   THR A 238     -25.263  -7.617 -75.174  1.00 27.71           C
ATOM   1773  O   THR A 238     -24.378  -6.804 -74.921  1.00 29.31           O
ATOM   1774  N   TYR A 239     -25.033  -8.745 -75.835  1.00 27.10           N
ATOM   1775  CA  TYR A 239     -23.692  -9.089 -76.289  1.00 27.50           C
ATOM   1776  CB  TYR A 239     -23.246 -10.438 -75.730  1.00 26.88           C
ATOM   1777  CG  TYR A 239     -21.961 -10.936 -76.336  1.00 26.37           C
ATOM   1778  CD1 TYR A 239     -20.741 -10.537 -75.831  1.00 26.77           C
ATOM   1779  CE1 TYR A 239     -19.553 -10.984 -76.384  1.00 26.80           C
ATOM   1780  CZ  TYR A 239     -19.578 -11.835 -77.461  1.00 26.27           C
ATOM   1781  OH  TYR A 239     -18.390 -12.268 -78.002  1.00 25.46           O
ATOM   1782  CE2 TYR A 239     -20.784 -12.245 -77.990  1.00 26.75           C
ATOM   1783  CD2 TYR A 239     -21.967 -11.797 -77.426  1.00 26.73           C
ATOM   1784  C   TYR A 239     -23.613  -9.109 -77.803  1.00 28.89           C
ATOM   1785  O   TYR A 239     -24.563  -9.540 -78.470  1.00 29.54           O
ATOM   1786  N   HIS A 240     -22.470  -8.654 -78.331  1.00 28.93           N
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ATOM   1787  CA  HIS A 240     -22.222  -8.596 -79.771  1.00 28.64           C
ATOM   1788  CB  HIS A 240     -22.455  -7.185 -80.300  1.00 28.37           C
ATOM   1789  CG  HIS A 240     -23.602  -6.472 -79.643  1.00 28.79           C
ATOM   1790  ND1 HIS A 240     -24.851  -6.508 -80.135  1.00 29.65           N
ATOM   1791  CE1 HIS A 240     -25.668  -5.794 -79.338  1.00 29.46           C
ATOM   1792  NE2 HIS A 240     -24.936  -5.305 -78.323  1.00 29.32           N
ATOM   1793  CD2 HIS A 240     -23.658  -5.704 -78.481  1.00 28.87           C
ATOM   1794  C   HIS A 240     -20.814  -8.990 -80.085  1.00 29.37           C
ATOM   1795  O   HIS A 240     -19.876  -8.590 -79.391  1.00 30.12           O
ATOM   1796  N   ASN A 241     -20.660  -9.785 -81.137  1.00 29.55           N
ATOM   1797  CA  ASN A 241     -19.370 -10.034 -81.782  1.00 30.91           C
ATOM   1798  CB  ASN A 241     -18.509 -11.031 -80.995  1.00 29.37           C
ATOM   1799  CG  ASN A 241     -17.085 -11.150 -81.542  1.00 28.87           C
ATOM   1800  OD1 ASN A 241     -16.738 -10.558 -82.566  1.00 28.82           O
ATOM   1801  ND2 ASN A 241     -16.248 -11.910 -80.843  1.00 29.00           N
ATOM   1802  C   ASN A 241     -19.651 -10.588 -83.157  1.00 33.90           C
ATOM   1803  O   ASN A 241     -20.477 -11.499 -83.308  1.00 36.55           O
ATOM   1804  N   GLY A 242     -18.966 -10.058 -84.166  1.00 35.94           N
ATOM   1805  CA  GLY A 242     -19.284 -10.422 -85.532  1.00 37.89           C
ATOM   1806  C   GLY A 242     -20.793 -10.387 -85.585  1.00 39.80           C
ATOM   1807  O   GLY A 242     -21.406  -9.370 -85.228  1.00 39.92           O
ATOM   1808  N   ASP A 243     -21.406 -11.507 -85.951  1.00 41.08           N
ATOM   1809  CA  ASP A 243     -22.867 -11.538 -86.011  1.00 43.07           C
ATOM   1810  CB  ASP A 243     -23.369 -11.639 -87.467  1.00 45.40           C
ATOM   1811  CG  ASP A 243     -23.229 -10.298 -88.236  1.00 49.13           C
ATOM   1812  OD1 ASP A 243     -22.105  -9.729 -88.302  1.00 48.25           O
ATOM   1813  OD2 ASP A 243     -24.249  -9.809 -88.776  1.00 50.45           O
ATOM   1814  C   ASP A 243     -23.544 -12.526 -85.039  1.00 41.42           C
ATOM   1815  O   ASP A 243     -24.722 -12.854 -85.189  1.00 40.42           O
ATOM   1816  N   LYS A 244     -22.795 -12.962 -84.025  1.00 40.38           N
ATOM   1817  CA  LYS A 244     -23.392 -13.549 -82.822  1.00 39.22           C
ATOM   1818  CB  LYS A 244     -22.329 -14.204 -81.943  1.00 39.54           C
ATOM   1819  CG  LYS A 244     -22.909 -15.082 -80.841  1.00 40.32           C
ATOM   1820  CD  LYS A 244     -21.827 -15.601 -79.909  1.00 41.13           C
ATOM   1821  CE  LYS A 244     -21.861 -17.121 -79.830  1.00 41.84           C
ATOM   1822  NZ  LYS A 244     -23.246 -17.642 -79.641  1.00 42.76           N
ATOM   1823  C   LYS A 244     -24.095 -12.437 -82.033  1.00 37.58           C
ATOM   1824  O   LYS A 244     -23.708 -11.267 -82.125  1.00 37.70           O
ATOM   1825  N   TYR A 245     -25.112 -12.803 -81.254  1.00 34.72           N
ATOM   1826  CA  TYR A 245     -25.930 -11.819 -80.555  1.00 33.47           C
ATOM   1827  CB  TYR A 245     -26.822 -11.082 -81.554  1.00 33.15           C
ATOM   1828  CG  TYR A 245     -27.835 -10.160 -80.943  1.00 33.23           C
ATOM   1829  CD1 TYR A 245     -29.101 -10.622 -80.594  1.00 33.25           C
ATOM   1830  CE1 TYR A 245     -30.052  -9.778 -80.044  1.00 33.68           C
ATOM   1831  CZ  TYR A 245     -29.749  -8.445 -79.845  1.00 34.55           C
ATOM   1832  OH  TYR A 245     -30.698  -7.605 -79.289  1.00 33.85           O
ATOM   1833  CE2 TYR A 245     -28.494  -7.958 -80.194  1.00 35.67           C
ATOM   1834  CD2 TYR A 245     -27.546  -8.818 -80.742  1.00 34.48           C
ATOM   1835  C   TYR A 245     -26.764 -12.450 -79.446  1.00 33.17           C
ATOM   1836  O   TYR A 245     -27.569 -13.349 -79.687  1.00 32.82           O
ATOM   1837  N   LEU A 246     -26.555 -11.967 -78.225  1.00 33.25           N
ATOM   1838  CA  LEU A 246     -27.256 -12.472 -77.046  1.00 32.52           C
ATOM   1839  CB  LEU A 246     -26.275 -13.162 -76.096  1.00 32.21           C
ATOM   1840  CG  LEU A 246     -25.865 -14.620 -76.369  1.00 32.65           C
ATOM   1841  CD1 LEU A 246     -25.224 -14.834 -77.734  1.00 33.00           C
ATOM   1842  CD2 LEU A 246     -24.914 -15.095 -75.283  1.00 34.02           C
ATOM   1843  C   LEU A 246     -27.941 -11.310 -76.349  1.00 31.84           C
ATOM   1844  O   LEU A 246     -27.392 -10.208 -76.305  1.00 32.66           O
ATOM   1845  N   ALA A 247     -29.145 -11.549 -75.829  1.00 30.72           N
ATOM   1846  CA  ALA A 247     -29.947 -10.486 -75.210  1.00 29.56           C
ATOM   1847  CB  ALA A 247     -30.870  -9.843 -76.234  1.00 29.19           C
ATOM   1848  C   ALA A 247     -30.753 -10.986 -74.024  1.00 28.47           C
ATOM   1849  O   ALA A 247     -31.720 -11.717 -74.196  1.00 29.21           O
ATOM   1850  N   ILE A 248     -30.339 -10.603 -72.820  1.00 27.16           N
ATOM   1851  CA  ILE A 248     -31.151 -10.836 -71.629  1.00 26.11           C
ATOM   1852  CB  ILE A 248     -30.360 -11.485 -70.470  1.00 25.38           C
ATOM   1853  CG1 ILE A 248     -29.053 -10.735 -70.225  1.00 24.83           C
ATOM   1854  CD1 ILE A 248     -28.634 -10.745 -68.777  1.00 24.76           C
ATOM   1855  CG2 ILE A 248     -30.126 -12.970 -70.738  1.00 24.96           C
ATOM   1856  C   ILE A 248     -31.769  -9.534 -71.147  1.00 25.49           C
ATOM   1857  O   ILE A 248     -31.159  -8.464 -71.257  1.00 25.31           O
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ATOM   1858  N   ALA A 249     -32.986  -9.642 -70.622  1.00 24.53           N
ATOM   1859  CA  ALA A 249     -33.699  -8.517 -70.040  1.00 23.38           C
ATOM   1860  CB  ALA A 249     -34.798  -8.053 -70.978  1.00 23.47           C
ATOM   1861  C   ALA A 249     -34.279  -8.929 -68.691  1.00 22.58           C
ATOM   1862  O   ALA A 249     -35.496  -9.027 -68.544  1.00 22.59           O
ATOM   1863  N   PRO A 250     -33.406  -9.165 -67.694  1.00 22.02           N
ATOM   1864  CA  PRO A 250     -33.877  -9.706 -66.425  1.00 21.88           C
ATOM   1865  CB  PRO A 250     -32.582 -10.102 -65.712  1.00 21.75           C
ATOM   1866  CG  PRO A 250     -31.556  -9.168 -66.248  1.00 21.66           C
ATOM   1867  CD  PRO A 250     -31.974  -8.806 -67.648  1.00 22.03           C
ATOM   1868  C   PRO A 250     -34.659  -8.681 -65.604  1.00 22.12           C
ATOM   1869  O   PRO A 250     -34.466  -7.475 -65.774  1.00 21.78           O
ATOM   1870  N   PRO A 251     -35.561  -9.160 -64.731  1.00 22.74           N
ATOM   1871  CA  PRO A 251     -36.336  -8.265 -63.869  1.00 23.00           C
ATOM   1872  CB  PRO A 251     -37.398  -9.198 -63.251  1.00 22.64           C
ATOM   1873  CG  PRO A 251     -37.399 -10.422 -64.092  1.00 22.33           C
ATOM   1874  CD  PRO A 251     -35.990 -10.561 -64.582  1.00 22.62           C
ATOM   1875  C   PRO A 251     -35.481  -7.650 -62.762  1.00 23.03           C
ATOM   1876  O   PRO A 251     -35.781  -6.562 -62.270  1.00 24.12           O
ATOM   1877  N   ILE A 252     -34.418  -8.342 -62.382  1.00 22.49           N
ATOM   1878  CA  ILE A 252     -33.638  -7.952 -61.222  1.00 22.44           C
ATOM   1879  CB  ILE A 252     -32.761  -9.136 -60.741  1.00 21.90           C
ATOM   1880  CG1 ILE A 252     -32.724  -9.198 -59.219  1.00 21.21           C
ATOM   1881  CD1 ILE A 252     -32.179 -10.503 -58.707  1.00 21.87           C
ATOM   1882  CG2 ILE A 252     -31.373  -9.125 -61.382  1.00 21.56           C
ATOM   1883  C   ILE A 252     -32.837  -6.650 -61.455  1.00 23.23           C
ATOM   1884  O   ILE A 252     -32.334  -6.036 -60.503  1.00 22.56           O
ATOM   1885  N   ILE A 253     -32.744  -6.222 -62.717  1.00 23.77           N
ATOM   1886  CA  ILE A 253     -32.165  -4.914 -63.039  1.00 24.15           C
ATOM   1887  CB  ILE A 253     -30.978  -4.999 -64.043  1.00 24.40           C
ATOM   1888  CG1 ILE A 253     -31.471  -5.275 -65.474  1.00 24.83           C
ATOM   1889  CD1 ILE A 253     -30.577  -4.711 -66.557  1.00 24.45           C
ATOM   1890  CG2 ILE A 253     -29.940  -6.016 -63.577  1.00 23.82           C
ATOM   1891  C   ILE A 253     -33.213  -3.893 -63.512  1.00 24.41           C
ATOM   1892  O   ILE A 253     -32.863  -2.798 -63.969  1.00 24.36           O
ATOM   1893  N   LYS A 254     -34.492  -4.244 -63.385  1.00 25.10           N
ATOM   1894  CA  LYS A 254     -35.577  -3.327 -63.755  1.00 26.73           C
ATOM   1895  CB  LYS A 254     -36.947  -3.994 -63.580  1.00 26.05           C
ATOM   1896  C   LYS A 254     -35.505  -2.043 -62.927  1.00 27.36           C
ATOM   1897  O   LYS A 254     -35.529  -0.937 -63.467  1.00 27.10           O
ATOM   1898  N   GLN A 255     -35.347  -2.228 -61.620  1.00 29.17           N
ATOM   1899  CA  GLN A 255     -35.525  -1.199 -60.598  1.00 30.10           C
ATOM   1900  CB  GLN A 255     -35.385  -1.847 -59.222  1.00 31.97           C
ATOM   1901  CG  GLN A 255     -36.239  -1.223 -58.138  1.00 34.09           C
ATOM   1902  CD  GLN A 255     -37.639  -1.785 -58.119  1.00 37.01           C
ATOM   1903  OE1 GLN A 255     -37.927  -2.726 -57.379  1.00 39.24           O
ATOM   1904  NE2 GLN A 255     -38.520  -1.223 -58.947  1.00 37.68           N
ATOM   1905  C   GLN A 255     -34.574   0.001 -60.686  1.00 30.16           C
ATOM   1906  O   GLN A 255     -34.899   1.093 -60.211  1.00 30.66           O
ATOM   1907  N   SER A 256     -33.391  -0.183 -61.255  1.00 29.81           N
ATOM   1908  CA  SER A 256     -32.496   0.963 -61.382  1.00 29.03           C
ATOM   1909  CB  SER A 256     -31.769   1.240 -60.061  1.00 29.65           C
ATOM   1910  OG  SER A 256     -31.056   2.476 -60.109  1.00 30.04           O
ATOM   1911  C   SER A 256     -31.528   0.914 -62.569  1.00 27.68           C
ATOM   1912  O   SER A 256     -31.697   0.105 -63.491  1.00 27.83           O
ATOM   1913  N   THR A 257     -30.543   1.809 -62.543  1.00 24.58           N
ATOM   1914  CA  THR A 257     -29.713   2.068 -63.693  1.00 23.59           C
ATOM   1915  CB  THR A 257     -29.783   3.552 -64.092  1.00 23.62           C
ATOM   1916  OG1 THR A 257     -31.152   3.937 -64.255  1.00 23.90           O
ATOM   1917  CG2 THR A 257     -29.021   3.821 -65.404  1.00 23.58           C
ATOM   1918  C   THR A 257     -28.284   1.684 -63.391  1.00 22.84           C
ATOM   1919  O   THR A 257     -27.747   2.040 -62.345  1.00 23.69           O
ATOM   1920  N   ILE A 258     -27.668   0.943 -64.302  1.00 21.82           N
ATOM   1921  CA  ILE A 258     -26.308   0.497 -64.081  1.00 21.03           C
ATOM   1922  CB  ILE A 258     -26.010  -0.837 -64.763  1.00 20.23           C
ATOM   1923  CG1 ILE A 258     -27.005  -1.903 -64.310  1.00 19.80           C
ATOM   1924  CD1 ILE A 258     -26.778  -2.390 -62.902  1.00 19.30           C
ATOM   1925  CG2 ILE A 258     -24.595  -1.271 -64.439  1.00 20.39           C
ATOM   1926  C   ILE A 258     -25.353   1.554 -64.575  1.00 21.20           C
ATOM   1927  O   ILE A 258     -25.384   1.927 -65.749  1.00 21.31           O
ATOM   1928  N   VAL A 259     -24.502   2.034 -63.670  1.00 20.66           N
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ATOM   1929  CA  VAL A 259     -23.665   3.181 -63.961  1.00 20.05           C
ATOM   1930  CB  VAL A 259     -24.055   4.397 -63.128  1.00 19.86           C
ATOM   1931  CG1 VAL A 259     -25.480   4.805 -63.454  1.00 19.61           C
ATOM   1932  CG2 VAL A 259     -23.871   4.107 -61.644  1.00 20.06           C
ATOM   1933  C   VAL A 259     -22.180   2.930 -63.817  1.00 19.80           C
ATOM   1934  O   VAL A 259     -21.382   3.675 -64.377  1.00 21.36           O
ATOM   1935  N   CYS A 260     -21.796   1.900 -63.079  0.50 18.54           N
ATOM   1936  CA  CYS A 260     -20.403   1.522 -63.056  0.50 17.68           C
ATOM   1937  CB  CYS A 260     -19.704   2.040 -61.809  0.50 16.71           C
ATOM   1938  SG  CYS A 260     -20.367   1.381 -60.280  0.50 15.24           S
ATOM   1939  C   CYS A 260     -20.275   0.034 -63.164  0.50 18.06           C
ATOM   1940  O   CYS A 260     -21.188  -0.709 -62.840  0.50 17.60           O
ATOM   1941  N   HIS A 261     -19.127  -0.391 -63.658  1.00 19.49           N
ATOM   1942  CA  HIS A 261     -18.827  -1.799 -63.838  1.00 20.56           C
ATOM   1943  CB  HIS A 261     -19.216  -2.248 -65.241  1.00 20.91           C
ATOM   1944  CG  HIS A 261     -18.238  -1.812 -66.313  1.00 21.44           C
ATOM   1945  ND1 HIS A 261     -17.066  -2.456 -66.535  1.00 21.54           N
ATOM   1946  CE1 HIS A 261     -16.407  -1.856 -67.537  1.00 21.65           C
ATOM   1947  NE2 HIS A 261     -17.157  -0.820 -67.965  1.00 22.55           N
ATOM   1948  CD2 HIS A 261     -18.290  -0.765 -67.230  1.00 21.69           C
ATOM   1949  C   HIS A 261     -17.359  -2.045 -63.615  1.00 20.87           C
ATOM   1950  O   HIS A 261     -16.582  -1.108 -63.495  1.00 20.12           O
ATOM   1951  N   ASN A 262     -16.982  -3.322 -63.560  1.00 22.17           N
ATOM   1952  CA  ASN A 262     -15.587  -3.734 -63.553  1.00 22.63           C
ATOM   1953  CB  ASN A 262     -14.926  -3.363 -62.238  1.00 24.05           C
ATOM   1954  CG  ASN A 262     -13.425  -3.412 -62.331  1.00 25.31           C
ATOM   1955  OD1 ASN A 262     -12.838  -2.763 -63.208  1.00 26.61           O
ATOM   1956  ND2 ASN A 262     -12.787  -4.217 -61.462  1.00 24.75           N
ATOM   1957  C   ASN A 262     -15.401  -5.225 -63.787  1.00 22.52           C
ATOM   1958  O   ASN A 262     -16.171  -6.041 -63.274  1.00 23.22           O
ATOM   1959  N   ARG A 263     -14.357  -5.575 -64.535  1.00 22.27           N
ATOM   1960  CA  ARG A 263     -14.015  -6.981 -64.810  1.00 22.10           C
ATOM   1961  CB  ARG A 263     -13.013  -7.049 -65.950  1.00 21.45           C
ATOM   1962  CG  ARG A 263     -13.027  -8.345 -66.716  1.00 21.94           C
ATOM   1963  CD  ARG A 263     -11.711  -8.557 -67.437  1.00 22.51           C
ATOM   1964  NE  ARG A 263     -11.210  -7.331 -68.045  1.00 22.37           N
ATOM   1965  CZ  ARG A 263      -9.930  -6.995 -68.081  1.00 22.39           C
ATOM   1966  NH1 ARG A 263      -9.022  -7.800 -67.536  1.00 23.56           N
ATOM   1967  NH2 ARG A 263      -9.559  -5.852 -68.642  1.00 21.93           N
ATOM   1968  C   ARG A 263     -13.439  -7.710 -63.589  1.00 22.33           C
ATOM   1969  O   ARG A 263     -12.499  -7.228 -62.953  1.00 22.51           O
ATOM   1970  N   VAL A 264     -13.997  -8.875 -63.269  1.00 22.87           N
ATOM   1971  CA  VAL A 264     -13.488  -9.679 -62.152  1.00 23.22           C
ATOM   1972  CB  VAL A 264     -14.578 -10.590 -61.542  1.00 22.71           C
ATOM   1973  CG1 VAL A 264     -13.980 -11.649 -60.625  1.00 23.11           C
ATOM   1974  CG2 VAL A 264     -15.559  -9.746 -60.765  1.00 22.14           C
ATOM   1975  C   VAL A 264     -12.226 -10.455 -62.536  1.00 23.81           C
ATOM   1976  O   VAL A 264     -11.202 -10.310 -61.897  1.00 24.52           O
ATOM   1977  N   ASP A 265     -12.284 -11.253 -63.589  1.00 25.28           N
ATOM   1978  CA  ASP A 265     -11.126 -12.053 -63.978  1.00 26.97           C
ATOM   1979  CB  ASP A 265     -11.431 -13.536 -63.787  1.00 28.67           C
ATOM   1980  CG  ASP A 265     -12.866 -13.881 -64.131  1.00 30.59           C
ATOM   1981  OD1 ASP A 265     -13.288 -13.601 -65.281  1.00 31.08           O
ATOM   1982  OD2 ASP A 265     -13.570 -14.427 -63.246  1.00 31.23           O
ATOM   1983  C   ASP A 265     -10.679 -11.762 -65.416  1.00 27.09           C
ATOM   1984  O   ASP A 265     -11.478 -11.279 -66.216  1.00 25.96           O
ATOM   1985  N   PRO A 266      -9.390 -12.036 -65.737  1.00 27.64           N
ATOM   1986  CA  PRO A 266      -8.837 -11.839 -67.085  1.00 27.90           C
ATOM   1987  CB  PRO A 266      -7.487 -12.581 -67.030  1.00 27.75           C
ATOM   1988  CG  PRO A 266      -7.413 -13.227 -65.673  1.00 26.88           C
ATOM   1989  CD  PRO A 266      -8.344 -12.466 -64.793  1.00 26.68           C
ATOM   1990  C   PRO A 266      -9.727 -12.427 -68.177  1.00 28.35           C
ATOM   1991  O   PRO A 266     -10.073 -11.729 -69.120  1.00 28.99           O
ATOM   1992  N   ASN A 267     -10.090 -13.700 -68.026  1.00 29.75           N
ATOM   1993  CA  ASN A 267     -11.121 -14.383 -68.832  1.00 30.88           C
ATOM   1994  CB  ASN A 267     -11.650 -15.592 -68.036  1.00 34.22           C
ATOM   1995  CG  ASN A 267     -12.161 -16.723 -68.926  1.00 37.10           C
ATOM   1996  OD1 ASN A 267     -12.521 -16.519 -70.095  1.00 38.84           O
ATOM   1997  ND2 ASN A 267     -12.199 -17.931 -68.368  1.00 37.27           N
ATOM   1998  C   ASN A 267     -12.315 -13.514 -69.254  1.00 29.58           C
ATOM   1999  O   ASN A 267     -12.819 -13.636 -70.365  1.00 28.07           O
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ATOM   2000  N   GLY A 268     -12.771 -12.659 -68.341  1.00 30.47           N
ATOM   2001  CA  GLY A 268     -13.976 -11.858 -68.534  1.00 30.23           C
ATOM   2002  C   GLY A 268     -15.241 -12.639 -68.226  1.00 30.13           C
ATOM   2003  O   GLY A 268     -16.337 -12.207 -68.570  1.00 29.90           O
ATOM   2004  N   SER A 269     -15.088 -13.799 -67.590  1.00 30.83           N
ATOM   2005  CA  SER A 269     -16.233 -14.654 -67.226  1.00 32.21           C
ATOM   2006  CB  SER A 269     -15.771 -15.883 -66.429  1.00 33.78           C
ATOM   2007  OG  SER A 269     -14.545 -16.391 -66.930  1.00 36.77           O
ATOM   2008  C   SER A 269     -17.261 -13.884 -66.397  1.00 31.53           C
ATOM   2009  O   SER A 269     -18.469 -14.001 -66.618  1.00 31.53           O
ATOM   2010  N   ARG A 270     -16.760 -13.099 -65.447  1.00 29.82           N
ATOM   2011  CA  ARG A 270     -17.595 -12.364 -64.527  1.00 27.38           C
ATOM   2012  CB  ARG A 270     -17.397 -12.907 -63.116  1.00 28.98           C
ATOM   2013  CG  ARG A 270     -17.948 -14.314 -62.904  1.00 30.93           C
ATOM   2014  CD  ARG A 270     -17.467 -14.918 -61.590  1.00 32.35           C
ATOM   2015  NE  ARG A 270     -16.005 -14.882 -61.497  1.00 34.54           N
ATOM   2016  CZ  ARG A 270     -15.270 -15.654 -60.701  1.00 34.35           C
ATOM   2017  NH1 ARG A 270     -15.861 -16.547 -59.910  1.00 34.33           N
ATOM   2018  NH2 ARG A 270     -13.940 -15.536 -60.706  1.00 33.76           N
ATOM   2019  C   ARG A 270     -17.303 -10.866 -64.560  1.00 25.26           C
ATOM   2020  O   ARG A 270     -16.159 -10.447 -64.705  1.00 24.53           O
ATOM   2021  N   TYR A 271     -18.357 -10.071 -64.424  1.00 23.28           N
ATOM   2022  CA  TYR A 271     -18.233  -8.634 -64.251  1.00 21.55           C
ATOM   2023  CB  TYR A 271     -18.785  -7.917 -65.481  1.00 22.00           C
ATOM   2024  CG  TYR A 271     -17.855  -8.012 -66.664  1.00 22.35           C
ATOM   2025  CD1 TYR A 271     -17.912  -9.098 -67.528  1.00 22.24           C
ATOM   2026  CE1 TYR A 271     -17.044  -9.198 -68.597  1.00 22.70           C
ATOM   2027  CZ  TYR A 271     -16.102  -8.213 -68.805  1.00 22.80           C
ATOM   2028  OH  TYR A 271     -15.237  -8.326 -69.862  1.00 24.17           O
ATOM   2029  CE2 TYR A 271     -16.020  -7.125 -67.960  1.00 22.33           C
ATOM   2030  CD2 TYR A 271     -16.894  -7.026 -66.900  1.00 22.12           C
ATOM   2031  C   TYR A 271     -18.981  -8.200 -63.007  1.00 20.26           C
ATOM   2032  O   TYR A 271     -19.979  -8.810 -62.642  1.00 20.18           O
ATOM   2033  N   LEU A 272     -18.485  -7.167 -62.336  1.00 19.08           N
ATOM   2034  CA  LEU A 272     -19.249  -6.519 -61.269  1.00 18.06           C
ATOM   2035  CB  LEU A 272     -18.339  -6.086 -60.125  1.00 17.47           C
ATOM   2036  CG  LEU A 272     -17.752  -7.203 -59.262  1.00 17.40           C
ATOM   2037  CD1 LEU A 272     -16.629  -6.694 -58.379  1.00 17.33           C
ATOM   2038  CD2 LEU A 272     -18.818  -7.871 -58.409  1.00 17.74           C
ATOM   2039  C   LEU A 272     -19.988  -5.319 -61.852  1.00 17.86           C
ATOM   2040  O   LEU A 272     -19.447  -4.625 -62.727  1.00 17.49           O
ATOM   2041  N   LEU A 273     -21.230  -5.097 -61.401  1.00 17.25           N
ATOM   2042  CA  LEU A 273     -22.055  -3.971 -61.890  1.00 16.33           C
ATOM   2043  CB  LEU A 273     -23.190  -4.449 -62.787  1.00 15.75           C
ATOM   2044  CG  LEU A 273     -22.942  -5.353 -63.971  1.00 15.56           C
ATOM   2045  CD1 LEU A 273     -24.256  -5.440 -64.705  1.00 15.75           C
ATOM   2046  CD2 LEU A 273     -21.875  -4.789 -64.886  1.00 15.88           C
ATOM   2047  C   LEU A 273     -22.674  -3.199 -60.759  1.00 16.01           C
ATOM   2048  O   LEU A 273     -23.302  -3.781 -59.877  1.00 16.22           O
ATOM   2049  N   GLY A 274     -22.547  -1.881 -60.831  1.00 16.08           N
ATOM   2050  CA  GLY A 274     -23.061  -0.975 -59.805  1.00 16.16           C
ATOM   2051  C   GLY A 274     -24.246  -0.116 -60.201  1.00 16.15           C
ATOM   2052  O   GLY A 274     -24.188   0.686 -61.129  1.00 15.77           O
ATOM   2053  N   ASP A 275     -25.320  -0.308 -59.453  1.00 17.18           N
ATOM   2054  CA  ASP A 275     -26.562   0.457 -59.507  1.00 17.84           C
ATOM   2055  CB  ASP A 275     -27.442  -0.121 -58.412  1.00 18.98           C
ATOM   2056  CG  ASP A 275     -28.878   0.115 -58.643  1.00 20.70           C
ATOM   2057  OD1 ASP A 275     -29.228   1.296 -58.831  1.00 22.80           O
ATOM   2058  OD2 ASP A 275     -29.662  -0.868 -58.623  1.00 20.80           O
ATOM   2059  C   ASP A 275     -26.366   1.936 -59.199  1.00 17.81           C
ATOM   2060  O   ASP A 275     -25.329   2.335 -58.673  1.00 18.80           O
ATOM   2061  N   MET A 276     -27.382   2.745 -59.465  0.50 17.44           N
ATOM   2062  CA  MET A 276     -27.356   4.152 -59.075  0.50 17.27           C
ATOM   2063  CB  MET A 276     -28.250   4.951 -60.006  0.50 16.36           C
ATOM   2064  CG  MET A 276     -27.658   6.265 -60.441  0.50 15.70           C
ATOM   2065  SD  MET A 276     -28.835   7.175 -61.433  0.50 14.81           S
ATOM   2066  CE  MET A 276     -28.872   6.168 -62.893  0.50 15.21           C
ATOM   2067  C   MET A 276     -27.814   4.351 -57.631  0.50 17.87           C
ATOM   2068  O   MET A 276     -27.789   5.456 -57.111  0.50 17.37           O
ATOM   2069  N   GLU A 277     -28.205   3.257 -56.991  1.00 19.52           N
ATOM   2070  CA  GLU A 277     -28.971   3.277 -55.748  1.00 20.94           C
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ATOM   2071  CB  GLU A 277     -30.423   2.825 -56.000  1.00 24.45           C
ATOM   2072  CG  GLU A 277     -31.305   3.821 -56.748  1.00 29.67           C
ATOM   2073  CD  GLU A 277     -32.795   3.719 -56.383  1.00 34.13           C
ATOM   2074  OE1 GLU A 277     -33.142   3.055 -55.373  1.00 36.28           O
ATOM   2075  OE2 GLU A 277     -33.632   4.328 -57.099  1.00 37.15           O
ATOM   2076  C   GLU A 277     -28.367   2.353 -54.692  1.00 19.99           C
ATOM   2077  O   GLU A 277     -28.956   2.168 -53.624  1.00 19.90           O
ATOM   2078  N   GLY A 278     -27.222   1.739 -54.995  1.00 18.39           N
ATOM   2079  CA  GLY A 278     -26.498   0.959 -53.991  1.00 16.63           C
ATOM   2080  C   GLY A 278     -26.391  -0.523 -54.274  1.00 15.66           C
ATOM   2081  O   GLY A 278     -25.657  -1.236 -53.589  1.00 15.65           O
ATOM   2082  N   ARG A 279     -27.114  -0.994 -55.282  0.50 14.73           N
ATOM   2083  CA  ARG A 279     -27.097  -2.404 -55.601  0.50 13.97           C
ATOM   2084  CB  ARG A 279     -28.327  -2.820 -56.415  0.50 13.82           C
ATOM   2085  CG  ARG A 279     -29.642  -2.758 -55.659  0.50 13.31           C
ATOM   2086  CD  ARG A 279     -30.799  -3.020 -56.603  0.50 13.21           C
ATOM   2087  NE  ARG A 279     -32.082  -2.574 -56.064  0.50 13.02           N
ATOM   2088  CZ  ARG A 279     -32.591  -1.360 -56.242  0.50 12.74           C
ATOM   2089  NH1 ARG A 279     -31.921  -0.453 -56.938  0.50 12.79           N
ATOM   2090  NH2 ARG A 279     -33.763  -1.050 -55.715  0.50 12.61           N
ATOM   2091  C   ARG A 279     -25.822  -2.776 -56.329  0.50 13.57           C
ATOM   2092  O   ARG A 279     -25.312  -2.040 -57.165  0.50 12.94           O
ATOM   2093  N   LEU A 280     -25.307  -3.931 -55.952  1.00 13.86           N
ATOM   2094  CA  LEU A 280     -24.160  -4.547 -56.583  1.00 14.00           C
ATOM   2095  CB  LEU A 280     -23.080  -4.848 -55.543  1.00 13.58           C
ATOM   2096  CG  LEU A 280     -21.725  -5.295 -56.080  1.00 13.40           C
ATOM   2097  CD1 LEU A 280     -21.062  -4.163 -56.853  1.00 13.43           C
ATOM   2098  CD2 LEU A 280     -20.840  -5.793 -54.948  1.00 13.17           C
ATOM   2099  C   LEU A 280     -24.617  -5.837 -57.228  1.00 14.36           C
ATOM   2100  O   LEU A 280     -25.209  -6.696 -56.566  1.00 14.01           O
ATOM   2101  N   PHE A 281     -24.358  -5.956 -58.526  1.00 15.23           N
ATOM   2102  CA  PHE A 281     -24.741  -7.135 -59.286  1.00 16.35           C
ATOM   2103  CB  PHE A 281     -25.488  -6.722 -60.539  1.00 16.26           C
ATOM   2104  CG  PHE A 281     -26.836  -6.162 -60.277  1.00 16.10           C
ATOM   2105  CD1 PHE A 281     -27.918  -7.009 -60.076  1.00 15.93           C
ATOM   2106  CE1 PHE A 281     -29.169  -6.490 -59.839  1.00 16.55           C
ATOM   2107  CZ  PHE A 281     -29.347  -5.104 -59.806  1.00 16.87           C
ATOM   2108  CE2 PHE A 281     -28.271  -4.252 -60.001  1.00 16.07           C
ATOM   2109  CD2 PHE A 281     -27.026  -4.784 -60.240  1.00 15.94           C
ATOM   2110  C   PHE A 281     -23.524  -7.890 -59.734  1.00 17.57           C
ATOM   2111  O   PHE A 281     -22.437  -7.307 -59.823  1.00 18.48           O
ATOM   2112  N   MET A 282     -23.699  -9.174 -60.041  1.00 18.62           N
ATOM   2113  CA  MET A 282     -22.721  -9.861 -60.863  1.00 20.18           C
ATOM   2114  CB  MET A 282     -22.088 -11.034 -60.157  1.00 22.06           C
ATOM   2115  CG  MET A 282     -21.075 -11.740 -61.042  1.00 24.55           C
ATOM   2116  SD  MET A 282     -19.486 -11.891 -60.216  1.00 29.62           S
ATOM   2117  CE  MET A 282     -19.873 -13.232 -59.071  1.00 28.21           C
ATOM   2118  C   MET A 282     -23.290 -10.316 -62.190  1.00 20.42           C
ATOM   2119  O   MET A 282     -24.315 -11.003 -62.235  1.00 21.04           O
ATOM   2120  N   LEU A 283     -22.603  -9.930 -63.263  1.00 19.87           N
ATOM   2121  CA  LEU A 283     -22.898 -10.410 -64.590  1.00 19.74           C
ATOM   2122  CB  LEU A 283     -22.758  -9.278 -65.601  1.00 19.63           C
ATOM   2123  CG  LEU A 283     -22.985  -9.560 -67.084  1.00 19.24           C
ATOM   2124  CD1 LEU A 283     -24.392 -10.071 -67.347  1.00 18.86           C
ATOM   2125  CD2 LEU A 283     -22.696  -8.295 -67.876  1.00 18.90           C
ATOM   2126  C   LEU A 283     -21.947 -11.546 -64.920  1.00 20.30           C
ATOM   2127  O   LEU A 283     -20.753 -11.467 -64.632  1.00 20.06           O
ATOM   2128  N   LEU A 284     -22.507 -12.602 -65.515  1.00 21.15           N
ATOM   2129  CA  LEU A 284     -21.793 -13.828 -65.859  1.00 21.30           C
ATOM   2130  CB  LEU A 284     -22.350 -14.990 -65.041  1.00 20.57           C
ATOM   2131  CG  LEU A 284     -22.105 -14.944 -63.529  1.00 20.60           C
ATOM   2132  CD1 LEU A 284     -23.413 -15.016 -62.770  1.00 20.78           C
ATOM   2133  CD2 LEU A 284     -21.160 -16.039 -63.055  1.00 20.65           C
ATOM   2134  C   LEU A 284     -21.965 -14.123 -67.349  1.00 22.46           C
ATOM   2135  O   LEU A 284     -23.072 -13.984 -67.890  1.00 22.39           O
ATOM   2136  N   LEU A 285     -20.871 -14.510 -68.013  1.00 23.62           N
ATOM   2137  CA  LEU A 285     -20.928 -14.980 -69.403  1.00 24.40           C
ATOM   2138  CB  LEU A 285     -19.792 -14.403 -70.250  1.00 24.24           C
ATOM   2139  CG  LEU A 285     -19.415 -12.916 -70.287  1.00 24.28           C
ATOM   2140  CD1 LEU A 285     -18.752 -12.604 -71.620  1.00 24.38           C
ATOM   2141  CD2 LEU A 285     -20.599 -11.995 -70.064  1.00 23.90           C
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ATOM   2142  C   LEU A 285     -20.820 -16.489 -69.389  1.00 26.19           C
ATOM   2143  O   LEU A 285     -19.840 -17.036 -68.898  1.00 27.66           O
ATOM   2144  N   GLU A 286     -21.826 -17.170 -69.916  1.00 28.48           N
ATOM   2145  CA  GLU A 286     -21.875 -18.617 -69.799  1.00 30.21           C
ATOM   2146  CB  GLU A 286     -23.253 -19.069 -69.324  1.00 31.60           C
ATOM   2147  CG  GLU A 286     -23.807 -18.214 -68.197  1.00 33.06           C
ATOM   2148  CD  GLU A 286     -24.730 -18.967 -67.247  1.00 36.91           C
ATOM   2149  OE1 GLU A 286     -25.656 -19.697 -67.707  1.00 37.26           O
ATOM   2150  OE2 GLU A 286     -24.535 -18.803 -66.018  1.00 39.32           O
ATOM   2151  C   GLU A 286     -21.463 -19.285 -71.110  1.00 31.63           C
ATOM   2152  O   GLU A 286     -21.940 -18.910 -72.193  1.00 30.47           O
ATOM   2153  N   LYS A 287     -20.560 -20.266 -70.992  1.00 33.33           N
ATOM   2154  CA  LYS A 287     -19.890 -20.902 -72.144  1.00 33.50           C
ATOM   2155  CB  LYS A 287     -18.358 -20.882 -71.975  1.00 34.14           C
ATOM   2156  CG  LYS A 287     -17.869 -21.006 -70.538  1.00 36.29           C
ATOM   2157  CD  LYS A 287     -16.355 -20.876 -70.452  1.00 38.33           C
ATOM   2158  CE  LYS A 287     -15.930 -19.829 -69.421  1.00 40.74           C
ATOM   2159  NZ  LYS A 287     -16.037 -20.276 -68.000  1.00 40.62           N
ATOM   2160  C   LYS A 287     -20.377 -22.319 -72.448  1.00 31.91           C
ATOM   2161  O   LYS A 287     -21.099 -22.919 -71.662  1.00 30.94           O
ATOM   2162  N   THR A 296     -18.443 -21.919 -77.420  1.00 43.82           N
ATOM   2163  CA  THR A 296     -18.117 -20.643 -76.783  1.00 46.23           C
ATOM   2164  CB  THR A 296     -17.490 -19.636 -77.781  1.00 49.44           C
ATOM   2165  OG1 THR A 296     -18.479 -19.195 -78.729  1.00 49.39           O
ATOM   2166  CG2 THR A 296     -16.282 -20.268 -78.505  1.00 49.45           C
ATOM   2167  C   THR A 296     -19.326 -20.022 -76.064  1.00 43.76           C
ATOM   2168  O   THR A 296     -20.117 -20.745 -75.467  1.00 45.08           O
ATOM   2169  N   LEU A 297     -19.467 -18.695 -76.133  1.00 41.47           N
ATOM   2170  CA  LEU A 297     -20.452 -17.954 -75.321  1.00 40.13           C
ATOM   2171  CB  LEU A 297     -20.137 -16.453 -75.330  1.00 40.21           C
ATOM   2172  CG  LEU A 297     -21.148 -15.489 -74.690  1.00 41.40           C
ATOM   2173  CD1 LEU A 297     -21.487 -15.852 -73.249  1.00 41.17           C
ATOM   2174  CD2 LEU A 297     -20.618 -14.068 -74.757  1.00 41.99           C
ATOM   2175  C   LEU A 297     -21.927 -18.192 -75.685  1.00 37.84           C
ATOM   2176  O   LEU A 297     -22.367 -17.845 -76.777  1.00 36.20           O
ATOM   2177  N   LYS A 298     -22.687 -18.746 -74.738  1.00 36.28           N
ATOM   2178  CA  LYS A 298     -24.066 -19.156 -75.008  1.00 35.16           C
ATOM   2179  CB  LYS A 298     -24.262 -20.653 -74.765  1.00 34.30           C
ATOM   2180  CG  LYS A 298     -25.419 -21.217 -75.564  1.00 33.96           C
ATOM   2181  CD  LYS A 298     -25.712 -22.662 -75.213  1.00 36.09           C
ATOM   2182  CE  LYS A 298     -27.136 -23.026 -75.618  1.00 37.68           C
ATOM   2183  NZ  LYS A 298     -27.512 -22.463 -76.949  1.00 37.27           N
ATOM   2184  C   LYS A 298     -25.161 -18.363 -74.292  1.00 34.24           C
ATOM   2185  O   LYS A 298     -26.277 -18.275 -74.797  1.00 35.34           O
ATOM   2186  N   ASP A 299     -24.867 -17.792 -73.129  1.00 32.83           N
ATOM   2187  CA  ASP A 299     -25.889 -17.018 -72.426  1.00 30.99           C
ATOM   2188  CB  ASP A 299     -26.801 -17.951 -71.635  1.00 32.92           C
ATOM   2189  CG  ASP A 299     -28.208 -17.407 -71.495  1.00 35.16           C
ATOM   2190  OD1 ASP A 299     -28.437 -16.215 -71.832  1.00 35.55           O
ATOM   2191  OD2 ASP A 299     -29.090 -18.177 -71.047  1.00 36.78           O
ATOM   2192  C   ASP A 299     -25.319 -15.955 -71.507  1.00 28.47           C
ATOM   2193  O   ASP A 299     -24.123 -15.956 -71.234  1.00 28.56           O
ATOM   2194  N   LEU A 300     -26.185 -15.047 -71.044  1.00 25.53           N
ATOM   2195  CA  LEU A 300     -25.854 -14.114 -69.953  1.00 23.33           C
ATOM   2196  CB  LEU A 300     -25.870 -12.669 -70.447  1.00 23.08           C
ATOM   2197  CG  LEU A 300     -25.277 -12.383 -71.826  1.00 23.51           C
ATOM   2198  CD1 LEU A 300     -25.648 -10.986 -72.294  1.00 23.70           C
ATOM   2199  CD2 LEU A 300     -23.772 -12.581 -71.843  1.00 23.51           C
ATOM   2200  C   LEU A 300     -26.811 -14.261 -68.761  1.00 21.81           C
ATOM   2201  O   LEU A 300     -28.010 -14.497 -68.949  1.00 21.78           O
ATOM   2202  N   ARG A 301     -26.272 -14.123 -67.543  1.00 19.96           N
ATOM   2203  CA  ARG A 301     -27.067 -14.159 -66.295  1.00 18.46           C
ATOM   2204  CB  ARG A 301     -26.957 -15.536 -65.617  1.00 17.37           C
ATOM   2205  C   ARG A 301     -26.644 -13.055 -65.308  1.00 17.47           C
ATOM   2206  O   ARG A 301     -25.460 -12.802 -65.120  1.00 17.41           O
ATOM   2207  N   VAL A 302     -27.608 -12.405 -64.675  1.00 16.69           N
ATOM   2208  CA  VAL A 302     -27.286 -11.441 -63.621  1.00 16.35           C
ATOM   2209  CB  VAL A 302     -27.999 -10.090 -63.822  1.00 16.15           C
ATOM   2210  CG1 VAL A 302     -27.298  -9.009 -63.025  1.00 16.08           C
ATOM   2211  CG2 VAL A 302     -28.031  -9.695 -65.286  1.00 16.38           C
ATOM   2212  C   VAL A 302     -27.670 -12.001 -62.253  1.00 16.48           C
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ATOM   2213  O   VAL A 302     -28.676 -12.702 -62.124  1.00 16.24           O
ATOM   2214  N   GLU A 303     -26.865 -11.696 -61.235  1.00 16.67           N
ATOM   2215  CA  GLU A 303     -27.167 -12.086 -59.858  1.00 16.99           C
ATOM   2216  CB  GLU A 303     -26.145 -13.116 -59.353  1.00 18.23           C
ATOM   2217  CG  GLU A 303     -26.328 -14.554 -59.846  1.00 19.73           C
ATOM   2218  CD  GLU A 303     -25.203 -15.492 -59.378  1.00 20.69           C
ATOM   2219  OE1 GLU A 303     -24.405 -15.078 -58.493  1.00 20.78           O
ATOM   2220  OE2 GLU A 303     -25.119 -16.647 -59.891  1.00 20.86           O
ATOM   2221  C   GLU A 303     -27.105 -10.842 -58.977  1.00 16.49           C
ATOM   2222  O   GLU A 303     -26.185 -10.046 -59.135  1.00 17.08           O
ATOM   2223  N   LEU A 304     -28.057 -10.680 -58.051  1.00 15.41           N
ATOM   2224  CA  LEU A 304     -28.024  -9.548 -57.102  1.00 14.71           C
ATOM   2225  CB  LEU A 304     -29.445  -9.063 -56.731  1.00 14.17           C
ATOM   2226  CG  LEU A 304     -29.630  -8.008 -55.618  1.00 13.57           C
ATOM   2227  CD1 LEU A 304     -28.831  -6.756 -55.888  1.00 13.42           C
ATOM   2228  CD2 LEU A 304     -31.090  -7.648 -55.411  1.00 13.48           C
ATOM   2229  C   LEU A 304     -27.176  -9.799 -55.847  1.00 14.46           C
ATOM   2230  O   LEU A 304     -27.613 -10.434 -54.900  1.00 14.46           O
ATOM   2231  N   LEU A 305     -25.972  -9.257 -55.827  1.00 14.77           N
ATOM   2232  CA  LEU A 305     -25.075  -9.485 -54.697  1.00 15.38           C
ATOM   2233  CB  LEU A 305     -23.642  -9.085 -55.047  1.00 15.05           C
ATOM   2234  CG  LEU A 305     -23.126  -9.731 -56.341  1.00 15.28           C
ATOM   2235  CD1 LEU A 305     -21.838  -9.060 -56.821  1.00 15.56           C
ATOM   2236  CD2 LEU A 305     -22.943 -11.235 -56.214  1.00 14.98           C
ATOM   2237  C   LEU A 305     -25.521  -8.836 -53.387  1.00 15.94           C
ATOM   2238  O   LEU A 305     -25.290  -9.391 -52.322  1.00 16.03           O
ATOM   2239  N   GLY A 306     -26.154  -7.666 -53.468  1.00 16.91           N
ATOM   2240  CA  GLY A 306     -26.554  -6.917 -52.276  1.00 17.48           C
ATOM   2241  C   GLY A 306     -26.270  -5.422 -52.344  1.00 18.55           C
ATOM   2242  O   GLY A 306     -26.099  -4.850 -53.425  1.00 18.02           O
ATOM   2243  N   GLU A 307     -26.211  -4.799 -51.167  1.00 19.85           N
ATOM   2244  CA  GLU A 307     -26.119  -3.346 -51.022  1.00 20.40           C
ATOM   2245  CB  GLU A 307     -27.180  -2.873 -50.030  1.00 22.91           C
ATOM   2246  CG  GLU A 307     -27.523  -1.388 -50.056  1.00 25.66           C
ATOM   2247  CD  GLU A 307     -28.139  -0.909 -48.732  1.00 27.80           C
ATOM   2248  OE1 GLU A 307     -29.256  -1.366 -48.374  1.00 27.85           O
ATOM   2249  OE2 GLU A 307     -27.498  -0.073 -48.041  1.00 29.67           O
ATOM   2250  C   GLU A 307     -24.734  -2.940 -50.529  1.00 20.06           C
ATOM   2251  O   GLU A 307     -24.168  -3.561 -49.619  1.00 20.24           O
ATOM   2252  N   THR A 308     -24.176  -1.918 -51.165  1.00 18.95           N
ATOM   2253  CA  THR A 308     -22.916  -1.328 -50.745  1.00 17.93           C
ATOM   2254  CB  THR A 308     -21.799  -1.582 -51.769  1.00 17.91           C
ATOM   2255  OG1 THR A 308     -22.196  -1.068 -53.042  1.00 18.40           O
ATOM   2256  CG2 THR A 308     -21.510  -3.053 -51.908  1.00 17.84           C
ATOM   2257  C   THR A 308     -23.185   0.150 -50.695  1.00 17.45           C
ATOM   2258  O   THR A 308     -24.325   0.568 -50.886  1.00 17.68           O
ATOM   2259  N   SER A 309     -22.161   0.954 -50.447  1.00 16.65           N
ATOM   2260  CA  SER A 309     -22.315   2.381 -50.637  1.00 16.44           C
ATOM   2261  CB  SER A 309     -21.002   3.107 -50.366  1.00 16.86           C
ATOM   2262  OG  SER A 309     -20.604   3.008 -49.013  1.00 17.45           O
ATOM   2263  C   SER A 309     -22.692   2.589 -52.097  1.00 16.11           C
ATOM   2264  O   SER A 309     -22.323   1.787 -52.958  1.00 16.44           O
ATOM   2265  N   ILE A 310     -23.420   3.661 -52.378  1.00 15.08           N
ATOM   2266  CA  ILE A 310     -23.714   4.035 -53.740  1.00 14.24           C
ATOM   2267  CB  ILE A 310     -24.524   5.336 -53.780  1.00 13.93           C
ATOM   2268  CG1 ILE A 310     -25.882   5.109 -53.120  1.00 13.85           C
ATOM   2269  CD1 ILE A 310     -26.638   6.375 -52.811  1.00 14.15           C
ATOM   2270  CG2 ILE A 310     -24.708   5.811 -55.206  1.00 13.76           C
ATOM   2271  C   ILE A 310     -22.392   4.192 -54.454  1.00 14.19           C
ATOM   2272  O   ILE A 310     -21.600   5.058 -54.111  1.00 14.14           O
ATOM   2273  N   ALA A 311     -22.137   3.312 -55.415  1.00 14.61           N
ATOM   2274  CA  ALA A 311     -20.820   3.221 -56.052  1.00 15.20           C
ATOM   2275  CB  ALA A 311     -20.561   1.809 -56.553  1.00 14.73           C
ATOM   2276  C   ALA A 311     -20.633   4.230 -57.177  1.00 15.89           C
ATOM   2277  O   ALA A 311     -21.555   4.509 -57.942  1.00 16.39           O
ATOM   2278  N   GLU A 312     -19.436   4.785 -57.257  1.00 16.71           N
ATOM   2279  CA  GLU A 312     -19.065   5.649 -58.355  1.00 17.97           C
ATOM   2280  CB  GLU A 312     -18.323   6.882 -57.825  1.00 19.13           C
ATOM   2281  CG  GLU A 312     -17.526   7.668 -58.862  1.00 21.30           C
ATOM   2282  CD  GLU A 312     -18.388   8.473 -59.854  1.00 24.28           C
ATOM   2283  OE1 GLU A 312     -17.809   8.986 -60.860  1.00 25.05           O
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ATOM   2284  OE2 GLU A 312     -19.634   8.603 -59.636  1.00 25.16           O
ATOM   2285  C   GLU A 312     -18.159   4.823 -59.239  1.00 18.29           C
ATOM   2286  O   GLU A 312     -18.220   4.906 -60.472  1.00 18.39           O
ATOM   2287  N   CYS A 313     -17.318   4.014 -58.590  1.00 18.05           N
ATOM   2288  CA  CYS A 313     -16.394   3.149 -59.278  1.00 17.57           C
ATOM   2289  CB  CYS A 313     -15.108   3.922 -59.580  1.00 18.32           C
ATOM   2290  SG  CYS A 313     -13.988   4.192 -58.192  1.00 20.08           S
ATOM   2291  C   CYS A 313     -16.136   1.862 -58.483  1.00 17.19           C
ATOM   2292  O   CYS A 313     -16.161   1.875 -57.261  1.00 17.58           O
ATOM   2293  N   LEU A 314     -15.911   0.749 -59.180  1.00 16.98           N
ATOM   2294  CA  LEU A 314     -15.615  -0.540 -58.534  1.00 16.94           C
ATOM   2295  CB  LEU A 314     -16.702  -1.567 -58.834  1.00 16.38           C
ATOM   2296  CG  LEU A 314     -18.144  -1.225 -58.482  1.00 16.35           C
ATOM   2297  CD1 LEU A 314     -19.094  -2.058 -59.317  1.00 16.20           C
ATOM   2298  CD2 LEU A 314     -18.411  -1.427 -56.997  1.00 16.48           C
ATOM   2299  C   LEU A 314     -14.305  -1.120 -59.008  1.00 17.76           C
ATOM   2300  O   LEU A 314     -13.966  -1.055 -60.192  1.00 17.93           O
ATOM   2301  N   THR A 315     -13.570  -1.714 -58.084  1.00 18.98           N
ATOM   2302  CA  THR A 315     -12.379  -2.477 -58.445  1.00 19.73           C
ATOM   2303  CB  THR A 315     -11.073  -1.718 -58.147  1.00 20.57           C
ATOM   2304  OG1 THR A 315     -11.262  -0.313 -58.368  1.00 22.30           O
ATOM   2305  CG2 THR A 315      -9.968  -2.217 -59.054  1.00 21.13           C
ATOM   2306  C   THR A 315     -12.367  -3.783 -57.680  1.00 19.65           C
ATOM   2307  O   THR A 315     -12.553  -3.799 -56.462  1.00 19.98           O
ATOM   2308  N   TYR A 316     -12.185  -4.881 -58.399  1.00 19.77           N
ATOM   2309  CA  TYR A 316     -11.939  -6.150 -57.759  1.00 20.09           C
ATOM   2310  CB  TYR A 316     -12.334  -7.311 -58.665  1.00 20.79           C
ATOM   2311  CG  TYR A 316     -12.034  -8.660 -58.061  1.00 20.79           C
ATOM   2312  CD1 TYR A 316     -12.829  -9.169 -57.035  1.00 20.90           C
ATOM   2313  CE1 TYR A 316     -12.565 -10.405 -56.473  1.00 20.88           C
ATOM   2314  CZ  TYR A 316     -11.490 -11.138 -56.923  1.00 20.85           C
ATOM   2315  OH  TYR A 316     -11.233 -12.346 -56.342  1.00 21.09           O
ATOM   2316  CE2 TYR A 316     -10.673 -10.654 -57.934  1.00 20.84           C
ATOM   2317  CD2 TYR A 316     -10.949  -9.421 -58.501  1.00 20.46           C
ATOM   2318  C   TYR A 316     -10.470  -6.220 -57.472  1.00 20.16           C
ATOM   2319  O   TYR A 316      -9.646  -6.010 -58.367  1.00 20.18           O
ATOM   2320  N   LEU A 317     -10.136  -6.523 -56.228  1.00 20.50           N
ATOM   2321  CA  LEU A 317      -8.741  -6.643 -55.835  1.00 21.67           C
ATOM   2322  CB  LEU A 317      -8.501  -6.001 -54.461  1.00 19.96           C
ATOM   2323  CG  LEU A 317      -9.064  -4.580 -54.298  1.00 18.32           C
ATOM   2324  CD1 LEU A 317      -8.866  -4.055 -52.887  1.00 17.64           C
ATOM   2325  CD2 LEU A 317      -8.437  -3.646 -55.306  1.00 18.01           C
ATOM   2326  C   LEU A 317      -8.287  -8.107 -55.893  1.00 23.97           C
ATOM   2327  O   LEU A 317      -7.634  -8.513 -56.853  1.00 25.60           O
ATOM   2328  N   ASP A 318      -8.673  -8.907 -54.905  1.00 26.15           N
ATOM   2329  CA  ASP A 318      -8.175 -10.273 -54.786  1.00 27.89           C
ATOM   2330  CB  ASP A 318      -6.651 -10.255 -54.677  1.00 31.85           C
ATOM   2331  CG  ASP A 318      -6.033 -11.622 -54.873  1.00 36.21           C
ATOM   2332  OD1 ASP A 318      -6.750 -12.542 -55.336  1.00 38.00           O
ATOM   2333  OD2 ASP A 318      -4.823 -11.771 -54.566  1.00 39.12           O
ATOM   2334  C   ASP A 318      -8.749 -10.962 -53.559  1.00 27.16           C
ATOM   2335  O   ASP A 318      -9.141 -10.308 -52.587  1.00 27.14           O
ATOM   2336  N   ASN A 319      -8.769 -12.289 -53.590  1.00 26.03           N
ATOM   2337  CA  ASN A 319      -9.372 -13.074 -52.513  1.00 25.13           C
ATOM   2338  CB  ASN A 319      -8.481 -13.075 -51.247  1.00 24.82           C
ATOM   2339  C   ASN A 319     -10.791 -12.562 -52.235  1.00 23.65           C
ATOM   2340  O   ASN A 319     -11.197 -12.361 -51.086  1.00 23.29           O
ATOM   2341  N   GLY A 320     -11.524 -12.325 -53.320  1.00 22.51           N
ATOM   2342  CA  GLY A 320     -12.915 -11.898 -53.243  1.00 22.03           C
ATOM   2343  C   GLY A 320     -13.154 -10.608 -52.479  1.00 21.70           C
ATOM   2344  O   GLY A 320     -14.229 -10.423 -51.882  1.00 22.19           O
ATOM   2345  N   VAL A 321     -12.147  -9.727 -52.471  1.00 20.25           N
ATOM   2346  CA  VAL A 321     -12.282  -8.404 -51.869  1.00 18.77           C
ATOM   2347  CB  VAL A 321     -11.084  -8.040 -50.968  1.00 18.61           C
ATOM   2348  CG1 VAL A 321     -11.092  -6.556 -50.601  1.00 18.45           C
ATOM   2349  CG2 VAL A 321     -11.112  -8.886 -49.709  1.00 18.27           C
ATOM   2350  C   VAL A 321     -12.487  -7.384 -52.971  1.00 17.81           C
ATOM   2351  O   VAL A 321     -11.892  -7.486 -54.035  1.00 18.14           O
ATOM   2352  N   VAL A 322     -13.366  -6.427 -52.722  1.00 16.91           N
ATOM   2353  CA  VAL A 322     -13.731  -5.444 -53.720  1.00 16.27           C
ATOM   2354  CB  VAL A 322     -15.135  -5.745 -54.302  1.00 16.48           C
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ATOM   2355  CG1 VAL A 322     -15.612  -4.612 -55.196  1.00 16.59           C
ATOM   2356  CG2 VAL A 322     -15.118  -7.039 -55.081  1.00 16.62           C
ATOM   2357  C   VAL A 322     -13.712  -4.045 -53.110  1.00 15.59           C
ATOM   2358  O   VAL A 322     -14.265  -3.822 -52.007  1.00 15.25           O
ATOM   2359  N   PHE A 323     -13.081  -3.112 -53.828  1.00 14.63           N
ATOM   2360  CA  PHE A 323     -13.120  -1.696 -53.462  1.00 13.97           C
ATOM   2361  CB  PHE A 323     -11.805  -0.992 -53.787  1.00 13.44           C
ATOM   2362  CG  PHE A 323     -11.804   0.474 -53.439  1.00 13.46           C
ATOM   2363  CD1 PHE A 323     -11.653   0.892 -52.126  1.00 13.22           C
ATOM   2364  CE1 PHE A 323     -11.650   2.235 -51.806  1.00 13.00           C
ATOM   2365  CZ  PHE A 323     -11.797   3.184 -52.796  1.00 13.00           C
ATOM   2366  CE2 PHE A 323     -11.932   2.793 -54.111  1.00 13.28           C
ATOM   2367  CD2 PHE A 323     -11.942   1.444 -54.431  1.00 13.65           C
ATOM   2368  C   PHE A 323     -14.281  -0.975 -54.139  1.00 13.78           C
ATOM   2369  O   PHE A 323     -14.350  -0.896 -55.375  1.00 13.77           O
ATOM   2370  N   VAL A 324     -15.187  -0.451 -53.311  1.00 13.70           N
ATOM   2371  CA  VAL A 324     -16.321   0.344 -53.763  1.00 13.58           C
ATOM   2372  CB  VAL A 324     -17.598  -0.024 -53.006  1.00 13.44           C
ATOM   2373  CG1 VAL A 324     -18.720   0.917 -53.386  1.00 13.72           C
ATOM   2374  CG2 VAL A 324     -17.999  -1.450 -53.309  1.00 13.60           C
ATOM   2375  C   VAL A 324     -15.977   1.795 -53.488  1.00 13.87           C
ATOM   2376  O   VAL A 324     -15.890   2.220 -52.326  1.00 13.82           O
ATOM   2377  N   GLY A 325     -15.728   2.536 -54.566  1.00 14.08           N
ATOM   2378  CA  GLY A 325     -15.343   3.932 -54.484  1.00 14.00           C
ATOM   2379  C   GLY A 325     -16.615   4.731 -54.515  1.00 14.50           C
ATOM   2380  O   GLY A 325     -17.416   4.593 -55.447  1.00 14.85           O
ATOM   2381  N   SER A 326     -16.823   5.554 -53.492  1.00 14.50           N
ATOM   2382  CA  SER A 326     -18.060   6.311 -53.389  1.00 14.64           C
ATOM   2383  CB  SER A 326     -18.747   6.006 -52.073  1.00 14.39           C
ATOM   2384  OG  SER A 326     -20.051   6.535 -52.070  1.00 14.44           O
ATOM   2385  C   SER A 326     -17.851   7.811 -53.530  1.00 14.80           C
ATOM   2386  O   SER A 326     -16.771   8.322 -53.260  1.00 15.29           O
ATOM   2387  N   ARG A 327     -18.888   8.512 -53.969  1.00 14.73           N
ATOM   2388  CA  ARG A 327     -18.875   9.963 -53.941  1.00 14.68           C
ATOM   2389  CB  ARG A 327     -19.061  10.558 -55.329  1.00 15.01           C
ATOM   2390  CG  ARG A 327     -17.748  11.016 -55.899  1.00 15.79           C
ATOM   2391  CD  ARG A 327     -17.781  11.105 -57.410  1.00 17.16           C
ATOM   2392  NE  ARG A 327     -18.280  12.397 -57.906  1.00 18.54           N
ATOM   2393  CZ  ARG A 327     -17.872  13.595 -57.482  1.00 17.99           C
ATOM   2394  NH1 ARG A 327     -16.986  13.695 -56.510  1.00 18.16           N
ATOM   2395  NH2 ARG A 327     -18.385  14.691 -58.006  1.00 17.81           N
ATOM   2396  C   ARG A 327     -19.933  10.470 -53.017  1.00 14.29           C
ATOM   2397  O   ARG A 327     -19.716  11.434 -52.302  1.00 14.55           O
ATOM   2398  N   LEU A 328     -21.078   9.805 -53.021  1.00 14.01           N
ATOM   2399  CA  LEU A 328     -22.204  10.225 -52.201  1.00 13.71           C
ATOM   2400  CB  LEU A 328     -23.534   9.810 -52.832  1.00 13.67           C
ATOM   2401  CG  LEU A 328     -23.693  10.221 -54.301  1.00 14.02           C
ATOM   2402  CD1 LEU A 328     -25.074   9.882 -54.853  1.00 13.89           C
ATOM   2403  CD2 LEU A 328     -23.399  11.708 -54.460  1.00 14.03           C
ATOM   2404  C   LEU A 328     -22.117   9.710 -50.776  1.00 13.53           C
ATOM   2405  O   LEU A 328     -22.897  10.136 -49.938  1.00 13.68           O
ATOM   2406  N   GLY A 329     -21.171   8.812 -50.495  1.00 12.98           N
ATOM   2407  CA  GLY A 329     -21.106   8.171 -49.188  1.00 12.98           C
ATOM   2408  C   GLY A 329     -19.710   7.731 -48.842  1.00 13.02           C
ATOM   2409  O   GLY A 329     -18.769   8.147 -49.477  1.00 13.63           O
ATOM   2410  N   ASP A 330     -19.564   6.894 -47.827  1.00 12.96           N
ATOM   2411  CA  ASP A 330     -18.257   6.359 -47.505  1.00 13.03           C
ATOM   2412  CB  ASP A 330     -18.269   5.626 -46.155  1.00 13.25           C
ATOM   2413  CG  ASP A 330     -18.316   6.566 -44.948  1.00 13.38           C
ATOM   2414  OD1 ASP A 330     -18.136   7.806 -45.065  1.00 13.30           O
ATOM   2415  OD2 ASP A 330     -18.527   6.030 -43.847  1.00 13.66           O
ATOM   2416  C   ASP A 330     -17.873   5.374 -48.582  1.00 13.02           C
ATOM   2417  O   ASP A 330     -18.713   4.622 -49.055  1.00 12.92           O
ATOM   2418  N   SER A 331     -16.600   5.358 -48.954  1.00 13.27           N
ATOM   2419  CA  SER A 331     -16.090   4.295 -49.808  1.00 13.58           C
ATOM   2420  CB  SER A 331     -14.830   4.752 -50.511  1.00 13.68           C
ATOM   2421  OG  SER A 331     -15.157   5.797 -51.414  1.00 13.99           O
ATOM   2422  C   SER A 331     -15.849   3.052 -48.974  1.00 13.79           C
ATOM   2423  O   SER A 331     -15.696   3.145 -47.762  1.00 14.01           O
ATOM   2424  N   GLN A 332     -15.840   1.882 -49.603  1.00 14.16           N
ATOM   2425  CA  GLN A 332     -15.766   0.626 -48.828  1.00 14.46           C
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ATOM   2426  CB  GLN A 332     -17.122  -0.070 -48.835  1.00 14.26           C
ATOM   2427  CG  GLN A 332     -18.223   0.650 -48.111  1.00 14.15           C
ATOM   2428  CD  GLN A 332     -19.560   0.043 -48.430  1.00 14.06           C
ATOM   2429  OE1 GLN A 332     -19.879  -0.191 -49.589  1.00 13.97           O
ATOM   2430  NE2 GLN A 332     -20.357  -0.212 -47.402  1.00 14.25           N
ATOM   2431  C   GLN A 332     -14.736  -0.401 -49.288  1.00 14.57           C
ATOM   2432  O   GLN A 332     -14.244  -0.361 -50.402  1.00 14.57           O
ATOM   2433  N   LEU A 333     -14.448  -1.345 -48.410  1.00 15.23           N
ATOM   2434  CA  LEU A 333     -13.960  -2.640 -48.834  1.00 16.21           C
ATOM   2435  CB  LEU A 333     -12.660  -3.001 -48.109  1.00 15.81           C
ATOM   2436  CG  LEU A 333     -11.417  -2.272 -48.602  1.00 15.01           C
ATOM   2437  CD1 LEU A 333     -10.214  -2.659 -47.772  1.00 14.79           C
ATOM   2438  CD2 LEU A 333     -11.174  -2.583 -50.061  1.00 14.97           C
ATOM   2439  C   LEU A 333     -15.045  -3.679 -48.560  1.00 17.14           C
ATOM   2440  O   LEU A 333     -15.527  -3.804 -47.438  1.00 17.36           O
ATOM   2441  N   VAL A 334     -15.454  -4.402 -49.594  1.00 18.55           N
ATOM   2442  CA  VAL A 334     -16.450  -5.462 -49.409  1.00 20.35           C
ATOM   2443  CB  VAL A 334     -17.782  -5.170 -50.154  1.00 20.48           C
ATOM   2444  CG1 VAL A 334     -18.584  -4.118 -49.401  1.00 20.35           C
ATOM   2445  CG2 VAL A 334     -17.528  -4.729 -51.592  1.00 19.95           C
ATOM   2446  C   VAL A 334     -15.924  -6.856 -49.763  1.00 21.24           C
ATOM   2447  O   VAL A 334     -15.245  -7.050 -50.776  1.00 20.82           O
ATOM   2448  N   LYS A 335     -16.230  -7.819 -48.908  1.00 23.36           N
ATOM   2449  CA  LYS A 335     -15.883  -9.207 -49.167  1.00 25.74           C
ATOM   2450  CB  LYS A 335     -15.491  -9.900 -47.859  1.00 27.08           C
ATOM   2451  CG  LYS A 335     -15.107 -11.360 -48.009  1.00 28.42           C
ATOM   2452  CD  LYS A 335     -13.606 -11.568 -47.901  1.00 30.46           C
ATOM   2453  CE  LYS A 335     -13.187 -12.932 -48.441  1.00 32.01           C
ATOM   2454  NZ  LYS A 335     -14.169 -14.018 -48.125  1.00 33.25           N
ATOM   2455  C   LYS A 335     -17.096  -9.896 -49.764  1.00 26.04           C
ATOM   2456  O   LYS A 335     -18.167  -9.889 -49.151  1.00 25.19           O
ATOM   2457  N   LEU A 336     -16.940 -10.485 -50.949  1.00 26.91           N
ATOM   2458  CA  LEU A 336     -18.023 -11.298 -51.509  1.00 30.03           C
ATOM   2459  CB  LEU A 336     -18.274 -11.013 -52.997  1.00 29.79           C
ATOM   2460  CG  LEU A 336     -17.146 -10.998 -54.015  1.00 29.27           C
ATOM   2461  CD1 LEU A 336     -17.555 -11.778 -55.251  1.00 29.42           C
ATOM   2462  CD2 LEU A 336     -16.847  -9.561 -54.375  1.00 29.02           C
ATOM   2463  C   LEU A 336     -17.886 -12.803 -51.244  1.00 31.63           C
ATOM   2464  O   LEU A 336     -17.096 -13.488 -51.898  1.00 31.84           O
ATOM   2465  N   ASN A 337     -18.685 -13.295 -50.290  1.00 35.08           N
ATOM   2466  CA  ASN A 337     -18.662 -14.704 -49.843  1.00 39.02           C
ATOM   2467  CB  ASN A 337     -19.124 -14.813 -48.378  1.00 40.63           C
ATOM   2468  CG  ASN A 337     -18.176 -14.114 -47.398  1.00 42.42           C
ATOM   2469  OD1 ASN A 337     -16.978 -13.950 -47.668  1.00 43.75           O
ATOM   2470  ND2 ASN A 337     -18.711 -13.707 -46.245  1.00 41.47           N
ATOM   2471  C   ASN A 337     -19.484 -15.663 -50.720  1.00 39.92           C
ATOM   2472  O   ASN A 337     -19.923 -15.306 -51.825  1.00 40.64           O
ATOM   2473  N   GLU A 342     -24.711 -24.931 -51.491  1.00 42.39           N
ATOM   2474  CA  GLU A 342     -24.202 -23.572 -51.386  1.00 43.46           C
ATOM   2475  CB  GLU A 342     -23.991 -22.965 -52.790  1.00 42.66           C
ATOM   2476  CG  GLU A 342     -22.573 -22.444 -53.072  1.00 42.81           C
ATOM   2477  CD  GLU A 342     -22.381 -20.946 -52.807  1.00 43.94           C
ATOM   2478  OE1 GLU A 342     -21.732 -20.269 -53.640  1.00 44.61           O
ATOM   2479  OE2 GLU A 342     -22.858 -20.436 -51.767  1.00 43.62           O
ATOM   2480  C   GLU A 342     -25.149 -22.712 -50.524  1.00 44.50           C
ATOM   2481  O   GLU A 342     -25.794 -23.221 -49.607  1.00 44.04           O
ATOM   2482  N   GLN A 343     -25.202 -21.411 -50.812  1.00 47.08           N
ATOM   2483  CA  GLN A 343     -26.059 -20.457 -50.093  1.00 45.88           C
ATOM   2484  CB  GLN A 343     -25.466 -20.105 -48.719  1.00 48.52           C
ATOM   2485  CG  GLN A 343     -24.169 -19.290 -48.776  1.00 53.25           C
ATOM   2486  CD  GLN A 343     -23.259 -19.513 -47.570  1.00 53.83           C
ATOM   2487  OE1 GLN A 343     -23.630 -19.217 -46.431  1.00 52.35           O
ATOM   2488  NE2 GLN A 343     -22.053 -20.029 -47.823  1.00 52.28           N
ATOM   2489  C   GLN A 343     -26.307 -19.178 -50.912  1.00 43.55           C
ATOM   2490  O   GLN A 343     -26.913 -18.234 -50.415  1.00 45.41           O
ATOM   2491  N   GLY A 344     -25.837 -19.146 -52.159  1.00 39.86           N
ATOM   2492  CA  GLY A 344     -26.105 -18.015 -53.055  1.00 38.17           C
ATOM   2493  C   GLY A 344     -25.234 -16.797 -52.795  1.00 37.15           C
ATOM   2494  O   GLY A 344     -24.949 -16.466 -51.652  1.00 37.97           O
ATOM   2495  N   SER A 345     -24.827 -16.125 -53.866  1.00 36.49           N
ATOM   2496  CA  SER A 345     -23.875 -15.012 -53.797  1.00 35.91           C
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ATOM   2497  CB  SER A 345     -23.645 -14.450 -55.187  1.00 33.26           C
ATOM   2498  OG  SER A 345     -22.904 -15.353 -55.965  1.00 32.43           O
ATOM   2499  C   SER A 345     -24.299 -13.880 -52.876  1.00 37.81           C
ATOM   2500  O   SER A 345     -25.406 -13.356 -53.005  1.00 39.29           O
ATOM   2501  N   TYR A 346     -23.408 -13.512 -51.953  1.00 39.44           N
ATOM   2502  CA  TYR A 346     -23.601 -12.346 -51.087  1.00 39.92           C
ATOM   2503  CB  TYR A 346     -24.109 -12.748 -49.691  1.00 45.98           C
ATOM   2504  CG  TYR A 346     -25.377 -12.009 -49.288  1.00 53.94           C
ATOM   2505  CD1 TYR A 346     -25.351 -10.641 -48.941  1.00 53.48           C
ATOM   2506  CE1 TYR A 346     -26.517  -9.966 -48.595  1.00 54.68           C
ATOM   2507  CZ  TYR A 346     -27.734 -10.660 -48.591  1.00 59.40           C
ATOM   2508  OH  TYR A 346     -28.904 -10.023 -48.247  1.00 62.09           O
ATOM   2509  CE2 TYR A 346     -27.787 -12.008 -48.928  1.00 59.83           C
ATOM   2510  CD2 TYR A 346     -26.618 -12.673 -49.278  1.00 59.01           C
ATOM   2511  C   TYR A 346     -22.317 -11.526 -50.951  1.00 37.68           C
ATOM   2512  O   TYR A 346     -21.209 -12.041 -51.118  1.00 37.25           O
ATOM   2513  N   VAL A 347     -22.485 -10.247 -50.639  1.00 33.85           N
ATOM   2514  CA  VAL A 347     -21.378  -9.353 -50.376  1.00 31.17           C
ATOM   2515  CB  VAL A 347     -21.328  -8.222 -51.441  1.00 31.07           C
ATOM   2516  CG1 VAL A 347     -22.257  -7.068 -51.082  1.00 30.07           C
ATOM   2517  CG2 VAL A 347     -19.898  -7.741 -51.665  1.00 31.04           C
ATOM   2518  C   VAL A 347     -21.529  -8.816 -48.942  1.00 30.11           C
ATOM   2519  O   VAL A 347     -22.642  -8.687 -48.446  1.00 30.96           O
ATOM   2520  N   VAL A 348     -20.414  -8.549 -48.269  1.00 28.64           N
ATOM   2521  CA  VAL A 348     -20.433  -8.050 -46.892  1.00 27.21           C
ATOM   2522  CB  VAL A 348     -20.251  -9.197 -45.860  1.00 26.79           C
ATOM   2523  CG1 VAL A 348     -19.221  -8.840 -44.793  1.00 25.64           C
ATOM   2524  CG2 VAL A 348     -21.591  -9.559 -45.228  1.00 26.24           C
ATOM   2525  C   VAL A 348     -19.360  -6.993 -46.719  1.00 27.03           C
ATOM   2526  O   VAL A 348     -18.333  -7.032 -47.394  1.00 27.17           O
ATOM   2527  N   ALA A 349     -19.599  -6.047 -45.816  1.00 27.36           N
ATOM   2528  CA  ALA A 349     -18.672  -4.932 -45.620  1.00 27.26           C
ATOM   2529  CB  ALA A 349     -19.408  -3.721 -45.057  1.00 27.85           C
ATOM   2530  C   ALA A 349     -17.525  -5.334 -44.714  1.00 26.24           C
ATOM   2531  O   ALA A 349     -17.749  -5.927 -43.671  1.00 26.49           O
ATOM   2532  N   MET A 350     -16.303  -5.023 -45.134  1.00 26.47           N
ATOM   2533  CA  MET A 350     -15.088  -5.310 -44.360  1.00 27.68           C
ATOM   2534  CB  MET A 350     -13.967  -5.782 -45.287  1.00 29.17           C
ATOM   2535  CG  MET A 350     -14.050  -7.224 -45.758  1.00 31.52           C
ATOM   2536  SD  MET A 350     -12.647  -7.697 -46.811  1.00 34.81           S
ATOM   2537  CE  MET A 350     -11.228  -7.210 -45.812  1.00 33.90           C
ATOM   2538  C   MET A 350     -14.605  -4.046 -43.662  1.00 27.94           C
ATOM   2539  O   MET A 350     -14.371  -4.027 -42.446  1.00 27.69           O
ATOM   2540  N   GLU A 351     -14.447  -2.997 -44.466  1.00 27.64           N
ATOM   2541  CA  GLU A 351     -13.916  -1.728 -44.030  1.00 26.74           C
ATOM   2542  CB  GLU A 351     -12.499  -1.557 -44.570  1.00 28.94           C
ATOM   2543  CG  GLU A 351     -11.397  -1.989 -43.625  1.00 32.92           C
ATOM   2544  CD  GLU A 351     -10.223  -1.010 -43.622  1.00 36.58           C
ATOM   2545  OE1 GLU A 351      -9.176  -1.328 -44.241  1.00 38.37           O
ATOM   2546  OE2 GLU A 351     -10.349   0.086 -43.008  1.00 37.46           O
ATOM   2547  C   GLU A 351     -14.784  -0.574 -44.540  1.00 25.08           C
ATOM   2548  O   GLU A 351     -15.487  -0.703 -45.552  1.00 25.60           O
ATOM   2549  N   THR A 352     -14.700   0.558 -43.844  1.00 21.59           N
ATOM   2550  CA  THR A 352     -15.315   1.810 -44.266  1.00 18.39           C
ATOM   2551  CB  THR A 352     -16.417   2.206 -43.268  1.00 17.52           C
ATOM   2552  OG1 THR A 352     -17.603   1.493 -43.581  1.00 16.85           O
ATOM   2553  CG2 THR A 352     -16.741   3.640 -43.364  1.00 18.20           C
ATOM   2554  C   THR A 352     -14.234   2.901 -44.373  1.00 17.10           C
ATOM   2555  O   THR A 352     -13.285   2.908 -43.603  1.00 17.17           O
ATOM   2556  N   PHE A 353     -14.360   3.800 -45.343  1.00 16.02           N
ATOM   2557  CA  PHE A 353     -13.434   4.931 -45.472  1.00 14.91           C
ATOM   2558  CB  PHE A 353     -12.577   4.838 -46.746  1.00 15.41           C
ATOM   2559  CG  PHE A 353     -11.810   3.553 -46.873  1.00 16.17           C
ATOM   2560  CD1 PHE A 353     -10.584   3.387 -46.223  1.00 16.20           C
ATOM   2561  CE1 PHE A 353      -9.876   2.192 -46.336  1.00 16.37           C
ATOM   2562  CZ  PHE A 353     -10.392   1.144 -47.091  1.00 16.26           C
ATOM   2563  CE2 PHE A 353     -11.613   1.296 -47.751  1.00 16.43           C
ATOM   2564  CD2 PHE A 353     -12.314   2.492 -47.647  1.00 16.33           C
ATOM   2565  C   PHE A 353     -14.228   6.214 -45.492  1.00 13.90           C
ATOM   2566  O   PHE A 353     -15.120   6.381 -46.321  1.00 13.55           O
ATOM   2567  N   THR A 354     -13.873   7.129 -44.595  1.00 13.01           N
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ATOM   2568  CA  THR A 354     -14.614   8.373 -44.403  1.00 12.36           C
ATOM   2569  CB  THR A 354     -13.956   9.250 -43.325  1.00 12.24           C
ATOM   2570  OG1 THR A 354     -13.791   8.471 -42.140  1.00 12.49           O
ATOM   2571  CG2 THR A 354     -14.824  10.426 -42.974  1.00 12.27           C
ATOM   2572  C   THR A 354     -14.790   9.173 -45.675  1.00 11.86           C
ATOM   2573  O   THR A 354     -13.822   9.458 -46.370  1.00 11.56           O
ATOM   2574  N   ASN A 355     -16.045   9.500 -45.988  1.00 11.56           N
ATOM   2575  CA  ASN A 355     -16.343  10.560 -46.955  1.00 11.36           C
ATOM   2576  CB  ASN A 355     -16.965  10.024 -48.250  1.00 10.78           C
ATOM   2577  CG  ASN A 355     -16.932  11.050 -49.380  1.00 10.61           C
ATOM   2578  OD1 ASN A 355     -16.297  12.103 -49.274  1.00 10.29           O
ATOM   2579  ND2 ASN A 355     -17.602  10.738 -50.472  1.00 10.57           N
ATOM   2580  C   ASN A 355     -17.209  11.674 -46.373  1.00 11.54           C
ATOM   2581  O   ASN A 355     -18.356  11.445 -45.985  1.00 11.86           O
ATOM   2582  N   LEU A 356     -16.659  12.883 -46.327  1.00 11.63           N
ATOM   2583  CA  LEU A 356     -17.458  14.059 -45.988  1.00 11.73           C
ATOM   2584  CB  LEU A 356     -16.576  15.193 -45.444  1.00 11.61           C
ATOM   2585  CG  LEU A 356     -15.512  14.842 -44.402  1.00 11.49           C
ATOM   2586  CD1 LEU A 356     -14.839  16.107 -43.924  1.00 11.62           C
ATOM   2587  CD2 LEU A 356     -16.093  14.089 -43.222  1.00 11.50           C
ATOM   2588  C   LEU A 356     -18.249  14.521 -47.209  1.00 11.75           C
ATOM   2589  O   LEU A 356     -19.248  15.199 -47.067  1.00 11.78           O
ATOM   2590  N   GLY A 357     -17.791  14.114 -48.394  1.00 11.89           N
ATOM   2591  CA  GLY A 357     -18.373  14.474 -49.703  1.00 12.26           C
ATOM   2592  C   GLY A 357     -19.878  14.465 -49.875  1.00 12.60           C
ATOM   2593  O   GLY A 357     -20.548  13.602 -49.304  1.00 13.04           O
ATOM   2594  N   PRO A 358     -20.363  15.201 -50.895  1.00 12.77           N
ATOM   2595  CA  PRO A 358     -21.027  16.492 -50.849  1.00 12.46           C
ATOM   2596  CB  PRO A 358     -22.404  16.228 -51.491  1.00 12.58           C
ATOM   2597  CG  PRO A 358     -22.556  14.752 -51.522  1.00 12.56           C
ATOM   2598  CD  PRO A 358     -21.135  14.307 -51.775  1.00 13.01           C
ATOM   2599  C   PRO A 358     -21.132  17.029 -49.444  1.00 12.35           C
ATOM   2600  O   PRO A 358     -21.839  16.460 -48.617  1.00 12.33           O
ATOM   2601  N   ILE A 359     -20.367  18.081 -49.163  1.00 12.46           N
ATOM   2602  CA  ILE A 359     -20.664  18.943 -48.034  1.00 12.20           C
ATOM   2603  CB  ILE A 359     -19.435  19.640 -47.461  1.00 11.94           C
ATOM   2604  CG1 ILE A 359     -18.414  18.605 -47.033  1.00 11.88           C
ATOM   2605  CD1 ILE A 359     -17.375  19.126 -46.071  1.00 12.02           C
ATOM   2606  CG2 ILE A 359     -19.841  20.477 -46.260  1.00 12.09           C
ATOM   2607  C   ILE A 359     -21.661  19.946 -48.575  1.00 12.31           C
ATOM   2608  O   ILE A 359     -21.326  20.843 -49.353  1.00 12.20           O
ATOM   2609  N   VAL A 360     -22.902  19.743 -48.176  1.00 12.23           N
ATOM   2610  CA  VAL A 360     -24.019  20.381 -48.798  1.00 12.32           C
ATOM   2611  CB  VAL A 360     -25.139  19.333 -49.006  1.00 11.97           C
ATOM   2612  CG1 VAL A 360     -26.180  19.358 -47.896  1.00 12.03           C
ATOM   2613  CG2 VAL A 360     -25.785  19.527 -50.338  1.00 11.91           C
ATOM   2614  C   VAL A 360     -24.428  21.589 -47.950  1.00 12.82           C
ATOM   2615  O   VAL A 360     -25.115  22.485 -48.422  1.00 13.16           O
ATOM   2616  N   ASP A 361     -23.985  21.590 -46.692  1.00 13.58           N
ATOM   2617  CA  ASP A 361     -24.116  22.711 -45.759  1.00 14.20           C
ATOM   2618  CB  ASP A 361     -25.573  23.023 -45.462  1.00 15.47           C
ATOM   2619  CG  ASP A 361     -25.737  24.174 -44.461  1.00 17.20           C
ATOM   2620  OD1 ASP A 361     -24.907  25.141 -44.467  1.00 17.38           O
ATOM   2621  OD2 ASP A 361     -26.711  24.108 -43.664  1.00 18.39           O
ATOM   2622  C   ASP A 361     -23.409  22.347 -44.465  1.00 14.03           C
ATOM   2623  O   ASP A 361     -23.262  21.167 -44.163  1.00 14.11           O
ATOM   2624  N   MET A 362     -22.967  23.353 -43.709  1.00 13.88           N
ATOM   2625  CA  MET A 362     -22.294  23.124 -42.422  1.00 14.00           C
ATOM   2626  CB  MET A 362     -20.795  22.868 -42.628  1.00 14.03           C
ATOM   2627  CG  MET A 362     -19.983  24.082 -43.072  1.00 13.91           C
ATOM   2628  SD  MET A 362     -18.347  23.594 -43.652  1.00 13.89           S
ATOM   2629  CE  MET A 362     -17.575  25.192 -43.929  1.00 13.90           C
ATOM   2630  C   MET A 362     -22.499  24.277 -41.448  1.00 14.16           C
ATOM   2631  O   MET A 362     -22.950  25.341 -41.838  1.00 14.67           O
ATOM   2632  N   CYS A 363     -22.175  24.066 -40.181  1.00 14.45           N
ATOM   2633  CA  CYS A 363     -22.151  25.153 -39.212  1.00 15.06           C
ATOM   2634  CB  CYS A 363     -23.507  25.317 -38.546  1.00 15.06           C
ATOM   2635  SG  CYS A 363     -23.849  24.023 -37.338  1.00 15.23           S
ATOM   2636  C   CYS A 363     -21.110  24.877 -38.150  1.00 15.95           C
ATOM   2637  O   CYS A 363     -20.691  23.730 -37.960  1.00 15.73           O
ATOM   2638  N   VAL A 364     -20.712  25.934 -37.444  1.00 17.74           N
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ATOM   2639  CA  VAL A 364     -19.688  25.841 -36.403  1.00 19.45           C
ATOM   2640  CB  VAL A 364     -18.593  26.913 -36.574  1.00 19.10           C
ATOM   2641  CG1 VAL A 364     -17.461  26.669 -35.594  1.00 19.26           C
ATOM   2642  CG2 VAL A 364     -18.053  26.898 -38.000  1.00 19.07           C
ATOM   2643  C   VAL A 364     -20.278  25.913 -34.999  1.00 21.05           C
ATOM   2644  O   VAL A 364     -21.057  26.809 -34.686  1.00 20.92           O
ATOM   2645  N   VAL A 365     -19.902  24.936 -34.181  1.00 23.78           N
ATOM   2646  CA  VAL A 365     -20.223  24.891 -32.765  1.00 26.65           C
ATOM   2647  CB  VAL A 365     -20.724  23.491 -32.372  1.00 27.02           C
ATOM   2648  CG1 VAL A 365     -20.709  23.306 -30.859  1.00 27.17           C
ATOM   2649  CG2 VAL A 365     -22.110  23.244 -32.948  1.00 26.67           C
ATOM   2650  C   VAL A 365     -18.959  25.206 -31.976  1.00 29.41           C
ATOM   2651  O   VAL A 365     -17.920  24.585 -32.202  1.00 29.13           O
ATOM   2652  N   ASP A 366     -19.072  26.161 -31.047  1.00 35.42           N
ATOM   2653  CA  ASP A 366     -17.952  26.703 -30.241  1.00 40.74           C
ATOM   2654  CB  ASP A 366     -17.101  25.595 -29.603  1.00 41.72           C
ATOM   2655  CG  ASP A 366     -17.560  25.236 -28.215  1.00 42.44           C
ATOM   2656  OD1 ASP A 366     -17.140  25.927 -27.265  1.00 45.49           O
ATOM   2657  OD2 ASP A 366     -18.326  24.258 -28.068  1.00 42.14           O
ATOM   2658  C   ASP A 366     -17.071  27.658 -31.032  1.00 45.09           C
ATOM   2659  O   ASP A 366     -16.312  27.250 -31.914  1.00 47.68           O
ATOM   2660  N   LEU A 367     -17.175  28.937 -30.713  1.00 50.28           N
ATOM   2661  CA  LEU A 367     -16.324  29.932 -31.342  1.00 55.43           C
ATOM   2662  CB  LEU A 367     -17.149  30.842 -32.269  1.00 56.79           C
ATOM   2663  CG  LEU A 367     -17.680  30.195 -33.564  1.00 56.43           C
ATOM   2664  CD1 LEU A 367     -18.979  30.830 -34.057  1.00 54.94           C
ATOM   2665  CD2 LEU A 367     -16.619  30.215 -34.660  1.00 55.26           C
ATOM   2666  C   LEU A 367     -15.545  30.715 -30.273  1.00 58.87           C
ATOM   2667  O   LEU A 367     -15.642  31.945 -30.183  1.00 59.40           O
ATOM   2668  N   GLU A 368     -14.799  29.971 -29.451  1.00 60.73           N
ATOM   2669  CA  GLU A 368     -13.858  30.536 -28.472  1.00 61.33           C
ATOM   2670  CB  GLU A 368     -14.580  30.947 -27.179  1.00 59.87           C
ATOM   2671  C   GLU A 368     -12.725  29.545 -28.157  1.00 63.08           C
ATOM   2672  O   GLU A 368     -12.174  28.884 -29.051  1.00 60.50           O
ATOM   2673  N   GLN A 372     -12.776  25.451 -27.814  1.00 51.93           N
ATOM   2674  CA  GLN A 372     -12.486  24.211 -28.538  1.00 50.78           C
ATOM   2675  C   GLN A 372     -12.603  24.415 -30.047  1.00 49.19           C
ATOM   2676  O   GLN A 372     -11.594  24.638 -30.730  1.00 49.67           O
ATOM   2677  N   GLY A 373     -13.838  24.340 -30.550  1.00 46.04           N
ATOM   2678  CA  GLY A 373     -14.144  24.566 -31.972  1.00 40.70           C
ATOM   2679  C   GLY A 373     -14.478  23.276 -32.697  1.00 36.55           C
ATOM   2680  O   GLY A 373     -13.614  22.418 -32.875  1.00 37.21           O
ATOM   2681  N   GLN A 374     -15.735  23.113 -33.093  1.00 32.53           N
ATOM   2682  CA  GLN A 374     -16.113  21.924 -33.856  1.00 29.15           C
ATOM   2683  CB  GLN A 374     -16.612  20.793 -32.954  1.00 29.42           C
ATOM   2684  CG  GLN A 374     -18.067  20.897 -32.559  1.00 31.55           C
ATOM   2685  CD  GLN A 374     -18.494  19.816 -31.582  1.00 33.38           C
ATOM   2686  OE1 GLN A 374     -19.673  19.725 -31.211  1.00 34.04           O
ATOM   2687  NE2 GLN A 374     -17.538  18.996 -31.145  1.00 33.82           N
ATOM   2688  C   GLN A 374     -17.096  22.231 -34.978  1.00 25.87           C
ATOM   2689  O   GLN A 374     -17.948  23.117 -34.866  1.00 24.88           O
ATOM   2690  N   LEU A 375     -16.950  21.484 -36.062  1.00 22.20           N
ATOM   2691  CA  LEU A 375     -17.629  21.778 -37.294  1.00 19.60           C
ATOM   2692  CB  LEU A 375     -16.601  21.839 -38.410  1.00 19.42           C
ATOM   2693  CG  LEU A 375     -17.054  22.172 -39.819  1.00 19.98           C
ATOM   2694  CD1 LEU A 375     -17.587  23.589 -39.918  1.00 20.06           C
ATOM   2695  CD2 LEU A 375     -15.870  22.008 -40.741  1.00 20.34           C
ATOM   2696  C   LEU A 375     -18.625  20.676 -37.541  1.00 18.01           C
ATOM   2697  O   LEU A 375     -18.317  19.514 -37.332  1.00 18.45           O
ATOM   2698  N   VAL A 376     -19.838  21.029 -37.940  1.00 16.28           N
ATOM   2699  CA  VAL A 376     -20.850  20.003 -38.205  1.00 15.45           C
ATOM   2700  CB  VAL A 376     -22.082  20.152 -37.278  1.00 14.93           C
ATOM   2701  CG1 VAL A 376     -23.056  18.993 -37.486  1.00 14.41           C
ATOM   2702  CG2 VAL A 376     -21.655  20.241 -35.825  1.00 14.44           C
ATOM   2703  C   VAL A 376     -21.273  20.066 -39.677  1.00 15.03           C
ATOM   2704  O   VAL A 376     -21.519  21.156 -40.200  1.00 15.54           O
ATOM   2705  N   THR A 377     -21.343  18.934 -40.367  1.00 13.94           N
ATOM   2706  CA  THR A 377     -21.742  19.020 -41.771  1.00 13.61           C
ATOM   2707  CB  THR A 377     -20.620  18.625 -42.747  1.00 13.28           C
ATOM   2708  OG1 THR A 377     -20.491  17.207 -42.744  1.00 13.43           O
ATOM   2709  CG2 THR A 377     -19.306  19.269 -42.387  1.00 13.05           C
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ATOM   2710  C   THR A 377     -22.978  18.211 -42.145  1.00 13.36           C
ATOM   2711  O   THR A 377     -23.268  17.162 -41.545  1.00 13.22           O
ATOM   2712  N   CYS A 378     -23.685  18.706 -43.157  1.00 12.81           N
ATOM   2713  CA  CYS A 378     -24.672  17.919 -43.855  1.00 12.64           C
ATOM   2714  CB  CYS A 378     -25.828  18.795 -44.304  1.00 12.74           C
ATOM   2715  SG  CYS A 378     -26.703  19.527 -42.914  1.00 12.82           S
ATOM   2716  C   CYS A 378     -23.990  17.270 -45.042  1.00 12.44           C
ATOM   2717  O   CYS A 378     -23.731  17.930 -46.052  1.00 12.44           O
ATOM   2718  N   SER A 379     -23.691  15.975 -44.901  1.00 12.26           N
ATOM   2719  CA  SER A 379     -22.870  15.228 -45.863  1.00 11.86           C
ATOM   2720  CB  SER A 379     -21.644  14.648 -45.172  1.00 11.74           C
ATOM   2721  OG  SER A 379     -20.775  15.671 -44.734  1.00 11.56           O
ATOM   2722  C   SER A 379     -23.642  14.109 -46.524  1.00 11.78           C
ATOM   2723  O   SER A 379     -24.519  13.490 -45.912  1.00 11.93           O
ATOM   2724  N   GLY A 380     -23.330  13.866 -47.788  1.00 11.69           N
ATOM   2725  CA  GLY A 380     -23.923  12.759 -48.503  1.00 11.96           C
ATOM   2726  C   GLY A 380     -25.344  12.964 -48.984  1.00 12.33           C
ATOM   2727  O   GLY A 380     -25.888  14.075 -48.953  1.00 12.47           O
ATOM   2728  N   ALA A 381     -25.954  11.870 -49.426  1.00 12.52           N
ATOM   2729  CA  ALA A 381     -27.173  11.936 -50.220  1.00 12.63           C
ATOM   2730  CB  ALA A 381     -26.833  12.317 -51.659  1.00 12.47           C
ATOM   2731  C   ALA A 381     -27.925  10.609 -50.177  1.00 12.78           C
ATOM   2732  O   ALA A 381     -27.313   9.541 -50.055  1.00 12.78           O
ATOM   2733  N   PHE A 382     -29.251  10.684 -50.285  1.00 12.81           N
ATOM   2734  CA  PHE A 382     -30.110   9.512 -50.198  1.00 12.87           C
ATOM   2735  CB  PHE A 382     -30.138   8.795 -51.528  1.00 13.21           C
ATOM   2736  CG  PHE A 382     -30.129   9.733 -52.694  1.00 13.87           C
ATOM   2737  CD1 PHE A 382     -31.261  10.476 -53.017  1.00 14.21           C
ATOM   2738  CE1 PHE A 382     -31.257  11.357 -54.095  1.00 14.38           C
ATOM   2739  CZ  PHE A 382     -30.112  11.510 -54.856  1.00 14.32           C
ATOM   2740  CE2 PHE A 382     -28.971  10.785 -54.539  1.00 14.43           C
ATOM   2741  CD2 PHE A 382     -28.979   9.908 -53.460  1.00 14.19           C
ATOM   2742  C   PHE A 382     -29.695   8.619 -49.027  1.00 12.86           C
ATOM   2743  O   PHE A 382     -29.614   9.109 -47.907  1.00 12.94           O
ATOM   2744  N   LYS A 383     -29.414   7.339 -49.249  1.00 12.98           N
ATOM   2745  CA  LYS A 383     -29.166   6.458 -48.097  1.00 13.48           C
ATOM   2746  CB  LYS A 383     -29.280   4.970 -48.467  1.00 13.45           C
ATOM   2747  CG  LYS A 383     -28.300   4.444 -49.507  1.00 13.68           C
ATOM   2748  CD  LYS A 383     -28.423   2.923 -49.601  1.00 13.76           C
ATOM   2749  CE  LYS A 383     -27.251   2.273 -50.326  1.00 14.10           C
ATOM   2750  NZ  LYS A 383     -26.025   2.129 -49.492  1.00 13.74           N
ATOM   2751  C   LYS A 383     -27.855   6.794 -47.345  1.00 13.86           C
ATOM   2752  O   LYS A 383     -27.682   6.461 -46.153  1.00 14.01           O
ATOM   2753  N   GLU A 384     -26.975   7.519 -48.028  1.00 13.90           N
ATOM   2754  CA  GLU A 384     -25.685   7.884 -47.470  1.00 14.01           C
ATOM   2755  CB  GLU A 384     -24.660   8.046 -48.587  1.00 14.80           C
ATOM   2756  CG  GLU A 384     -24.640   6.903 -49.592  1.00 16.26           C
ATOM   2757  CD  GLU A 384     -24.344   5.565 -48.948  1.00 17.79           C
ATOM   2758  OE1 GLU A 384     -23.604   5.566 -47.920  1.00 19.21           O
ATOM   2759  OE2 GLU A 384     -24.846   4.523 -49.461  1.00 17.80           O
ATOM   2760  C   GLU A 384     -25.718   9.134 -46.597  1.00 13.39           C
ATOM   2761  O   GLU A 384     -24.725   9.452 -45.930  1.00 13.32           O
ATOM   2762  N   GLY A 385     -26.848   9.838 -46.594  1.00 12.81           N
ATOM   2763  CA  GLY A 385     -26.974  11.086 -45.840  1.00 12.23           C
ATOM   2764  C   GLY A 385     -26.512  10.945 -44.403  1.00 11.81           C
ATOM   2765  O   GLY A 385     -26.864   9.986 -43.722  1.00 12.01           O
ATOM   2766  N   SER A 386     -25.701  11.883 -43.940  1.00 11.43           N
ATOM   2767  CA  SER A 386     -25.188  11.806 -42.583  1.00 11.42           C
ATOM   2768  CB  SER A 386     -23.917  10.928 -42.499  1.00 11.40           C
ATOM   2769  OG  SER A 386     -22.783  11.560 -43.090  1.00 11.22           O
ATOM   2770  C   SER A 386     -24.878  13.169 -42.042  1.00 11.35           C
ATOM   2771  O   SER A 386     -24.697  14.121 -42.798  1.00 11.08           O
ATOM   2772  N   LEU A 387     -24.812  13.249 -40.720  1.00 11.52           N
ATOM   2773  CA  LEU A 387     -24.147  14.348 -40.074  1.00 11.92           C
ATOM   2774  CB  LEU A 387     -24.886  14.745 -38.800  1.00 11.64           C
ATOM   2775  CG  LEU A 387     -26.249  15.398 -39.073  1.00 11.59           C
ATOM   2776  CD1 LEU A 387     -26.787  16.104 -37.836  1.00 11.52           C
ATOM   2777  CD2 LEU A 387     -26.186  16.361 -40.257  1.00 11.39           C
ATOM   2778  C   LEU A 387     -22.708  13.918 -39.778  1.00 12.49           C
ATOM   2779  O   LEU A 387     -22.481  12.778 -39.329  1.00 12.62           O
ATOM   2780  N   ARG A 388     -21.744  14.799 -40.088  1.00 12.57           N
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ATOM   2781  CA  ARG A 388     -20.358  14.620 -39.658  1.00 12.82           C
ATOM   2782  CB  ARG A 388     -19.390  14.680 -40.839  1.00 12.17           C
ATOM   2783  CG  ARG A 388     -19.657  13.658 -41.936  1.00 11.89           C
ATOM   2784  CD  ARG A 388     -19.388  12.221 -41.510  1.00 11.48           C
ATOM   2785  NE  ARG A 388     -20.055  11.271 -42.402  1.00 11.25           N
ATOM   2786  CZ  ARG A 388     -19.450  10.291 -43.069  1.00 11.20           C
ATOM   2787  NH1 ARG A 388     -18.152  10.097 -42.953  1.00 11.41           N
ATOM   2788  NH2 ARG A 388     -20.145   9.491 -43.851  1.00 11.06           N
ATOM   2789  C   ARG A 388     -19.987  15.679 -38.613  1.00 13.83           C
ATOM   2790  O   ARG A 388     -20.147  16.888 -38.858  1.00 14.32           O
ATOM   2791  N   ILE A 389     -19.505  15.214 -37.453  1.00 14.39           N
ATOM   2792  CA  ILE A 389     -18.971  16.084 -36.402  1.00 14.98           C
ATOM   2793  CB  ILE A 389     -19.503  15.706 -35.002  1.00 15.18           C
ATOM   2794  CG1 ILE A 389     -21.025  15.574 -35.014  1.00 15.58           C
ATOM   2795  CD1 ILE A 389     -21.543  14.261 -35.556  1.00 15.81           C
ATOM   2796  CG2 ILE A 389     -19.146  16.785 -33.992  1.00 15.21           C
ATOM   2797  C   ILE A 389     -17.452  15.983 -36.402  1.00 15.10           C
ATOM   2798  O   ILE A 389     -16.920  14.897 -36.248  1.00 15.47           O
ATOM   2799  N   ILE A 390     -16.774  17.117 -36.577  1.00 15.22           N
ATOM   2800  CA  ILE A 390     -15.325  17.165 -36.778  1.00 15.65           C
ATOM   2801  CB  ILE A 390     -14.961  17.774 -38.141  1.00 15.37           C
ATOM   2802  CG1 ILE A 390     -15.519  16.922 -39.262  1.00 15.72           C
ATOM   2803  CD1 ILE A 390     -15.465  17.588 -40.613  1.00 16.03           C
ATOM   2804  CG2 ILE A 390     -13.456  17.887 -38.291  1.00 15.48           C
ATOM   2805  C   ILE A 390     -14.665  18.031 -35.732  1.00 16.38           C
ATOM   2806  O   ILE A 390     -14.927  19.241 -35.669  1.00 16.56           O
ATOM   2807  N   ARG A 391     -13.804  17.409 -34.924  1.00 17.28           N
ATOM   2808  CA  ARG A 391     -13.002  18.112 -33.919  1.00 18.14           C
ATOM   2809  CB  ARG A 391     -13.467  17.782 -32.501  1.00 17.08           C
ATOM   2810  C   ARG A 391     -11.529  17.757 -34.090  1.00 19.50           C
ATOM   2811  O   ARG A 391     -11.179  16.611 -34.393  1.00 19.77           O
ATOM   2812  N   ASN A 392     -10.671  18.758 -33.929  1.00 20.91           N
ATOM   2813  CA  ASN A 392      -9.246  18.538 -33.840  1.00 21.32           C
ATOM   2814  CB  ASN A 392      -8.514  19.817 -34.198  1.00 21.85           C
ATOM   2815  CG  ASN A 392      -7.131  19.561 -34.750  1.00 23.02           C
ATOM   2816  OD1 ASN A 392      -6.730  18.406 -34.968  1.00 23.84           O
ATOM   2817  ND2 ASN A 392      -6.385  20.640 -34.989  1.00 23.27           N
ATOM   2818  C   ASN A 392      -8.946  18.179 -32.402  1.00 22.14           C
ATOM   2819  O   ASN A 392      -9.557  18.735 -31.493  1.00 23.15           O
ATOM   2820  N   GLY A 393      -8.027  17.254 -32.175  1.00 22.26           N
ATOM   2821  CA  GLY A 393      -7.653  16.950 -30.809  1.00 22.20           C
ATOM   2822  C   GLY A 393      -6.817  15.714 -30.637  1.00 22.90           C
ATOM   2823  O   GLY A 393      -6.591  14.957 -31.585  1.00 22.77           O
ATOM   2824  N   ILE A 394      -6.342  15.522 -29.413  1.00 24.16           N
ATOM   2825  CA  ILE A 394      -5.660  14.300 -29.041  1.00 25.52           C
ATOM   2826  CB  ILE A 394      -4.648  14.534 -27.908  1.00 26.49           C
ATOM   2827  CG1 ILE A 394      -3.594  15.555 -28.354  1.00 27.17           C
ATOM   2828  CD1 ILE A 394      -2.612  15.955 -27.273  1.00 27.75           C
ATOM   2829  CG2 ILE A 394      -3.999  13.215 -27.503  1.00 26.66           C
ATOM   2830  C   ILE A 394      -6.693  13.272 -28.612  1.00 25.49           C
ATOM   2831  O   ILE A 394      -7.428  13.493 -27.654  1.00 25.29           O
ATOM   2832  N   GLY A 395      -6.743  12.160 -29.344  1.00 26.03           N
ATOM   2833  CA  GLY A 395      -7.663  11.068 -29.059  1.00 25.95           C
ATOM   2834  C   GLY A 395      -7.143  10.090 -28.019  1.00 26.92           C
ATOM   2835  O   GLY A 395      -5.942  10.041 -27.720  1.00 26.91           O
ATOM   2836  N   ILE A 396      -8.065   9.314 -27.463  1.00 27.46           N
ATOM   2837  CA  ILE A 396      -7.748   8.306 -26.474  1.00 27.74           C
ATOM   2838  CB  ILE A 396      -8.168   8.770 -25.063  1.00 27.72           C
ATOM   2839  CG1 ILE A 396      -7.121   9.729 -24.511  1.00 27.93           C
ATOM   2840  CD1 ILE A 396      -7.539  10.430 -23.243  1.00 28.64           C
ATOM   2841  CG2 ILE A 396      -8.351   7.595 -24.111  1.00 27.95           C
ATOM   2842  C   ILE A 396      -8.431   7.002 -26.852  1.00 29.01           C
ATOM   2843  O   ILE A 396      -9.646   6.939 -26.982  1.00 28.88           O
ATOM   2844  N   HIS A 397      -7.624   5.976 -27.076  1.00 32.61           N
ATOM   2845  CA  HIS A 397      -8.101   4.611 -27.169  1.00 36.36           C
ATOM   2846  CB  HIS A 397      -6.995   3.728 -27.739  1.00 41.27           C
ATOM   2847  CG  HIS A 397      -7.483   2.679 -28.720  1.00 47.60           C
ATOM   2848  ND1 HIS A 397      -7.174   1.367 -28.597  1.00 48.86           N
ATOM   2849  CE1 HIS A 397      -7.738   0.677 -29.611  1.00 50.91           C
ATOM   2850  NE2 HIS A 397      -8.411   1.549 -30.391  1.00 51.76           N
ATOM   2851  CD2 HIS A 397      -8.274   2.791 -29.874  1.00 49.70           C
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ATOM   2852  C   HIS A 397      -8.482   4.155 -25.780  1.00 36.75           C
ATOM   2853  O   HIS A 397      -7.735   4.360 -24.820  1.00 37.98           O
ATOM   2854  N   GLU A 398      -9.658   3.559 -25.641  1.00 36.38           N
ATOM   2855  CA  GLU A 398     -10.070   3.023 -24.349  1.00 35.42           C
ATOM   2856  CB  GLU A 398     -11.512   3.385 -24.055  1.00 36.55           C
ATOM   2857  CG  GLU A 398     -11.767   4.878 -24.025  1.00 38.98           C
ATOM   2858  CD  GLU A 398     -13.234   5.197 -23.848  1.00 40.95           C
ATOM   2859  OE1 GLU A 398     -13.686   6.236 -24.393  1.00 40.78           O
ATOM   2860  OE2 GLU A 398     -13.930   4.395 -23.175  1.00 41.22           O
ATOM   2861  C   GLU A 398      -9.904   1.521 -24.313  1.00 34.46           C
ATOM   2862  O   GLU A 398     -10.301   0.828 -25.240  1.00 35.34           O
ATOM   2863  N   HIS A 399      -9.320   1.016 -23.238  1.00 33.53           N
ATOM   2864  CA  HIS A 399      -9.094  -0.410 -23.119  1.00 33.10           C
ATOM   2865  CB  HIS A 399      -7.624  -0.695 -22.846  1.00 35.00           C
ATOM   2866  CG  HIS A 399      -6.700  -0.215 -23.948  1.00 36.95           C
ATOM   2867  ND1 HIS A 399      -5.626   0.570 -23.709  1.00 36.97           N
ATOM   2868  CE1 HIS A 399      -5.007   0.846 -24.873  1.00 37.06           C
ATOM   2869  NE2 HIS A 399      -5.686   0.238 -25.866  1.00 37.24           N
ATOM   2870  CD2 HIS A 399      -6.736  -0.422 -25.333  1.00 36.54           C
ATOM   2871  C   HIS A 399      -9.974  -1.032 -22.083  1.00 32.19           C
ATOM   2872  O   HIS A 399     -10.410  -2.174 -22.239  1.00 33.51           O
ATOM   2873  N   ALA A 400     -10.260  -0.280 -21.022  1.00 30.92           N
ATOM   2874  CA  ALA A 400     -11.107  -0.762 -19.928  1.00 29.60           C
ATOM   2875  CB  ALA A 400     -10.252  -1.418 -18.848  1.00 29.40           C
ATOM   2876  C   ALA A 400     -11.985   0.341 -19.323  1.00 28.81           C
ATOM   2877  O   ALA A 400     -11.585   1.504 -19.249  1.00 29.05           O
ATOM   2878  N   SER A 401     -13.179  -0.041 -18.885  1.00 27.59           N
ATOM   2879  CA  SER A 401     -14.077   0.860 -18.175  1.00 27.15           C
ATOM   2880  CB  SER A 401     -15.325   1.111 -19.028  1.00 26.60           C
ATOM   2881  OG  SER A 401     -16.239   1.986 -18.404  1.00 25.91           O
ATOM   2882  C   SER A 401     -14.454   0.206 -16.842  1.00 27.65           C
ATOM   2883  O   SER A 401     -14.743  -1.000 -16.802  1.00 28.53           O
ATOM   2884  N   ILE A 402     -14.421   0.983 -15.752  1.00 27.24           N
ATOM   2885  CA  ILE A 402     -14.922   0.513 -14.445  1.00 27.38           C
ATOM   2886  CB  ILE A 402     -13.795   0.294 -13.397  1.00 26.88           C
ATOM   2887  CG1 ILE A 402     -12.883  -0.865 -13.812  1.00 26.42           C
ATOM   2888  CD1 ILE A 402     -11.638  -1.007 -12.964  1.00 26.59           C
ATOM   2889  CG2 ILE A 402     -14.385   0.030 -12.011  1.00 25.86           C
ATOM   2890  C   ILE A 402     -15.975   1.459 -13.878  1.00 28.23           C
ATOM   2891  O   ILE A 402     -15.735   2.663 -13.734  1.00 28.77           O
ATOM   2892  N   ASP A 403     -17.137   0.892 -13.557  1.00 29.02           N
ATOM   2893  CA  ASP A 403     -18.233   1.608 -12.914  1.00 29.31           C
ATOM   2894  CB  ASP A 403     -19.543   0.827 -13.110  1.00 30.44           C
ATOM   2895  CG  ASP A 403     -20.779   1.576 -12.603  1.00 31.21           C
ATOM   2896  OD1 ASP A 403     -20.741   2.824 -12.489  1.00 31.95           O
ATOM   2897  OD2 ASP A 403     -21.806   0.901 -12.341  1.00 30.39           O
ATOM   2898  C   ASP A 403     -17.943   1.841 -11.420  1.00 29.62           C
ATOM   2899  O   ASP A 403     -18.218   0.985 -10.572  1.00 28.37           O
ATOM   2900  N   LEU A 404     -17.365   3.007 -11.127  1.00 30.69           N
ATOM   2901  CA  LEU A 404     -17.207   3.514  -9.765  1.00 30.58           C
ATOM   2902  CB  LEU A 404     -15.779   3.327  -9.278  1.00 30.29           C
ATOM   2903  CG  LEU A 404     -15.496   2.061  -8.493  1.00 30.93           C
ATOM   2904  CD1 LEU A 404     -14.009   1.978  -8.196  1.00 31.97           C
ATOM   2905  CD2 LEU A 404     -16.296   2.064  -7.204  1.00 31.00           C
ATOM   2906  C   LEU A 404     -17.563   4.993  -9.695  1.00 30.83           C
ATOM   2907  O   LEU A 404     -16.832   5.832 -10.219  1.00 30.72           O
ATOM   2908  N   PRO A 405     -18.678   5.323  -9.025  1.00 31.76           N
ATOM   2909  CA  PRO A 405     -19.067   6.729  -8.923  1.00 32.25           C
ATOM   2910  CB  PRO A 405     -20.560   6.648  -8.600  1.00 31.33           C
ATOM   2911  CG  PRO A 405     -20.750   5.305  -7.952  1.00 31.00           C
ATOM   2912  CD  PRO A 405     -19.555   4.444  -8.228  1.00 30.72           C
ATOM   2913  C   PRO A 405     -18.305   7.494  -7.819  1.00 33.22           C
ATOM   2914  O   PRO A 405     -18.006   6.932  -6.759  1.00 32.71           O
ATOM   2915  N   GLY A 406     -17.966   8.752  -8.093  1.00 34.02           N
ATOM   2916  CA  GLY A 406     -17.504   9.676  -7.053  1.00 35.28           C
ATOM   2917  C   GLY A 406     -16.004   9.817  -6.830  1.00 36.55           C
ATOM   2918  O   GLY A 406     -15.575  10.439  -5.855  1.00 36.75           O
ATOM   2919  N   ILE A 407     -15.201   9.260  -7.730  1.00 36.77           N
ATOM   2920  CA  ILE A 407     -13.745   9.305  -7.590  1.00 34.79           C
ATOM   2921  CB  ILE A 407     -13.061   8.666  -8.809  1.00 33.85           C
ATOM   2922  CG1 ILE A 407     -13.474   7.198  -8.923  1.00 33.29           C
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ATOM   2923  CD1 ILE A 407     -12.978   6.507 -10.174  1.00 34.35           C
ATOM   2924  CG2 ILE A 407     -11.552   8.809  -8.713  1.00 34.23           C
ATOM   2925  C   ILE A 407     -13.249  10.741  -7.387  1.00 34.87           C
ATOM   2926  O   ILE A 407     -13.648  11.648  -8.114  1.00 33.88           O
ATOM   2927  N   LYS A 408     -12.398  10.938  -6.379  1.00 35.25           N
ATOM   2928  CA  LYS A 408     -11.830  12.254  -6.091  1.00 34.53           C
ATOM   2929  CB  LYS A 408     -12.365  12.800  -4.760  1.00 35.10           C
ATOM   2930  CG  LYS A 408     -13.888  12.850  -4.682  1.00 36.15           C
ATOM   2931  CD  LYS A 408     -14.422  14.212  -4.265  1.00 36.47           C
ATOM   2932  CE  LYS A 408     -15.821  14.430  -4.832  1.00 37.03           C
ATOM   2933  NZ  LYS A 408     -16.021  15.817  -5.348  1.00 37.17           N
ATOM   2934  C   LYS A 408     -10.289  12.292  -6.148  1.00 35.15           C
ATOM   2935  O   LYS A 408      -9.664  13.296  -5.776  1.00 35.73           O
ATOM   2936  N   GLY A 409      -9.686  11.210  -6.641  1.00 35.09           N
ATOM   2937  CA  GLY A 409      -8.233  11.149  -6.841  1.00 35.28           C
ATOM   2938  C   GLY A 409      -7.744   9.821  -7.392  1.00 35.85           C
ATOM   2939  O   GLY A 409      -8.348   8.783  -7.134  1.00 38.14           O
ATOM   2940  N   LEU A 410      -6.634   9.858  -8.130  1.00 35.60           N
ATOM   2941  CA  LEU A 410      -6.063   8.673  -8.784  1.00 35.78           C
ATOM   2942  CB  LEU A 410      -6.357   8.725 -10.283  1.00 36.55           C
ATOM   2943  CG  LEU A 410      -7.312   7.706 -10.904  1.00 38.24           C
ATOM   2944  CD1 LEU A 410      -8.590   7.562 -10.098  1.00 38.03           C
ATOM   2945  CD2 LEU A 410      -7.625   8.088 -12.342  1.00 37.83           C
ATOM   2946  C   LEU A 410      -4.556   8.603  -8.599  1.00 36.28           C
ATOM   2947  O   LEU A 410      -3.857   9.583  -8.856  1.00 40.41           O
ATOM   2948  N   TRP A 411      -4.040   7.456  -8.168  1.00 34.69           N
ATOM   2949  CA  TRP A 411      -2.583   7.281  -8.083  1.00 34.83           C
ATOM   2950  CB  TRP A 411      -2.072   7.539  -6.683  1.00 33.13           C
ATOM   2951  CG  TRP A 411      -2.425   8.894  -6.163  1.00 31.82           C
ATOM   2952  CD1 TRP A 411      -1.639  10.041  -6.180  1.00 31.36           C
ATOM   2953  NE1 TRP A 411      -2.303  11.095  -5.610  1.00 30.95           N
ATOM   2954  CE2 TRP A 411      -3.534  10.713  -5.201  1.00 31.90           C
ATOM   2955  CD2 TRP A 411      -3.676   9.290  -5.534  1.00 31.35           C
ATOM   2956  CE3 TRP A 411      -4.861   8.632  -5.214  1.00 31.15           C
ATOM   2957  CZ3 TRP A 411      -5.881   9.361  -4.585  1.00 31.63           C
ATOM   2958  CH2 TRP A 411      -5.730  10.728  -4.275  1.00 31.66           C
ATOM   2959  CZ2 TRP A 411      -4.555  11.430  -4.579  1.00 32.06           C
ATOM   2960  C   TRP A 411      -2.110   5.932  -8.525  1.00 36.41           C
ATOM   2961  O   TRP A 411      -2.695   4.904  -8.142  1.00 38.05           O
ATOM   2962  N   PRO A 412      -1.037   5.910  -9.341  1.00 34.67           N
ATOM   2963  CA  PRO A 412      -0.395   4.673  -9.703  1.00 34.34           C
ATOM   2964  CB  PRO A 412       0.312   5.029 -10.995  1.00 33.91           C
ATOM   2965  CG  PRO A 412       0.716   6.438 -10.787  1.00 34.16           C
ATOM   2966  CD  PRO A 412      -0.397   7.061  -9.996  1.00 34.40           C
ATOM   2967  C   PRO A 412       0.616   4.309  -8.634  1.00 35.14           C
ATOM   2968  O   PRO A 412       1.103   5.171  -7.899  1.00 35.07           O
ATOM   2969  N   LEU A 413       0.946   3.035  -8.567  1.00 35.38           N
ATOM   2970  CA  LEU A 413       1.661   2.519  -7.433  1.00 35.34           C
ATOM   2971  CB  LEU A 413       0.676   2.386  -6.280  1.00 34.81           C
ATOM   2972  CG  LEU A 413       1.184   2.430  -4.863  1.00 33.65           C
ATOM   2973  CD1 LEU A 413       0.408   3.484  -4.097  1.00 33.27           C
ATOM   2974  CD2 LEU A 413       1.007   1.049  -4.266  1.00 33.58           C
ATOM   2975  C   LEU A 413       2.252   1.169  -7.816  1.00 36.22           C
ATOM   2976  O   LEU A 413       1.887   0.591  -8.853  1.00 35.05           O
ATOM   2977  N   ARG A 414       3.159   0.668  -6.981  1.00 37.14           N
ATOM   2978  CA  ARG A 414       3.967  -0.488  -7.345  1.00 38.28           C
ATOM   2979  CB  ARG A 414       5.327  -0.022  -7.850  1.00 37.85           C
ATOM   2980  CG  ARG A 414       5.919  -0.914  -8.915  1.00 38.86           C
ATOM   2981  CD  ARG A 414       6.918  -0.141  -9.756  1.00 40.63           C
ATOM   2982  NE  ARG A 414       7.916   0.546  -8.936  1.00 41.65           N
ATOM   2983  CZ  ARG A 414       8.069   1.866  -8.894  1.00 41.13           C
ATOM   2984  NH1 ARG A 414       7.297   2.653  -9.638  1.00 39.81           N
ATOM   2985  NH2 ARG A 414       9.003   2.397  -8.116  1.00 39.51           N
ATOM   2986  C   ARG A 414       4.124  -1.469  -6.194  1.00 38.44           C
ATOM   2987  O   ARG A 414       5.034  -1.344  -5.374  1.00 37.62           O
ATOM   2988  N   SER A 415       3.237  -2.460  -6.156  1.00 40.81           N
ATOM   2989  CA  SER A 415       3.172  -3.420  -5.047  1.00 42.55           C
ATOM   2990  CB  SER A 415       1.956  -4.340  -5.214  1.00 40.80           C
ATOM   2991  C   SER A 415       4.452  -4.256  -4.823  1.00 43.55           C
ATOM   2992  O   SER A 415       4.551  -4.968  -3.819  1.00 44.34           O
ATOM   2993  N   ASP A 416       5.424  -4.154  -5.738  1.00 43.67           N
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ATOM   2994  CA  ASP A 416       6.619  -5.017  -5.714  1.00 43.70           C
ATOM   2995  CB  ASP A 416       6.254  -6.426  -6.209  1.00 44.69           C
ATOM   2996  CG  ASP A 416       7.378  -7.089  -6.977  1.00 46.96           C
ATOM   2997  OD1 ASP A 416       8.378  -7.519  -6.351  1.00 48.27           O
ATOM   2998  OD2 ASP A 416       7.253  -7.178  -8.216  1.00 48.64           O
ATOM   2999  C   ASP A 416       7.835  -4.465  -6.490  1.00 42.71           C
ATOM   3000  O   ASP A 416       7.696  -4.038  -7.637  1.00 44.00           O
ATOM   3001  N   PRO A 417       9.036  -4.490  -5.864  1.00 42.41           N
ATOM   3002  CA  PRO A 417      10.266  -4.099  -6.560  1.00 41.42           C
ATOM   3003  CB  PRO A 417      11.205  -3.661  -5.417  1.00 41.46           C
ATOM   3004  CG  PRO A 417      10.420  -3.807  -4.138  1.00 41.70           C
ATOM   3005  CD  PRO A 417       9.295  -4.752  -4.437  1.00 41.98           C
ATOM   3006  C   PRO A 417      10.882  -5.263  -7.334  1.00 39.94           C
ATOM   3007  O   PRO A 417      10.684  -5.367  -8.547  1.00 39.31           O
ATOM   3008  N   GLU A 420       9.067  -2.698 -10.395  1.00 40.34           N
ATOM   3009  CA  GLU A 420       9.334  -2.932 -11.810  1.00 43.29           C
ATOM   3010  CB  GLU A 420       9.187  -4.443 -12.117  1.00 46.24           C
ATOM   3011  CG  GLU A 420       8.583  -4.850 -13.471  1.00 49.31           C
ATOM   3012  CD  GLU A 420       9.282  -4.262 -14.701  1.00 50.98           C
ATOM   3013  OE1 GLU A 420      10.482  -3.896 -14.618  1.00 51.24           O
ATOM   3014  OE2 GLU A 420       8.614  -4.172 -15.762  1.00 50.52           O
ATOM   3015  C   GLU A 420       8.488  -2.034 -12.753  1.00 43.67           C
ATOM   3016  O   GLU A 420       9.034  -1.306 -13.586  1.00 42.76           O
ATOM   3017  N   THR A 421       7.164  -2.102 -12.582  1.00 44.02           N
ATOM   3018  CA  THR A 421       6.144  -1.444 -13.405  1.00 39.92           C
ATOM   3019  CB  THR A 421       5.824  -2.282 -14.659  1.00 39.53           C
ATOM   3020  OG1 THR A 421       4.735  -1.688 -15.371  1.00 40.03           O
ATOM   3021  CG2 THR A 421       5.429  -3.712 -14.284  1.00 38.88           C
ATOM   3022  C   THR A 421       4.894  -1.410 -12.531  1.00 39.49           C
ATOM   3023  O   THR A 421       4.707  -2.308 -11.710  1.00 41.18           O
ATOM   3024  N   ASP A 422       4.036  -0.404 -12.691  1.00 38.39           N
ATOM   3025  CA  ASP A 422       2.834  -0.304 -11.844  1.00 38.46           C
ATOM   3026  CB  ASP A 422       1.976   0.919 -12.201  1.00 42.97           C
ATOM   3027  CG  ASP A 422       2.795   2.182 -12.446  1.00 46.66           C
ATOM   3028  OD1 ASP A 422       3.584   2.594 -11.562  1.00 49.51           O
ATOM   3029  OD2 ASP A 422       2.615   2.784 -13.527  1.00 49.04           O
ATOM   3030  C   ASP A 422       1.966  -1.564 -11.926  1.00 36.45           C
ATOM   3031  O   ASP A 422       1.937  -2.250 -12.951  1.00 36.18           O
ATOM   3032  N   ASP A 423       1.265  -1.862 -10.839  1.00 35.16           N
ATOM   3033  CA  ASP A 423       0.350  -3.005 -10.791  1.00 35.99           C
ATOM   3034  CB  ASP A 423       1.071  -4.260 -10.280  1.00 37.22           C
ATOM   3035  CG  ASP A 423       1.612  -4.099  -8.853  1.00 39.67           C
ATOM   3036  OD1 ASP A 423       1.628  -2.964  -8.321  1.00 40.84           O
ATOM   3037  OD2 ASP A 423       2.026  -5.117  -8.258  1.00 42.05           O
ATOM   3038  C   ASP A 423      -0.826  -2.664  -9.886  1.00 35.02           C
ATOM   3039  O   ASP A 423      -1.732  -3.469  -9.669  1.00 34.40           O
ATOM   3040  N   THR A 424      -0.797  -1.449  -9.366  1.00 33.22           N
ATOM   3041  CA  THR A 424      -1.727  -1.036  -8.359  1.00 32.45           C
ATOM   3042  CB  THR A 424      -1.027  -0.938  -6.991  1.00 33.57           C
ATOM   3043  OG1 THR A 424      -0.310  -2.154  -6.723  1.00 33.76           O
ATOM   3044  CG2 THR A 424      -2.037  -0.665  -5.870  1.00 33.40           C
ATOM   3045  C   THR A 424      -2.254   0.325  -8.736  1.00 31.79           C
ATOM   3046  O   THR A 424      -1.489   1.241  -9.029  1.00 32.17           O
ATOM   3047  N   LEU A 425      -3.570   0.451  -8.743  1.00 32.09           N
ATOM   3048  CA  LEU A 425      -4.202   1.746  -8.876  1.00 32.56           C
ATOM   3049  CB  LEU A 425      -5.163   1.751 -10.067  1.00 34.11           C
ATOM   3050  CG  LEU A 425      -5.270   3.024 -10.918  1.00 35.45           C
ATOM   3051  CD1 LEU A 425      -3.910   3.413 -11.484  1.00 35.66           C
ATOM   3052  CD2 LEU A 425      -6.287   2.842 -12.043  1.00 34.77           C
ATOM   3053  C   LEU A 425      -4.936   2.033  -7.576  1.00 32.00           C
ATOM   3054  O   LEU A 425      -5.733   1.213  -7.107  1.00 30.88           O
ATOM   3055  N   VAL A 426      -4.634   3.179  -6.976  1.00 32.03           N
ATOM   3056  CA  VAL A 426      -5.287   3.591  -5.742  1.00 33.58           C
ATOM   3057  CB  VAL A 426      -4.267   4.021  -4.663  1.00 32.82           C
ATOM   3058  CG1 VAL A 426      -4.976   4.506  -3.409  1.00 32.75           C
ATOM   3059  CG2 VAL A 426      -3.339   2.870  -4.318  1.00 31.94           C
ATOM   3060  C   VAL A 426      -6.250   4.726  -6.061  1.00 35.83           C
ATOM   3061  O   VAL A 426      -5.873   5.716  -6.687  1.00 38.22           O
ATOM   3062  N   LEU A 427      -7.502   4.559  -5.655  1.00 38.10           N
ATOM   3063  CA  LEU A 427      -8.542   5.542  -5.922  1.00 40.65           C
ATOM   3064  CB  LEU A 427      -9.675   4.913  -6.740  1.00 40.37           C
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ATOM   3065  CG  LEU A 427      -9.465   4.464  -8.191  1.00 39.32           C
ATOM   3066  CD1 LEU A 427      -8.489   3.301  -8.313  1.00 38.60           C
ATOM   3067  CD2 LEU A 427     -10.809   4.071  -8.781  1.00 38.86           C
ATOM   3068  C   LEU A 427      -9.090   6.037  -4.595  1.00 43.19           C
ATOM   3069  O   LEU A 427      -9.193   5.258  -3.639  1.00 44.47           O
ATOM   3070  N   SER A 428      -9.442   7.321  -4.528  1.00 43.82           N
ATOM   3071  CA  SER A 428     -10.066   7.867  -3.317  1.00 44.71           C
ATOM   3072  CB  SER A 428      -9.127   8.841  -2.596  1.00 45.06           C
ATOM   3073  OG  SER A 428      -8.911  10.010  -3.361  1.00 48.88           O
ATOM   3074  C   SER A 428     -11.439   8.501  -3.570  1.00 44.08           C
ATOM   3075  O   SER A 428     -11.698   9.064  -4.636  1.00 45.41           O
ATOM   3076  N   PHE A 429     -12.313   8.384  -2.579  1.00 41.84           N
ATOM   3077  CA  PHE A 429     -13.663   8.927  -2.650  1.00 41.84           C
ATOM   3078  CB  PHE A 429     -14.670   7.781  -2.679  1.00 41.35           C
ATOM   3079  CG  PHE A 429     -14.338   6.725  -3.697  1.00 40.90           C
ATOM   3080  CD1 PHE A 429     -13.483   5.673  -3.377  1.00 41.12           C
ATOM   3081  CE1 PHE A 429     -13.156   4.711  -4.318  1.00 40.03           C
ATOM   3082  CZ  PHE A 429     -13.676   4.792  -5.592  1.00 38.71           C
ATOM   3083  CE2 PHE A 429     -14.523   5.837  -5.924  1.00 39.89           C
ATOM   3084  CD2 PHE A 429     -14.846   6.800  -4.984  1.00 39.63           C
ATOM   3085  C   PHE A 429     -13.839   9.801  -1.424  1.00 42.24           C
ATOM   3086  O   PHE A 429     -12.900   9.915  -0.635  1.00 44.62           O
ATOM   3087  N   VAL A 430     -15.003  10.435  -1.257  1.00 41.49           N
ATOM   3088  CA  VAL A 430     -15.202  11.331  -0.102  1.00 41.03           C
ATOM   3089  CB  VAL A 430     -16.506  12.172  -0.186  1.00 40.96           C
ATOM   3090  CG1 VAL A 430     -17.720  11.385   0.305  1.00 39.36           C
ATOM   3091  CG2 VAL A 430     -16.347  13.474   0.594  1.00 39.87           C
ATOM   3092  C   VAL A 430     -15.092  10.560   1.214  1.00 40.81           C
ATOM   3093  O   VAL A 430     -15.847   9.624   1.456  1.00 38.75           O
ATOM   3094  N   GLY A 431     -14.106  10.942   2.028  1.00 43.03           N
ATOM   3095  CA  GLY A 431     -13.725  10.199   3.233  1.00 43.58           C
ATOM   3096  C   GLY A 431     -13.608   8.691   3.046  1.00 44.59           C
ATOM   3097  O   GLY A 431     -14.083   7.928   3.886  1.00 45.90           O
ATOM   3098  N   GLN A 432     -12.984   8.256   1.950  1.00 43.70           N
ATOM   3099  CA  GLN A 432     -12.837   6.823   1.652  1.00 43.89           C
ATOM   3100  CB  GLN A 432     -14.139   6.269   1.064  1.00 44.93           C
ATOM   3101  CG  GLN A 432     -14.264   4.753   1.104  1.00 46.17           C
ATOM   3102  CD  GLN A 432     -15.494   4.245   0.364  1.00 48.52           C
ATOM   3103  OE1 GLN A 432     -16.407   5.014   0.041  1.00 49.50           O
ATOM   3104  NE2 GLN A 432     -15.524   2.942   0.093  1.00 47.15           N
ATOM   3105  C   GLN A 432     -11.675   6.589   0.683  1.00 42.93           C
ATOM   3106  O   GLN A 432     -11.355   7.468  -0.119  1.00 44.12           O
ATOM   3107  N   THR A 433     -11.038   5.419   0.770  1.00 40.49           N
ATOM   3108  CA  THR A 433      -9.978   5.038  -0.178  1.00 38.78           C
ATOM   3109  CB  THR A 433      -8.575   5.348   0.365  1.00 37.51           C
ATOM   3110  OG1 THR A 433      -8.507   6.723   0.750  1.00 38.64           O
ATOM   3111  CG2 THR A 433      -7.509   5.064  -0.692  1.00 35.97           C
ATOM   3112  C   THR A 433     -10.043   3.562  -0.554  1.00 39.05           C
ATOM   3113  O   THR A 433     -10.181   2.699   0.314  1.00 39.30           O
ATOM   3114  N   ARG A 434      -9.946   3.286  -1.852  1.00 37.60           N
ATOM   3115  CA  ARG A 434      -9.956   1.921  -2.361  1.00 37.75           C
ATOM   3116  CB  ARG A 434     -11.213   1.651  -3.203  1.00 38.56           C
ATOM   3117  CG  ARG A 434     -12.553   1.740  -2.478  1.00 37.10           C
ATOM   3118  CD  ARG A 434     -13.591   0.901  -3.218  1.00 36.00           C
ATOM   3119  NE  ARG A 434     -14.928   1.488  -3.233  1.00 35.26           N
ATOM   3120  CZ  ARG A 434     -15.995   0.891  -3.759  1.00 35.28           C
ATOM   3121  NH1 ARG A 434     -15.878  -0.311  -4.305  1.00 35.94           N
ATOM   3122  NH2 ARG A 434     -17.181   1.492  -3.744  1.00 35.37           N
ATOM   3123  C   ARG A 434      -8.713   1.653  -3.208  1.00 37.45           C
ATOM   3124  O   ARG A 434      -8.176   2.561  -3.840  1.00 37.91           O
ATOM   3125  N   VAL A 435      -8.277   0.396  -3.224  1.00 37.25           N
ATOM   3126  CA  VAL A 435      -7.068  -0.017  -3.935  1.00 37.60           C
ATOM   3127  CB  VAL A 435      -5.986  -0.538  -2.952  1.00 37.32           C
ATOM   3128  CG1 VAL A 435      -4.748  -1.020  -3.701  1.00 37.26           C
ATOM   3129  CG2 VAL A 435      -5.608   0.541  -1.948  1.00 37.00           C
ATOM   3130  C   VAL A 435      -7.397  -1.104  -4.962  1.00 38.03           C
ATOM   3131  O   VAL A 435      -8.049  -2.100  -4.635  1.00 39.22           O
ATOM   3132  N   LEU A 436      -6.941  -0.911  -6.198  1.00 36.74           N
ATOM   3133  CA  LEU A 436      -7.201  -1.868  -7.267  1.00 36.55           C
ATOM   3134  CB  LEU A 436      -7.876  -1.175  -8.457  1.00 36.60           C
ATOM   3135  CG  LEU A 436      -9.246  -0.530  -8.239  1.00 35.55           C
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ATOM   3136  CD1 LEU A 436      -9.735   0.112  -9.525  1.00 34.84           C
ATOM   3137  CD2 LEU A 436     -10.251  -1.551  -7.729  1.00 35.28           C
ATOM   3138  C   LEU A 436      -5.915  -2.521  -7.727  1.00 36.16           C
ATOM   3139  O   LEU A 436      -4.980  -1.830  -8.123  1.00 36.58           O
ATOM   3140  N   MET A 437      -5.862  -3.848  -7.682  1.00 35.58           N
ATOM   3141  CA  MET A 437      -4.694  -4.546  -8.206  1.00 36.20           C
ATOM   3142  CB  MET A 437      -4.337  -5.781  -7.356  1.00 37.96           C
ATOM   3143  CG  MET A 437      -4.865  -7.118  -7.850  1.00 40.73           C
ATOM   3144  SD  MET A 437      -4.283  -8.497  -6.838  1.00 43.43           S
ATOM   3145  CE  MET A 437      -2.599  -8.685  -7.433  1.00 41.94           C
ATOM   3146  C   MET A 437      -4.862  -4.875  -9.693  1.00 34.98           C
ATOM   3147  O   MET A 437      -5.966  -5.194 -10.151  1.00 36.42           O
ATOM   3148  N   LEU A 438      -3.768  -4.769 -10.443  1.00 32.03           N
ATOM   3149  CA  LEU A 438      -3.783  -5.058 -11.867  1.00 30.70           C
ATOM   3150  CB  LEU A 438      -3.297  -3.847 -12.659  1.00 31.02           C
ATOM   3151  CG  LEU A 438      -4.269  -2.670 -12.711  1.00 31.64           C
ATOM   3152  CD1 LEU A 438      -4.247  -1.912 -11.397  1.00 33.39           C
ATOM   3153  CD2 LEU A 438      -3.951  -1.733 -13.866  1.00 31.56           C
ATOM   3154  C   LEU A 438      -2.965  -6.292 -12.228  1.00 29.63           C
ATOM   3155  O   LEU A 438      -1.755  -6.329 -12.031  1.00 29.72           O
ATOM   3156  N   ASN A 439      -3.645  -7.310 -12.734  1.00 29.32           N
ATOM   3157  CA  ASN A 439      -2.989  -8.456 -13.344  1.00 30.36           C
ATOM   3158  CB  ASN A 439      -3.388  -9.765 -12.654  1.00 30.83           C
ATOM   3159  CG  ASN A 439      -2.353 -10.238 -11.647  1.00 31.42           C
ATOM   3160  OD1 ASN A 439      -1.415 -10.962 -11.996  1.00 30.93           O
ATOM   3161  ND2 ASN A 439      -2.524  -9.838 -10.385  1.00 31.31           N
ATOM   3162  C   ASN A 439      -3.395  -8.490 -14.797  1.00 30.86           C
ATOM   3163  O   ASN A 439      -4.564  -8.705 -15.109  1.00 31.43           O
ATOM   3164  N   GLY A 440      -2.439  -8.242 -15.687  1.00 31.02           N
ATOM   3165  CA  GLY A 440      -2.746  -8.092 -17.101  1.00 31.35           C
ATOM   3166  C   GLY A 440      -3.891  -7.117 -17.309  1.00 31.67           C
ATOM   3167  O   GLY A 440      -3.809  -5.949 -16.922  1.00 32.14           O
ATOM   3168  N   GLU A 441      -4.969  -7.608 -17.901  1.00 32.01           N
ATOM   3169  CA  GLU A 441      -6.120  -6.778 -18.203  1.00 33.36           C
ATOM   3170  CB  GLU A 441      -6.661  -7.101 -19.593  1.00 34.81           C
ATOM   3171  CG  GLU A 441      -6.035  -6.313 -20.726  1.00 36.48           C
ATOM   3172  CD  GLU A 441      -6.697  -6.606 -22.065  1.00 39.49           C
ATOM   3173  OE1 GLU A 441      -5.960  -6.781 -23.054  1.00 40.89           O
ATOM   3174  OE2 GLU A 441      -7.953  -6.670 -22.137  1.00 40.96           O
ATOM   3175  C   GLU A 441      -7.227  -6.957 -17.175  1.00 33.77           C
ATOM   3176  O   GLU A 441      -8.321  -6.397 -17.326  1.00 34.90           O
ATOM   3177  N   GLU A 442      -6.951  -7.732 -16.130  1.00 33.82           N
ATOM   3178  CA  GLU A 442      -7.954  -7.967 -15.086  1.00 34.39           C
ATOM   3179  CB  GLU A 442      -8.179  -9.464 -14.830  1.00 34.63           C
ATOM   3180  CG  GLU A 442      -6.931 -10.290 -14.567  1.00 34.42           C
ATOM   3181  CD  GLU A 442      -7.198 -11.782 -14.613  1.00 35.35           C
ATOM   3182  OE1 GLU A 442      -8.304 -12.194 -15.036  1.00 36.06           O
ATOM   3183  OE2 GLU A 442      -6.299 -12.551 -14.224  1.00 36.26           O
ATOM   3184  C   GLU A 442      -7.681  -7.206 -13.793  1.00 34.33           C
ATOM   3185  O   GLU A 442      -6.637  -7.385 -13.152  1.00 33.18           O
ATOM   3186  N   VAL A 443      -8.628  -6.331 -13.445  1.00 34.44           N
ATOM   3187  CA  VAL A 443      -8.535  -5.496 -12.254  1.00 34.09           C
ATOM   3188  CB  VAL A 443      -9.061  -4.067 -12.509  1.00 34.50           C
ATOM   3189  CG1 VAL A 443      -8.958  -3.214 -11.248  1.00 34.03           C
ATOM   3190  CG2 VAL A 443      -8.307  -3.411 -13.659  1.00 34.27           C
ATOM   3191  C   VAL A 443      -9.339  -6.149 -11.143  1.00 34.39           C
ATOM   3192  O   VAL A 443     -10.457  -6.628 -11.371  1.00 33.97           O
ATOM   3193  N   GLU A 444      -8.750  -6.181  -9.949  1.00 34.43           N
ATOM   3194  CA  GLU A 444      -9.366  -6.798  -8.780  1.00 33.68           C
ATOM   3195  CB  GLU A 444      -8.778  -8.190  -8.547  1.00 32.68           C
ATOM   3196  CG  GLU A 444      -9.718  -9.128  -7.818  1.00 33.73           C
ATOM   3197  CD  GLU A 444      -9.007 -10.261  -7.094  1.00 34.47           C
ATOM   3198  OE1 GLU A 444      -9.193 -10.382  -5.864  1.00 33.93           O
ATOM   3199  OE2 GLU A 444      -8.272 -11.039  -7.742  1.00 35.85           O
ATOM   3200  C   GLU A 444      -9.125  -5.904  -7.564  1.00 34.06           C
ATOM   3201  O   GLU A 444      -7.980  -5.533  -7.272  1.00 34.43           O
ATOM   3202  N   GLU A 445     -10.201  -5.538  -6.870  1.00 34.65           N
ATOM   3203  CA  GLU A 445     -10.090  -4.697  -5.675  1.00 35.46           C
ATOM   3204  CB  GLU A 445     -11.452  -4.149  -5.241  1.00 35.65           C
ATOM   3205  CG  GLU A 445     -11.523  -3.778  -3.766  1.00 36.50           C
ATOM   3206  CD  GLU A 445     -12.286  -2.493  -3.492  1.00 37.42           C
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ATOM   3207  OE1 GLU A 445     -11.874  -1.765  -2.550  1.00 37.33           O
ATOM   3208  OE2 GLU A 445     -13.281  -2.210  -4.207  1.00 35.75           O
ATOM   3209  C   GLU A 445      -9.465  -5.487  -4.552  1.00 35.52           C
ATOM   3210  O   GLU A 445      -9.795  -6.651  -4.360  1.00 35.94           O
ATOM   3211  N   THR A 446      -8.564  -4.851  -3.811  1.00 36.34           N
ATOM   3212  CA  THR A 446      -7.866  -5.522  -2.718  1.00 38.20           C
ATOM   3213  CB  THR A 446      -6.520  -6.119  -3.205  1.00 37.81           C
ATOM   3214  OG1 THR A 446      -5.972  -6.969  -2.193  1.00 37.76           O
ATOM   3215  CG2 THR A 446      -5.511  -5.024  -3.571  1.00 37.79           C
ATOM   3216  C   THR A 446      -7.688  -4.611  -1.487  1.00 39.68           C
ATOM   3217  O   THR A 446      -8.249  -3.513  -1.434  1.00 40.02           O
ATOM   3218  N   GLU A 447      -6.948  -5.096  -0.491  1.00 42.51           N
ATOM   3219  CA  GLU A 447      -6.475  -4.276   0.631  1.00 45.02           C
ATOM   3220  CB  GLU A 447      -6.832  -4.938   1.970  1.00 43.40           C
ATOM   3221  C   GLU A 447      -4.952  -4.074   0.528  1.00 47.09           C
ATOM   3222  O   GLU A 447      -4.221  -4.987   0.113  1.00 48.13           O
ATOM   3223  N   LEU A 448      -4.476  -2.883   0.882  1.00 47.03           N
ATOM   3224  CA  LEU A 448      -3.037  -2.665   1.015  1.00 49.45           C
ATOM   3225  CB  LEU A 448      -2.583  -1.426   0.232  1.00 49.54           C
ATOM   3226  CG  LEU A 448      -1.073  -1.285  -0.031  1.00 49.09           C
ATOM   3227  CD1 LEU A 448      -0.556  -2.430  -0.893  1.00 48.79           C
ATOM   3228  CD2 LEU A 448      -0.749   0.052  -0.681  1.00 46.81           C
ATOM   3229  C   LEU A 448      -2.667  -2.532   2.489  1.00 52.10           C
ATOM   3230  O   LEU A 448      -3.091  -1.582   3.159  1.00 56.88           O
ATOM   3231  N   MET A 449      -1.891  -3.484   3.002  1.00 50.26           N
ATOM   3232  CA  MET A 449      -1.533  -3.465   4.420  1.00 49.85           C
ATOM   3233  CB  MET A 449      -0.796  -4.743   4.832  1.00 51.08           C
ATOM   3234  CG  MET A 449      -0.938  -5.102   6.305  1.00 49.54           C
ATOM   3235  SD  MET A 449       0.157  -6.464   6.765  1.00 53.97           S
ATOM   3236  CE  MET A 449      -0.720  -7.891   6.113  1.00 53.26           C
ATOM   3237  C   MET A 449      -0.705  -2.224   4.744  1.00 47.53           C
ATOM   3238  O   MET A 449       0.309  -1.945   4.104  1.00 45.58           O
ATOM   3239  N   GLY A 450      -1.171  -1.470   5.729  1.00 46.06           N
ATOM   3240  CA  GLY A 450      -0.505  -0.246   6.129  1.00 44.55           C
ATOM   3241  C   GLY A 450      -1.212   0.965   5.580  1.00 43.27           C
ATOM   3242  O   GLY A 450      -0.939   2.091   5.990  1.00 44.47           O
ATOM   3243  N   PHE A 451      -2.131   0.735   4.652  1.00 41.99           N
ATOM   3244  CA  PHE A 451      -2.870   1.824   4.044  1.00 41.83           C
ATOM   3245  CB  PHE A 451      -2.915   1.670   2.513  1.00 41.43           C
ATOM   3246  CG  PHE A 451      -1.887   2.507   1.784  1.00 41.39           C
ATOM   3247  CD1 PHE A 451      -0.597   2.672   2.294  1.00 40.39           C
ATOM   3248  CE1 PHE A 451       0.339   3.445   1.625  1.00 39.02           C
ATOM   3249  CZ  PHE A 451       0.002   4.060   0.430  1.00 38.89           C
ATOM   3250  CE2 PHE A 451      -1.268   3.908  -0.094  1.00 40.12           C
ATOM   3251  CD2 PHE A 451      -2.207   3.134   0.581  1.00 41.71           C
ATOM   3252  C   PHE A 451      -4.258   1.939   4.644  1.00 42.57           C
ATOM   3253  O   PHE A 451      -5.089   1.039   4.492  1.00 43.27           O
ATOM   3254  N   VAL A 452      -4.491   3.041   5.354  1.00 44.49           N
ATOM   3255  CA  VAL A 452      -5.812   3.341   5.924  1.00 46.79           C
ATOM   3256  CB  VAL A 452      -5.754   4.479   6.992  1.00 46.24           C
ATOM   3257  CG1 VAL A 452      -5.867   5.867   6.363  1.00 45.37           C
ATOM   3258  CG2 VAL A 452      -6.836   4.284   8.043  1.00 46.24           C
ATOM   3259  C   VAL A 452      -6.825   3.633   4.807  1.00 47.28           C
ATOM   3260  O   VAL A 452      -6.530   4.354   3.851  1.00 46.34           O
ATOM   3261  N   ASP A 453      -8.008   3.043   4.928  1.00 50.16           N
ATOM   3262  CA  ASP A 453      -9.002   3.083   3.860  1.00 52.96           C
ATOM   3263  CB  ASP A 453      -9.104   1.696   3.182  1.00 58.71           C
ATOM   3264  CG  ASP A 453      -7.833   1.332   2.350  1.00 63.02           C
ATOM   3265  OD1 ASP A 453      -7.400   2.154   1.504  1.00 64.18           O
ATOM   3266  OD2 ASP A 453      -7.282   0.214   2.528  1.00 61.14           O
ATOM   3267  C   ASP A 453     -10.364   3.584   4.368  1.00 50.20           C
ATOM   3268  O   ASP A 453     -11.413   3.135   3.913  1.00 48.99           O
ATOM   3269  N   ASP A 454     -10.321   4.525   5.314  1.00 49.02           N
ATOM   3270  CA  ASP A 454     -11.523   5.128   5.909  1.00 48.27           C
ATOM   3271  CB  ASP A 454     -11.730   4.651   7.364  1.00 48.66           C
ATOM   3272  CG  ASP A 454     -10.706   5.244   8.353  1.00 49.53           C
ATOM   3273  OD1 ASP A 454      -9.730   5.896   7.917  1.00 50.63           O
ATOM   3274  OD2 ASP A 454     -10.881   5.048   9.579  1.00 47.76           O
ATOM   3275  C   ASP A 454     -11.472   6.656   5.840  1.00 46.93           C
ATOM   3276  O   ASP A 454     -12.432   7.340   6.187  1.00 47.68           O
ATOM   3277  N   GLN A 455     -10.328   7.176   5.418  1.00 45.28           N
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ATOM   3278  CA  GLN A 455     -10.178   8.589   5.134  1.00 44.72           C
ATOM   3279  CB  GLN A 455      -8.882   9.130   5.755  1.00 44.77           C
ATOM   3280  CG  GLN A 455      -8.786   9.027   7.270  1.00 44.22           C
ATOM   3281  CD  GLN A 455      -9.670  10.023   8.014  1.00 44.12           C
ATOM   3282  OE1 GLN A 455     -10.523  10.693   7.430  1.00 43.57           O
ATOM   3283  NE2 GLN A 455      -9.469  10.112   9.318  1.00 44.24           N
ATOM   3284  C   GLN A 455     -10.123   8.768   3.625  1.00 45.60           C
ATOM   3285  O   GLN A 455      -9.946   7.799   2.883  1.00 47.84           O
ATOM   3286  N   GLN A 456     -10.269  10.010   3.176  1.00 44.16           N
ATOM   3287  CA  GLN A 456      -9.982  10.382   1.793  1.00 41.98           C
ATOM   3288  CB  GLN A 456     -10.769  11.636   1.454  1.00 40.72           C
ATOM   3289  CG  GLN A 456     -10.383  12.324   0.167  1.00 39.48           C
ATOM   3290  CD  GLN A 456     -11.279  13.506  -0.104  1.00 40.28           C
ATOM   3291  OE1 GLN A 456     -10.810  14.624  -0.271  1.00 42.05           O
ATOM   3292  NE2 GLN A 456     -12.585  13.270  -0.120  1.00 40.55           N
ATOM   3293  C   GLN A 456      -8.478  10.632   1.620  1.00 41.23           C
ATOM   3294  O   GLN A 456      -7.871  11.338   2.425  1.00 41.71           O
ATOM   3295  N   THR A 457      -7.888  10.047   0.575  1.00 39.91           N
ATOM   3296  CA  THR A 457      -6.446  10.179   0.295  1.00 39.80           C
ATOM   3297  CB  THR A 457      -5.927   8.935  -0.453  1.00 38.87           C
ATOM   3298  OG1 THR A 457      -5.998   7.798   0.414  1.00 37.70           O
ATOM   3299  CG2 THR A 457      -4.485   9.127  -0.927  1.00 38.06           C
ATOM   3300  C   THR A 457      -6.104  11.438  -0.519  1.00 40.67           C
ATOM   3301  O   THR A 457      -6.765  11.731  -1.525  1.00 40.21           O
ATOM   3302  N   PHE A 458      -5.077  12.173  -0.085  1.00 41.65           N
ATOM   3303  CA  PHE A 458      -4.626  13.374  -0.814  1.00 44.31           C
ATOM   3304  CB  PHE A 458      -4.368  14.550   0.134  1.00 49.60           C
ATOM   3305  CG  PHE A 458      -5.619  15.282   0.533  1.00 55.86           C
ATOM   3306  CD1 PHE A 458      -6.425  15.893  -0.435  1.00 57.18           C
ATOM   3307  CE1 PHE A 458      -7.592  16.558  -0.073  1.00 59.11           C
ATOM   3308  CZ  PHE A 458      -7.964  16.619   1.265  1.00 61.35           C
ATOM   3309  CE2 PHE A 458      -7.173  16.014   2.240  1.00 59.89           C
ATOM   3310  CD2 PHE A 458      -6.009  15.348   1.873  1.00 57.81           C
ATOM   3311  C   PHE A 458      -3.420  13.128  -1.719  1.00 42.63           C
ATOM   3312  O   PHE A 458      -3.262  13.788  -2.751  1.00 43.72           O
ATOM   3313  N   PHE A 459      -2.566  12.191  -1.322  1.00 38.14           N
ATOM   3314  CA  PHE A 459      -1.523  11.688  -2.192  1.00 35.19           C
ATOM   3315  CB  PHE A 459      -0.287  12.593  -2.195  1.00 33.44           C
ATOM   3316  CG  PHE A 459       0.909  11.952  -2.842  1.00 32.80           C
ATOM   3317  CD1 PHE A 459       1.080  12.003  -4.225  1.00 31.63           C
ATOM   3318  CE1 PHE A 459       2.159  11.384  -4.832  1.00 30.73           C
ATOM   3319  CZ  PHE A 459       3.079  10.691  -4.062  1.00 31.21           C
ATOM   3320  CE2 PHE A 459       2.916  10.618  -2.688  1.00 32.21           C
ATOM   3321  CD2 PHE A 459       1.835  11.243  -2.082  1.00 32.33           C
ATOM   3322  C   PHE A 459      -1.106  10.322  -1.726  1.00 34.61           C
ATOM   3323  O   PHE A 459      -1.094  10.054  -0.538  1.00 36.92           O
ATOM   3324  N   CYS A 460      -0.750   9.459  -2.664  1.00 34.35           N
ATOM   3325  CA  CYS A 460       0.006   8.269  -2.332  1.00 35.21           C
ATOM   3326  CB  CYS A 460      -0.918   7.095  -2.011  1.00 37.29           C
ATOM   3327  SG  CYS A 460      -1.705   6.355  -3.448  1.00 42.12           S
ATOM   3328  C   CYS A 460       0.927   7.935  -3.483  1.00 35.30           C
ATOM   3329  O   CYS A 460       0.798   8.497  -4.570  1.00 36.13           O
ATOM   3330  N   GLY A 461       1.867   7.032  -3.241  1.00 34.39           N
ATOM   3331  CA  GLY A 461       2.760   6.585  -4.289  1.00 33.67           C
ATOM   3332  C   GLY A 461       4.036   6.018  -3.732  1.00 33.95           C
ATOM   3333  O   GLY A 461       4.174   5.866  -2.515  1.00 34.87           O
ATOM   3334  N   ASN A 462       4.968   5.702  -4.632  1.00 33.09           N
ATOM   3335  CA  ASN A 462       6.248   5.145  -4.256  1.00 33.16           C
ATOM   3336  CB  ASN A 462       6.888   4.418  -5.433  1.00 32.11           C
ATOM   3337  CG  ASN A 462       6.097   3.203  -5.870  1.00 32.20           C
ATOM   3338  OD1 ASN A 462       6.475   2.067  -5.590  1.00 31.71           O
ATOM   3339  ND2 ASN A 462       4.993   3.434  -6.567  1.00 32.99           N
ATOM   3340  C   ASN A 462       7.157   6.249  -3.769  1.00 35.61           C
ATOM   3341  O   ASN A 462       7.116   7.365  -4.295  1.00 34.91           O
ATOM   3342  N   VAL A 463       7.965   5.931  -2.753  1.00 39.77           N
ATOM   3343  CA  VAL A 463       8.932   6.875  -2.166  1.00 42.62           C
ATOM   3344  CB  VAL A 463       8.406   7.488  -0.847  1.00 42.42           C
ATOM   3345  CG1 VAL A 463       7.360   8.553  -1.141  1.00 41.89           C
ATOM   3346  CG2 VAL A 463       7.853   6.413   0.075  1.00 41.95           C
ATOM   3347  C   VAL A 463      10.333   6.270  -1.951  1.00 44.89           C
ATOM   3348  O   VAL A 463      10.569   5.098  -2.258  1.00 47.16           O
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ATOM   3349  N   ALA A 464      11.254   7.076  -1.424  1.00 46.43           N
ATOM   3350  CA  ALA A 464      12.649   6.652  -1.221  1.00 48.09           C
ATOM   3351  CB  ALA A 464      13.531   7.856  -0.908  1.00 48.16           C
ATOM   3352  C   ALA A 464      12.818   5.567  -0.148  1.00 48.28           C
ATOM   3353  O   ALA A 464      12.032   5.490   0.803  1.00 48.89           O
ATOM   3354  N   HIS A 465      13.851   4.740  -0.325  1.00 48.04           N
ATOM   3355  CA  HIS A 465      14.234   3.673   0.625  1.00 47.71           C
ATOM   3356  CB  HIS A 465      14.487   4.231   2.026  1.00 48.77           C
ATOM   3357  CG  HIS A 465      15.465   5.373   2.049  1.00 50.45           C
ATOM   3358  ND1 HIS A 465      16.795   5.187   1.977  1.00 50.15           N
ATOM   3359  CE1 HIS A 465      17.415   6.381   2.011  1.00 51.50           C
ATOM   3360  NE2 HIS A 465      16.475   7.338   2.102  1.00 52.03           N
ATOM   3361  CD2 HIS A 465      15.262   6.752   2.125  1.00 51.41           C
ATOM   3362  C   HIS A 465      13.298   2.491   0.675  1.00 45.94           C
ATOM   3363  O   HIS A 465      12.982   1.988   1.759  1.00 43.12           O
ATOM   3364  N   GLN A 466      12.872   2.034  -0.508  1.00 45.45           N
ATOM   3365  CA  GLN A 466      12.072   0.809  -0.674  1.00 46.22           C
ATOM   3366  CB  GLN A 466      12.853  -0.427  -0.200  1.00 48.54           C
ATOM   3367  CG  GLN A 466      14.201  -0.623  -0.876  1.00 50.97           C
ATOM   3368  CD  GLN A 466      14.080  -0.724  -2.381  1.00 52.63           C
ATOM   3369  OE1 GLN A 466      13.308  -1.535  -2.902  1.00 55.23           O
ATOM   3370  NE2 GLN A 466      14.836   0.106  -3.092  1.00 52.56           N
ATOM   3371  C   GLN A 466      10.723   0.887   0.038  1.00 46.26           C
ATOM   3372  O   GLN A 466      10.270  -0.087   0.653  1.00 45.57           O
ATOM   3373  N   GLN A 467      10.080   2.048  -0.058  1.00 45.98           N
ATOM   3374  CA  GLN A 467       8.913   2.341   0.769  1.00 45.22           C
ATOM   3375  CB  GLN A 467       9.289   3.304   1.922  1.00 45.41           C
ATOM   3376  CG  GLN A 467       9.929   2.610   3.128  1.00 45.81           C
ATOM   3377  CD  GLN A 467      10.679   3.554   4.067  1.00 46.80           C
ATOM   3378  OE1 GLN A 467      11.391   4.466   3.627  1.00 47.37           O
ATOM   3379  NE2 GLN A 467      10.540   3.319   5.373  1.00 45.24           N
ATOM   3380  C   GLN A 467       7.706   2.855  -0.022  1.00 42.64           C
ATOM   3381  O   GLN A 467       7.765   3.020  -1.243  1.00 40.86           O
ATOM   3382  N   LEU A 468       6.623   3.103   0.710  1.00 40.59           N
ATOM   3383  CA  LEU A 468       5.345   3.511   0.162  1.00 39.02           C
ATOM   3384  CB  LEU A 468       4.432   2.292   0.132  1.00 38.48           C
ATOM   3385  CG  LEU A 468       3.674   1.981  -1.152  1.00 38.08           C
ATOM   3386  CD1 LEU A 468       3.803   0.514  -1.526  1.00 37.26           C
ATOM   3387  CD2 LEU A 468       2.222   2.347  -0.969  1.00 38.48           C
ATOM   3388  C   LEU A 468       4.772   4.604   1.076  1.00 38.80           C
ATOM   3389  O   LEU A 468       5.155   4.700   2.244  1.00 39.13           O
ATOM   3390  N   ILE A 469       3.875   5.438   0.557  1.00 38.69           N
ATOM   3391  CA  ILE A 469       3.339   6.547   1.364  1.00 40.51           C
ATOM   3392  CB  ILE A 469       4.198   7.833   1.203  1.00 40.72           C
ATOM   3393  CG1 ILE A 469       3.862   8.856   2.296  1.00 40.12           C
ATOM   3394  CD1 ILE A 469       4.883   9.965   2.439  1.00 41.82           C
ATOM   3395  CG2 ILE A 469       4.037   8.429  -0.193  1.00 40.40           C
ATOM   3396  C   ILE A 469       1.848   6.863   1.127  1.00 40.60           C
ATOM   3397  O   ILE A 469       1.401   6.930  -0.011  1.00 41.16           O
ATOM   3398  N   GLN A 470       1.092   7.049   2.209  1.00 40.05           N
ATOM   3399  CA  GLN A 470      -0.277   7.546   2.111  1.00 40.97           C
ATOM   3400  CB  GLN A 470      -1.289   6.496   2.584  1.00 41.45           C
ATOM   3401  CG  GLN A 470      -2.718   7.028   2.686  1.00 42.48           C
ATOM   3402  CD  GLN A 470      -3.780   5.940   2.772  1.00 42.16           C
ATOM   3403  OE1 GLN A 470      -4.821   6.017   2.116  1.00 41.81           O
ATOM   3404  NE2 GLN A 470      -3.525   4.928   3.583  1.00 42.49           N
ATOM   3405  C   GLN A 470      -0.457   8.834   2.906  1.00 42.34           C
ATOM   3406  O   GLN A 470      -0.218   8.871   4.116  1.00 43.77           O
ATOM   3407  N   ILE A 471      -0.893   9.886   2.221  1.00 42.56           N
ATOM   3408  CA  ILE A 471      -1.186  11.158   2.873  1.00 43.72           C
ATOM   3409  CB  ILE A 471      -0.411  12.334   2.233  1.00 41.85           C
ATOM   3410  CG1 ILE A 471       1.100  12.068   2.281  1.00 40.87           C
ATOM   3411  CD1 ILE A 471       1.956  13.143   1.644  1.00 41.25           C
ATOM   3412  CG2 ILE A 471      -0.753  13.639   2.937  1.00 41.97           C
ATOM   3413  C   ILE A 471      -2.693  11.431   2.864  1.00 47.17           C
ATOM   3414  O   ILE A 471      -3.258  11.850   1.843  1.00 47.50           O
ATOM   3415  N   THR A 472      -3.336  11.172   4.005  1.00 49.76           N
ATOM   3416  CA  THR A 472      -4.761  11.459   4.181  1.00 51.05           C
ATOM   3417  CB  THR A 472      -5.475  10.380   5.021  1.00 51.95           C
ATOM   3418  OG1 THR A 472      -5.002  10.422   6.373  1.00 53.97           O
ATOM   3419  CG2 THR A 472      -5.246   9.000   4.439  1.00 52.95           C
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ATOM   3420  C   THR A 472      -4.980  12.817   4.845  1.00 52.07           C
ATOM   3421  O   THR A 472      -4.029  13.561   5.092  1.00 53.60           O
ATOM   3422  N   SER A 473      -6.243  13.134   5.117  1.00 53.15           N
ATOM   3423  CA  SER A 473      -6.601  14.318   5.889  1.00 52.33           C
ATOM   3424  CB  SER A 473      -8.114  14.556   5.845  1.00 52.39           C
ATOM   3425  OG  SER A 473      -8.822  13.329   5.763  1.00 52.07           O
ATOM   3426  C   SER A 473      -6.124  14.159   7.326  1.00 51.45           C
ATOM   3427  O   SER A 473      -5.639  15.114   7.935  1.00 53.87           O
ATOM   3428  N   ALA A 474      -6.240  12.941   7.851  1.00 48.94           N
ATOM   3429  CA  ALA A 474      -5.831  12.651   9.223  1.00 47.42           C
ATOM   3430  CB  ALA A 474      -6.409  11.322   9.689  1.00 46.79           C
ATOM   3431  C   ALA A 474      -4.315  12.672   9.408  1.00 45.15           C
ATOM   3432  O   ALA A 474      -3.801  13.460  10.195  1.00 46.18           O
ATOM   3433  N   SER A 475      -3.601  11.816   8.685  0.50 42.12           N
ATOM   3434  CA  SER A 475      -2.182  11.638   8.948  0.50 39.85           C
ATOM   3435  CB  SER A 475      -1.974  10.544   9.997  0.50 39.67           C
ATOM   3436  OG  SER A 475      -2.082   9.260   9.411  0.50 38.56           O
ATOM   3437  C   SER A 475      -1.372  11.315   7.707  0.50 38.46           C
ATOM   3438  O   SER A 475      -1.902  11.239   6.601  0.50 37.74           O
ATOM   3439  N   VAL A 476      -0.074  11.135   7.920  1.00 37.89           N
ATOM   3440  CA  VAL A 476       0.875  10.797   6.872  1.00 38.34           C
ATOM   3441  CB  VAL A 476       1.998  11.851   6.768  1.00 36.70           C
ATOM   3442  CG1 VAL A 476       2.936  11.523   5.622  1.00 35.88           C
ATOM   3443  CG2 VAL A 476       1.421  13.254   6.616  1.00 36.34           C
ATOM   3444  C   VAL A 476       1.492   9.448   7.221  1.00 39.87           C
ATOM   3445  O   VAL A 476       2.114   9.295   8.276  1.00 39.70           O
ATOM   3446  N   ARG A 477       1.322   8.474   6.332  1.00 41.86           N
ATOM   3447  CA  ARG A 477       1.707   7.100   6.632  1.00 43.96           C
ATOM   3448  CB  ARG A 477       0.499   6.148   6.530  1.00 44.71           C
ATOM   3449  CG  ARG A 477      -0.872   6.797   6.678  1.00 45.17           C
ATOM   3450  CD  ARG A 477      -1.736   6.095   7.718  1.00 46.37           C
ATOM   3451  NE  ARG A 477      -1.812   4.640   7.555  1.00 47.64           N
ATOM   3452  CZ  ARG A 477      -1.930   3.783   8.572  1.00 48.71           C
ATOM   3453  NH1 ARG A 477      -1.965   4.234   9.818  1.00 49.09           N
ATOM   3454  NH2 ARG A 477      -1.995   2.474   8.354  1.00 47.73           N
ATOM   3455  C   ARG A 477       2.852   6.584   5.753  1.00 45.51           C
ATOM   3456  O   ARG A 477       2.659   6.309   4.564  1.00 47.30           O
ATOM   3457  N   LEU A 478       4.036   6.447   6.347  1.00 44.67           N
ATOM   3458  CA  LEU A 478       5.134   5.730   5.709  1.00 44.78           C
ATOM   3459  CB  LEU A 478       6.472   6.165   6.305  1.00 45.87           C
ATOM   3460  CG  LEU A 478       7.767   5.627   5.690  1.00 47.04           C
ATOM   3461  CD1 LEU A 478       7.959   6.133   4.267  1.00 49.23           C
ATOM   3462  CD2 LEU A 478       8.962   6.001   6.553  1.00 47.18           C
ATOM   3463  C   LEU A 478       4.938   4.221   5.882  1.00 45.57           C
ATOM   3464  O   LEU A 478       4.718   3.739   6.997  1.00 47.86           O
ATOM   3465  N   VAL A 479       5.000   3.487   4.773  1.00 44.87           N
ATOM   3466  CA  VAL A 479       4.809   2.031   4.771  1.00 44.31           C
ATOM   3467  CB  VAL A 479       3.529   1.623   3.998  1.00 44.19           C
ATOM   3468  CG1 VAL A 479       3.305   0.119   4.051  1.00 43.45           C
ATOM   3469  CG2 VAL A 479       2.308   2.352   4.537  1.00 45.17           C
ATOM   3470  C   VAL A 479       5.999   1.382   4.092  1.00 44.49           C
ATOM   3471  O   VAL A 479       6.579   1.964   3.184  1.00 46.29           O
ATOM   3472  N   SER A 480       6.357   0.176   4.525  1.00 45.99           N
ATOM   3473  CA  SER A 480       7.426  -0.600   3.875  1.00 46.49           C
ATOM   3474  CB  SER A 480       8.190  -1.458   4.906  1.00 45.41           C
ATOM   3475  OG  SER A 480       7.313  -2.247   5.695  1.00 43.52           O
ATOM   3476  C   SER A 480       6.897  -1.450   2.701  1.00 45.43           C
ATOM   3477  O   SER A 480       5.699  -1.456   2.428  1.00 43.72           O
ATOM   3478  N   GLN A 481       7.797  -2.152   2.013  1.00 46.97           N
ATOM   3479  CA  GLN A 481       7.432  -2.968   0.852  1.00 50.05           C
ATOM   3480  CB  GLN A 481       8.371  -2.680  -0.320  1.00 49.01           C
ATOM   3481  CG  GLN A 481       8.068  -1.391  -1.064  1.00 48.30           C
ATOM   3482  CD  GLN A 481       7.014  -1.579  -2.127  1.00 48.18           C
ATOM   3483  OE1 GLN A 481       5.838  -1.761  -1.825  1.00 49.19           O
ATOM   3484  NE2 GLN A 481       7.433  -1.542  -3.386  1.00 47.73           N
ATOM   3485  C   GLN A 481       7.401  -4.468   1.151  1.00 54.21           C
ATOM   3486  O   GLN A 481       6.360  -5.113   1.004  1.00 55.66           O
ATOM   3487  N   GLU A 482       8.544  -5.022   1.552  1.00 60.09           N
ATOM   3488  CA  GLU A 482       8.633  -6.433   1.929  1.00 65.54           C
ATOM   3489  CB  GLU A 482      10.090  -6.912   1.894  1.00 70.05           C
ATOM   3490  CG  GLU A 482      10.262  -8.358   1.435  1.00 73.46           C
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ATOM   3491  CD  GLU A 482       9.613  -8.637   0.085  1.00 73.86           C
ATOM   3492  OE1 GLU A 482      10.146  -8.173  -0.946  1.00 74.14           O
ATOM   3493  OE2 GLU A 482       8.573  -9.329   0.056  1.00 73.05           O
ATOM   3494  C   GLU A 482       8.008  -6.618   3.317  1.00 67.11           C
ATOM   3495  O   GLU A 482       8.390  -5.918   4.263  1.00 63.86           O
ATOM   3496  N   PRO A 483       7.102  -7.614   3.456  1.00 69.37           N
ATOM   3497  CA  PRO A 483       5.930  -7.529   4.316  1.00 69.18           C
ATOM   3498  CB  PRO A 483       6.330  -8.420   5.495  1.00 69.35           C
ATOM   3499  CG  PRO A 483       7.181  -9.492   4.839  1.00 69.68           C
ATOM   3500  CD  PRO A 483       7.572  -9.008   3.448  1.00 68.89           C
ATOM   3501  C   PRO A 483       5.520  -6.107   4.732  1.00 67.55           C
ATOM   3502  O   PRO A 483       6.143  -5.493   5.605  1.00 69.42           O
ATOM   3503  N   LYS A 484       4.468  -5.609   4.087  1.00 62.63           N
ATOM   3504  CA  LYS A 484       4.013  -4.229   4.243  1.00 60.33           C
ATOM   3505  CB  LYS A 484       2.902  -3.928   3.235  1.00 61.17           C
ATOM   3506  CG  LYS A 484       3.081  -4.603   1.887  1.00 61.40           C
ATOM   3507  CD  LYS A 484       2.206  -3.962   0.825  1.00 59.69           C
ATOM   3508  CE  LYS A 484       2.710  -4.293  -0.572  1.00 59.70           C
ATOM   3509  NZ  LYS A 484       4.047  -3.692  -0.856  1.00 57.22           N
ATOM   3510  C   LYS A 484       3.504  -3.941   5.650  1.00 58.82           C
ATOM   3511  O   LYS A 484       2.695  -4.693   6.192  1.00 58.60           O
ATOM   3512  N   ALA A 485       3.978  -2.842   6.230  1.00 56.63           N
ATOM   3513  CA  ALA A 485       3.540  -2.406   7.559  1.00 56.02           C
ATOM   3514  CB  ALA A 485       4.363  -3.092   8.641  1.00 57.14           C
ATOM   3515  C   ALA A 485       3.650  -0.893   7.697  1.00 54.62           C
ATOM   3516  O   ALA A 485       4.461  -0.263   7.021  1.00 54.89           O
ATOM   3517  N   LEU A 486       2.837  -0.316   8.577  1.00 53.13           N
ATOM   3518  CA  LEU A 486       2.918   1.112   8.873  1.00 52.85           C
ATOM   3519  CB  LEU A 486       1.649   1.574   9.601  1.00 54.48           C
ATOM   3520  CG  LEU A 486       1.682   2.926  10.330  1.00 55.55           C
ATOM   3521  CD1 LEU A 486       1.587   4.103   9.365  1.00 54.60           C
ATOM   3522  CD2 LEU A 486       0.592   2.987  11.393  1.00 55.64           C
ATOM   3523  C   LEU A 486       4.161   1.401   9.716  1.00 51.00           C
ATOM   3524  O   LEU A 486       4.091   1.430  10.942  1.00 52.35           O
ATOM   3525  N   VAL A 487       5.298   1.608   9.057  1.00 48.07           N
ATOM   3526  CA  VAL A 487       6.576   1.718   9.767  1.00 46.34           C
ATOM   3527  CB  VAL A 487       7.794   1.472   8.847  1.00 44.88           C
ATOM   3528  CG1 VAL A 487       7.937  -0.012   8.538  1.00 43.47           C
ATOM   3529  CG2 VAL A 487       7.698   2.292   7.567  1.00 45.56           C
ATOM   3530  C   VAL A 487       6.720   3.031  10.539  1.00 46.92           C
ATOM   3531  O   VAL A 487       7.319   3.064  11.620  1.00 47.97           O
ATOM   3532  N   SER A 488       6.153   4.100   9.989  1.00 46.30           N
ATOM   3533  CA  SER A 488       6.154   5.402  10.644  1.00 46.22           C
ATOM   3534  CB  SER A 488       7.335   6.250  10.167  1.00 46.58           C
ATOM   3535  OG  SER A 488       8.470   6.060  10.990  1.00 46.34           O
ATOM   3536  C   SER A 488       4.865   6.147  10.373  1.00 45.99           C
ATOM   3537  O   SER A 488       4.296   6.048   9.289  1.00 45.74           O
ATOM   3538  N   GLU A 489       4.405   6.891  11.367  1.00 47.69           N
ATOM   3539  CA  GLU A 489       3.295   7.801  11.162  1.00 50.28           C
ATOM   3540  CB  GLU A 489       2.022   7.301  11.852  1.00 50.98           C
ATOM   3541  CG  GLU A 489       0.764   8.050  11.424  1.00 53.85           C
ATOM   3542  CD  GLU A 489      -0.508   7.214  11.505  1.00 57.31           C
ATOM   3543  OE1 GLU A 489      -1.587   7.797  11.754  1.00 58.63           O
ATOM   3544  OE2 GLU A 489      -0.446   5.981  11.312  1.00 58.49           O
ATOM   3545  C   GLU A 489       3.656   9.202  11.628  1.00 52.15           C
ATOM   3546  O   GLU A 489       4.472   9.390  12.542  1.00 51.40           O
ATOM   3547  N   TRP A 490       3.057  10.181  10.963  1.00 53.45           N
ATOM   3548  CA  TRP A 490       3.202  11.571  11.328  1.00 55.27           C
ATOM   3549  CB  TRP A 490       4.105  12.275  10.340  1.00 54.50           C
ATOM   3550  CG  TRP A 490       4.388  13.707  10.689  1.00 55.57           C
ATOM   3551  CD1 TRP A 490       5.524  14.218  11.305  1.00 56.92           C
ATOM   3552  NE1 TRP A 490       5.432  15.580  11.447  1.00 57.95           N
ATOM   3553  CE2 TRP A 490       4.263  16.033  10.947  1.00 57.40           C
ATOM   3554  CD2 TRP A 490       3.533  14.871  10.439  1.00 56.18           C
ATOM   3555  CE3 TRP A 490       2.283  15.060   9.866  1.00 56.86           C
ATOM   3556  CZ3 TRP A 490       1.765  16.359   9.805  1.00 57.22           C
ATOM   3557  CH2 TRP A 490       2.482  17.460  10.294  1.00 57.19           C
ATOM   3558  CZ2 TRP A 490       3.745  17.317  10.876  1.00 57.88           C
ATOM   3559  C   TRP A 490       1.856  12.210  11.328  1.00 57.38           C
ATOM   3560  O   TRP A 490       1.081  12.052  10.383  1.00 58.08           O
ATOM   3561  N   LYS A 491       1.562  12.938  12.397  1.00 60.13           N
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ATOM   3562  CA  LYS A 491       0.324  13.688  12.499  1.00 61.82           C
ATOM   3563  CB  LYS A 491      -0.686  12.944  13.377  1.00 63.77           C
ATOM   3564  CG  LYS A 491      -2.134  13.335  13.123  1.00 66.80           C
ATOM   3565  CD  LYS A 491      -3.103  12.237  13.542  1.00 68.86           C
ATOM   3566  CE  LYS A 491      -4.535  12.598  13.164  1.00 68.89           C
ATOM   3567  NZ  LYS A 491      -5.450  11.421  13.159  1.00 68.88           N
ATOM   3568  C   LYS A 491       0.651  15.051  13.078  1.00 62.09           C
ATOM   3569  O   LYS A 491       1.706  15.228  13.696  1.00 61.56           O
ATOM   3570  N   GLU A 492      -0.239  16.017  12.861  1.00 62.70           N
ATOM   3571  CA  GLU A 492      -0.069  17.349  13.428  1.00 62.29           C
ATOM   3572  CB  GLU A 492      -1.194  18.279  12.972  1.00 63.77           C
ATOM   3573  CG  GLU A 492      -0.838  19.756  13.076  1.00 64.15           C
ATOM   3574  CD  GLU A 492      -1.962  20.598  13.645  1.00 65.90           C
ATOM   3575  OE1 GLU A 492      -2.796  20.054  14.399  1.00 67.37           O
ATOM   3576  OE2 GLU A 492      -2.005  21.809  13.346  1.00 66.21           O
ATOM   3577  C   GLU A 492      -0.047  17.270  14.954  1.00 60.81           C
ATOM   3578  O   GLU A 492      -0.824  16.513  15.537  1.00 59.93           O
ATOM   3579  N   PRO A 493       0.865  18.032  15.600  1.00 60.19           N
ATOM   3580  CA  PRO A 493       0.913  18.164  17.056  1.00 58.70           C
ATOM   3581  CB  PRO A 493       1.816  19.378  17.253  1.00 57.99           C
ATOM   3582  CG  PRO A 493       2.790  19.277  16.126  1.00 58.14           C
ATOM   3583  CD  PRO A 493       2.050  18.652  14.968  1.00 59.51           C
ATOM   3584  C   PRO A 493      -0.453  18.388  17.722  1.00 59.19           C
ATOM   3585  O   PRO A 493      -0.708  17.822  18.786  1.00 60.05           O
ATOM   3586  N   GLN A 494      -1.322  19.185  17.101  1.00 59.58           N
ATOM   3587  CA  GLN A 494      -2.667  19.424  17.643  1.00 60.94           C
ATOM   3588  CB  GLN A 494      -3.073  20.890  17.457  1.00 60.26           C
ATOM   3589  C   GLN A 494      -3.743  18.486  17.066  1.00 62.53           C
ATOM   3590  O   GLN A 494      -4.939  18.703  17.277  1.00 61.69           O
ATOM   3591  N   ALA A 495      -3.304  17.448  16.349  1.00 64.58           N
ATOM   3592  CA  ALA A 495      -4.191  16.424  15.762  1.00 65.33           C
ATOM   3593  CB  ALA A 495      -4.767  15.519  16.853  1.00 63.92           C
ATOM   3594  C   ALA A 495      -5.308  16.989  14.865  1.00 67.00           C
ATOM   3595  O   ALA A 495      -6.460  16.544  14.936  1.00 68.46           O
ATOM   3596  N   LYS A 496      -4.955  17.953  14.014  1.00 66.19           N
ATOM   3597  CA  LYS A 496      -5.934  18.641  13.164  1.00 64.61           C
ATOM   3598  CB  LYS A 496      -5.618  20.138  13.071  1.00 65.20           C
ATOM   3599  CG  LYS A 496      -6.063  20.961  14.272  1.00 64.12           C
ATOM   3600  CD  LYS A 496      -6.391  22.392  13.867  1.00 64.40           C
ATOM   3601  CE  LYS A 496      -7.710  22.467  13.103  1.00 64.90           C
ATOM   3602  NZ  LYS A 496      -7.916  23.787  12.444  1.00 63.91           N
ATOM   3603  C   LYS A 496      -6.036  18.045  11.760  1.00 64.34           C
ATOM   3604  O   LYS A 496      -5.183  17.254  11.348  1.00 65.48           O
ATOM   3605  N   ASN A 497      -7.087  18.445  11.037  1.00 62.34           N
ATOM   3606  CA  ASN A 497      -7.348  17.998   9.663  1.00 58.45           C
ATOM   3607  CB  ASN A 497      -8.828  18.216   9.298  1.00 56.77           C
ATOM   3608  CG  ASN A 497      -9.744  17.125   9.845  1.00 56.46           C
ATOM   3609  OD1 ASN A 497      -9.463  16.512  10.876  1.00 56.68           O
ATOM   3610  ND2 ASN A 497     -10.855  16.885   9.152  1.00 54.70           N
ATOM   3611  C   ASN A 497      -6.454  18.698   8.638  1.00 56.98           C
ATOM   3612  O   ASN A 497      -6.468  19.927   8.535  1.00 57.10           O
ATOM   3613  N   ILE A 498      -5.681  17.906   7.891  1.00 54.60           N
ATOM   3614  CA  ILE A 498      -4.803  18.415   6.826  1.00 53.19           C
ATOM   3615  CB  ILE A 498      -3.786  17.336   6.351  1.00 51.98           C
ATOM   3616  CG1 ILE A 498      -2.788  17.000   7.467  1.00 49.61           C
ATOM   3617  CD1 ILE A 498      -1.808  15.897   7.117  1.00 47.94           C
ATOM   3618  CG2 ILE A 498      -3.041  17.789   5.097  1.00 52.15           C
ATOM   3619  C   ILE A 498      -5.634  18.943   5.646  1.00 52.27           C
ATOM   3620  O   ILE A 498      -6.584  18.287   5.205  1.00 51.27           O
ATOM   3621  N   SER A 499      -5.274  20.130   5.150  1.00 51.59           N
ATOM   3622  CA  SER A 499      -6.035  20.796   4.081  1.00 52.00           C
ATOM   3623  CB  SER A 499      -6.270  22.291   4.396  1.00 50.60           C
ATOM   3624  OG  SER A 499      -5.058  23.025   4.508  1.00 48.04           O
ATOM   3625  C   SER A 499      -5.452  20.601   2.670  1.00 52.90           C
ATOM   3626  O   SER A 499      -6.211  20.485   1.703  1.00 55.16           O
ATOM   3627  N   VAL A 500      -4.119  20.586   2.556  1.00 52.51           N
ATOM   3628  CA  VAL A 500      -3.425  20.332   1.278  1.00 50.20           C
ATOM   3629  CB  VAL A 500      -3.117  21.629   0.494  1.00 51.08           C
ATOM   3630  CG1 VAL A 500      -2.847  21.297  -0.966  1.00 54.06           C
ATOM   3631  CG2 VAL A 500      -4.251  22.639   0.597  1.00 50.55           C
ATOM   3632  C   VAL A 500      -2.099  19.600   1.504  1.00 48.27           C
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ATOM   3633  O   VAL A 500      -1.410  19.856   2.491  1.00 48.00           O
ATOM   3634  N   ALA A 501      -1.743  18.705   0.581  1.00 47.33           N
ATOM   3635  CA  ALA A 501      -0.485  17.943   0.668  1.00 49.38           C
ATOM   3636  CB  ALA A 501      -0.763  16.511   1.090  1.00 47.41           C
ATOM   3637  C   ALA A 501       0.322  17.963  -0.639  1.00 51.85           C
ATOM   3638  O   ALA A 501      -0.229  18.230  -1.711  1.00 55.82           O
ATOM   3639  N   SER A 502       1.624  17.678  -0.537  1.00 51.54           N
ATOM   3640  CA  SER A 502       2.521  17.589  -1.702  1.00 51.51           C
ATOM   3641  CB  SER A 502       2.912  18.981  -2.201  1.00 53.38           C
ATOM   3642  OG  SER A 502       3.557  19.726  -1.181  1.00 54.00           O
ATOM   3643  C   SER A 502       3.777  16.792  -1.360  1.00 50.43           C
ATOM   3644  O   SER A 502       4.393  17.013  -0.317  1.00 50.95           O
ATOM   3645  N   CYS A 503       4.166  15.881  -2.248  1.00 48.30           N
ATOM   3646  CA  CYS A 503       5.206  14.911  -1.924  1.00 48.04           C
ATOM   3647  CB  CYS A 503       4.616  13.816  -1.039  1.00 45.41           C
ATOM   3648  SG  CYS A 503       5.588  12.305  -1.018  1.00 45.78           S
ATOM   3649  C   CYS A 503       5.898  14.287  -3.144  1.00 49.28           C
ATOM   3650  O   CYS A 503       5.268  13.598  -3.944  1.00 53.69           O
ATOM   3651  N   ASN A 504       7.200  14.514  -3.271  1.00 48.14           N
ATOM   3652  CA  ASN A 504       7.976  13.892  -4.334  1.00 47.83           C
ATOM   3653  CB  ASN A 504       9.058  14.853  -4.858  1.00 49.77           C
ATOM   3654  CG  ASN A 504       9.924  15.442  -3.751  1.00 50.36           C
ATOM   3655  OD1 ASN A 504       9.952  14.946  -2.627  1.00 51.24           O
ATOM   3656  ND2 ASN A 504      10.639  16.507  -4.075  1.00 50.20           N
ATOM   3657  C   ASN A 504       8.584  12.555  -3.901  1.00 48.68           C
ATOM   3658  O   ASN A 504       7.980  11.813  -3.119  1.00 47.31           O
ATOM   3659  N   SER A 505       9.784  12.265  -4.402  1.00 48.90           N
ATOM   3660  CA  SER A 505      10.473  11.010  -4.121  1.00 49.84           C
ATOM   3661  CB  SER A 505      11.678  10.855  -5.051  1.00 49.73           C
ATOM   3662  OG  SER A 505      12.035   9.495  -5.204  1.00 48.86           O
ATOM   3663  C   SER A 505      10.917  10.904  -2.661  1.00 52.35           C
ATOM   3664  O   SER A 505      10.938   9.809  -2.094  1.00 53.28           O
ATOM   3665  N   SER A 506      11.262  12.045  -2.062  1.00 54.98           N
ATOM   3666  CA  SER A 506      11.773  12.097  -0.687  1.00 55.98           C
ATOM   3667  CB  SER A 506      13.234  12.545  -0.671  1.00 54.37           C
ATOM   3668  OG  SER A 506      13.843  12.371  -1.936  1.00 55.05           O
ATOM   3669  C   SER A 506      10.959  13.045   0.191  1.00 58.34           C
ATOM   3670  O   SER A 506      10.426  12.647   1.221  1.00 60.81           O
ATOM   3671  N   GLN A 507      10.863  14.300  -0.230  1.00 59.81           N
ATOM   3672  CA  GLN A 507      10.294  15.359   0.603  1.00 61.33           C
ATOM   3673  CB  GLN A 507      10.862  16.711   0.171  1.00 62.96           C
ATOM   3674  CG  GLN A 507      12.380  16.791   0.248  1.00 62.04           C
ATOM   3675  CD  GLN A 507      12.981  17.544  -0.917  1.00 61.90           C
ATOM   3676  OE1 GLN A 507      12.754  17.194  -2.077  1.00 60.65           O
ATOM   3677  NE2 GLN A 507      13.758  18.582  -0.618  1.00 60.82           N
ATOM   3678  C   GLN A 507       8.754  15.399   0.623  1.00 61.25           C
ATOM   3679  O   GLN A 507       8.090  15.014  -0.345  1.00 59.65           O
ATOM   3680  N   VAL A 508       8.209  15.865   1.747  1.00 58.81           N
ATOM   3681  CA  VAL A 508       6.770  16.021   1.933  1.00 57.70           C
ATOM   3682  CB  VAL A 508       6.217  14.992   2.947  1.00 58.51           C
ATOM   3683  CG1 VAL A 508       4.740  15.247   3.237  1.00 57.30           C
ATOM   3684  CG2 VAL A 508       6.433  13.567   2.450  1.00 59.50           C
ATOM   3685  C   VAL A 508       6.495  17.423   2.462  1.00 56.84           C
ATOM   3686  O   VAL A 508       7.155  17.871   3.397  1.00 59.52           O
ATOM   3687  N   VAL A 509       5.535  18.118   1.857  1.00 54.93           N
ATOM   3688  CA  VAL A 509       5.107  19.426   2.359  1.00 54.53           C
ATOM   3689  CB  VAL A 509       5.614  20.603   1.491  1.00 53.47           C
ATOM   3690  CG1 VAL A 509       5.102  21.933   2.032  1.00 52.06           C
ATOM   3691  CG2 VAL A 509       7.135  20.613   1.432  1.00 53.02           C
ATOM   3692  C   VAL A 509       3.591  19.472   2.506  1.00 54.33           C
ATOM   3693  O   VAL A 509       2.854  19.537   1.521  1.00 51.21           O
ATOM   3694  N   VAL A 510       3.144  19.436   3.755  1.00 58.04           N
ATOM   3695  CA  VAL A 510       1.723  19.372   4.077  1.00 61.77           C
ATOM   3696  CB  VAL A 510       1.386  18.168   4.992  1.00 60.26           C
ATOM   3697  CG1 VAL A 510       1.391  16.873   4.191  1.00 58.84           C
ATOM   3698  CG2 VAL A 510       2.348  18.089   6.174  1.00 58.78           C
ATOM   3699  C   VAL A 510       1.224  20.664   4.716  1.00 64.58           C
ATOM   3700  O   VAL A 510       1.818  21.172   5.672  1.00 65.43           O
ATOM   3701  N   ALA A 511       0.131  21.188   4.172  1.00 66.78           N
ATOM   3702  CA  ALA A 511      -0.506  22.377   4.711  1.00 67.46           C
ATOM   3703  CB  ALA A 511      -1.033  23.247   3.584  1.00 67.71           C
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ATOM   3704  C   ALA A 511      -1.632  21.988   5.659  1.00 69.37           C
ATOM   3705  O   ALA A 511      -2.420  21.080   5.364  1.00 67.83           O
ATOM   3706  N   VAL A 512      -1.684  22.661   6.809  1.00 70.63           N
ATOM   3707  CA  VAL A 512      -2.785  22.495   7.762  1.00 69.14           C
ATOM   3708  CB  VAL A 512      -2.325  21.863   9.104  1.00 66.23           C
ATOM   3709  CG1 VAL A 512      -3.528  21.440   9.934  1.00 65.55           C
ATOM   3710  CG2 VAL A 512      -1.423  20.660   8.859  1.00 64.84           C
ATOM   3711  C   VAL A 512      -3.480  23.845   7.988  1.00 68.59           C
ATOM   3712  O   VAL A 512      -3.208  24.542   8.965  1.00 67.13           O
ATOM   3713  N   GLY A 513      -4.351  24.210   7.045  1.00 70.74           N
ATOM   3714  CA  GLY A 513      -5.172  25.421   7.127  1.00 68.37           C
ATOM   3715  C   GLY A 513      -4.409  26.733   7.098  1.00 67.79           C
ATOM   3716  O   GLY A 513      -4.441  27.457   6.103  1.00 66.74           O
ATOM   3717  N   ARG A 514      -3.723  27.028   8.202  1.00 69.00           N
ATOM   3718  CA  ARG A 514      -3.109  28.336   8.445  1.00 69.52           C
ATOM   3719  CB  ARG A 514      -3.434  28.801   9.877  1.00 66.66           C
ATOM   3720  CG  ARG A 514      -3.336  30.303  10.120  1.00 65.18           C
ATOM   3721  CD  ARG A 514      -4.030  30.685  11.424  1.00 63.83           C
ATOM   3722  NE  ARG A 514      -3.580  31.976  11.955  1.00 62.51           N
ATOM   3723  CZ  ARG A 514      -3.949  32.487  13.134  1.00 61.32           C
ATOM   3724  NH1 ARG A 514      -4.785  31.828  13.928  1.00 60.42           N
ATOM   3725  NH2 ARG A 514      -3.479  33.667  13.524  1.00 59.28           N
ATOM   3726  C   ARG A 514      -1.591  28.317   8.209  1.00 70.88           C
ATOM   3727  O   ARG A 514      -1.029  29.275   7.670  1.00 69.40           O
ATOM   3728  N   ALA A 515      -0.944  27.220   8.613  1.00 70.64           N
ATOM   3729  CA  ALA A 515       0.512  27.064   8.506  1.00 67.99           C
ATOM   3730  CB  ALA A 515       1.164  27.313   9.851  1.00 68.73           C
ATOM   3731  C   ALA A 515       0.881  25.676   7.988  1.00 66.45           C
ATOM   3732  O   ALA A 515       0.115  24.725   8.152  1.00 66.98           O
ATOM   3733  N   LEU A 516       2.059  25.561   7.375  1.00 64.91           N
ATOM   3734  CA  LEU A 516       2.464  24.319   6.694  1.00 62.81           C
ATOM   3735  CB  LEU A 516       2.425  24.488   5.164  1.00 62.85           C
ATOM   3736  CG  LEU A 516       2.792  25.822   4.504  1.00 61.64           C
ATOM   3737  CD1 LEU A 516       4.293  25.964   4.344  1.00 59.47           C
ATOM   3738  CD2 LEU A 516       2.105  25.940   3.151  1.00 62.69           C
ATOM   3739  C   LEU A 516       3.813  23.751   7.141  1.00 60.12           C
ATOM   3740  O   LEU A 516       4.736  24.497   7.474  1.00 61.15           O
ATOM   3741  N   TYR A 517       3.916  22.423   7.124  1.00 57.39           N
ATOM   3742  CA  TYR A 517       5.097  21.718   7.622  1.00 57.13           C
ATOM   3743  CB  TYR A 517       4.702  20.709   8.704  1.00 56.31           C
ATOM   3744  CG  TYR A 517       3.826  21.271   9.806  1.00 56.16           C
ATOM   3745  CD2 TYR A 517       2.436  21.205   9.715  1.00 55.27           C
ATOM   3746  CE2 TYR A 517       1.630  21.711  10.720  1.00 54.05           C
ATOM   3747  CZ  TYR A 517       2.209  22.285  11.837  1.00 51.62           C
ATOM   3748  OH  TYR A 517       1.396  22.781  12.821  1.00 49.86           O
ATOM   3749  CE1 TYR A 517       3.585  22.361  11.959  1.00 51.95           C
ATOM   3750  CD1 TYR A 517       4.387  21.852  10.950  1.00 53.89           C
ATOM   3751  C   TYR A 517       5.878  20.992   6.525  1.00 57.53           C
ATOM   3752  O   TYR A 517       5.293  20.399   5.618  1.00 57.77           O
ATOM   3753  N   TYR A 518       7.202  21.032   6.636  1.00 57.24           N
ATOM   3754  CA  TYR A 518       8.086  20.290   5.744  1.00 57.41           C
ATOM   3755  CB  TYR A 518       9.285  21.158   5.348  1.00 59.37           C
ATOM   3756  CG  TYR A 518      10.410  20.405   4.671  1.00 61.22           C
ATOM   3757  CD1 TYR A 518      10.246  19.852   3.397  1.00 61.96           C
ATOM   3758  CE1 TYR A 518      11.278  19.165   2.774  1.00 62.58           C
ATOM   3759  CZ  TYR A 518      12.495  19.025   3.425  1.00 63.95           C
ATOM   3760  OH  TYR A 518      13.525  18.345   2.818  1.00 62.48           O
ATOM   3761  CE2 TYR A 518      12.681  19.564   4.688  1.00 64.28           C
ATOM   3762  CD2 TYR A 518      11.642  20.249   5.301  1.00 62.87           C
ATOM   3763  C   TYR A 518       8.551  18.985   6.396  1.00 56.78           C
ATOM   3764  O   TYR A 518       8.907  18.965   7.577  1.00 58.28           O
ATOM   3765  N   LEU A 519       8.541  17.903   5.620  1.00 54.27           N
ATOM   3766  CA  LEU A 519       8.902  16.573   6.115  1.00 53.09           C
ATOM   3767  CB  LEU A 519       7.642  15.752   6.397  1.00 53.58           C
ATOM   3768  CG  LEU A 519       6.867  15.875   7.716  1.00 53.00           C
ATOM   3769  CD1 LEU A 519       5.975  17.110   7.767  1.00 52.65           C
ATOM   3770  CD2 LEU A 519       6.027  14.620   7.885  1.00 51.44           C
ATOM   3771  C   LEU A 519       9.784  15.818   5.120  1.00 52.93           C
ATOM   3772  O   LEU A 519       9.689  16.032   3.911  1.00 51.85           O
ATOM   3773  N   GLN A 520      10.631  14.928   5.638  1.00 53.61           N
ATOM   3774  CA  GLN A 520      11.534  14.120   4.807  1.00 53.62           C
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ATOM   3775  CB  GLN A 520      12.987  14.402   5.167  1.00 52.40           C
ATOM   3776  CG  GLN A 520      13.466  15.762   4.708  1.00 52.52           C
ATOM   3777  CD  GLN A 520      14.945  15.782   4.399  1.00 51.82           C
ATOM   3778  OE1 GLN A 520      15.778  15.514   5.267  1.00 51.59           O
ATOM   3779  NE2 GLN A 520      15.282  16.107   3.157  1.00 50.02           N
ATOM   3780  C   GLN A 520      11.260  12.627   4.941  1.00 55.81           C
ATOM   3781  O   GLN A 520      10.516  12.208   5.826  1.00 59.83           O
ATOM   3782  N   ILE A 521      11.857  11.829   4.056  1.00 55.06           N
ATOM   3783  CA  ILE A 521      11.708  10.371   4.111  1.00 54.44           C
ATOM   3784  CB  ILE A 521      10.855   9.807   2.939  1.00 54.67           C
ATOM   3785  CG1 ILE A 521       9.433  10.386   2.976  1.00 54.63           C
ATOM   3786  CD1 ILE A 521       8.664  10.261   1.675  1.00 51.62           C
ATOM   3787  CG2 ILE A 521      10.797   8.277   2.989  1.00 53.85           C
ATOM   3788  C   ILE A 521      13.067   9.671   4.183  1.00 54.11           C
ATOM   3789  O   ILE A 521      13.871   9.731   3.244  1.00 52.80           O
ATOM   3790  N   HIS A 522      13.303   9.017   5.318  1.00 53.64           N
ATOM   3791  CA  HIS A 522      14.501   8.216   5.549  1.00 53.87           C
ATOM   3792  CB  HIS A 522      15.383   8.887   6.600  1.00 53.96           C
ATOM   3793  CG  HIS A 522      15.871  10.262   6.195  1.00 54.41           C
ATOM   3794  ND1 HIS A 522      17.090  10.471   5.665  1.00 53.90           N
ATOM   3795  CE1 HIS A 522      17.241  11.781   5.395  1.00 53.53           C
ATOM   3796  NE2 HIS A 522      16.111  12.414   5.749  1.00 52.94           N
ATOM   3797  CD2 HIS A 522      15.245  11.509   6.245  1.00 53.93           C
ATOM   3798  C   HIS A 522      14.068   6.842   5.992  1.00 53.83           C
ATOM   3799  O   HIS A 522      12.934   6.679   6.450  1.00 54.00           O
ATOM   3800  N   PRO A 523      14.949   5.822   5.853  1.00 53.25           N
ATOM   3801  CA  PRO A 523      14.532   4.454   6.180  1.00 52.11           C
ATOM   3802  CB  PRO A 523      15.857   3.695   6.254  1.00 51.48           C
ATOM   3803  CG  PRO A 523      16.739   4.417   5.305  1.00 52.15           C
ATOM   3804  CD  PRO A 523      16.359   5.870   5.419  1.00 53.12           C
ATOM   3805  C   PRO A 523      13.806   4.381   7.515  1.00 51.22           C
ATOM   3806  O   PRO A 523      14.285   4.939   8.500  1.00 51.50           O
ATOM   3807  N   GLN A 524      12.641   3.730   7.521  1.00 51.33           N
ATOM   3808  CA  GLN A 524      11.821   3.523   8.731  1.00 51.10           C
ATOM   3809  CB  GLN A 524      12.606   2.763   9.821  1.00 51.35           C
ATOM   3810  CG  GLN A 524      12.370   1.255   9.855  1.00 50.89           C
ATOM   3811  CD  GLN A 524      12.636   0.562   8.526  1.00 49.98           C
ATOM   3812  OE1 GLN A 524      13.535   0.946   7.771  1.00 48.99           O
ATOM   3813  NE2 GLN A 524      11.856  -0.475   8.240  1.00 49.37           N
ATOM   3814  C   GLN A 524      11.166   4.773   9.324  1.00 50.83           C
ATOM   3815  O   GLN A 524      10.173   4.657  10.042  1.00 49.18           O
ATOM   3816  N   GLU A 525      11.711   5.954   9.026  1.00 51.79           N
ATOM   3817  CA  GLU A 525      11.243   7.203   9.645  1.00 52.88           C
ATOM   3818  CB  GLU A 525      12.258   7.731  10.681  1.00 52.98           C
ATOM   3819  CG  GLU A 525      13.634   8.081  10.115  1.00 54.73           C
ATOM   3820  CD  GLU A 525      14.325   9.222  10.853  1.00 55.57           C
ATOM   3821  OE1 GLU A 525      13.794  10.355  10.847  1.00 56.35           O
ATOM   3822  OE2 GLU A 525      15.419   8.996  11.414  1.00 54.61           O
ATOM   3823  C   GLU A 525      10.882   8.315   8.656  1.00 53.04           C
ATOM   3824  O   GLU A 525      11.524   8.485   7.618  1.00 51.31           O
ATOM   3825  N   LEU A 526       9.830   9.054   8.992  1.00 54.98           N
ATOM   3826  CA  LEU A 526       9.582  10.369   8.411  1.00 56.40           C
ATOM   3827  CB  LEU A 526       8.282  10.409   7.587  1.00 56.34           C
ATOM   3828  CG  LEU A 526       7.060   9.513   7.843  1.00 55.47           C
ATOM   3829  CD1 LEU A 526       6.441   9.694   9.222  1.00 54.64           C
ATOM   3830  CD2 LEU A 526       6.023   9.772   6.759  1.00 54.25           C
ATOM   3831  C   LEU A 526       9.553  11.413   9.521  1.00 59.02           C
ATOM   3832  O   LEU A 526       8.530  11.591  10.192  1.00 61.20           O
ATOM   3833  N   ARG A 527      10.684  12.080   9.738  1.00 58.87           N
ATOM   3834  CA  ARG A 527      10.754  13.106  10.773  1.00 57.45           C
ATOM   3835  CB  ARG A 527      11.986  12.921  11.676  1.00 57.43           C
ATOM   3836  CG  ARG A 527      11.689  12.964  13.181  1.00 57.48           C
ATOM   3837  CD  ARG A 527      11.089  11.655  13.707  1.00 57.53           C
ATOM   3838  NE  ARG A 527       9.637  11.567  13.493  1.00 59.21           N
ATOM   3839  CZ  ARG A 527       8.973  10.448  13.183  1.00 59.40           C
ATOM   3840  NH1 ARG A 527       9.618   9.296  13.036  1.00 60.39           N
ATOM   3841  NH2 ARG A 527       7.655  10.482  13.004  1.00 57.61           N
ATOM   3842  C   ARG A 527      10.707  14.494  10.154  1.00 56.24           C
ATOM   3843  O   ARG A 527      11.180  14.707   9.034  1.00 55.42           O
ATOM   3844  N   GLN A 528      10.105  15.424  10.892  1.00 56.15           N
ATOM   3845  CA  GLN A 528       9.889  16.795  10.442  1.00 56.71           C
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ATOM   3846  CB  GLN A 528       9.006  17.518  11.463  1.00 55.34           C
ATOM   3847  CG  GLN A 528       8.300  18.752  10.934  1.00 55.15           C
ATOM   3848  CD  GLN A 528       7.334  19.343  11.939  1.00 55.23           C
ATOM   3849  OE1 GLN A 528       6.575  18.623  12.589  1.00 55.39           O
ATOM   3850  NE2 GLN A 528       7.353  20.665  12.068  1.00 55.90           N
ATOM   3851  C   GLN A 528      11.220  17.540  10.271  1.00 57.49           C
ATOM   3852  O   GLN A 528      12.283  17.000  10.587  1.00 59.51           O
ATOM   3853  N   ILE A 529      11.153  18.768   9.752  1.00 56.75           N
ATOM   3854  CA  ILE A 529      12.312  19.672   9.720  1.00 56.24           C
ATOM   3855  CB  ILE A 529      13.145  19.513   8.421  1.00 54.62           C
ATOM   3856  CG1 ILE A 529      14.112  18.334   8.556  1.00 52.36           C
ATOM   3857  CD1 ILE A 529      14.760  17.903   7.259  1.00 51.53           C
ATOM   3858  CG2 ILE A 529      13.925  20.786   8.106  1.00 54.49           C
ATOM   3859  C   ILE A 529      11.906  21.136   9.971  1.00 57.63           C
ATOM   3860  O   ILE A 529      12.495  21.814  10.822  1.00 59.60           O
ATOM   3861  N   SER A 530      10.886  21.603   9.253  1.00 57.58           N
ATOM   3862  CA  SER A 530      10.455  22.999   9.341  1.00 58.22           C
ATOM   3863  CB  SER A 530      10.622  23.693   7.990  1.00 58.25           C
ATOM   3864  OG  SER A 530      11.895  23.434   7.427  1.00 58.13           O
ATOM   3865  C   SER A 530       9.010  23.146   9.818  1.00 59.25           C
ATOM   3866  O   SER A 530       8.201  22.231   9.671  1.00 59.85           O
ATOM   3867  N   HIS A 531       8.703  24.309  10.388  1.00 60.56           N
ATOM   3868  CA  HIS A 531       7.356  24.643  10.856  1.00 62.22           C
ATOM   3869  CB  HIS A 531       7.127  24.147  12.292  1.00 60.25           C
ATOM   3870  CG  HIS A 531       8.387  24.091  13.134  1.00 58.01           C
ATOM   3871  ND1 HIS A 531       9.167  22.994  13.199  1.00 57.16           N
ATOM   3872  CE1 HIS A 531      10.211  23.232  14.010  1.00 55.98           C
ATOM   3873  NE2 HIS A 531      10.100  24.487  14.473  1.00 56.15           N
ATOM   3874  CD2 HIS A 531       8.987  25.045  13.952  1.00 57.01           C
ATOM   3875  C   HIS A 531       7.159  26.127  10.760  1.00 64.89           C
ATOM   3876  O   HIS A 531       7.709  26.884  11.564  1.00 66.97           O
ATOM   3877  N   THR A 532       6.377  26.561   9.769  1.00 66.97           N
ATOM   3878  CA  THR A 532       6.242  27.990   9.459  1.00 68.99           C
ATOM   3879  CB  THR A 532       6.636  28.279   7.998  1.00 68.42           C
ATOM   3880  OG1 THR A 532       7.472  27.221   7.517  1.00 69.92           O
ATOM   3881  CG2 THR A 532       7.384  29.608   7.890  1.00 67.56           C
ATOM   3882  C   THR A 532       4.838  28.541   9.753  1.00 71.44           C
ATOM   3883  O   THR A 532       4.092  27.958  10.541  1.00 72.27           O
ATOM   3884  N   GLU A 533       4.501  29.675   9.133  1.00 73.26           N
ATOM   3885  CA  GLU A 533       3.215  30.346   9.344  1.00 74.57           C
ATOM   3886  CB  GLU A 533       3.275  31.259  10.581  1.00 75.29           C
ATOM   3887  CG  GLU A 533       2.116  31.092  11.563  1.00 75.10           C
ATOM   3888  CD  GLU A 533       0.748  31.213  10.911  1.00 76.06           C
ATOM   3889  OE1 GLU A 533      -0.046  30.252  11.008  1.00 74.65           O
ATOM   3890  OE2 GLU A 533       0.468  32.261  10.292  1.00 77.25           O
ATOM   3891  C   GLU A 533       2.833  31.159   8.105  1.00 73.20           C
ATOM   3892  O   GLU A 533       3.687  31.811   7.496  1.00 71.42           O
ATOM   3893  N   MET A 534       1.551  31.127   7.745  1.00 72.95           N
ATOM   3894  CA  MET A 534       1.088  31.759   6.507  1.00 72.02           C
ATOM   3895  CB  MET A 534       0.459  30.715   5.576  1.00 71.34           C
ATOM   3896  CG  MET A 534       0.971  30.777   4.149  1.00 71.17           C
ATOM   3897  SD  MET A 534       2.732  30.392   4.058  1.00 73.00           S
ATOM   3898  CE  MET A 534       3.171  31.047   2.449  1.00 70.93           C
ATOM   3899  C   MET A 534       0.119  32.923   6.737  1.00 70.54           C
ATOM   3900  O   MET A 534      -0.771  32.851   7.594  1.00 70.27           O
ATOM   3901  N   GLU A 535       0.302  33.987   5.958  1.00 67.00           N
ATOM   3902  CA  GLU A 535      -0.577  35.153   6.000  1.00 64.93           C
ATOM   3903  CB  GLU A 535       0.163  36.397   5.498  1.00 62.90           C
ATOM   3904  C   GLU A 535      -1.841  34.920   5.171  1.00 63.32           C
ATOM   3905  O   GLU A 535      -2.674  34.073   5.503  1.00 60.76           O
ATOM   3906  N   VAL A 538      -3.872  28.903   2.551  1.00 68.23           N
ATOM   3907  CA  VAL A 538      -3.153  28.019   1.633  1.00 69.94           C
ATOM   3908  CB  VAL A 538      -1.989  27.271   2.339  1.00 70.92           C
ATOM   3909  CG1 VAL A 538      -2.463  26.599   3.624  1.00 71.65           C
ATOM   3910  CG2 VAL A 538      -1.320  26.272   1.399  1.00 69.92           C
ATOM   3911  C   VAL A 538      -4.110  27.050   0.934  1.00 69.95           C
ATOM   3912  O   VAL A 538      -4.903  26.364   1.586  1.00 70.70           O
ATOM   3913  N   ALA A 539      -4.023  26.999  -0.394  1.00 68.15           N
ATOM   3914  CA  ALA A 539      -5.002  26.280  -1.210  1.00 67.46           C
ATOM   3915  CB  ALA A 539      -5.811  27.266  -2.047  1.00 66.43           C
ATOM   3916  C   ALA A 539      -4.404  25.173  -2.098  1.00 66.14           C
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ATOM   3917  O   ALA A 539      -5.141  24.335  -2.628  1.00 65.94           O
ATOM   3918  N   CYS A 540      -3.080  25.176  -2.258  1.00 64.53           N
ATOM   3919  CA  CYS A 540      -2.391  24.176  -3.083  1.00 62.51           C
ATOM   3920  CB  CYS A 540      -2.718  24.381  -4.555  1.00 62.19           C
ATOM   3921  SG  CYS A 540      -2.459  26.081  -5.086  1.00 63.95           S
ATOM   3922  C   CYS A 540      -0.881  24.214  -2.884  1.00 62.38           C
ATOM   3923  O   CYS A 540      -0.316  25.256  -2.532  1.00 61.78           O
ATOM   3924  N   LEU A 541      -0.233  23.076  -3.122  1.00 60.51           N
ATOM   3925  CA  LEU A 541       1.208  22.947  -2.907  1.00 60.74           C
ATOM   3926  CB  LEU A 541       1.485  22.171  -1.619  1.00 60.85           C
ATOM   3927  CG  LEU A 541       1.252  22.842  -0.270  1.00 62.23           C
ATOM   3928  CD1 LEU A 541       1.035  21.785   0.802  1.00 61.89           C
ATOM   3929  CD2 LEU A 541       2.416  23.751   0.088  1.00 61.57           C
ATOM   3930  C   LEU A 541       1.895  22.244  -4.071  1.00 59.87           C
ATOM   3931  O   LEU A 541       1.231  21.608  -4.893  1.00 60.03           O
ATOM   3932  N   ASP A 542       3.224  22.371  -4.133  1.00 58.60           N
ATOM   3933  CA  ASP A 542       4.053  21.582  -5.054  1.00 56.91           C
ATOM   3934  CB  ASP A 542       3.874  22.036  -6.501  1.00 55.92           C
ATOM   3935  CG  ASP A 542       4.322  20.986  -7.484  1.00 56.55           C
ATOM   3936  OD1 ASP A 542       5.539  20.898  -7.736  1.00 58.69           O
ATOM   3937  OD2 ASP A 542       3.465  20.232  -7.985  1.00 57.48           O
ATOM   3938  C   ASP A 542       5.547  21.535  -4.691  1.00 55.72           C
ATOM   3939  O   ASP A 542       6.113  22.501  -4.168  1.00 55.87           O
ATOM   3940  N   ILE A 543       6.174  20.403  -5.001  1.00 52.19           N
ATOM   3941  CA  ILE A 543       7.553  20.137  -4.619  1.00 50.09           C
ATOM   3942  CB  ILE A 543       7.626  19.597  -3.153  1.00 49.12           C
ATOM   3943  CG1 ILE A 543       9.010  19.051  -2.797  1.00 50.55           C
ATOM   3944  CD1 ILE A 543      10.032  20.110  -2.450  1.00 53.64           C
ATOM   3945  CG2 ILE A 543       6.596  18.511  -2.905  1.00 49.51           C
ATOM   3946  C   ILE A 543       8.230  19.200  -5.642  1.00 50.83           C
ATOM   3947  O   ILE A 543       9.093  18.397  -5.282  1.00 51.26           O
ATOM   3948  N   THR A 544       7.848  19.310  -6.918  1.00 50.74           N
ATOM   3949  CA  THR A 544       8.437  18.450  -7.958  1.00 51.56           C
ATOM   3950  CB  THR A 544       7.627  18.407  -9.285  1.00 51.75           C
ATOM   3951  OG1 THR A 544       6.262  18.775  -9.060  1.00 54.13           O
ATOM   3952  CG2 THR A 544       7.663  17.005  -9.893  1.00 50.16           C
ATOM   3953  C   THR A 544       9.866  18.909  -8.246  1.00 52.03           C
ATOM   3954  O   THR A 544      10.072  20.051  -8.659  1.00 52.53           O
ATOM   3955  N   PRO A 545      10.855  18.016  -8.023  1.00 51.95           N
ATOM   3956  CA  PRO A 545      12.272  18.357  -8.130  1.00 52.98           C
ATOM   3957  CB  PRO A 545      12.987  17.097  -7.603  1.00 53.11           C
ATOM   3958  CG  PRO A 545      11.928  16.253  -6.976  1.00 51.30           C
ATOM   3959  CD  PRO A 545      10.668  16.593  -7.695  1.00 51.40           C
ATOM   3960  C   PRO A 545      12.706  18.652  -9.562  1.00 54.25           C
ATOM   3961  O   PRO A 545      12.408  17.874 -10.469  1.00 54.97           O
ATOM   3962  N   LEU A 546      13.408  19.772  -9.749  1.00 55.05           N
ATOM   3963  CA  LEU A 546      13.926  20.170 -11.064  1.00 55.87           C
ATOM   3964  CB  LEU A 546      13.080  21.305 -11.660  1.00 56.28           C
ATOM   3965  CG  LEU A 546      11.576  21.086 -11.868  1.00 56.41           C
ATOM   3966  CD1 LEU A 546      10.897  22.390 -12.262  1.00 56.07           C
ATOM   3967  CD2 LEU A 546      11.302  20.000 -12.901  1.00 56.01           C
ATOM   3968  C   LEU A 546      15.402  20.590 -10.995  1.00 55.89           C
ATOM   3969  O   LEU A 546      16.083  20.709 -12.021  1.00 53.56           O
ATOM   3970  N   GLY A 551      17.976  14.760  -6.588  1.00 52.89           N
ATOM   3971  CA  GLY A 551      16.779  14.099  -6.074  1.00 55.06           C
ATOM   3972  C   GLY A 551      15.851  15.026  -5.301  1.00 57.11           C
ATOM   3973  O   GLY A 551      14.625  14.975  -5.475  1.00 54.09           O
ATOM   3974  N   LEU A 552      16.442  15.882  -4.459  1.00 58.53           N
ATOM   3975  CA  LEU A 552      15.692  16.765  -3.543  1.00 58.44           C
ATOM   3976  CB  LEU A 552      16.372  16.816  -2.166  1.00 56.99           C
ATOM   3977  C   LEU A 552      15.495  18.186  -4.082  1.00 57.67           C
ATOM   3978  O   LEU A 552      16.464  18.879  -4.403  1.00 57.74           O
ATOM   3979  N   SER A 553      14.236  18.614  -4.162  1.00 57.17           N
ATOM   3980  CA  SER A 553      13.896  19.940  -4.669  1.00 59.39           C
ATOM   3981  CB  SER A 553      12.482  19.955  -5.246  1.00 61.05           C
ATOM   3982  OG  SER A 553      12.125  21.255  -5.691  1.00 61.77           O
ATOM   3983  C   SER A 553      14.009  21.009  -3.593  1.00 60.58           C
ATOM   3984  O   SER A 553      13.261  20.986  -2.618  1.00 59.55           O
ATOM   3985  N   PRO A 554      14.941  21.961  -3.776  1.00 63.99           N
ATOM   3986  CA  PRO A 554      15.076  23.091  -2.861  1.00 65.02           C
ATOM   3987  CB  PRO A 554      16.558  23.500  -3.018  1.00 65.68           C
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ATOM   3988  CG  PRO A 554      17.165  22.529  -3.995  1.00 65.71           C
ATOM   3989  CD  PRO A 554      16.024  21.952  -4.771  1.00 64.79           C
ATOM   3990  C   PRO A 554      14.142  24.250  -3.237  1.00 64.68           C
ATOM   3991  O   PRO A 554      14.497  25.416  -3.074  1.00 63.80           O
ATOM   3992  N   LEU A 555      12.955  23.919  -3.737  1.00 65.12           N
ATOM   3993  CA  LEU A 555      11.979  24.923  -4.169  1.00 67.77           C
ATOM   3994  CB  LEU A 555      12.199  25.319  -5.644  1.00 68.10           C
ATOM   3995  CG  LEU A 555      13.061  24.412  -6.540  1.00 68.54           C
ATOM   3996  CD1 LEU A 555      12.432  24.184  -7.909  1.00 66.51           C
ATOM   3997  CD2 LEU A 555      14.483  24.950  -6.667  1.00 66.91           C
ATOM   3998  C   LEU A 555      10.551  24.424  -3.936  1.00 68.29           C
ATOM   3999  O   LEU A 555      10.284  23.224  -4.034  1.00 68.78           O
ATOM   4000  N   CYS A 556       9.643  25.348  -3.623  1.00 67.63           N
ATOM   4001  CA  CYS A 556       8.290  24.986  -3.209  1.00 67.14           C
ATOM   4002  CB  CYS A 556       8.237  24.828  -1.694  1.00 64.14           C
ATOM   4003  SG  CYS A 556       6.676  24.155  -1.107  1.00 65.33           S
ATOM   4004  C   CYS A 556       7.229  25.991  -3.661  1.00 70.02           C
ATOM   4005  O   CYS A 556       7.359  27.193  -3.416  1.00 70.57           O
ATOM   4006  N   ALA A 557       6.170  25.483  -4.296  1.00 70.62           N
ATOM   4007  CA  ALA A 557       5.097  26.322  -4.851  1.00 69.38           C
ATOM   4008  CB  ALA A 557       4.759  25.875  -6.263  1.00 68.10           C
ATOM   4009  C   ALA A 557       3.839  26.328  -3.980  1.00 68.85           C
ATOM   4010  O   ALA A 557       3.415  25.287  -3.490  1.00 71.06           O
ATOM   4011  N   ILE A 558       3.251  27.509  -3.793  1.00 68.74           N
ATOM   4012  CA  ILE A 558       2.090  27.676  -2.909  1.00 69.65           C
ATOM   4013  CB  ILE A 558       2.486  28.312  -1.555  1.00 68.97           C
ATOM   4014  CG1 ILE A 558       3.970  28.079  -1.230  1.00 71.38           C
ATOM   4015  CD1 ILE A 558       4.306  26.715  -0.659  1.00 72.84           C
ATOM   4016  CG2 ILE A 558       1.554  27.855  -0.435  1.00 67.12           C
ATOM   4017  C   ILE A 558       1.031  28.569  -3.559  1.00 72.00           C
ATOM   4018  O   ILE A 558       1.305  29.230  -4.562  1.00 73.33           O
ATOM   4019  N   GLY A 559      -0.171  28.584  -2.977  1.00 73.22           N
ATOM   4020  CA  GLY A 559      -1.277  29.437  -3.438  1.00 72.85           C
ATOM   4021  C   GLY A 559      -2.266  29.704  -2.317  1.00 72.86           C
ATOM   4022  O   GLY A 559      -2.735  28.769  -1.669  1.00 72.39           O
ATOM   4023  N   LEU A 560      -2.588  30.977  -2.084  1.00 72.40           N
ATOM   4024  CA  LEU A 560      -3.342  31.364  -0.885  1.00 71.82           C
ATOM   4025  CB  LEU A 560      -2.467  32.219   0.036  1.00 71.37           C
ATOM   4026  CG  LEU A 560      -0.989  31.868   0.260  1.00 71.10           C
ATOM   4027  CD1 LEU A 560      -0.426  32.758   1.354  1.00 72.05           C
ATOM   4028  CD2 LEU A 560      -0.767  30.407   0.618  1.00 69.22           C
ATOM   4029  C   LEU A 560      -4.682  32.070  -1.161  1.00 73.88           C
ATOM   4030  O   LEU A 560      -4.975  32.436  -2.300  1.00 73.14           O
ATOM   4031  N   TRP A 561      -5.480  32.252  -0.101  1.00 76.73           N
ATOM   4032  CA  TRP A 561      -6.828  32.860  -0.179  1.00 74.92           C
ATOM   4033  CB  TRP A 561      -7.757  32.272   0.888  1.00 74.15           C
ATOM   4034  CG  TRP A 561      -7.766  30.764   1.009  1.00 73.56           C
ATOM   4035  CD1 TRP A 561      -6.718  29.935   1.410  1.00 73.32           C
ATOM   4036  NE1 TRP A 561      -7.111  28.619   1.423  1.00 74.18           N
ATOM   4037  CE2 TRP A 561      -8.410  28.503   1.063  1.00 75.77           C
ATOM   4038  CD2 TRP A 561      -8.903  29.858   0.786  1.00 74.64           C
ATOM   4039  CE3 TRP A 561     -10.230  30.027   0.390  1.00 74.57           C
ATOM   4040  CZ3 TRP A 561     -11.044  28.888   0.271  1.00 74.51           C
ATOM   4041  CH2 TRP A 561     -10.553  27.598   0.543  1.00 74.90           C
ATOM   4042  CZ2 TRP A 561      -9.227  27.382   0.941  1.00 76.37           C
ATOM   4043  C   TRP A 561      -6.802  34.358  -0.006  1.00 71.88           C
ATOM   4044  O   TRP A 561      -5.957  34.883   0.721  1.00 70.61           O
ATOM   4045  N   THR A 562      -7.759  35.044  -0.644  1.00 69.63           N
ATOM   4046  CA  THR A 562      -7.886  36.529  -0.639  1.00 67.90           C
ATOM   4047  CB  THR A 562      -8.448  37.100   0.692  1.00 66.71           C
ATOM   4048  OG1 THR A 562      -7.546  36.816   1.768  1.00 67.43           O
ATOM   4049  CG2 THR A 562      -9.831  36.527   1.007  1.00 66.35           C
ATOM   4050  C   THR A 562      -6.602  37.273  -1.019  1.00 65.62           C
ATOM   4051  O   THR A 562      -6.644  38.295  -1.705  1.00 61.79           O
ATOM   4052  N   ASP A 563      -5.473  36.754  -0.545  1.00 66.79           N
ATOM   4053  CA  ASP A 563      -4.147  37.210  -0.944  1.00 67.72           C
ATOM   4054  CB  ASP A 563      -3.099  36.773   0.097  1.00 66.65           C
ATOM   4055  CG  ASP A 563      -3.584  36.941   1.552  1.00 64.59           C
ATOM   4056  OD1 ASP A 563      -4.606  37.622   1.791  1.00 62.29           O
ATOM   4057  OD2 ASP A 563      -2.932  36.384   2.462  1.00 63.83           O
ATOM   4058  C   ASP A 563      -3.816  36.634  -2.331  1.00 68.78           C
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ATOM	4059	O	ASP	A	563	-2.938	37.144	-3.035	1.00	67.45	O
ATOM	4060	N	ILE	A	564	-4.539	35.564	-2.689	1.00	69.58	N
ATOM	4061	CA	ILE	A	564	-4.574	34.950	-4.040	1.00	68.59	C
ATOM	4062	CB	ILE	A	564	-5.886	35.286	-4.799	1.00	70.07	C
ATOM	4063	CG1	ILE	A	564	-6.237	36.776	-4.660	1.00	71.96	C
ATOM	4064	CD1	ILE	A	564	-7.621	37.157	-5.143	1.00	72.98	C
ATOM	4065	CG2	ILE	A	564	-7.020	34.397	-4.305	1.00	71.58	C
ATOM	4066	C	ILE	A	564	-3.347	35.126	-4.945	1.00	67.83	C
ATOM	4067	O	ILE	A	564	-3.391	35.848	-5.947	1.00	68.49	O
ATOM	4068	N	SER	A	565	-2.261	34.446	-4.587	1.00	67.21	N
ATOM	4069	CA	SER	A	565	-0.987	34.582	-5.294	1.00	65.30	C
ATOM	4070	CB	SER	A	565	-0.120	35.649	-4.614	1.00	64.58	C
ATOM	4071	OG	SER	A	565	1.089	35.865	-5.320	1.00	63.23	O
ATOM	4072	C	SER	A	565	-0.237	33.253	-5.351	1.00	63.25	C
ATOM	4073	O	SER	A	565	-0.498	32.352	-4.555	1.00	63.60	O
ATOM	4074	N	ALA	A	566	0.693	33.144	-6.298	1.00	60.66	N
ATOM	4075	CA	ALA	A	566	1.537	31.961	-6.437	1.00	60.01	C
ATOM	4076	CB	ALA	A	566	1.641	31.565	-7.901	1.00	59.25	C
ATOM	4077	C	ALA	A	566	2.932	32.180	-5.821	1.00	60.58	C
ATOM	4078	O	ALA	A	566	3.876	32.580	-6.508	1.00	60.17	O
ATOM	4079	N	ARG	A	567	3.053	31.907	-4.525	1.00	61.86	N
ATOM	4080	CA	ARG	A	567	4.277	32.218	-3.778	1.00	63.28	C
ATOM	4081	CB	ARG	A	567	3.956	32.580	-2.321	1.00	64.16	C
ATOM	4082	CG	ARG	A	567	2.798	33.552	-2.160	1.00	65.08	C
ATOM	4083	CD	ARG	A	567	3.056	34.586	-1.074	1.00	66.93	C
ATOM	4084	NE	ARG	A	567	2.303	35.811	-1.345	1.00	68.36	N
ATOM	4085	CZ	ARG	A	567	1.241	36.222	-0.657	1.00	66.99	C
ATOM	4086	NH1	ARG	A	567	0.800	35.524	0.381	1.00	65.85	N
ATOM	4087	NH2	ARG	A	567	0.625	37.345	-1.003	1.00	66.55	N
ATOM	4088	C	ARG	A	567	5.284	31.076	-3.824	1.00	63.65	C
ATOM	4089	O	ARG	A	567	4.909	29.902	-3.781	1.00	64.53	O
ATOM	4090	N	ILE	A	568	6.563	31.432	-3.914	1.00	62.03	N
ATOM	4091	CA	ILE	A	568	7.645	30.448	-3.965	1.00	61.34	C
ATOM	4092	CB	ILE	A	568	8.556	30.649	-5.205	1.00	60.85	C
ATOM	4093	CG1	ILE	A	568	7.732	31.011	-6.457	1.00	60.60	C
ATOM	4094	CD1	ILE	A	568	6.611	30.049	-6.796	1.00	59.13	C
ATOM	4095	CG2	ILE	A	568	9.461	29.437	-5.436	1.00	59.30	C
ATOM	4096	C	ILE	A	568	8.478	30.552	-2.696	1.00	61.26	C
ATOM	4097	O	ILE	A	568	8.727	31.648	-2.203	1.00	61.50	O
ATOM	4098	N	LEU	A	569	8.905	29.406	-2.173	1.00	62.27	N
ATOM	4099	CA	LEU	A	569	9.634	29.351	-0.908	1.00	63.14	C
ATOM	4100	CB	LEU	A	569	8.707	28.842	0.207	1.00	63.19	C
ATOM	4101	CG	LEU	A	569	7.871	29.793	1.089	1.00	63.28	C
ATOM	4102	CD1	LEU	A	569	7.854	31.249	0.634	1.00	62.46	C
ATOM	4103	CD2	LEU	A	569	6.449	29.274	1.256	1.00	62.48	C
ATOM	4104	C	LEU	A	569	10.887	28.475	-1.003	1.00	63.56	C
ATOM	4105	O	LEU	A	569	10.912	27.485	-1.737	1.00	62.72	O
ATOM	4106	N	LYS	A	570	11.926	28.855	-0.261	1.00	65.91	N
ATOM	4107	CA	LYS	A	570	13.156	28.063	-0.176	1.00	67.59	C
ATOM	4108	CB	LYS	A	570	14.320	28.924	0.334	1.00	65.96	C
ATOM	4109	C	LYS	A	570	12.947	26.860	0.743	1.00	67.61	C
ATOM	4110	O	LYS	A	570	12.146	26.921	1.675	1.00	69.11	O
ATOM	4111	N	LEU	A	571	13.653	25.763	0.478	1.00	66.91	N
ATOM	4112	CA	LEU	A	571	13.569	24.603	1.366	1.00	66.40	C
ATOM	4113	CB	LEU	A	571	13.707	23.279	0.608	1.00	65.29	C
ATOM	4114	CG	LEU	A	571	12.369	22.538	0.443	1.00	65.20	C
ATOM	4115	CD1	LEU	A	571	11.610	22.492	1.762	1.00	63.29	C
ATOM	4116	CD2	LEU	A	571	11.497	23.166	-0.635	1.00	65.12	C
ATOM	4117	C	LEU	A	571	14.502	24.713	2.575	1.00	67.47	C
ATOM	4118	O	LEU	A	571	15.364	25.598	2.605	1.00	67.13	O
ATOM	4119	N	PRO	A	572	14.383	23.772	3.539	1.00	68.15	N
ATOM	4120	CA	PRO	A	572	14.409	24.070	4.964	1.00	65.27	C
ATOM	4121	CB	PRO	A	572	15.854	23.728	5.340	1.00	64.86	C
ATOM	4122	CG	PRO	A	572	16.199	22.588	4.399	1.00	65.58	C
ATOM	4123	CD	PRO	A	572	15.122	22.518	3.321	1.00	67.68	C
ATOM	4124	C	PRO	A	572	13.997	25.492	5.378	1.00	64.15	C
ATOM	4125	O	PRO	A	572	13.213	25.647	6.314	1.00	62.57	O
ATOM	4126	N	SER	A	573	14.483	26.501	4.655	1.00	64.76	N
ATOM	4127	CA	SER	A	573	14.306	27.919	5.006	1.00	63.80	C
ATOM	4128	CB	SER	A	573	15.165	28.798	4.085	1.00	64.08	C
ATOM	4129	OG	SER	A	573	16.518	28.367	4.071	1.00	62.60	O

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ATOM   4130  C   SER A 573      12.853  28.429   5.020  1.00 63.12           C
ATOM   4131  O   SER A 573      12.404  28.983   6.022  1.00 62.60           O
ATOM   4132  N   PHE A 574      12.140  28.251   3.907  1.00 63.78           N
ATOM   4133  CA  PHE A 574      10.770  28.776   3.727  1.00 65.03           C
ATOM   4134  CB  PHE A 574       9.859  28.402   4.915  1.00 66.02           C
ATOM   4135  CG  PHE A 574       9.109  27.106   4.733  1.00 69.32           C
ATOM   4136  CD1 PHE A 574       8.121  26.984   3.758  1.00 70.59           C
ATOM   4137  CE1 PHE A 574       7.425  25.793   3.592  1.00 69.79           C
ATOM   4138  CZ  PHE A 574       7.694  24.712   4.415  1.00 69.92           C
ATOM   4139  CE2 PHE A 574       8.663  24.822   5.398  1.00 70.47           C
ATOM   4140  CD2 PHE A 574       9.366  26.014   5.555  1.00 71.21           C
ATOM   4141  C   PHE A 574      10.687  30.290   3.438  1.00 64.39           C
ATOM   4142  O   PHE A 574       9.596  30.866   3.453  1.00 64.83           O
ATOM   4143  N   GLU A 575      11.825  30.924   3.150  1.00 62.43           N
ATOM   4144  CA  GLU A 575      11.890  32.391   3.043  1.00 59.93           C
ATOM   4145  CB  GLU A 575      13.102  32.938   3.818  1.00 56.80           C
ATOM   4146  C   GLU A 575      11.899  32.912   1.599  1.00 58.61           C
ATOM   4147  O   GLU A 575      12.966  33.059   0.997  1.00 60.05           O
ATOM   4148  N   LEU A 576      10.707  33.199   1.066  1.00 55.48           N
ATOM   4149  CA  LEU A 576      10.519  33.779  -0.285  1.00 52.03           C
ATOM   4150  CB  LEU A 576      10.104  35.252  -0.194  1.00 49.71           C
ATOM   4151  C   LEU A 576      11.720  33.624  -1.224  1.00 50.10           C
ATOM   4152  O   LEU A 576      11.649  32.936  -2.242  1.00 45.83           O
ATOM   4153  N   HIS A 578      10.973  34.275  -4.322  1.00 59.80           N
ATOM   4154  CA  HIS A 578      10.271  35.437  -4.872  1.00 62.12           C
ATOM   4155  CB  HIS A 578      10.523  35.556  -6.385  1.00 60.64           C
ATOM   4156  C   HIS A 578       8.792  35.382  -4.583  1.00 63.71           C
ATOM   4157  O   HIS A 578       8.383  34.925  -3.514  1.00 64.70           O
ATOM   4158  N   LYS A 579       7.988  35.861  -5.535  1.00 65.10           N
ATOM   4159  CA  LYS A 579       6.527  35.961  -5.409  1.00 65.96           C
ATOM   4160  CB  LYS A 579       6.151  36.836  -4.196  1.00 64.52           C
ATOM   4161  CG  LYS A 579       4.657  37.102  -4.006  1.00 63.26           C
ATOM   4162  CD  LYS A 579       4.288  38.500  -4.491  1.00 63.21           C
ATOM   4163  CE  LYS A 579       2.784  38.722  -4.483  1.00 62.85           C
ATOM   4164  NZ  LYS A 579       2.247  38.999  -3.123  1.00 61.93           N
ATOM   4165  C   LYS A 579       5.970  36.552  -6.711  1.00 68.93           C
ATOM   4166  O   LYS A 579       6.714  37.160  -7.485  1.00 71.13           O
ATOM   4167  N   GLU A 580       4.675  36.349  -6.964  1.00 70.88           N
ATOM   4168  CA  GLU A 580       3.991  36.993  -8.091  1.00 71.52           C
ATOM   4169  CB  GLU A 580       4.330  36.296  -9.415  1.00 69.11           C
ATOM   4170  CG  GLU A 580       4.613  37.253 -10.568  1.00 67.57           C
ATOM   4171  CD  GLU A 580       3.412  38.105 -10.945  1.00 67.36           C
ATOM   4172  OE1 GLU A 580       2.321  37.536 -11.180  1.00 67.88           O
ATOM   4173  OE2 GLU A 580       3.562  39.345 -11.012  1.00 64.86           O
ATOM   4174  C   GLU A 580       2.475  37.041  -7.877  1.00 73.94           C
ATOM   4175  O   GLU A 580       1.814  36.003  -7.849  1.00 74.23           O
ATOM   4176  N   MET A 581       1.941  38.254  -7.728  1.00 77.32           N
ATOM   4177  CA  MET A 581       0.508  38.474  -7.479  1.00 77.88           C
ATOM   4178  CB  MET A 581       0.268  39.905  -6.965  1.00 78.72           C
ATOM   4179  CG  MET A 581      -1.191  40.279  -6.701  1.00 78.75           C
ATOM   4180  SD  MET A 581      -1.921  39.553  -5.216  1.00 80.51           S
ATOM   4181  CE  MET A 581      -1.202  40.567  -3.923  1.00 77.01           C
ATOM   4182  C   MET A 581      -0.335  38.203  -8.724  1.00 77.76           C
ATOM   4183  O   MET A 581       0.091  38.470  -9.849  1.00 75.28           O
ATOM   4184  N   LEU A 582      -1.534  37.671  -8.508  1.00 79.63           N
ATOM   4185  CA  LEU A 582      -2.457  37.388  -9.599  1.00 81.54           C
ATOM   4186  CB  LEU A 582      -2.736  35.889  -9.680  1.00 82.08           C
ATOM   4187  CG  LEU A 582      -3.121  35.359 -11.061  1.00 83.87           C
ATOM   4188  CD2 LEU A 582      -4.632  35.351 -11.238  1.00 84.78           C
ATOM   4189  CD1 LEU A 582      -2.550  33.964 -11.255  1.00 84.53           C
ATOM   4190  C   LEU A 582      -3.763  38.169  -9.462  1.00 83.25           C
ATOM   4191  O   LEU A 582      -4.420  38.470 -10.463  1.00 84.51           O
ATOM   4192  N   GLY A 583      -4.133  38.490  -8.222  1.00 83.84           N
ATOM   4193  CA  GLY A 583      -5.353  39.249  -7.942  1.00 80.13           C
ATOM   4194  C   GLY A 583      -6.616  38.497  -8.318  1.00 77.33           C
ATOM   4195  O   GLY A 583      -6.620  37.266  -8.380  1.00 76.42           O
ATOM   4196  N   GLY A 584      -7.684  39.244  -8.586  1.00 74.70           N
ATOM   4197  CA  GLY A 584      -8.991  38.659  -8.865  1.00 71.05           C
ATOM   4198  C   GLY A 584      -9.788  38.490  -7.586  1.00 69.71           C
ATOM   4199  O   GLY A 584      -9.693  39.316  -6.678  1.00 69.93           O
ATOM   4200  N   GLU A 585     -10.565  37.411  -7.511  1.00 68.75           N
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ATOM   4201  CA  GLU A 585     -11.403  37.123  -6.336  1.00 67.27           C
ATOM   4202  CB  GLU A 585     -12.764  37.818  -6.465  1.00 64.95           C
ATOM   4203  CG  GLU A 585     -13.651  37.255  -7.569  1.00 62.95           C
ATOM   4204  CD  GLU A 585     -14.747  38.211  -7.990  1.00 61.44           C
ATOM   4205  OE1 GLU A 585     -15.291  38.924  -7.120  1.00 61.86           O
ATOM   4206  OE2 GLU A 585     -15.068  38.245  -9.196  1.00 59.79           O
ATOM   4207  C   GLU A 585     -11.598  35.620  -6.111  1.00 66.99           C
ATOM   4208  O   GLU A 585     -12.237  35.207  -5.139  1.00 65.40           O
ATOM   4209  N   ILE A 586     -11.053  34.815  -7.021  1.00 68.42           N
ATOM   4210  CA  ILE A 586     -11.181  33.359  -6.961  1.00 69.09           C
ATOM   4211  CB  ILE A 586     -11.635  32.751  -8.312  1.00 68.97           C
ATOM   4212  CG1 ILE A 586     -12.461  33.755  -9.135  1.00 69.17           C
ATOM   4213  CD1 ILE A 586     -11.663  34.530 -10.167  1.00 67.72           C
ATOM   4214  CG2 ILE A 586     -12.436  31.476  -8.078  1.00 69.04           C
ATOM   4215  C   ILE A 586      -9.859  32.722  -6.533  1.00 69.94           C
ATOM   4216  O   ILE A 586      -8.783  33.179  -6.923  1.00 68.83           O
ATOM   4217  N   ILE A 587      -9.953  31.670  -5.724  1.00 70.34           N
ATOM   4218  CA  ILE A 587      -8.777  30.968  -5.208  1.00 70.28           C
ATOM   4219  CB  ILE A 587      -9.073  30.266  -3.861  1.00 69.93           C
ATOM   4220  CG1 ILE A 587     -10.497  29.681  -3.828  1.00 69.57           C
ATOM   4221  CD1 ILE A 587     -10.598  28.222  -4.237  1.00 68.74           C
ATOM   4222  CG2 ILE A 587      -8.879  31.238  -2.712  1.00 69.02           C
ATOM   4223  C   ILE A 587      -8.203  29.961  -6.213  1.00 72.59           C
ATOM   4224  O   ILE A 587      -8.962  29.316  -6.948  1.00 73.40           O
ATOM   4225  N   PRO A 588      -6.857  29.833  -6.260  1.00 72.77           N
ATOM   4226  CA  PRO A 588      -6.227  28.832  -7.126  1.00 70.85           C
ATOM   4227  CB  PRO A 588      -4.744  29.218  -7.095  1.00 69.48           C
ATOM   4228  CG  PRO A 588      -4.564  29.970  -5.823  1.00 70.26           C
ATOM   4229  CD  PRO A 588      -5.860  30.689  -5.586  1.00 71.84           C
ATOM   4230  C   PRO A 588      -6.425  27.419  -6.587  1.00 70.35           C
ATOM   4231  O   PRO A 588      -6.349  27.203  -5.373  1.00 69.44           O
ATOM   4232  N   ARG A 589      -6.690  26.473  -7.486  1.00 69.73           N
ATOM   4233  CA  ARG A 589      -6.936  25.083  -7.097  1.00 68.14           C
ATOM   4234  CB  ARG A 589      -8.124  24.502  -7.874  1.00 66.40           C
ATOM   4235  C   ARG A 589      -5.695  24.201  -7.267  1.00 66.17           C
ATOM   4236  O   ARG A 589      -5.389  23.386  -6.390  1.00 67.29           O
ATOM   4237  N   SER A 590      -4.987  24.377  -8.387  1.00 61.80           N
ATOM   4238  CA  SER A 590      -3.818  23.557  -8.723  1.00 57.55           C
ATOM   4239  CB  SER A 590      -4.105  22.696  -9.952  1.00 55.40           C
ATOM   4240  C   SER A 590      -2.568  24.390  -8.976  1.00 56.70           C
ATOM   4241  O   SER A 590      -2.645  25.497  -9.515  1.00 56.61           O
ATOM   4242  N   ILE A 591      -1.418  23.840  -8.590  1.00 55.56           N
ATOM   4243  CA  ILE A 591      -0.118  24.462  -8.854  1.00 54.61           C
ATOM   4244  CB  ILE A 591       0.307  25.421  -7.711  1.00 54.49           C
ATOM   4245  CG1 ILE A 591       1.309  26.465  -8.219  1.00 55.18           C
ATOM   4246  CD1 ILE A 591       1.179  27.821  -7.552  1.00 55.59           C
ATOM   4247  CG2 ILE A 591       0.842  24.655  -6.506  1.00 53.91           C
ATOM   4248  C   ILE A 591       0.955  23.400  -9.128  1.00 54.72           C
ATOM   4249  O   ILE A 591       0.957  22.335  -8.507  1.00 53.04           O
ATOM   4250  N   LEU A 592       1.854  23.692 -10.068  1.00 56.48           N
ATOM   4251  CA  LEU A 592       2.846  22.718 -10.521  1.00 55.47           C
ATOM   4252  CB  LEU A 592       2.233  21.807 -11.592  1.00 54.38           C
ATOM   4253  CG  LEU A 592       3.038  20.616 -12.118  1.00 54.72           C
ATOM   4254  CD1 LEU A 592       3.288  19.572 -11.038  1.00 53.46           C
ATOM   4255  CD2 LEU A 592       2.322  19.994 -13.307  1.00 55.60           C
ATOM   4256  C   LEU A 592       4.106  23.378 -11.063  1.00 56.68           C
ATOM   4257  O   LEU A 592       4.029  24.314 -11.854  1.00 56.99           O
ATOM   4258  N   MET A 593       5.261  22.885 -10.620  1.00 61.05           N
ATOM   4259  CA  MET A 593       6.560  23.240 -11.206  1.00 63.54           C
ATOM   4260  CB  MET A 593       7.626  23.386 -10.117  1.00 61.61           C
ATOM   4261  CG  MET A 593       7.343  24.455  -9.078  1.00 60.16           C
ATOM   4262  SD  MET A 593       8.647  24.561  -7.837  1.00 59.21           S
ATOM   4263  CE  MET A 593       8.576  22.925  -7.107  1.00 59.55           C
ATOM   4264  C   MET A 593       6.980  22.132 -12.171  1.00 67.94           C
ATOM   4265  O   MET A 593       7.040  20.960 -11.782  1.00 71.78           O
ATOM   4266  N   THR A 594       7.282  22.497 -13.418  1.00 69.11           N
ATOM   4267  CA  THR A 594       7.512  21.503 -14.478  1.00 67.56           C
ATOM   4268  CB  THR A 594       6.174  21.066 -15.105  1.00 65.01           C
ATOM   4269  OG1 THR A 594       6.413  20.080 -16.112  1.00 67.70           O
ATOM   4270  CG2 THR A 594       5.451  22.255 -15.716  1.00 64.19           C
ATOM   4271  C   THR A 594       8.502  21.970 -15.569  1.00 68.59           C
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ATOM   4272  O   THR A 594       8.767  23.167 -15.692  1.00 70.03           O
ATOM   4273  N   THR A 595       9.031  21.026 -16.357  1.00 68.56           N
ATOM   4274  CA  THR A 595      10.099  21.324 -17.336  1.00 68.61           C
ATOM   4275  CB  THR A 595      11.497  20.885 -16.811  1.00 69.03           C
ATOM   4276  OG1 THR A 595      12.501  21.207 -17.779  1.00 71.98           O
ATOM   4277  CG2 THR A 595      11.549  19.382 -16.514  1.00 69.92           C
ATOM   4278  C   THR A 595       9.867  20.806 -18.778  1.00 69.19           C
ATOM   4279  O   THR A 595       9.798  19.597 -19.013  1.00 71.35           O
ATOM   4280  N   PHE A 596       9.767  21.729 -19.735  1.00 69.13           N
ATOM   4281  CA  PHE A 596       9.600  21.371 -21.150  1.00 70.62           C
ATOM   4282  CB  PHE A 596       8.410  22.108 -21.762  1.00 70.98           C
ATOM   4283  CG  PHE A 596       7.097  21.813 -21.096  1.00 70.07           C
ATOM   4284  CD1 PHE A 596       6.578  20.522 -21.081  1.00 69.26           C
ATOM   4285  CE1 PHE A 596       5.359  20.255 -20.476  1.00 68.82           C
ATOM   4286  CZ  PHE A 596       4.637  21.284 -19.889  1.00 68.86           C
ATOM   4287  CE2 PHE A 596       5.138  22.577 -19.908  1.00 69.10           C
ATOM   4288  CD2 PHE A 596       6.358  22.838 -20.513  1.00 69.51           C
ATOM   4289  C   PHE A 596      10.850  21.677 -21.973  1.00 73.15           C
ATOM   4290  O   PHE A 596      11.480  22.722 -21.785  1.00 75.41           O
ATOM   4291  N   GLU A 597      11.168  20.783 -22.915  1.00 75.03           N
ATOM   4292  CA  GLU A 597      12.426  20.822 -23.692  1.00 77.32           C
ATOM   4293  CB  GLU A 597      12.493  22.050 -24.616  1.00 74.76           C
ATOM   4294  C   GLU A 597      13.646  20.739 -22.757  1.00 78.47           C
ATOM   4295  O   GLU A 597      14.200  19.655 -22.543  1.00 79.84           O
ATOM   4296  N   SER A 598      14.053  21.883 -22.210  1.00 75.61           N
ATOM   4297  CA  SER A 598      14.938  21.925 -21.043  1.00 71.35           C
ATOM   4298  CB  SER A 598      16.406  21.779 -21.446  1.00 69.45           C
ATOM   4299  OG  SER A 598      17.159  21.231 -20.378  1.00 66.21           O
ATOM   4300  C   SER A 598      14.709  23.217 -20.256  1.00 69.68           C
ATOM   4301  O   SER A 598      15.417  23.510 -19.289  1.00 68.95           O
ATOM   4302  N   SER A 599      13.710  23.980 -20.690  1.00 68.29           N
ATOM   4303  CA  SER A 599      13.282  25.186 -20.001  1.00 66.34           C
ATOM   4304  CB  SER A 599      12.608  26.138 -20.990  1.00 65.17           C
ATOM   4305  OG  SER A 599      12.289  27.367 -20.370  1.00 64.04           O
ATOM   4306  C   SER A 599      12.324  24.819 -18.868  1.00 65.93           C
ATOM   4307  O   SER A 599      11.638  23.801 -18.932  1.00 65.40           O
ATOM   4308  N   HIS A 600      12.285  25.654 -17.833  1.00 67.95           N
ATOM   4309  CA  HIS A 600      11.471  25.392 -16.647  1.00 66.67           C
ATOM   4310  CB  HIS A 600      12.334  25.424 -15.386  1.00 67.33           C
ATOM   4311  CG  HIS A 600      13.474  24.425 -15.389  1.00 69.16           C
ATOM   4312  ND1 HIS A 600      13.398  23.236 -14.763  1.00 71.11           N
ATOM   4313  CE1 HIS A 600      14.558  22.567 -14.926  1.00 71.28           C
ATOM   4314  NE2 HIS A 600      15.382  23.334 -15.657  1.00 69.63           N
ATOM   4315  CD2 HIS A 600      14.749  24.489 -15.957  1.00 69.81           C
ATOM   4316  C   HIS A 600      10.351  26.388 -16.517  1.00 66.58           C
ATOM   4317  O   HIS A 600      10.526  27.578 -16.804  1.00 66.18           O
ATOM   4318  N   TYR A 601       9.188  25.908 -16.075  1.00 65.05           N
ATOM   4319  CA  TYR A 601       8.031  26.772 -15.822  1.00 63.98           C
ATOM   4320  CB  TYR A 601       6.997  26.656 -16.953  1.00 63.15           C
ATOM   4321  CG  TYR A 601       7.540  26.773 -18.365  1.00 63.90           C
ATOM   4322  CD1 TYR A 601       8.088  25.667 -19.014  1.00 63.91           C
ATOM   4323  CE1 TYR A 601       8.567  25.763 -20.312  1.00 65.42           C
ATOM   4324  CZ  TYR A 601       8.493  26.974 -20.987  1.00 64.31           C
ATOM   4325  OH  TYR A 601       8.974  27.053 -22.273  1.00 63.83           O
ATOM   4326  CE2 TYR A 601       7.943  28.087 -20.371  1.00 63.19           C
ATOM   4327  CD2 TYR A 601       7.467  27.981 -19.069  1.00 64.37           C
ATOM   4328  C   TYR A 601       7.345  26.473 -14.476  1.00 63.36           C
ATOM   4329  O   TYR A 601       7.620  25.461 -13.822  1.00 61.88           O
ATOM   4330  N   LEU A 602       6.461  27.380 -14.069  1.00 62.23           N
ATOM   4331  CA  LEU A 602       5.516  27.129 -12.988  1.00 59.95           C
ATOM   4332  CB  LEU A 602       5.765  28.074 -11.810  1.00 58.82           C
ATOM   4333  CG  LEU A 602       4.883  27.909 -10.565  1.00 57.23           C
ATOM   4334  CD1 LEU A 602       5.740  27.917  -9.314  1.00 57.18           C
ATOM   4335  CD2 LEU A 602       3.794  28.969 -10.484  1.00 54.84           C
ATOM   4336  C   LEU A 602       4.108  27.318 -13.537  1.00 60.34           C
ATOM   4337  O   LEU A 602       3.853  28.243 -14.315  1.00 61.54           O
ATOM   4338  N   LEU A 603       3.202  26.433 -13.138  1.00 58.73           N
ATOM   4339  CA  LEU A 603       1.838  26.436 -13.648  1.00 57.98           C
ATOM   4340  CB  LEU A 603       1.536  25.113 -14.357  1.00 54.86           C
ATOM   4341  CG  LEU A 603       1.766  24.922 -15.859  1.00 53.01           C
ATOM   4342  CD1 LEU A 603       2.950  25.713 -16.395  1.00 53.86           C
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ATOM   4343  CD2 LEU A 603       1.927  23.441 -16.167  1.00 52.30           C
ATOM   4344  C   LEU A 603       0.854  26.638 -12.513  1.00 60.02           C
ATOM   4345  O   LEU A 603       0.914  25.941 -11.499  1.00 61.24           O
ATOM   4346  N   CYS A 604      -0.054  27.593 -12.679  1.00 60.60           N
ATOM   4347  CA  CYS A 604      -1.113  27.771 -11.704  1.00 61.22           C
ATOM   4348  CB  CYS A 604      -0.869  28.995 -10.834  1.00 61.19           C
ATOM   4349  SG  CYS A 604      -1.884  28.959  -9.344  1.00 63.18           S
ATOM   4350  C   CYS A 604      -2.471  27.859 -12.364  1.00 61.65           C
ATOM   4351  O   CYS A 604      -2.698  28.705 -13.232  1.00 62.46           O
ATOM   4352  N   ALA A 605      -3.368  26.973 -11.936  1.00 61.34           N
ATOM   4353  CA  ALA A 605      -4.711  26.882 -12.490  1.00 61.95           C
ATOM   4354  CB  ALA A 605      -5.020  25.450 -12.882  1.00 60.03           C
ATOM   4355  C   ALA A 605      -5.752  27.411 -11.508  1.00 63.59           C
ATOM   4356  O   ALA A 605      -5.702  27.111 -10.310  1.00 63.42           O
ATOM   4357  N   LEU A 606      -6.699  28.187 -12.031  1.00 65.82           N
ATOM   4358  CA  LEU A 606      -7.676  28.899 -11.209  1.00 66.77           C
ATOM   4359  CB  LEU A 606      -7.903  30.308 -11.761  1.00 66.19           C
ATOM   4360  CG  LEU A 606      -7.113  31.412 -11.051  1.00 67.42           C
ATOM   4361  CD1 LEU A 606      -6.693  32.515 -12.014  1.00 66.37           C
ATOM   4362  CD2 LEU A 606      -7.915  31.975  -9.885  1.00 66.45           C
ATOM   4363  C   LEU A 606      -9.010  28.177 -11.028  1.00 68.51           C
ATOM   4364  O   LEU A 606      -9.400  27.341 -11.847  1.00 68.09           O
ATOM   4365  N   GLY A 607      -9.701  28.519  -9.939  1.00 71.96           N
ATOM   4366  CA  GLY A 607     -11.006  27.947  -9.608  1.00 73.26           C
ATOM   4367  C   GLY A 607     -12.146  28.444 -10.482  1.00 74.18           C
ATOM   4368  O   GLY A 607     -13.277  27.959 -10.367  1.00 73.69           O
ATOM   4369  N   ASP A 608     -11.853  29.419 -11.347  1.00 74.26           N
ATOM   4370  CA  ASP A 608     -12.821  29.900 -12.342  1.00 71.92           C
ATOM   4371  CB  ASP A 608     -12.807  31.442 -12.460  1.00 72.61           C
ATOM   4372  CG  ASP A 608     -11.639  31.978 -13.296  1.00 72.81           C
ATOM   4373  OD1 ASP A 608     -11.007  31.205 -14.050  1.00 71.22           O
ATOM   4374  OD2 ASP A 608     -11.363  33.196 -13.201  1.00 72.14           O
ATOM   4375  C   ASP A 608     -12.599  29.238 -13.697  1.00 66.42           C
ATOM   4376  O   ASP A 608     -13.448  29.322 -14.580  1.00 64.21           O
ATOM   4377  N   GLY A 609     -11.444  28.596 -13.846  1.00 63.74           N
ATOM   4378  CA  GLY A 609     -11.096  27.891 -15.071  1.00 63.96           C
ATOM   4379  C   GLY A 609      -9.889  28.460 -15.786  1.00 62.89           C
ATOM   4380  O   GLY A 609      -9.501  27.979 -16.853  1.00 62.47           O
ATOM   4381  N   ALA A 610      -9.289  29.489 -15.200  1.00 63.41           N
ATOM   4382  CA  ALA A 610      -8.144  30.137 -15.816  1.00 64.55           C
ATOM   4383  CB  ALA A 610      -7.984  31.556 -15.289  1.00 65.67           C
ATOM   4384  C   ALA A 610      -6.877  29.332 -15.590  1.00 63.40           C
ATOM   4385  O   ALA A 610      -6.809  28.494 -14.697  1.00 61.36           O
ATOM   4386  N   LEU A 611      -5.881  29.583 -16.427  1.00 66.48           N
ATOM   4387  CA  LEU A 611      -4.560  29.007 -16.250  1.00 70.18           C
ATOM   4388  CB  LEU A 611      -4.383  27.757 -17.133  1.00 70.35           C
ATOM   4389  CG  LEU A 611      -3.078  26.932 -17.178  1.00 70.82           C
ATOM   4390  CD1 LEU A 611      -2.067  27.530 -18.147  1.00 71.17           C
ATOM   4391  CD2 LEU A 611      -2.440  26.701 -15.810  1.00 70.73           C
ATOM   4392  C   LEU A 611      -3.506  30.065 -16.555  1.00 71.48           C
ATOM   4393  O   LEU A 611      -3.559  30.739 -17.591  1.00 69.86           O
ATOM   4394  N   PHE A 612      -2.569  30.216 -15.625  1.00 73.95           N
ATOM   4395  CA  PHE A 612      -1.438  31.110 -15.794  1.00 77.88           C
ATOM   4396  CB  PHE A 612      -1.355  32.094 -14.624  1.00 83.00           C
ATOM   4397  CG  PHE A 612      -2.279  33.273 -14.755  1.00 88.89           C
ATOM   4398  CD2 PHE A 612      -1.789  34.513 -15.154  1.00 90.61           C
ATOM   4399  CE2 PHE A 612      -2.638  35.605 -15.279  1.00 92.18           C
ATOM   4400  CZ  PHE A 612      -3.991  35.466 -15.008  1.00 92.00           C
ATOM   4401  CE1 PHE A 612      -4.493  34.235 -14.613  1.00 93.06           C
ATOM   4402  CD1 PHE A 612      -3.640  33.146 -14.487  1.00 91.87           C
ATOM   4403  C   PHE A 612      -0.165  30.289 -15.877  1.00 77.24           C
ATOM   4404  O   PHE A 612      -0.001  29.314 -15.138  1.00 79.37           O
ATOM   4405  N   TYR A 613       0.725  30.668 -16.790  1.00 74.62           N
ATOM   4406  CA  TYR A 613       2.035  30.027 -16.887  1.00 73.06           C
ATOM   4407  CB  TYR A 613       2.121  29.060 -18.082  1.00 71.88           C
ATOM   4408  CG  TYR A 613       1.778  29.630 -19.452  1.00 72.39           C
ATOM   4409  CD1 TYR A 613       0.472  30.018 -19.772  1.00 72.34           C
ATOM   4410  CE1 TYR A 613       0.157  30.517 -21.031  1.00 71.61           C
ATOM   4411  CZ  TYR A 613       1.150  30.615 -21.996  1.00 71.37           C
ATOM   4412  OH  TYR A 613       0.847  31.104 -23.245  1.00 68.39           O
ATOM   4413  CE2 TYR A 613       2.445  30.221 -21.711  1.00 72.78           C
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ATOM   4414  CD2 TYR A 613       2.752  29.724 -20.449  1.00 73.26           C
ATOM   4415  C   TYR A 613       3.184  31.035 -16.871  1.00 72.63           C
ATOM   4416  O   TYR A 613       3.345  31.837 -17.794  1.00 72.78           O
ATOM   4417  N   PHE A 614       3.959  30.993 -15.791  1.00 70.95           N
ATOM   4418  CA  PHE A 614       5.091  31.885 -15.602  1.00 69.51           C
ATOM   4419  CB  PHE A 614       5.138  32.385 -14.153  1.00 69.52           C
ATOM   4420  CG  PHE A 614       3.968  33.251 -13.764  1.00 71.10           C
ATOM   4421  CD1 PHE A 614       3.954  34.613 -14.073  1.00 70.94           C
ATOM   4422  CE1 PHE A 614       2.878  35.416 -13.714  1.00 69.57           C
ATOM   4423  CZ  PHE A 614       1.804  34.864 -13.031  1.00 69.87           C
ATOM   4424  CE2 PHE A 614       1.806  33.511 -12.711  1.00 70.23           C
ATOM   4425  CD2 PHE A 614       2.884  32.712 -13.074  1.00 70.37           C
ATOM   4426  C   PHE A 614       6.399  31.180 -15.945  1.00 70.03           C
ATOM   4427  O   PHE A 614       6.508  29.958 -15.813  1.00 69.62           O
ATOM   4428  N   GLY A 615       7.383  31.954 -16.400  1.00 69.84           N
ATOM   4429  CA  GLY A 615       8.754  31.466 -16.538  1.00 70.06           C
ATOM   4430  C   GLY A 615       9.368  31.324 -15.158  1.00 71.25           C
ATOM   4431  O   GLY A 615       8.904  31.946 -14.203  1.00 72.04           O
ATOM   4432  N   LEU A 616      10.410  30.508 -15.042  1.00 71.99           N
ATOM   4433  CA  LEU A 616      10.981  30.215 -13.729  1.00 72.48           C
ATOM   4434  CB  LEU A 616      10.649  28.776 -13.327  1.00 70.89           C
ATOM   4435  CG  LEU A 616      10.504  28.479 -11.831  1.00 70.86           C
ATOM   4436  CD1 LEU A 616       9.820  29.620 -11.087  1.00 70.64           C
ATOM   4437  CD2 LEU A 616       9.751  27.174 -11.630  1.00 70.21           C
ATOM   4438  C   LEU A 616      12.488  30.469 -13.624  1.00 75.56           C
ATOM   4439  O   LEU A 616      13.181  30.618 -14.636  1.00 78.52           O
ATOM   4440  N   ASN A 617      12.978  30.548 -12.389  1.00 75.23           N
ATOM   4441  CA  ASN A 617      14.410  30.602 -12.125  1.00 74.47           C
ATOM   4442  CB  ASN A 617      14.818  31.975 -11.594  1.00 71.77           C
ATOM   4443  C   ASN A 617      14.808  29.492 -11.158  1.00 74.32           C
ATOM   4444  O   ASN A 617      14.541  29.576  -9.956  1.00 72.37           O
ATOM   4445  N   ILE A 618      15.428  28.449 -11.710  1.00 75.26           N
ATOM   4446  CA  ILE A 618      15.826  27.237 -10.969  1.00 73.42           C
ATOM   4447  CB  ILE A 618      16.638  26.258 -11.860  1.00 71.23           C
ATOM   4448  CG1 ILE A 618      17.329  26.992 -13.030  1.00 69.60           C
ATOM   4449  CD1 ILE A 618      18.632  27.691 -12.686  1.00 64.62           C
ATOM   4450  CG2 ILE A 618      15.736  25.153 -12.384  1.00 69.29           C
ATOM   4451  C   ILE A 618      16.605  27.489  -9.672  1.00 74.01           C
ATOM   4452  O   ILE A 618      16.380  26.807  -8.668  1.00 71.27           O
ATOM   4453  N   GLU A 619      17.516  28.464  -9.710  1.00 72.73           N
ATOM   4454  CA  GLU A 619      18.335  28.823  -8.554  1.00 69.74           C
ATOM   4455  CB  GLU A 619      19.809  28.932  -8.959  1.00 68.90           C
ATOM   4456  C   GLU A 619      17.861  30.127  -7.908  1.00 68.32           C
ATOM   4457  O   GLU A 619      17.920  30.276  -6.686  1.00 66.49           O
ATOM   4458  N   THR A 620      17.388  31.062  -8.733  1.00 67.72           N
ATOM   4459  CA  THR A 620      16.944  32.377  -8.259  1.00 64.65           C
ATOM   4460  CB  THR A 620      16.940  33.422  -9.393  1.00 62.51           C
ATOM   4461  C   THR A 620      15.567  32.326  -7.594  1.00 63.53           C
ATOM   4462  O   THR A 620      15.444  32.625  -6.407  1.00 62.95           O
ATOM   4463  N   GLY A 621      14.540  31.956  -8.363  1.00 62.70           N
ATOM   4464  CA  GLY A 621      13.178  31.811  -7.838  1.00 60.61           C
ATOM   4465  C   GLY A 621      12.129  32.797  -8.343  1.00 60.22           C
ATOM   4466  O   GLY A 621      10.956  32.697  -7.977  1.00 58.25           O
ATOM   4467  N   LEU A 622      12.543  33.749  -9.179  1.00 61.52           N
ATOM   4468  CA  LEU A 622      11.630  34.776  -9.695  1.00 60.19           C
ATOM   4469  CB  LEU A 622      12.400  36.054 -10.057  1.00 60.10           C
ATOM   4470  C   LEU A 622      10.828  34.259 -10.892  1.00 58.73           C
ATOM   4471  O   LEU A 622      11.283  33.365 -11.608  1.00 59.23           O
ATOM   4472  N   LEU A 623       9.636  34.819 -11.097  1.00 57.65           N
ATOM   4473  CA  LEU A 623       8.730  34.355 -12.160  1.00 58.00           C
ATOM   4474  CB  LEU A 623       7.504  33.646 -11.563  1.00 56.81           C
ATOM   4475  C   LEU A 623       8.298  35.467 -13.129  1.00 56.78           C
ATOM   4476  O   LEU A 623       8.132  36.621 -12.733  1.00 56.28           O
ATOM   4477  N   SER A 624       8.100  35.098 -14.394  1.00 56.30           N
ATOM   4478  CA  SER A 624       7.840  36.067 -15.460  1.00 55.15           C
ATOM   4479  CB  SER A 624       9.143  36.395 -16.184  1.00 54.13           C
ATOM   4480  OG  SER A 624       9.729  35.214 -16.702  1.00 52.98           O
ATOM   4481  C   SER A 624       6.800  35.592 -16.483  1.00 55.31           C
ATOM   4482  O   SER A 624       6.771  34.415 -16.857  1.00 55.35           O
ATOM   4483  N   ASP A 625       5.967  36.533 -16.937  1.00 54.14           N
ATOM   4484  CA  ASP A 625       4.999  36.327 -18.033  1.00 50.79           C
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ATOM   4485  CB  ASP A 625       5.651  35.624 -19.229  1.00 51.15           C
ATOM   4486  CG  ASP A 625       6.993  36.248 -19.613  1.00 53.05           C
ATOM   4487  OD1 ASP A 625       7.120  37.496 -19.577  1.00 51.81           O
ATOM   4488  OD2 ASP A 625       7.926  35.483 -19.937  1.00 53.80           O
ATOM   4489  C   ASP A 625       3.723  35.619 -17.604  1.00 47.71           C
ATOM   4490  O   ASP A 625       2.731  36.270 -17.274  1.00 44.04           O
ATOM   4491  N   LYS A 627       1.443  35.803 -20.117  1.00 60.53           N
ATOM   4492  CA  LYS A 627       1.209  34.412 -20.495  1.00 63.89           C
ATOM   4493  CB  LYS A 627       2.501  33.599 -20.354  1.00 62.91           C
ATOM   4494  C   LYS A 627       0.048  33.769 -19.702  1.00 65.61           C
ATOM   4495  O   LYS A 627       0.235  33.256 -18.589  1.00 65.15           O
ATOM   4496  N   LYS A 628      -1.145  33.804 -20.296  1.00 66.68           N
ATOM   4497  CA  LYS A 628      -2.379  33.318 -19.660  1.00 66.88           C
ATOM   4498  CB  LYS A 628      -3.083  34.474 -18.928  1.00 64.93           C
ATOM   4499  CG  LYS A 628      -4.567  34.656 -19.230  1.00 63.02           C
ATOM   4500  CD  LYS A 628      -5.441  34.195 -18.080  1.00 62.61           C
ATOM   4501  CE  LYS A 628      -6.744  34.976 -18.052  1.00 61.98           C
ATOM   4502  NZ  LYS A 628      -7.276  35.137 -16.670  1.00 61.13           N
ATOM   4503  C   LYS A 628      -3.310  32.668 -20.687  1.00 68.01           C
ATOM   4504  O   LYS A 628      -3.241  32.981 -21.882  1.00 67.62           O
ATOM   4505  N   VAL A 629      -4.170  31.764 -20.213  1.00 67.42           N
ATOM   4506  CA  VAL A 629      -5.157  31.088 -21.065  1.00 67.85           C
ATOM   4507  CB  VAL A 629      -4.495  30.004 -21.968  1.00 68.50           C
ATOM   4508  CG1 VAL A 629      -3.602  29.071 -21.159  1.00 68.26           C
ATOM   4509  CG2 VAL A 629      -5.537  29.224 -22.764  1.00 69.93           C
ATOM   4510  C   VAL A 629      -6.302  30.500 -20.230  1.00 67.66           C
ATOM   4511  O   VAL A 629      -6.070  29.974 -19.140  1.00 70.23           O
ATOM   4512  N   THR A 630      -7.534  30.613 -20.731  1.00 65.48           N
ATOM   4513  CA  THR A 630      -8.694  29.978 -20.085  1.00 64.98           C
ATOM   4514  CB  THR A 630      -9.927  30.911 -20.018  1.00 64.27           C
ATOM   4515  OG1 THR A 630     -10.504  31.052 -21.320  1.00 64.80           O
ATOM   4516  CG2 THR A 630      -9.550  32.289 -19.470  1.00 62.75           C
ATOM   4517  C   THR A 630      -9.061  28.656 -20.779  1.00 63.77           C
ATOM   4518  O   THR A 630      -8.891  28.511 -21.989  1.00 60.51           O
ATOM   4519  N   LEU A 631      -9.562  27.698 -20.000  1.00 64.92           N
ATOM   4520  CA  LEU A 631      -9.756  26.327 -20.482  1.00 65.71           C
ATOM   4521  CB  LEU A 631      -8.714  25.396 -19.850  1.00 62.96           C
ATOM   4522  CG  LEU A 631      -7.304  25.942 -19.583  1.00 60.76           C
ATOM   4523  CD1 LEU A 631      -6.571  25.057 -18.590  1.00 60.24           C
ATOM   4524  CD2 LEU A 631      -6.500  26.097 -20.867  1.00 59.81           C
ATOM   4525  C   LEU A 631     -11.168  25.778 -20.224  1.00 69.30           C
ATOM   4526  O   LEU A 631     -11.658  24.930 -20.973  1.00 70.69           O
ATOM   4527  N   GLY A 632     -11.809  26.252 -19.159  1.00 71.29           N
ATOM   4528  CA  GLY A 632     -13.153  25.806 -18.803  1.00 74.19           C
ATOM   4529  C   GLY A 632     -13.480  26.109 -17.356  1.00 77.98           C
ATOM   4530  O   GLY A 632     -12.683  25.817 -16.464  1.00 79.57           O
ATOM   4531  N   THR A 633     -14.675  26.658 -17.131  1.00 80.62           N
ATOM   4532  CA  THR A 633     -15.079  27.228 -15.830  1.00 82.84           C
ATOM   4533  CB  THR A 633     -16.518  27.792 -15.864  1.00 83.85           C
ATOM   4534  OG1 THR A 633     -17.425  26.772 -16.301  1.00 84.83           O
ATOM   4535  CG2 THR A 633     -16.611  29.015 -16.789  1.00 81.85           C
ATOM   4536  C   THR A 633     -14.939  26.318 -14.606  1.00 84.24           C
ATOM   4537  O   THR A 633     -14.722  26.808 -13.492  1.00 84.69           O
ATOM   4538  N   GLN A 634     -15.085  25.007 -14.806  1.00 83.04           N
ATOM   4539  CA  GLN A 634     -14.820  24.035 -13.745  1.00 80.21           C
ATOM   4540  CB  GLN A 634     -15.358  22.649 -14.120  1.00 76.41           C
ATOM   4541  C   GLN A 634     -13.309  23.987 -13.447  1.00 78.80           C
ATOM   4542  O   GLN A 634     -12.498  23.837 -14.371  1.00 77.07           O
ATOM   4543  N   PRO A 635     -12.931  24.146 -12.157  1.00 76.37           N
ATOM   4544  CA  PRO A 635     -11.540  24.178 -11.684  1.00 74.01           C
ATOM   4545  CB  PRO A 635     -11.686  23.955 -10.177  1.00 76.16           C
ATOM   4546  CG  PRO A 635     -12.994  24.584  -9.847  1.00 76.06           C
ATOM   4547  CD  PRO A 635     -13.882  24.388 -11.052  1.00 76.79           C
ATOM   4548  C   PRO A 635     -10.638  23.100 -12.298  1.00 70.56           C
ATOM   4549  O   PRO A 635     -11.057  21.952 -12.469  1.00 71.18           O
ATOM   4550  N   THR A 636      -9.403  23.484 -12.602  1.00 65.20           N
ATOM   4551  CA  THR A 636      -8.468  22.640 -13.339  1.00 61.67           C
ATOM   4552  CB  THR A 636      -7.629  23.488 -14.318  1.00 62.18           C
ATOM   4553  OG1 THR A 636      -8.396  24.619 -14.758  1.00 63.11           O
ATOM   4554  CG2 THR A 636      -7.185  22.667 -15.524  1.00 59.51           C
ATOM   4555  C   THR A 636      -7.529  21.891 -12.391  1.00 59.20           C
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ATOM   4556  O   THR A 636      -7.184  22.404 -11.328  1.00 59.98           O
ATOM   4557  N   VAL A 637      -7.128  20.679 -12.786  1.00 56.20           N
ATOM   4558  CA  VAL A 637      -6.172  19.849 -12.024  1.00 53.28           C
ATOM   4559  CB  VAL A 637      -6.874  18.620 -11.381  1.00 50.32           C
ATOM   4560  CG1 VAL A 637      -5.881  17.740 -10.634  1.00 48.48           C
ATOM   4561  CG2 VAL A 637      -7.988  19.066 -10.446  1.00 49.37           C
ATOM   4562  C   VAL A 637      -5.018  19.399 -12.945  1.00 52.78           C
ATOM   4563  O   VAL A 637      -5.255  18.989 -14.085  1.00 53.36           O
ATOM   4564  N   LEU A 638      -3.779  19.475 -12.456  1.00 49.78           N
ATOM   4565  CA  LEU A 638      -2.610  19.184 -13.294  1.00 48.60           C
ATOM   4566  CB  LEU A 638      -1.669  20.386 -13.345  1.00 49.05           C
ATOM   4567  CG  LEU A 638      -2.284  21.783 -13.404  1.00 49.76           C
ATOM   4568  CD1 LEU A 638      -1.267  22.802 -12.914  1.00 49.58           C
ATOM   4569  CD2 LEU A 638      -2.793  22.124 -14.801  1.00 48.13           C
ATOM   4570  C   LEU A 638      -1.823  17.968 -12.833  1.00 48.45           C
ATOM   4571  O   LEU A 638      -1.516  17.831 -11.655  1.00 50.58           O
ATOM   4572  N   ARG A 639      -1.491  17.093 -13.778  1.00 49.22           N
ATOM   4573  CA  ARG A 639      -0.609  15.956 -13.516  1.00 47.90           C
ATOM   4574  CB  ARG A 639      -1.389  14.627 -13.460  1.00 50.04           C
ATOM   4575  CG  ARG A 639      -2.135  14.375 -12.152  1.00 55.11           C
ATOM   4576  CD  ARG A 639      -1.212  13.989 -11.003  1.00 56.65           C
ATOM   4577  NE  ARG A 639      -0.810  12.577 -11.032  1.00 61.56           N
ATOM   4578  CZ  ARG A 639      -1.285  11.630 -10.213  1.00 62.96           C
ATOM   4579  NH1 ARG A 639      -2.195  11.918  -9.290  1.00 63.23           N
ATOM   4580  NH2 ARG A 639      -0.844  10.385 -10.310  1.00 61.04           N
ATOM   4581  C   ARG A 639       0.495  15.871 -14.557  1.00 44.29           C
ATOM   4582  O   ARG A 639       0.343  16.331 -15.687  1.00 41.78           O
ATOM   4583  N   THR A 640       1.609  15.277 -14.157  1.00 42.30           N
ATOM   4584  CA  THR A 640       2.721  15.047 -15.048  1.00 41.95           C
ATOM   4585  CB  THR A 640       4.042  15.082 -14.256  1.00 42.92           C
ATOM   4586  OG1 THR A 640       4.186  16.368 -13.641  1.00 43.48           O
ATOM   4587  CG2 THR A 640       5.250  14.816 -15.162  1.00 44.34           C
ATOM   4588  C   THR A 640       2.537  13.695 -15.717  1.00 40.35           C
ATOM   4589  O   THR A 640       1.846  12.842 -15.189  1.00 39.51           O
ATOM   4590  N   PHE A 641       3.122  13.526 -16.899  1.00 41.35           N
ATOM   4591  CA  PHE A 641       3.334  12.202 -17.488  1.00 41.73           C
ATOM   4592  CB  PHE A 641       2.030  11.592 -17.992  1.00 39.26           C
ATOM   4593  CG  PHE A 641       1.426  12.316 -19.152  1.00 39.05           C
ATOM   4594  CD1 PHE A 641       0.842  13.573 -18.983  1.00 39.26           C
ATOM   4595  CE1 PHE A 641       0.271  14.238 -20.057  1.00 38.29           C
ATOM   4596  CZ  PHE A 641       0.268  13.645 -21.311  1.00 37.77           C
ATOM   4597  CE2 PHE A 641       0.838  12.394 -21.488  1.00 37.99           C
ATOM   4598  CD2 PHE A 641       1.410  11.733 -20.412  1.00 37.82           C
ATOM   4599  C   PHE A 641       4.385  12.228 -18.599  1.00 44.69           C
ATOM   4600  O   PHE A 641       4.634  13.272 -19.217  1.00 43.37           O
ATOM   4601  N   ARG A 642       5.001  11.074 -18.841  1.00 47.15           N
ATOM   4602  CA  ARG A 642       6.055  10.973 -19.829  1.00 49.19           C
ATOM   4603  CB  ARG A 642       7.202  10.083 -19.322  1.00 51.52           C
ATOM   4604  CG  ARG A 642       8.236  10.829 -18.478  1.00 55.31           C
ATOM   4605  CD  ARG A 642       9.663  10.402 -18.830  1.00 60.61           C
ATOM   4606  NE  ARG A 642      10.666  11.466 -18.641  1.00 60.77           N
ATOM   4607  CZ  ARG A 642      11.591  11.488 -17.676  1.00 58.54           C
ATOM   4608  NH1 ARG A 642      11.669  10.510 -16.783  1.00 55.92           N
ATOM   4609  NH2 ARG A 642      12.446  12.498 -17.605  1.00 58.06           N
ATOM   4610  C   ARG A 642       5.526  10.500 -21.182  1.00 49.76           C
ATOM   4611  O   ARG A 642       4.832   9.484 -21.259  1.00 48.46           O
ATOM   4612  N   SER A 643       5.843  11.272 -22.228  1.00 51.04           N
ATOM   4613  CA  SER A 643       5.563  10.935 -23.636  1.00 53.50           C
ATOM   4614  CB  SER A 643       4.086  10.588 -23.865  1.00 54.34           C
ATOM   4615  C   SER A 643       5.953  12.102 -24.538  1.00 55.44           C
ATOM   4616  O   SER A 643       7.121  12.270 -24.888  1.00 58.95           O
ATOM   4617  N   SER A 645       9.458  10.222 -24.406  1.00 53.63           N
ATOM   4618  CA  SER A 645      10.765  10.513 -23.810  1.00 56.71           C
ATOM   4619  CB  SER A 645      11.808  10.777 -24.902  1.00 54.28           C
ATOM   4620  C   SER A 645      10.724  11.685 -22.809  1.00 57.78           C
ATOM   4621  O   SER A 645      11.261  11.586 -21.697  1.00 58.46           O
ATOM   4622  N   THR A 646      10.077  12.779 -23.210  1.00 56.83           N
ATOM   4623  CA  THR A 646      10.015  14.009 -22.410  1.00 54.49           C
ATOM   4624  CB  THR A 646      10.002  15.253 -23.330  1.00 53.55           C
ATOM   4625  OG1 THR A 646      10.221  16.428 -22.546  1.00 56.63           O
ATOM   4626  CG2 THR A 646       8.681  15.373 -24.115  1.00 51.15           C
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ATOM   4627  C   THR A 646       8.834  14.007 -21.404  1.00 53.23           C
ATOM   4628  O   THR A 646       8.233  12.962 -21.174  1.00 54.41           O
ATOM   4629  N   THR A 647       8.524  15.157 -20.799  1.00 50.27           N
ATOM   4630  CA  THR A 647       7.373  15.273 -19.882  1.00 49.42           C
ATOM   4631  CB  THR A 647       7.794  15.709 -18.464  1.00 50.84           C
ATOM   4632  OG1 THR A 647       8.999  16.482 -18.537  1.00 54.95           O
ATOM   4633  CG2 THR A 647       8.031  14.496 -17.580  1.00 52.38           C
ATOM   4634  C   THR A 647       6.273  16.220 -20.371  1.00 48.16           C
ATOM   4635  O   THR A 647       6.541  17.342 -20.789  1.00 48.31           O
ATOM   4636  N   ASN A 648       5.030  15.751 -20.316  1.00 47.79           N
ATOM   4637  CA  ASN A 648       3.868  16.577 -20.646  1.00 46.43           C
ATOM   4638  CB  ASN A 648       3.125  16.018 -21.873  1.00 47.29           C
ATOM   4639  CG  ASN A 648       3.900  16.197 -23.182  1.00 49.78           C
ATOM   4640  OD1 ASN A 648       5.120  16.390 -23.195  1.00 50.61           O
ATOM   4641  ND2 ASN A 648       3.183  16.115 -24.297  1.00 49.50           N
ATOM   4642  C   ASN A 648       2.921  16.697 -19.439  1.00 45.51           C
ATOM   4643  O   ASN A 648       3.113  16.017 -18.413  1.00 43.38           O
ATOM   4644  N   VAL A 649       1.912  17.565 -19.561  1.00 42.59           N
ATOM   4645  CA  VAL A 649       0.968  17.822 -18.467  1.00 40.76           C
ATOM   4646  CB  VAL A 649       1.169  19.230 -17.856  1.00 40.69           C
ATOM   4647  CG1 VAL A 649       0.119  19.515 -16.788  1.00 41.78           C
ATOM   4648  CG2 VAL A 649       2.566  19.370 -17.268  1.00 40.43           C
ATOM   4649  C   VAL A 649      -0.491  17.655 -18.899  1.00 38.73           C
ATOM   4650  O   VAL A 649      -0.920  18.228 -19.888  1.00 39.84           O
ATOM   4651  N   PHE A 650      -1.246  16.868 -18.142  1.00 37.60           N
ATOM   4652  CA  PHE A 650      -2.670  16.677 -18.401  1.00 36.68           C
ATOM   4653  CB  PHE A 650      -3.077  15.242 -18.085  1.00 35.18           C
ATOM   4654  CG  PHE A 650      -4.253  14.748 -18.875  1.00 33.59           C
ATOM   4655  CD1 PHE A 650      -5.556  15.113 -18.526  1.00 34.08           C
ATOM   4656  CE1 PHE A 650      -6.650  14.641 -19.255  1.00 33.62           C
ATOM   4657  CZ  PHE A 650      -6.446  13.787 -20.336  1.00 33.91           C
ATOM   4658  CE2 PHE A 650      -5.148  13.407 -20.686  1.00 33.69           C
ATOM   4659  CD2 PHE A 650      -4.064  13.885 -19.957  1.00 32.94           C
ATOM   4660  C   PHE A 650      -3.459  17.615 -17.518  1.00 37.39           C
ATOM   4661  O   PHE A 650      -3.218  17.694 -16.313  1.00 36.64           O
ATOM   4662  N   ALA A 651      -4.414  18.312 -18.122  1.00 39.09           N
ATOM   4663  CA  ALA A 651      -5.225  19.291 -17.411  1.00 40.70           C
ATOM   4664  CB  ALA A 651      -5.019  20.677 -18.003  1.00 40.70           C
ATOM   4665  C   ALA A 651      -6.699  18.910 -17.425  1.00 41.92           C
ATOM   4666  O   ALA A 651      -7.345  18.919 -18.467  1.00 42.06           O
ATOM   4667  N   CYS A 652      -7.226  18.587 -16.253  1.00 46.12           N
ATOM   4668  CA  CYS A 652      -8.602  18.139 -16.137  1.00 50.41           C
ATOM   4669  CB  CYS A 652      -8.723  17.070 -15.053  1.00 50.37           C
ATOM   4670  SG  CYS A 652      -7.703  15.611 -15.357  1.00 51.52           S
ATOM   4671  C   CYS A 652      -9.557  19.295 -15.858  1.00 54.45           C
ATOM   4672  O   CYS A 652      -9.328  20.100 -14.955  1.00 54.85           O
ATOM   4673  N   SER A 653     -10.612  19.367 -16.666  1.00 58.85           N
ATOM   4674  CA  SER A 653     -11.737  20.279 -16.469  1.00 60.94           C
ATOM   4675  CB  SER A 653     -11.340  21.729 -16.783  1.00 61.93           C
ATOM   4676  OG  SER A 653     -10.811  21.846 -18.092  1.00 63.69           O
ATOM   4677  C   SER A 653     -12.880  19.816 -17.375  1.00 63.64           C
ATOM   4678  O   SER A 653     -12.907  18.660 -17.803  1.00 63.83           O
ATOM   4679  N   ASP A 654     -13.821  20.712 -17.663  1.00 66.74           N
ATOM   4680  CA  ASP A 654     -14.897  20.425 -18.616  1.00 68.74           C
ATOM   4681  CB  ASP A 654     -16.003  21.484 -18.526  1.00 75.91           C
ATOM   4682  CG  ASP A 654     -15.452  22.905 -18.444  1.00 83.99           C
ATOM   4683  OD1 ASP A 654     -14.788  23.240 -17.430  1.00 84.96           O
ATOM   4684  OD2 ASP A 654     -15.695  23.687 -19.392  1.00 84.83           O
ATOM   4685  C   ASP A 654     -14.346  20.341 -20.038  1.00 67.13           C
ATOM   4686  O   ASP A 654     -15.040  19.906 -20.962  1.00 66.04           O
ATOM   4687  N   ARG A 655     -13.096  20.777 -20.194  1.00 63.77           N
ATOM   4688  CA  ARG A 655     -12.339  20.611 -21.429  1.00 58.42           C
ATOM   4689  CB  ARG A 655     -12.306  21.921 -22.229  1.00 56.45           C
ATOM   4690  C   ARG A 655     -10.926  20.124 -21.082  1.00 52.64           C
ATOM   4691  O   ARG A 655     -10.068  20.921 -20.701  1.00 54.43           O
ATOM   4692  N   PRO A 656     -10.694  18.802 -21.178  1.00 48.11           N
ATOM   4693  CA  PRO A 656      -9.391  18.220 -20.848  1.00 46.19           C
ATOM   4694  CB  PRO A 656      -9.666  16.714 -20.858  1.00 45.52           C
ATOM   4695  CG  PRO A 656     -10.836  16.544 -21.764  1.00 46.54           C
ATOM   4696  CD  PRO A 656     -11.669  17.780 -21.603  1.00 47.27           C
ATOM   4697  C   PRO A 656      -8.329  18.581 -21.883  1.00 45.12           C
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ATOM   4698  O   PRO A 656      -8.584  18.495 -23.080  1.00 47.73           O
ATOM   4699  N   THR A 657      -7.147  18.968 -21.420  1.00 42.60           N
ATOM   4700  CA  THR A 657      -6.123  19.542 -22.285  1.00 43.04           C
ATOM   4701  CB  THR A 657      -6.037  21.061 -22.058  1.00 42.92           C
ATOM   4702  OG1 THR A 657      -7.354  21.596 -21.905  1.00 43.45           O
ATOM   4703  CG2 THR A 657      -5.354  21.754 -23.208  1.00 43.14           C
ATOM   4704  C   THR A 657      -4.753  18.939 -21.991  1.00 44.49           C
ATOM   4705  O   THR A 657      -4.414  18.691 -20.835  1.00 45.58           O
ATOM   4706  N   VAL A 658      -3.968  18.696 -23.036  1.00 46.22           N
ATOM   4707  CA  VAL A 658      -2.560  18.314 -22.872  1.00 46.46           C
ATOM   4708  CB  VAL A 658      -2.167  17.142 -23.800  1.00 45.20           C
ATOM   4709  CG1 VAL A 658      -0.678  16.846 -23.714  1.00 44.11           C
ATOM   4710  CG2 VAL A 658      -2.968  15.892 -23.464  1.00 44.44           C
ATOM   4711  C   VAL A 658      -1.701  19.535 -23.177  1.00 48.08           C
ATOM   4712  O   VAL A 658      -2.038  20.321 -24.057  1.00 51.92           O
ATOM   4713  N   ILE A 659      -0.607  19.707 -22.441  1.00 49.43           N
ATOM   4714  CA  ILE A 659       0.304  20.833 -22.672  1.00 53.38           C
ATOM   4715  CB  ILE A 659       0.376  21.776 -21.440  1.00 50.33           C
ATOM   4716  CG1 ILE A 659      -1.010  21.934 -20.789  1.00 47.99           C
ATOM   4717  CD1 ILE A 659      -1.042  22.788 -19.536  1.00 46.40           C
ATOM   4718  CG2 ILE A 659       0.942  23.130 -21.840  1.00 49.05           C
ATOM   4719  C   ILE A 659       1.699  20.309 -23.033  1.00 59.15           C
ATOM   4720  O   ILE A 659       2.199  19.392 -22.377  1.00 62.41           O
ATOM   4721  N   TYR A 660       2.314  20.865 -24.082  1.00 64.32           N
ATOM   4722  CA  TYR A 660       3.678  20.454 -24.475  1.00 70.36           C
ATOM   4723  CB  TYR A 660       3.661  19.156 -25.312  1.00 72.28           C
ATOM   4724  CG  TYR A 660       2.716  19.117 -26.517  1.00 75.56           C
ATOM   4725  CD1 TYR A 660       2.662  20.167 -27.445  1.00 75.17           C
ATOM   4726  CE1 TYR A 660       1.816  20.111 -28.545  1.00 76.72           C
ATOM   4727  CZ  TYR A 660       1.021  18.983 -28.741  1.00 79.21           C
ATOM   4728  OH  TYR A 660       0.169  18.905 -29.826  1.00 77.30           O
ATOM   4729  CE2 TYR A 660       1.073  17.926 -27.848  1.00 78.10           C
ATOM   4730  CD2 TYR A 660       1.919  17.995 -26.752  1.00 76.67           C
ATOM   4731  C   TYR A 660       4.525  21.538 -25.170  1.00 75.26           C
ATOM   4732  O   TYR A 660       4.423  22.725 -24.845  1.00 74.87           O
ATOM   4733  N   SER A 661       5.387  21.088 -26.091  1.00 80.59           N
ATOM   4734  CA  SER A 661       6.148  21.935 -27.033  1.00 84.17           C
ATOM   4735  CB  SER A 661       5.444  23.267 -27.322  1.00 84.69           C
ATOM   4736  OG  SER A 661       6.090  23.982 -28.362  1.00 83.02           O
ATOM   4737  C   SER A 661       7.612  22.147 -26.650  1.00 86.37           C
ATOM   4738  O   SER A 661       7.919  22.743 -25.610  1.00 83.83           O
ATOM   4739  N   SER A 662       8.503  21.658 -27.517  1.00 91.23           N
ATOM   4740  CA  SER A 662       9.955  21.763 -27.324  1.00 93.53           C
ATOM   4741  CB  SER A 662      10.656  20.458 -27.731  1.00 90.57           C
ATOM   4742  C   SER A 662      10.569  22.939 -28.088  1.00 94.09           C
ATOM   4743  O   SER A 662      11.634  23.436 -27.704  1.00 94.76           O
ATOM   4744  N   ASN A 663       9.898  23.375 -29.162  1.00 92.49           N
ATOM   4745  CA  ASN A 663      10.353  24.512 -29.990  1.00 89.11           C
ATOM   4746  CB  ASN A 663       9.309  24.877 -31.066  1.00 85.95           C
ATOM   4747  CG  ASN A 663       7.883  24.900 -30.525  1.00 84.18           C
ATOM   4748  OD1 ASN A 663       7.063  24.037 -30.858  1.00 80.29           O
ATOM   4749  ND2 ASN A 663       7.580  25.891 -29.688  1.00 82.91           N
ATOM   4750  C   ASN A 663      10.745  25.746 -29.171  1.00 88.17           C
ATOM   4751  O   ASN A 663      11.545  26.579 -29.637  1.00 86.49           O
ATOM   4752  N   HIS A 664      10.137  25.851 -27.972  1.00 87.54           N
ATOM   4753  CA  HIS A 664      10.550  26.766 -26.873  1.00 85.25           C
ATOM   4754  CB  HIS A 664      11.851  27.535 -27.167  1.00 84.45           C
ATOM   4755  CG  HIS A 664      13.109  26.688 -27.041  1.00 82.87           C
ATOM   4756  ND1 HIS A 664      14.106  26.727 -27.952  1.00 81.32           N
ATOM   4757  CE1 HIS A 664      15.081  25.872 -27.588  1.00 78.56           C
ATOM   4758  NE2 HIS A 664      14.707  25.278 -26.441  1.00 79.35           N
ATOM   4759  CD2 HIS A 664      13.496  25.755 -26.074  1.00 81.56           C
ATOM   4760  C   HIS A 664       9.431  27.687 -26.434  1.00 83.20           C
ATOM   4761  O   HIS A 664       9.661  28.698 -25.764  1.00 81.99           O
ATOM   4762  N   LYS A 665       8.206  27.327 -26.810  1.00 82.52           N
ATOM   4763  CA  LYS A 665       6.994  27.981 -26.316  1.00 80.96           C
ATOM   4764  CB  LYS A 665       6.383  28.872 -27.403  1.00 76.52           C
ATOM   4765  C   LYS A 665       5.984  26.916 -25.853  1.00 81.86           C
ATOM   4766  O   LYS A 665       5.993  25.791 -26.357  1.00 83.02           O
ATOM   4767  N   LEU A 666       5.135  27.266 -24.884  1.00 78.82           N
ATOM   4768  CA  LEU A 666       4.082  26.361 -24.400  1.00 73.06           C
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ATOM   4769  CB  LEU A 666       3.722  26.665 -22.937  1.00 68.19           C
ATOM   4770  C   LEU A 666       2.840  26.425 -25.309  1.00 70.23           C
ATOM   4771  O   LEU A 666       2.540  27.472 -25.896  1.00 67.04           O
ATOM   4772  N   VAL A 667       2.131  25.299 -25.420  1.00 68.43           N
ATOM   4773  CA  VAL A 667       1.070  25.127 -26.423  1.00 67.65           C
ATOM   4774  CB  VAL A 667       1.573  24.260 -27.616  1.00 66.94           C
ATOM   4775  CG1 VAL A 667       0.420  23.699 -28.437  1.00 64.65           C
ATOM   4776  CG2 VAL A 667       2.511  25.063 -28.507  1.00 67.24           C
ATOM   4777  C   VAL A 667      -0.216  24.529 -25.838  1.00 66.29           C
ATOM   4778  O   VAL A 667      -0.176  23.570 -25.066  1.00 68.25           O
ATOM   4779  N   PHE A 668      -1.352  25.111 -26.211  1.00 64.63           N
ATOM   4780  CA  PHE A 668      -2.657  24.512 -25.931  1.00 63.59           C
ATOM   4781  CB  PHE A 668      -3.781  25.573 -25.981  1.00 67.92           C
ATOM   4782  CG  PHE A 668      -3.884  26.330 -27.301  1.00 66.96           C
ATOM   4783  CD1 PHE A 668      -4.729  25.879 -28.323  1.00 64.80           C
ATOM   4784  CE1 PHE A 668      -4.834  26.574 -29.523  1.00 62.89           C
ATOM   4785  CZ  PHE A 668      -4.111  27.742 -29.709  1.00 63.30           C
ATOM   4786  CE2 PHE A 668      -3.280  28.215 -28.698  1.00 64.40           C
ATOM   4787  CD2 PHE A 668      -3.173  27.518 -27.502  1.00 63.95           C
ATOM   4788  C   PHE A 668      -2.955  23.353 -26.893  1.00 60.16           C
ATOM   4789  O   PHE A 668      -2.564  23.396 -28.065  1.00 60.90           O
ATOM   4790  N   SER A 669      -3.644  22.326 -26.392  1.00 52.83           N
ATOM   4791  CA  SER A 669      -4.082  21.191 -27.213  1.00 48.07           C
ATOM   4792  CB  SER A 669      -2.911  20.253 -27.525  1.00 47.04           C
ATOM   4793  C   SER A 669      -5.219  20.415 -26.548  1.00 45.71           C
ATOM   4794  O   SER A 669      -5.004  19.699 -25.564  1.00 45.09           O
ATOM   4795  N   ASN A 670      -6.427  20.564 -27.091  1.00 42.81           N
ATOM   4796  CA  ASN A 670      -7.610  19.858 -26.579  1.00 40.81           C
ATOM   4797  CB  ASN A 670      -8.916  20.434 -27.168  1.00 38.99           C
ATOM   4798  CG  ASN A 670      -8.749  20.988 -28.580  1.00 39.42           C
ATOM   4799  OD1 ASN A 670      -9.418  21.949 -28.962  1.00 39.03           O
ATOM   4800  ND2 ASN A 670      -7.871  20.378 -29.363  1.00 40.63           N
ATOM   4801  C   ASN A 670      -7.554  18.320 -26.715  1.00 40.39           C
ATOM   4802  O   ASN A 670      -6.900  17.786 -27.620  1.00 40.49           O
ATOM   4803  N   VAL A 671      -8.213  17.628 -25.782  1.00 38.99           N
ATOM   4804  CA  VAL A 671      -8.315  16.165 -25.784  1.00 38.43           C
ATOM   4805  CB  VAL A 671      -7.986  15.557 -24.392  1.00 38.78           C
ATOM   4806  CG1 VAL A 671      -8.155  14.041 -24.387  1.00 38.12           C
ATOM   4807  CG2 VAL A 671      -6.573  15.908 -23.968  1.00 40.18           C
ATOM   4808  C   VAL A 671      -9.734  15.758 -26.191  1.00 38.66           C
ATOM   4809  O   VAL A 671     -10.718  16.264 -25.645  1.00 40.20           O
ATOM   4810  N   ASN A 672      -9.826  14.843 -27.149  1.00 36.66           N
ATOM   4811  CA  ASN A 672     -11.095  14.301 -27.617  1.00 36.47           C
ATOM   4812  CB  ASN A 672     -10.843  13.582 -28.967  1.00 37.91           C
ATOM   4813  CG  ASN A 672     -11.877  12.516 -29.298  1.00 39.85           C
ATOM   4814  OD1 ASN A 672     -12.802  12.756 -30.081  1.00 39.61           O
ATOM   4815  ND2 ASN A 672     -11.701  11.314 -28.730  1.00 39.91           N
ATOM   4816  C   ASN A 672     -11.844  13.445 -26.542  1.00 35.47           C
ATOM   4817  O   ASN A 672     -11.981  12.219 -26.668  1.00 33.39           O
ATOM   4818  N   LEU A 673     -12.320  14.121 -25.488  1.00 35.73           N
ATOM   4819  CA  LEU A 673     -13.094  13.492 -24.382  1.00 38.09           C
ATOM   4820  CB  LEU A 673     -12.167  12.840 -23.341  1.00 36.67           C
ATOM   4821  CG  LEU A 673     -11.728  11.400 -23.570  1.00 34.61           C
ATOM   4822  CD1 LEU A 673     -10.896  10.924 -22.400  1.00 34.85           C
ATOM   4823  CD2 LEU A 673     -12.932  10.505 -23.775  1.00 33.76           C
ATOM   4824  C   LEU A 673     -14.021  14.475 -23.663  1.00 38.77           C
ATOM   4825  O   LEU A 673     -13.702  15.659 -23.542  1.00 38.71           O
ATOM   4826  N   LYS A 674     -15.143  13.964 -23.154  1.00 41.33           N
ATOM   4827  CA  LYS A 674     -16.209  14.812 -22.591  1.00 44.82           C
ATOM   4828  CB  LYS A 674     -17.496  14.011 -22.323  1.00 42.74           C
ATOM   4829  C   LYS A 674     -15.752  15.569 -21.341  1.00 47.34           C
ATOM   4830  O   LYS A 674     -15.469  16.765 -21.409  1.00 52.89           O
ATOM   4831  N   GLU A 675     -15.675  14.884 -20.207  1.00 46.33           N
ATOM   4832  CA  GLU A 675     -15.235  15.528 -18.978  1.00 45.98           C
ATOM   4833  CB  GLU A 675     -16.429  16.110 -18.190  1.00 48.08           C
ATOM   4834  CG  GLU A 675     -16.141  16.416 -16.718  1.00 50.71           C
ATOM   4835  CD  GLU A 675     -16.934  17.598 -16.174  1.00 52.57           C
ATOM   4836  OE1 GLU A 675     -17.859  17.388 -15.356  1.00 53.34           O
ATOM   4837  OE2 GLU A 675     -16.627  18.745 -16.558  1.00 54.17           O
ATOM   4838  C   GLU A 675     -14.435  14.551 -18.138  1.00 45.20           C
ATOM   4839  O   GLU A 675     -14.929  13.494 -17.747  1.00 48.88           O
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ATOM   4840  N   VAL A 676     -13.185  14.897 -17.888  1.00 40.85           N
ATOM   4841  CA  VAL A 676     -12.350  14.110 -17.019  1.00 38.56           C
ATOM   4842  CB  VAL A 676     -11.007  13.774 -17.691  1.00 36.84           C
ATOM   4843  CG1 VAL A 676     -10.357  12.577 -17.020  1.00 35.48           C
ATOM   4844  CG2 VAL A 676     -11.207  13.499 -19.171  1.00 36.61           C
ATOM   4845  C   VAL A 676     -12.110  14.965 -15.795  1.00 39.62           C
ATOM   4846  O   VAL A 676     -11.660  16.109 -15.918  1.00 39.77           O
ATOM   4847  N   ASN A 677     -12.433  14.426 -14.619  1.00 40.65           N
ATOM   4848  CA  ASN A 677     -12.183  15.130 -13.351  1.00 40.85           C
ATOM   4849  CB  ASN A 677     -13.202  14.731 -12.282  1.00 41.27           C
ATOM   4850  CG  ASN A 677     -14.621  14.680 -12.819  1.00 44.66           C
ATOM   4851  OD1 ASN A 677     -14.944  15.324 -13.822  1.00 46.76           O
ATOM   4852  ND2 ASN A 677     -15.480  13.908 -12.155  1.00 43.83           N
ATOM   4853  C   ASN A 677     -10.768  14.900 -12.836  1.00 40.42           C
ATOM   4854  O   ASN A 677     -10.171  15.802 -12.246  1.00 40.82           O
ATOM   4855  N   TYR A 678     -10.243  13.693 -13.066  1.00 39.24           N
ATOM   4856  CA  TYR A 678      -8.924  13.291 -12.572  1.00 39.34           C
ATOM   4857  CB  TYR A 678      -9.056  12.579 -11.227  1.00 39.52           C
ATOM   4858  CG  TYR A 678      -9.601  13.451 -10.136  1.00 40.60           C
ATOM   4859  CD1 TYR A 678      -8.762  14.303  -9.415  1.00 41.02           C
ATOM   4860  CE1 TYR A 678      -9.258  15.116  -8.410  1.00 41.91           C
ATOM   4861  CZ  TYR A 678     -10.617  15.088  -8.116  1.00 42.99           C
ATOM   4862  OH  TYR A 678     -11.118  15.894  -7.114  1.00 42.80           O
ATOM   4863  CE2 TYR A 678     -11.474  14.254  -8.827  1.00 43.33           C
ATOM   4864  CD2 TYR A 678     -10.961  13.439  -9.827  1.00 41.46           C
ATOM   4865  C   TYR A 678      -8.208  12.359 -13.530  1.00 39.03           C
ATOM   4866  O   TYR A 678      -8.836  11.507 -14.159  1.00 40.39           O
ATOM   4867  N   MET A 679      -6.889  12.504 -13.624  1.00 38.15           N
ATOM   4868  CA  MET A 679      -6.078  11.530 -14.349  1.00 37.06           C
ATOM   4869  CB  MET A 679      -5.849  11.967 -15.797  1.00 37.34           C
ATOM   4870  CG  MET A 679      -4.726  12.970 -15.995  1.00 39.48           C
ATOM   4871  SD  MET A 679      -3.075  12.260 -16.223  1.00 44.39           S
ATOM   4872  CE  MET A 679      -3.411  10.956 -17.392  1.00 41.47           C
ATOM   4873  C   MET A 679      -4.754  11.228 -13.657  1.00 36.61           C
ATOM   4874  O   MET A 679      -4.320  11.962 -12.765  1.00 36.77           O
ATOM   4875  N   CYS A 680      -4.134  10.129 -14.081  1.00 36.02           N
ATOM   4876  CA  CYS A 680      -2.794   9.734 -13.655  1.00 34.56           C
ATOM   4877  CB  CYS A 680      -2.854   9.012 -12.313  1.00 36.18           C
ATOM   4878  SG  CYS A 680      -3.274   7.267 -12.445  1.00 37.17           S
ATOM   4879  C   CYS A 680      -2.196   8.808 -14.708  1.00 32.58           C
ATOM   4880  O   CYS A 680      -2.936   8.186 -15.482  1.00 32.68           O
ATOM   4881  N   PRO A 681      -0.860   8.724 -14.764  1.00 30.87           N
ATOM   4882  CA  PRO A 681      -0.211   7.785 -15.685  1.00 30.89           C
ATOM   4883  CB  PRO A 681       1.225   8.282 -15.748  1.00 29.96           C
ATOM   4884  CG  PRO A 681       1.416   9.070 -14.505  1.00 30.43           C
ATOM   4885  CD  PRO A 681       0.093   9.659 -14.151  1.00 30.58           C
ATOM   4886  C   PRO A 681      -0.256   6.357 -15.161  1.00 31.71           C
ATOM   4887  O   PRO A 681      -0.321   6.147 -13.949  1.00 32.99           O
ATOM   4888  N   LEU A 682      -0.250   5.385 -16.068  1.00 31.61           N
ATOM   4889  CA  LEU A 682      -0.307   3.978 -15.677  1.00 32.18           C
ATOM   4890  CB  LEU A 682      -1.750   3.474 -15.584  1.00 32.10           C
ATOM   4891  CG  LEU A 682      -1.936   2.005 -15.188  1.00 32.39           C
ATOM   4892  CD1 LEU A 682      -1.361   1.723 -13.804  1.00 33.60           C
ATOM   4893  CD2 LEU A 682      -3.401   1.606 -15.241  1.00 32.38           C
ATOM   4894  C   LEU A 682       0.472   3.128 -16.645  1.00 33.07           C
ATOM   4895  O   LEU A 682       0.166   3.083 -17.835  1.00 34.33           O
ATOM   4896  N   ASN A 683       1.488   2.457 -16.119  1.00 33.59           N
ATOM   4897  CA  ASN A 683       2.361   1.623 -16.913  1.00 33.83           C
ATOM   4898  CB  ASN A 683       3.765   2.233 -16.958  1.00 34.36           C
ATOM   4899  CG  ASN A 683       4.760   1.384 -17.735  1.00 35.28           C
ATOM   4900  OD1 ASN A 683       4.406   0.682 -18.696  1.00 35.68           O
ATOM   4901  ND2 ASN A 683       6.022   1.457 -17.328  1.00 34.06           N
ATOM   4902  C   ASN A 683       2.374   0.231 -16.314  1.00 33.22           C
ATOM   4903  O   ASN A 683       2.927   0.014 -15.247  1.00 32.70           O
ATOM   4904  N   SER A 684       1.748  -0.706 -17.012  1.00 34.52           N
ATOM   4905  CA  SER A 684       1.508  -2.032 -16.468  1.00 35.84           C
ATOM   4906  CB  SER A 684       0.041  -2.168 -16.089  1.00 35.28           C
ATOM   4907  OG  SER A 684      -0.430  -0.947 -15.562  1.00 36.05           O
ATOM   4908  C   SER A 684       1.880  -3.151 -17.426  1.00 37.13           C
ATOM   4909  O   SER A 684       2.014  -2.946 -18.638  1.00 35.79           O
ATOM   4910  N   ASP A 685       2.036  -4.341 -16.853  1.00 40.41           N
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ATOM   4911  CA  ASP A 685       2.179  -5.586 -17.610  1.00 41.45           C
ATOM   4912  CB  ASP A 685       2.348  -6.778 -16.655  1.00 43.80           C
ATOM   4913  CG  ASP A 685       1.358  -6.747 -15.489  1.00 48.23           C
ATOM   4914  OD1 ASP A 685       1.363  -5.763 -14.702  1.00 48.65           O
ATOM   4915  OD2 ASP A 685       0.575  -7.715 -15.360  1.00 51.26           O
ATOM   4916  C   ASP A 685       0.978  -5.801 -18.530  1.00 39.37           C
ATOM   4917  O   ASP A 685       1.042  -6.576 -19.477  1.00 39.72           O
ATOM   4918  N   GLY A 686      -0.111  -5.096 -18.251  1.00 38.14           N
ATOM   4919  CA  GLY A 686      -1.288  -5.148 -19.103  1.00 37.01           C
ATOM   4920  C   GLY A 686      -1.537  -3.877 -19.890  1.00 35.11           C
ATOM   4921  O   GLY A 686      -2.053  -3.923 -21.005  1.00 34.76           O
ATOM   4922  N   TYR A 687      -1.177  -2.739 -19.304  1.00 33.93           N
ATOM   4923  CA  TYR A 687      -1.489  -1.453 -19.899  1.00 32.40           C
ATOM   4924  CB  TYR A 687      -2.609  -0.787 -19.116  1.00 32.37           C
ATOM   4925  CG  TYR A 687      -3.858  -1.630 -19.002  1.00 33.25           C
ATOM   4926  CD1 TYR A 687      -4.593  -1.989 -20.135  1.00 33.26           C
ATOM   4927  CE1 TYR A 687      -5.744  -2.757 -20.030  1.00 34.00           C
ATOM   4928  CZ  TYR A 687      -6.179  -3.168 -18.775  1.00 34.63           C
ATOM   4929  OH  TYR A 687      -7.321  -3.921 -18.650  1.00 36.40           O
ATOM   4930  CE2 TYR A 687      -5.472  -2.824 -17.641  1.00 34.31           C
ATOM   4931  CD2 TYR A 687      -4.316  -2.060 -17.757  1.00 34.42           C
ATOM   4932  C   TYR A 687      -0.272  -0.547 -19.961  1.00 31.31           C
ATOM   4933  O   TYR A 687      -0.157   0.380 -19.170  1.00 31.11           O
ATOM   4934  N   PRO A 688       0.633  -0.804 -20.923  1.00 31.06           N
ATOM   4935  CA  PRO A 688       1.935  -0.145 -20.963  1.00 31.51           C
ATOM   4936  CB  PRO A 688       2.752  -1.018 -21.930  1.00 30.81           C
ATOM   4937  CG  PRO A 688       1.823  -2.068 -22.444  1.00 30.72           C
ATOM   4938  CD  PRO A 688       0.428  -1.653 -22.102  1.00 30.68           C
ATOM   4939  C   PRO A 688       1.829   1.264 -21.500  1.00 31.45           C
ATOM   4940  O   PRO A 688       1.146   1.484 -22.495  1.00 29.70           O
ATOM   4941  N   ASP A 689       2.501   2.203 -20.833  1.00 33.61           N
ATOM   4942  CA  ASP A 689       2.479   3.631 -21.209  1.00 36.33           C
ATOM   4943  CB  ASP A 689       3.293   3.880 -22.498  1.00 36.44           C
ATOM   4944  CG  ASP A 689       4.697   3.279 -22.439  1.00 37.59           C
ATOM   4945  OD2 ASP A 689       4.866   2.109 -22.841  1.00 38.23           O
ATOM   4946  OD1 ASP A 689       5.634   3.972 -21.992  1.00 38.63           O
ATOM   4947  C   ASP A 689       1.037   4.164 -21.359  1.00 36.59           C
ATOM   4948  O   ASP A 689       0.749   5.026 -22.216  1.00 36.92           O
ATOM   4949  N   SER A 690       0.139   3.643 -20.526  1.00 34.12           N
ATOM   4950  CA  SER A 690      -1.267   3.975 -20.630  1.00 34.11           C
ATOM   4951  CB  SER A 690      -2.125   2.731 -20.426  1.00 34.83           C
ATOM   4952  OG  SER A 690      -1.908   1.796 -21.463  1.00 37.22           O
ATOM   4953  C   SER A 690      -1.673   5.051 -19.644  1.00 34.54           C
ATOM   4954  O   SER A 690      -0.827   5.674 -18.991  1.00 36.34           O
ATOM   4955  N   LEU A 691      -2.984   5.234 -19.524  1.00 33.71           N
ATOM   4956  CA  LEU A 691      -3.576   6.317 -18.770  1.00 32.55           C
ATOM   4957  CB  LEU A 691      -4.174   7.301 -19.757  1.00 32.54           C
ATOM   4958  CG  LEU A 691      -3.673   8.721 -19.660  1.00 33.63           C
ATOM   4959  CD1 LEU A 691      -2.151   8.717 -19.586  1.00 35.64           C
ATOM   4960  CD2 LEU A 691      -4.170   9.522 -20.851  1.00 33.02           C
ATOM   4961  C   LEU A 691      -4.701   5.764 -17.913  1.00 33.00           C
ATOM   4962  O   LEU A 691      -5.316   4.754 -18.267  1.00 34.02           O
ATOM   4963  N   ALA A 692      -4.987   6.430 -16.800  1.00 31.36           N
ATOM   4964  CA  ALA A 692      -6.208   6.160 -16.054  1.00 29.83           C
ATOM   4965  CB  ALA A 692      -5.877   5.634 -14.676  1.00 30.19           C
ATOM   4966  C   ALA A 692      -7.020   7.436 -15.956  1.00 29.73           C
ATOM   4967  O   ALA A 692      -6.570   8.406 -15.373  1.00 30.45           O
ATOM   4968  N   LEU A 693      -8.208   7.439 -16.548  1.00 30.65           N
ATOM   4969  CA  LEU A 693      -9.083   8.616 -16.543  1.00 31.90           C
ATOM   4970  CB  LEU A 693      -9.588   8.925 -17.959  1.00 33.46           C
ATOM   4971  CG  LEU A 693      -8.662   9.360 -19.103  1.00 34.64           C
ATOM   4972  CD1 LEU A 693      -7.834  10.594 -18.755  1.00 34.88           C
ATOM   4973  CD2 LEU A 693      -7.769   8.213 -19.558  1.00 36.11           C
ATOM   4974  C   LEU A 693     -10.292   8.383 -15.650  1.00 32.05           C
ATOM   4975  O   LEU A 693     -10.978   7.366 -15.778  1.00 32.24           O
ATOM   4976  N   ALA A 694     -10.567   9.324 -14.754  1.00 31.83           N
ATOM   4977  CA  ALA A 694     -11.754   9.222 -13.901  1.00 31.80           C
ATOM   4978  CB  ALA A 694     -11.370   9.008 -12.444  1.00 31.84           C
ATOM   4979  C   ALA A 694     -12.646  10.435 -14.033  1.00 31.43           C
ATOM   4980  O   ALA A 694     -12.192  11.578 -13.917  1.00 30.62           O
ATOM   4981  N   ASN A 695     -13.917  10.182 -14.297  1.00 31.42           N
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ATOM   4982  CA  ASN A 695     -14.906  11.218 -14.165  1.00 32.81           C
ATOM   4983  CB  ASN A 695     -15.655  11.452 -15.485  1.00 31.83           C
ATOM   4984  CG  ASN A 695     -16.587  10.313 -15.865  1.00 31.90           C
ATOM   4985  OD1 ASN A 695     -16.950   9.452 -15.048  1.00 32.18           O
ATOM   4986  ND2 ASN A 695     -17.007  10.323 -17.118  1.00 31.46           N
ATOM   4987  C   ASN A 695     -15.840  10.940 -12.990  1.00 34.94           C
ATOM   4988  O   ASN A 695     -15.455  10.268 -12.020  1.00 35.07           O
ATOM   4989  N   ASN A 696     -17.065  11.447 -13.087  1.00 37.17           N
ATOM   4990  CA  ASN A 696     -18.014  11.378 -11.993  1.00 38.25           C
ATOM   4991  CB  ASN A 696     -19.134  12.396 -12.180  1.00 40.39           C
ATOM   4992  CG  ASN A 696     -18.853  13.685 -11.447  1.00 42.20           C
ATOM   4993  OD1 ASN A 696     -18.609  14.727 -12.058  1.00 43.14           O
ATOM   4994  ND2 ASN A 696     -18.838  13.610 -10.120  1.00 44.02           N
ATOM   4995  C   ASN A 696     -18.566  10.005 -11.704  1.00 37.80           C
ATOM   4996  O   ASN A 696     -18.850   9.692 -10.547  1.00 38.84           O
ATOM   4997  N   SER A 697     -18.703   9.175 -12.735  1.00 36.76           N
ATOM   4998  CA  SER A 697     -19.219   7.824 -12.506  1.00 36.76           C
ATOM   4999  CB  SER A 697     -20.702   7.705 -12.911  1.00 36.57           C
ATOM   5000  OG  SER A 697     -20.889   7.854 -14.305  1.00 36.73           O
ATOM   5001  C   SER A 697     -18.372   6.665 -13.061  1.00 36.12           C
ATOM   5002  O   SER A 697     -18.704   5.498 -12.820  1.00 36.34           O
ATOM   5003  N   THR A 698     -17.267   6.974 -13.751  1.00 33.66           N
ATOM   5004  CA  THR A 698     -16.439   5.923 -14.356  1.00 32.53           C
ATOM   5005  CB  THR A 698     -16.803   5.747 -15.836  1.00 32.48           C
ATOM   5006  OG1 THR A 698     -18.225   5.771 -15.977  1.00 33.25           O
ATOM   5007  CG2 THR A 698     -16.278   4.430 -16.368  1.00 32.34           C
ATOM   5008  C   THR A 698     -14.923   6.136 -14.253  1.00 32.41           C
ATOM   5009  O   THR A 698     -14.438   7.256 -14.392  1.00 34.00           O
ATOM   5010  N   LEU A 699     -14.178   5.056 -14.010  1.00 31.82           N
ATOM   5011  CA  LEU A 699     -12.719   5.062 -14.230  1.00 30.87           C
ATOM   5012  CB  LEU A 699     -11.949   4.350 -13.100  1.00 31.18           C
ATOM   5013  C   LEU A 699     -12.452   4.380 -15.555  1.00 29.03           C
ATOM   5014  O   LEU A 699     -13.046   3.341 -15.846  1.00 28.63           O
ATOM   5015  N   THR A 700     -11.585   4.986 -16.367  1.00 28.29           N
ATOM   5016  CA  THR A 700     -11.205   4.435 -17.679  1.00 27.38           C
ATOM   5017  CB  THR A 700     -11.656   5.327 -18.877  1.00 27.04           C
ATOM   5018  OG1 THR A 700     -12.926   5.932 -18.614  1.00 27.05           O
ATOM   5019  CG2 THR A 700     -11.784   4.503 -20.140  1.00 27.30           C
ATOM   5020  C   THR A 700      -9.689   4.278 -17.735  1.00 26.68           C
ATOM   5021  O   THR A 700      -8.954   5.171 -17.292  1.00 25.83           O
ATOM   5022  N   ILE A 701      -9.229   3.138 -18.259  1.00 25.67           N
ATOM   5023  CA  ILE A 701      -7.809   2.929 -18.533  1.00 25.26           C
ATOM   5024  CB  ILE A 701      -7.296   1.623 -17.905  1.00 25.47           C
ATOM   5025  CG1 ILE A 701      -7.429   1.700 -16.376  1.00 26.75           C
ATOM   5026  CD1 ILE A 701      -6.982   0.464 -15.609  1.00 27.48           C
ATOM   5027  CG2 ILE A 701      -5.854   1.364 -18.316  1.00 24.87           C
ATOM   5028  C   ILE A 701      -7.572   2.929 -20.030  1.00 24.71           C
ATOM   5029  O   ILE A 701      -8.194   2.160 -20.750  1.00 24.32           O
ATOM   5030  N   GLY A 702      -6.687   3.803 -20.505  1.00 25.58           N
ATOM   5031  CA  GLY A 702      -6.463   3.934 -21.955  1.00 28.01           C
ATOM   5032  C   GLY A 702      -5.050   4.280 -22.390  1.00 29.39           C
ATOM   5033  O   GLY A 702      -4.298   4.877 -21.627  1.00 30.37           O
ATOM   5034  N   THR A 703      -4.678   3.870 -23.608  1.00 30.52           N
ATOM   5035  CA  THR A 703      -3.474   4.400 -24.278  1.00 31.06           C
ATOM   5036  CB  THR A 703      -2.864   3.405 -25.283  1.00 28.99           C
ATOM   5037  C   THR A 703      -3.831   5.719 -24.974  1.00 31.54           C
ATOM   5038  O   THR A 703      -4.997   6.052 -25.121  1.00 31.64           O
ATOM   5039  N   ILE A 704      -2.835   6.482 -25.384  1.00 33.23           N
ATOM   5040  CA  ILE A 704      -3.100   7.833 -25.860  1.00 35.09           C
ATOM   5041  CB  ILE A 704      -2.762   8.863 -24.761  1.00 34.91           C
ATOM   5042  CG1 ILE A 704      -2.698  10.286 -25.323  1.00 34.69           C
ATOM   5043  CD1 ILE A 704      -2.731  11.368 -24.258  1.00 33.31           C
ATOM   5044  CG2 ILE A 704      -1.477   8.464 -24.032  1.00 36.26           C
ATOM   5045  C   ILE A 704      -2.339   8.106 -27.153  1.00 37.31           C
ATOM   5046  O   ILE A 704      -1.122   7.950 -27.192  1.00 38.69           O
ATOM   5047  N   ASP A 705      -3.070   8.467 -28.212  1.00 38.52           N
ATOM   5048  CA  ASP A 705      -2.487   8.874 -29.489  1.00 40.13           C
ATOM   5049  CB  ASP A 705      -3.534   9.619 -30.314  1.00 42.73           C
ATOM   5050  CG  ASP A 705      -4.311   8.712 -31.253  1.00 45.89           C
ATOM   5051  OD1 ASP A 705      -3.707   8.157 -32.205  1.00 48.35           O
ATOM   5052  OD2 ASP A 705      -5.542   8.595 -31.067  1.00 46.21           O
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ATOM   5053  C   ASP A 705      -1.299   9.812 -29.268  1.00 42.29           C
ATOM   5054  O   ASP A 705      -1.363  10.716 -28.423  1.00 42.76           O
ATOM   5055  N   GLU A 706      -0.219   9.605 -30.020  1.00 43.67           N
ATOM   5056  CA  GLU A 706       0.963  10.475 -29.908  1.00 45.79           C
ATOM   5057  CB  GLU A 706       2.194   9.828 -30.563  1.00 46.67           C
ATOM   5058  C   GLU A 706       0.702  11.882 -30.485  1.00 45.70           C
ATOM   5059  O   GLU A 706       0.869  12.884 -29.785  1.00 45.52           O
ATOM   5060  N   ILE A 707       0.269  11.931 -31.748  1.00 45.11           N
ATOM   5061  CA  ILE A 707      -0.050  13.183 -32.462  1.00 44.00           C
ATOM   5062  CB  ILE A 707       0.398  13.110 -33.947  1.00 42.49           C
ATOM   5063  CG1 ILE A 707       0.152  11.696 -34.505  1.00 40.72           C
ATOM   5064  CD1 ILE A 707       0.803  11.405 -35.835  1.00 39.67           C
ATOM   5065  CG2 ILE A 707       1.845  13.562 -34.091  1.00 42.82           C
ATOM   5066  C   ILE A 707      -1.545  13.527 -32.451  1.00 43.94           C
ATOM   5067  O   ILE A 707      -2.397  12.642 -32.327  1.00 43.61           O
ATOM   5068  N   GLN A 708      -1.853  14.816 -32.608  1.00 43.70           N
ATOM   5069  CA  GLN A 708      -3.221  15.261 -32.879  1.00 42.42           C
ATOM   5070  CB  GLN A 708      -3.311  16.794 -32.910  1.00 43.71           C
ATOM   5071  CG  GLN A 708      -3.151  17.461 -31.547  1.00 47.33           C
ATOM   5072  CD  GLN A 708      -3.709  18.881 -31.497  1.00 48.95           C
ATOM   5073  OE1 GLN A 708      -3.256  19.763 -32.223  1.00 48.82           O
ATOM   5074  NE2 GLN A 708      -4.683  19.109 -30.612  1.00 50.04           N
ATOM   5075  C   GLN A 708      -3.720  14.666 -34.201  1.00 41.42           C
ATOM   5076  O   GLN A 708      -2.948  14.076 -34.960  1.00 42.27           O
ATOM   5077  N   LYS A 709      -5.013  14.821 -34.466  1.00 39.19           N
ATOM   5078  CA  LYS A 709      -5.658  14.222 -35.631  1.00 34.64           C
ATOM   5079  CB  LYS A 709      -5.709  12.693 -35.476  1.00 36.61           C
ATOM   5080  CG  LYS A 709      -5.948  11.927 -36.764  1.00 38.57           C
ATOM   5081  CD  LYS A 709      -6.075  10.429 -36.526  1.00 39.66           C
ATOM   5082  CE  LYS A 709      -6.115   9.666 -37.849  1.00 41.22           C
ATOM   5083  NZ  LYS A 709      -4.928   9.953 -38.717  1.00 39.87           N
ATOM   5084  C   LYS A 709      -7.066  14.789 -35.705  1.00 31.13           C
ATOM   5085  O   LYS A 709      -7.488  15.516 -34.795  1.00 30.31           O
ATOM   5086  N   LEU A 710      -7.782  14.473 -36.786  1.00 27.12           N
ATOM   5087  CA  LEU A 710      -9.173  14.894 -36.956  1.00 23.55           C
ATOM   5088  CB  LEU A 710      -9.454  15.292 -38.400  1.00 22.74           C
ATOM   5089  CG  LEU A 710      -9.112  16.695 -38.876  1.00 22.36           C
ATOM   5090  CD1 LEU A 710      -9.868  16.956 -40.173  1.00 22.06           C
ATOM   5091  CD2 LEU A 710      -9.488  17.723 -37.830  1.00 22.50           C
ATOM   5092  C   LEU A 710     -10.140  13.807 -36.557  1.00 21.29           C
ATOM   5093  O   LEU A 710     -10.171  12.748 -37.155  1.00 21.27           O
ATOM   5094  N   HIS A 711     -10.957  14.079 -35.563  1.00 19.47           N
ATOM   5095  CA  HIS A 711     -11.869  13.074 -35.096  1.00 18.74           C
ATOM   5096  CB  HIS A 711     -11.843  13.028 -33.570  1.00 19.32           C
ATOM   5097  CG  HIS A 711     -10.519  12.552 -33.026  1.00 20.32           C
ATOM   5098  ND1 HIS A 711      -9.444  13.353 -32.944  1.00 20.66           N
ATOM   5099  CE1 HIS A 711      -8.389  12.645 -32.485  1.00 20.72           C
ATOM   5100  NE2 HIS A 711      -8.791  11.381 -32.288  1.00 20.87           N
ATOM   5101  CD2 HIS A 711     -10.094  11.282 -32.623  1.00 20.80           C
ATOM   5102  C   HIS A 711     -13.225  13.300 -35.668  1.00 17.84           C
ATOM   5103  O   HIS A 711     -13.898  14.260 -35.323  1.00 17.77           O
ATOM   5104  N   ILE A 712     -13.629  12.433 -36.590  1.00 17.23           N
ATOM   5105  CA  ILE A 712     -14.937  12.577 -37.237  1.00 16.75           C
ATOM   5106  CB  ILE A 712     -14.844  12.452 -38.776  1.00 16.67           C
ATOM   5107  CG1 ILE A 712     -13.748  13.355 -39.328  1.00 16.81           C
ATOM   5108  CD1 ILE A 712     -13.157  12.859 -40.629  1.00 17.08           C
ATOM   5109  CG2 ILE A 712     -16.155  12.860 -39.428  1.00 16.87           C
ATOM   5110  C   ILE A 712     -15.947  11.572 -36.684  1.00 16.21           C
ATOM   5111  O   ILE A 712     -15.713  10.373 -36.736  1.00 16.64           O
ATOM   5112  N   ARG A 713     -17.053  12.076 -36.141  1.00 15.67           N
ATOM   5113  CA  ARG A 713     -18.161  11.249 -35.648  1.00 15.37           C
ATOM   5114  CB  ARG A 713     -18.775  11.900 -34.403  1.00 15.64           C
ATOM   5115  CG  ARG A 713     -19.453  10.962 -33.431  1.00 15.90           C
ATOM   5116  CD  ARG A 713     -20.947  10.895 -33.664  1.00 16.99           C
ATOM   5117  NE  ARG A 713     -21.584   9.754 -32.976  1.00 18.10           N
ATOM   5118  CZ  ARG A 713     -21.983   9.759 -31.700  1.00 18.29           C
ATOM   5119  NH1 ARG A 713     -21.814  10.843 -30.941  1.00 18.69           N
ATOM   5120  NH2 ARG A 713     -22.546   8.680 -31.177  1.00 17.89           N
ATOM   5121  C   ARG A 713     -19.200  11.210 -36.752  1.00 15.05           C
ATOM   5122  O   ARG A 713     -19.515  12.249 -37.327  1.00 15.50           O
ATOM   5123  N   THR A 714     -19.736  10.038 -37.066  1.00 14.09           N
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ATOM   5124  CA  THR A 714     -20.731   9.967 -38.122  1.00 13.51           C
ATOM   5125  CB  THR A 714     -20.303   9.000 -39.215  1.00 13.64           C
ATOM   5126  OG1 THR A 714     -19.082   9.474 -39.791  1.00 13.91           O
ATOM   5127  CG2 THR A 714     -21.376   8.883 -40.303  1.00 13.57           C
ATOM   5128  C   THR A 714     -22.114   9.618 -37.616  1.00 13.32           C
ATOM   5129  O   THR A 714     -22.302   8.609 -36.952  1.00 13.47           O
ATOM   5130  N   VAL A 715     -23.079  10.477 -37.918  1.00 13.10           N
ATOM   5131  CA  VAL A 715     -24.463  10.234 -37.553  1.00 12.89           C
ATOM   5132  CB  VAL A 715     -25.066  11.451 -36.831  1.00 12.97           C
ATOM   5133  CG1 VAL A 715     -26.447  11.135 -36.285  1.00 13.09           C
ATOM   5134  CG2 VAL A 715     -24.157  11.898 -35.704  1.00 13.11           C
ATOM   5135  C   VAL A 715     -25.271   9.894 -38.814  1.00 12.94           C
ATOM   5136  O   VAL A 715     -25.829  10.793 -39.459  1.00 12.68           O
ATOM   5137  N   PRO A 716     -25.315   8.587 -39.187  1.00 12.88           N
ATOM   5138  CA  PRO A 716     -26.088   8.174 -40.354  1.00 12.39           C
ATOM   5139  CB  PRO A 716     -26.058   6.648 -40.259  1.00 12.33           C
ATOM   5140  CG  PRO A 716     -24.805   6.341 -39.520  1.00 12.38           C
ATOM   5141  CD  PRO A 716     -24.691   7.430 -38.509  1.00 12.59           C
ATOM   5142  C   PRO A 716     -27.509   8.650 -40.192  1.00 12.29           C
ATOM   5143  O   PRO A 716     -28.075   8.489 -39.098  1.00 12.26           O
ATOM   5144  N   LEU A 717     -28.076   9.233 -41.255  1.00 11.98           N
ATOM   5145  CA  LEU A 717     -29.507   9.618 -41.281  1.00 11.73           C
ATOM   5146  CB  LEU A 717     -29.673  11.098 -41.609  1.00 11.17           C
ATOM   5147  CG  LEU A 717     -29.070  12.161 -40.714  1.00 10.80           C
ATOM   5148  CD1 LEU A 717     -28.987  13.452 -41.507  1.00 10.59           C
ATOM   5149  CD2 LEU A 717     -29.881  12.339 -39.441  1.00 10.70           C
ATOM   5150  C   LEU A 717     -30.372   8.811 -42.258  1.00 11.91           C
ATOM   5151  O   LEU A 717     -31.601   8.834 -42.163  1.00 12.27           O
ATOM   5152  N   TYR A 718     -29.735   8.134 -43.211  1.00 12.13           N
ATOM   5153  CA  TYR A 718     -30.436   7.347 -44.251  1.00 12.39           C
ATOM   5154  CB  TYR A 718     -31.108   6.112 -43.642  1.00 11.98           C
ATOM   5155  CG  TYR A 718     -30.153   5.326 -42.786  1.00 11.70           C
ATOM   5156  CD1 TYR A 718     -29.004   4.766 -43.336  1.00 11.90           C
ATOM   5157  CE1 TYR A 718     -28.101   4.063 -42.559  1.00 11.71           C
ATOM   5158  CZ  TYR A 718     -28.341   3.922 -41.223  1.00 11.57           C
ATOM   5159  OH  TYR A 718     -27.452   3.224 -40.471  1.00 11.65           O
ATOM   5160  CE2 TYR A 718     -29.467   4.471 -40.645  1.00 11.58           C
ATOM   5161  CD2 TYR A 718     -30.361   5.179 -41.427  1.00 11.55           C
ATOM   5162  C   TYR A 718     -31.411   8.168 -45.103  1.00 12.88           C
ATOM   5163  O   TYR A 718     -32.361   7.626 -45.676  1.00 13.25           O
ATOM   5164  N   GLU A 719     -31.158   9.480 -45.166  1.00 13.19           N
ATOM   5165  CA  GLU A 719     -31.836  10.407 -46.081  1.00 13.39           C
ATOM   5166  CB  GLU A 719     -33.200  10.843 -45.547  1.00 14.01           C
ATOM   5167  CG  GLU A 719     -33.322  10.773 -44.044  1.00 15.49           C
ATOM   5168  CD  GLU A 719     -34.540  11.503 -43.514  1.00 16.67           C
ATOM   5169  OE1 GLU A 719     -34.461  12.738 -43.380  1.00 17.60           O
ATOM   5170  OE2 GLU A 719     -35.562  10.844 -43.202  1.00 17.18           O
ATOM   5171  C   GLU A 719     -30.944  11.618 -46.305  1.00 13.18           C
ATOM   5172  O   GLU A 719     -29.973  11.818 -45.580  1.00 12.93           O
ATOM   5173  N   SER A 720     -31.276  12.420 -47.313  1.00 13.03           N
ATOM   5174  CA  SER A 720     -30.535  13.639 -47.618  1.00 12.98           C
ATOM   5175  CB  SER A 720     -30.942  14.148 -48.994  1.00 12.94           C
ATOM   5176  OG  SER A 720     -30.637  13.212 -49.993  1.00 13.21           O
ATOM   5177  C   SER A 720     -30.740  14.771 -46.595  1.00 13.16           C
ATOM   5178  O   SER A 720     -31.831  15.341 -46.526  1.00 13.27           O
ATOM   5179  N   PRO A 721     -29.690  15.117 -45.812  1.00 13.35           N
ATOM   5180  CA  PRO A 721     -29.703  16.367 -45.030  1.00 13.50           C
ATOM   5181  CB  PRO A 721     -28.528  16.192 -44.076  1.00 13.38           C
ATOM   5182  CG  PRO A 721     -27.582  15.327 -44.841  1.00 13.63           C
ATOM   5183  CD  PRO A 721     -28.458  14.347 -45.574  1.00 13.39           C
ATOM   5184  C   PRO A 721     -29.438  17.552 -45.935  1.00 13.75           C
ATOM   5185  O   PRO A 721     -28.632  17.455 -46.854  1.00 13.80           O
ATOM   5186  N   ARG A 722     -30.103  18.668 -45.677  1.00 14.29           N
ATOM   5187  CA  ARG A 722     -30.073  19.777 -46.621  1.00 14.56           C
ATOM   5188  CB  ARG A 722     -31.421  19.927 -47.301  1.00 14.97           C
ATOM   5189  CG  ARG A 722     -31.768  18.775 -48.236  1.00 15.21           C
ATOM   5190  CD  ARG A 722     -31.609  19.217 -49.672  1.00 15.75           C
ATOM   5191  NE  ARG A 722     -30.300  18.884 -50.232  1.00 15.88           N
ATOM   5192  CZ  ARG A 722     -29.635  19.642 -51.109  1.00 15.99           C
ATOM   5193  NH1 ARG A 722     -28.472  19.228 -51.587  1.00 15.81           N
ATOM   5194  NH2 ARG A 722     -30.120  20.817 -51.505  1.00 16.01           N
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ATOM   5195  C   ARG A 722     -29.645  21.077 -45.992  1.00 14.53           C
ATOM   5196  O   ARG A 722     -28.922  21.848 -46.618  1.00 15.17           O
ATOM   5197  N   LYS A 723     -30.085  21.330 -44.765  1.00 14.10           N
ATOM   5198  CA  LYS A 723     -29.576  22.470 -43.991  1.00 13.80           C
ATOM   5199  CB  LYS A 723     -30.492  23.701 -44.102  1.00 14.05           C
ATOM   5200  CG  LYS A 723     -30.836  24.143 -45.513  1.00 14.08           C
ATOM   5201  CD  LYS A 723     -29.706  24.904 -46.177  1.00 14.24           C
ATOM   5202  CE  LYS A 723     -29.832  24.744 -47.683  1.00 14.56           C
ATOM   5203  NZ  LYS A 723     -29.195  25.861 -48.428  1.00 14.90           N
ATOM   5204  C   LYS A 723     -29.427  22.097 -42.535  1.00 13.21           C
ATOM   5205  O   LYS A 723     -30.096  21.193 -42.047  1.00 12.64           O
ATOM   5206  N   ILE A 724     -28.546  22.811 -41.850  1.00 13.11           N
ATOM   5207  CA  ILE A 724     -28.280  22.581 -40.441  1.00 13.39           C
ATOM   5208  CB  ILE A 724     -26.982  21.745 -40.193  1.00 13.25           C
ATOM   5209  CG1 ILE A 724     -26.857  21.399 -38.702  1.00 13.09           C
ATOM   5210  CD1 ILE A 724     -26.178  20.092 -38.393  1.00 13.04           C
ATOM   5211  CG2 ILE A 724     -25.732  22.483 -40.681  1.00 12.67           C
ATOM   5212  C   ILE A 724     -28.107  23.933 -39.829  1.00 13.51           C
ATOM   5213  O   ILE A 724     -27.620  24.824 -40.491  1.00 13.82           O
ATOM   5214  N   CYS A 725     -28.516  24.089 -38.579  0.50 13.89           N
ATOM   5215  CA  CYS A 725     -28.166  25.262 -37.812  0.50 14.54           C
ATOM   5216  CB  CYS A 725     -29.159  26.391 -38.048  0.50 14.32           C
ATOM   5217  SG  CYS A 725     -30.786  26.044 -37.371  0.50 14.65           S
ATOM   5218  C   CYS A 725     -28.178  24.814 -36.380  0.50 15.23           C
ATOM   5219  O   CYS A 725     -28.763  23.788 -36.061  0.50 15.14           O
ATOM   5220  N   TYR A 726     -27.518  25.570 -35.517  1.00 16.68           N
ATOM   5221  CA  TYR A 726     -27.259  25.110 -34.156  1.00 18.93           C
ATOM   5222  CB  TYR A 726     -25.737  25.015 -33.893  1.00 19.94           C
ATOM   5223  CG  TYR A 726     -25.363  24.880 -32.425  1.00 20.43           C
ATOM   5224  CD1 TYR A 726     -25.911  23.867 -31.635  1.00 20.76           C
ATOM   5225  CE1 TYR A 726     -25.592  23.752 -30.298  1.00 21.62           C
ATOM   5226  CZ  TYR A 726     -24.703  24.649 -29.729  1.00 22.23           C
ATOM   5227  OH  TYR A 726     -24.381  24.527 -28.393  1.00 23.06           O
ATOM   5228  CE2 TYR A 726     -24.137  25.654 -30.494  1.00 21.58           C
ATOM   5229  CD2 TYR A 726     -24.470  25.764 -31.832  1.00 20.62           C
ATOM   5230  C   TYR A 726     -27.938  25.966 -33.087  1.00 20.27           C
ATOM   5231  O   TYR A 726     -27.612  27.141 -32.922  1.00 22.38           O
ATOM   5232  N   GLN A 727     -28.854  25.370 -32.336  1.00 20.29           N
ATOM   5233  CA  GLN A 727     -29.546  26.107 -31.309  1.00 21.59           C
ATOM   5234  CB  GLN A 727     -31.033  25.810 -31.384  1.00 21.73           C
ATOM   5235  CG  GLN A 727     -31.883  26.600 -30.412  1.00 21.86           C
ATOM   5236  CD  GLN A 727     -33.333  26.606 -30.819  1.00 22.56           C
ATOM   5237  OE1 GLN A 727     -34.196  26.169 -30.066  1.00 23.65           O
ATOM   5238  NE2 GLN A 727     -33.611  27.085 -32.030  1.00 22.67           N
ATOM   5239  C   GLN A 727     -28.987  25.784 -29.921  1.00 22.92           C
ATOM   5240  O   GLN A 727     -29.370  24.782 -29.313  1.00 22.86           O
ATOM   5241  N   GLU A 728     -28.100  26.655 -29.425  1.00 24.59           N
ATOM   5242  CA  GLU A 728     -27.363  26.428 -28.164  1.00 25.62           C
ATOM   5243  CB  GLU A 728     -26.223  27.460 -27.991  1.00 28.61           C
ATOM   5244  CG  GLU A 728     -25.398  27.313 -26.702  1.00 31.97           C
ATOM   5245  CD  GLU A 728     -24.412  28.461 -26.458  1.00 34.77           C
ATOM   5246  OE1 GLU A 728     -23.221  28.176 -26.200  1.00 36.35           O
ATOM   5247  OE2 GLU A 728     -24.819  29.649 -26.504  1.00 36.57           O
ATOM   5248  C   GLU A 728     -28.218  26.325 -26.884  1.00 24.43           C
ATOM   5249  O   GLU A 728     -27.884  25.545 -26.001  1.00 24.11           O
ATOM   5250  N   VAL A 729     -29.303  27.094 -26.773  1.00 23.94           N
ATOM   5251  CA  VAL A 729     -30.138  27.030 -25.546  1.00 23.79           C
ATOM   5252  CB  VAL A 729     -31.088  28.246 -25.353  1.00 22.54           C
ATOM   5253  CG1 VAL A 729     -30.308  29.547 -25.429  1.00 22.29           C
ATOM   5254  CG2 VAL A 729     -32.240  28.232 -26.343  1.00 21.71           C
ATOM   5255  C   VAL A 729     -30.916  25.718 -25.445  1.00 23.93           C
ATOM   5256  O   VAL A 729     -31.151  25.203 -24.350  1.00 23.86           O
ATOM   5257  N   SER A 730     -31.286  25.174 -26.597  1.00 23.82           N
ATOM   5258  CA  SER A 730     -31.977  23.903 -26.658  1.00 23.48           C
ATOM   5259  CB  SER A 730     -32.913  23.875 -27.861  1.00 23.78           C
ATOM   5260  OG  SER A 730     -33.808  24.966 -27.835  1.00 24.47           O
ATOM   5261  C   SER A 730     -30.963  22.792 -26.782  1.00 23.19           C
ATOM   5262  O   SER A 730     -31.327  21.622 -26.878  1.00 23.92           O
ATOM   5263  N   GLN A 731     -29.689  23.172 -26.805  1.00 23.00           N
ATOM   5264  CA  GLN A 731     -28.572  22.236 -26.951  1.00 23.28           C
ATOM   5265  CB  GLN A 731     -28.208  21.644 -25.604  1.00 25.10           C
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ATOM   5266  CG  GLN A 731     -27.274  22.521 -24.791  1.00 27.27           C
ATOM   5267  CD  GLN A 731     -26.589  21.733 -23.700  1.00 29.32           C
ATOM   5268  OE1 GLN A 731     -27.238  20.945 -22.984  1.00 30.44           O
ATOM   5269  NE2 GLN A 731     -25.263  21.906 -23.579  1.00 28.98           N
ATOM   5270  C   GLN A 731     -28.817  21.129 -27.970  1.00 22.34           C
ATOM   5271  O   GLN A 731     -28.662  19.950 -27.668  1.00 22.14           O
ATOM   5272  N   CYS A 732     -29.186  21.530 -29.183  1.00 21.71           N
ATOM   5273  CA  CYS A 732     -29.569  20.606 -30.236  1.00 20.83           C
ATOM   5274  CB  CYS A 732     -30.998  20.148 -30.009  1.00 22.67           C
ATOM   5275  SG  CYS A 732     -32.163  21.487 -30.318  1.00 26.86           S
ATOM   5276  C   CYS A 732     -29.498  21.316 -31.574  1.00 19.20           C
ATOM   5277  O   CYS A 732     -29.538  22.538 -31.626  1.00 19.48           O
ATOM   5278  N   PHE A 733     -29.422  20.537 -32.649  1.00 17.53           N
ATOM   5279  CA  PHE A 733     -29.338  21.052 -34.015  1.00 16.09           C
ATOM   5280  CB  PHE A 733     -28.348  20.222 -34.829  1.00 15.38           C
ATOM   5281  CG  PHE A 733     -26.942  20.291 -34.344  1.00 14.79           C
ATOM   5282  CD1 PHE A 733     -26.080  21.271 -34.825  1.00 14.52           C
ATOM   5283  CE1 PHE A 733     -24.771  21.343 -34.378  1.00 14.56           C
ATOM   5284  CZ  PHE A 733     -24.304  20.410 -33.464  1.00 14.64           C
ATOM   5285  CE2 PHE A 733     -25.154  19.416 -32.988  1.00 14.63           C
ATOM   5286  CD2 PHE A 733     -26.466  19.360 -33.428  1.00 14.59           C
ATOM   5287  C   PHE A 733     -30.677  20.929 -34.716  1.00 15.65           C
ATOM   5288  O   PHE A 733     -31.422  19.975 -34.487  1.00 15.98           O
ATOM   5289  N   GLY A 734     -30.966  21.877 -35.599  1.00 15.01           N
ATOM   5290  CA  GLY A 734     -32.084  21.734 -36.533  1.00 14.17           C
ATOM   5291  C   GLY A 734     -31.542  21.368 -37.895  1.00 13.34           C
ATOM   5292  O   GLY A 734     -30.617  22.025 -38.383  1.00 12.85           O
ATOM   5293  N   VAL A 735     -32.098  20.315 -38.496  1.00 13.03           N
ATOM   5294  CA  VAL A 735     -31.652  19.844 -39.815  1.00 13.20           C
ATOM   5295  CB  VAL A 735     -30.863  18.512 -39.738  1.00 13.27           C
ATOM   5296  CG1 VAL A 735     -30.629  17.935 -41.129  1.00 13.13           C
ATOM   5297  CG2 VAL A 735     -29.528  18.716 -39.051  1.00 13.53           C
ATOM   5298  C   VAL A 735     -32.807  19.667 -40.781  1.00 13.28           C
ATOM   5299  O   VAL A 735     -33.682  18.826 -40.559  1.00 13.28           O
ATOM   5300  N   LEU A 736     -32.813  20.456 -41.853  1.00 13.56           N
ATOM   5301  CA  LEU A 736     -33.764  20.227 -42.941  1.00 13.99           C
ATOM   5302  CB  LEU A 736     -33.836  21.414 -43.889  1.00 13.62           C
ATOM   5303  CG  LEU A 736     -34.366  22.718 -43.314  1.00 13.78           C
ATOM   5304  CD1 LEU A 736     -34.606  23.702 -44.459  1.00 13.47           C
ATOM   5305  CD2 LEU A 736     -35.633  22.484 -42.486  1.00 13.58           C
ATOM   5306  C   LEU A 736     -33.319  19.008 -43.707  1.00 14.56           C
ATOM   5307  O   LEU A 736     -32.151  18.899 -44.092  1.00 14.79           O
ATOM   5308  N   SER A 737     -34.238  18.080 -43.922  1.00 15.21           N
ATOM   5309  CA  SER A 737     -33.892  16.865 -44.644  1.00 15.82           C
ATOM   5310  CB  SER A 737     -33.429  15.774 -43.677  1.00 15.69           C
ATOM   5311  OG  SER A 737     -34.511  15.315 -42.892  1.00 15.93           O
ATOM   5312  C   SER A 737     -35.057  16.362 -45.455  1.00 16.32           C
ATOM   5313  O   SER A 737     -36.217  16.567 -45.080  1.00 16.42           O
ATOM   5314  N   SER A 738     -34.739  15.684 -46.555  1.00 16.73           N
ATOM   5315  CA  SER A 738     -35.757  15.102 -47.415  1.00 17.27           C
ATOM   5316  CB  SER A 738     -35.815  15.831 -48.768  1.00 16.85           C
ATOM   5317  OG  SER A 738     -34.932  15.254 -49.707  1.00 17.00           O
ATOM   5318  C   SER A 738     -35.527  13.601 -47.587  1.00 17.82           C
ATOM   5319  O   SER A 738     -34.412  13.122 -47.401  1.00 17.81           O
ATOM   5320  N   ARG A 739     -36.597  12.870 -47.909  1.00 18.65           N
ATOM   5321  CA  ARG A 739     -36.524  11.447 -48.213  1.00 19.11           C
ATOM   5322  CB  ARG A 739     -36.996  10.608 -47.034  1.00 19.00           C
ATOM   5323  CG  ARG A 739     -38.494  10.591 -46.824  1.00 19.52           C
ATOM   5324  CD  ARG A 739     -38.895   9.734 -45.629  1.00 19.94           C
ATOM   5325  NE  ARG A 739     -40.348   9.689 -45.489  1.00 20.17           N
ATOM   5326  CZ  ARG A 739     -41.043  10.484 -44.684  1.00 20.34           C
ATOM   5327  NH1 ARG A 739     -40.424  11.371 -43.922  1.00 20.68           N
ATOM   5328  NH2 ARG A 739     -42.358  10.387 -44.632  1.00 20.43           N
ATOM   5329  C   ARG A 739     -37.355  11.145 -49.434  1.00 20.30           C
ATOM   5330  O   ARG A 739     -38.263  11.898 -49.771  1.00 20.80           O
ATOM   5331  N   ILE A 740     -37.029  10.044 -50.103  1.00 22.13           N
ATOM   5332  CA  ILE A 740     -37.730   9.615 -51.311  1.00 23.03           C
ATOM   5333  CB  ILE A 740     -36.746   9.077 -52.362  1.00 22.78           C
ATOM   5334  CG1 ILE A 740     -35.677  10.126 -52.701  1.00 22.26           C
ATOM   5335  CD1 ILE A 740     -36.090  11.131 -53.746  1.00 22.28           C
ATOM   5336  CG2 ILE A 740     -37.492   8.553 -53.586  1.00 22.76           C
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ATOM   5337  C   ILE A 740     -38.708   8.497 -50.992  1.00 24.70           C
ATOM   5338  O   ILE A 740     -38.303   7.400 -50.582  1.00 23.66           O
ATOM   5339  N   GLU A 741     -39.994   8.785 -51.185  1.00 27.67           N
ATOM   5340  CA  GLU A 741     -41.034   7.753 -51.165  1.00 29.16           C
ATOM   5341  CB  GLU A 741     -42.160   8.124 -50.203  1.00 29.84           C
ATOM   5342  CG  GLU A 741     -41.665   8.357 -48.785  1.00 32.49           C
ATOM   5343  CD  GLU A 741     -42.772   8.392 -47.742  1.00 35.05           C
ATOM   5344  OE1 GLU A 741     -43.949   8.634 -48.104  1.00 37.17           O
ATOM   5345  OE2 GLU A 741     -42.459   8.181 -46.545  1.00 35.10           O
ATOM   5346  C   GLU A 741     -41.556   7.502 -52.580  1.00 29.50           C
ATOM   5347  O   GLU A 741     -41.397   8.330 -53.469  1.00 27.34           O
ATOM   5348  N   VAL A 742     -42.148   6.334 -52.779  1.00 33.40           N
ATOM   5349  CA  VAL A 742     -42.640   5.916 -54.091  1.00 36.20           C
ATOM   5350  CB  VAL A 742     -41.829   4.699 -54.619  1.00 35.91           C
ATOM   5351  CG1 VAL A 742     -42.283   3.402 -53.959  1.00 35.74           C
ATOM   5352  CG2 VAL A 742     -41.885   4.610 -56.142  1.00 35.57           C
ATOM   5353  C   VAL A 742     -44.147   5.628 -53.984  1.00 38.17           C
ATOM   5354  O   VAL A 742     -44.628   5.235 -52.911  1.00 39.07           O
ATOM   5355  N   GLN A 743     -44.880   5.843 -55.085  1.00 39.88           N
ATOM   5356  CA  GLN A 743     -46.365   5.842 -55.083  1.00 40.98           C
ATOM   5357  CB  GLN A 743     -46.921   6.345 -56.423  1.00 39.53           C
ATOM   5358  C   GLN A 743     -47.022   4.507 -54.732  1.00 42.56           C
ATOM   5359  O   GLN A 743     -46.596   3.443 -55.217  1.00 40.91           O
ATOM   5360  N   ASP A 744     -48.059   4.601 -53.884  1.00 44.50           N
ATOM   5361  CA  ASP A 744     -48.977   3.493 -53.514  1.00 45.42           C
ATOM   5362  CB  ASP A 744     -50.338   3.640 -54.221  1.00 42.55           C
ATOM   5363  C   ASP A 744     -48.417   2.087 -53.729  1.00 46.16           C
ATOM   5364  O   ASP A 744     -47.492   1.667 -53.032  1.00 46.48           O
ATOM   5365  N   THR A 749     -48.662   6.015 -50.734  1.00 41.78           N
ATOM   5366  CA  THR A 749     -47.269   6.491 -50.692  1.00 43.23           C
ATOM   5367  CB  THR A 749     -47.181   8.034 -50.764  1.00 42.51           C
ATOM   5368  OG1 THR A 749     -45.810   8.426 -50.902  1.00 41.58           O
ATOM   5369  CG2 THR A 749     -47.789   8.689 -49.517  1.00 42.01           C
ATOM   5370  C   THR A 749     -46.457   5.955 -49.489  1.00 42.37           C
ATOM   5371  O   THR A 749     -46.910   6.011 -48.337  1.00 43.30           O
ATOM   5372  N   THR A 750     -45.254   5.448 -49.770  1.00 40.16           N
ATOM   5373  CA  THR A 750     -44.487   4.666 -48.787  1.00 37.81           C
ATOM   5374  CB  THR A 750     -44.881   3.179 -48.834  1.00 37.56           C
ATOM   5375  OG1 THR A 750     -44.938   2.755 -50.200  1.00 37.23           O
ATOM   5376  CG2 THR A 750     -46.249   2.948 -48.172  1.00 37.47           C
ATOM   5377  C   THR A 750     -42.967   4.770 -48.967  1.00 35.58           C
ATOM   5378  O   THR A 750     -42.465   4.850 -50.087  1.00 36.98           O
ATOM   5379  N   ALA A 751     -42.249   4.741 -47.849  1.00 32.07           N
ATOM   5380  CA  ALA A 751     -40.798   4.889 -47.825  1.00 29.83           C
ATOM   5381  CB  ALA A 751     -40.355   5.197 -46.408  1.00 30.36           C
ATOM   5382  C   ALA A 751     -40.011   3.683 -48.378  1.00 28.53           C
ATOM   5383  O   ALA A 751     -40.531   2.568 -48.460  1.00 28.72           O
ATOM   5384  N   LEU A 752     -38.744   3.918 -48.730  1.00 26.56           N
ATOM   5385  CA  LEU A 752     -37.843   2.862 -49.230  1.00 24.67           C
ATOM   5386  CB  LEU A 752     -36.889   3.419 -50.292  1.00 24.64           C
ATOM   5387  CG  LEU A 752     -37.390   3.973 -51.626  1.00 24.30           C
ATOM   5388  CD1 LEU A 752     -36.372   4.973 -52.160  1.00 24.15           C
ATOM   5389  CD2 LEU A 752     -37.645   2.865 -52.636  1.00 23.77           C
ATOM   5390  C   LEU A 752     -37.012   2.187 -48.126  1.00 23.57           C
ATOM   5391  O   LEU A 752     -36.431   1.126 -48.349  1.00 23.20           O
ATOM   5392  N   ARG A 753     -36.937   2.817 -46.954  1.00 22.42           N
ATOM   5393  CA  ARG A 753     -36.257   2.247 -45.793  1.00 21.16           C
ATOM   5394  CB  ARG A 753     -34.762   2.062 -46.085  1.00 22.55           C
ATOM   5395  CG  ARG A 753     -33.865   3.256 -45.743  1.00 23.23           C
ATOM   5396  CD  ARG A 753     -32.699   3.397 -46.708  1.00 23.42           C
ATOM   5397  NE  ARG A 753     -33.139   4.030 -47.954  1.00 24.35           N
ATOM   5398  CZ  ARG A 753     -32.948   3.525 -49.175  1.00 24.75           C
ATOM   5399  NH1 ARG A 753     -32.281   2.371 -49.346  1.00 24.18           N
ATOM   5400  NH2 ARG A 753     -33.412   4.190 -50.230  1.00 24.19           N
ATOM   5401  C   ARG A 753     -36.457   3.159 -44.585  1.00 20.22           C
ATOM   5402  O   ARG A 753     -36.834   4.327 -44.744  1.00 20.29           O
ATOM   5403  N   PRO A 754     -36.216   2.636 -43.367  1.00 19.27           N
ATOM   5404  CA  PRO A 754     -36.228   3.487 -42.171  1.00 18.60           C
ATOM   5405  CB  PRO A 754     -35.830   2.525 -41.044  1.00 18.45           C
ATOM   5406  CG  PRO A 754     -35.445   1.250 -41.710  1.00 18.53           C
ATOM   5407  CD  PRO A 754     -36.160   1.216 -43.013  1.00 18.80           C
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ATOM   5408  C   PRO A 754     -35.247   4.664 -42.266  1.00 17.97           C
ATOM   5409  O   PRO A 754     -34.109   4.493 -42.688  1.00 17.97           O
ATOM   5410  N   SER A 755     -35.710   5.851 -41.896  1.00 17.49           N
ATOM   5411  CA  SER A 755     -34.927   7.078 -42.027  1.00 17.03           C
ATOM   5412  CB  SER A 755     -35.615   8.052 -42.999  1.00 17.20           C
ATOM   5413  OG  SER A 755     -35.400   7.738 -44.364  1.00 17.53           O
ATOM   5414  C   SER A 755     -34.893   7.750 -40.692  1.00 16.31           C
ATOM   5415  O   SER A 755     -35.738   7.494 -39.859  1.00 15.90           O
ATOM   5416  N   ALA A 756     -33.940   8.654 -40.514  1.00 16.35           N
ATOM   5417  CA  ALA A 756     -33.998   9.641 -39.438  1.00 16.46           C
ATOM   5418  CB  ALA A 756     -33.071  10.799 -39.743  1.00 15.87           C
ATOM   5419  C   ALA A 756     -35.420  10.159 -39.230  1.00 16.75           C
ATOM   5420  O   ALA A 756     -35.957  10.082 -38.131  1.00 16.44           O
ATOM   5421  N   SER A 757     -36.029  10.662 -40.303  1.00 17.31           N
ATOM   5422  CA  SER A 757     -37.319  11.338 -40.214  1.00 17.41           C
ATOM   5423  CB  SER A 757     -37.544  12.234 -41.431  1.00 17.06           C
ATOM   5424  OG  SER A 757     -37.846  11.464 -42.589  1.00 17.43           O
ATOM   5425  C   SER A 757     -38.497  10.396 -40.051  1.00 18.05           C
ATOM   5426  O   SER A 757     -39.620  10.857 -39.901  1.00 19.13           O
ATOM   5427  N   THR A 758     -38.263   9.089 -40.108  1.00 18.40           N
ATOM   5428  CA  THR A 758     -39.346   8.125 -39.898  1.00 18.94           C
ATOM   5429  CB  THR A 758     -39.461   7.107 -41.062  1.00 18.59           C
ATOM   5430  OG1 THR A 758     -38.284   6.292 -41.135  1.00 18.62           O
ATOM   5431  CG2 THR A 758     -39.672   7.811 -42.387  1.00 18.36           C
ATOM   5432  C   THR A 758     -39.185   7.395 -38.552  1.00 20.10           C
ATOM   5433  O   THR A 758     -39.964   6.502 -38.208  1.00 19.68           O
ATOM   5434  N   GLN A 759     -38.165   7.801 -37.800  1.00 21.50           N
ATOM   5435  CA  GLN A 759     -37.742   7.102 -36.597  1.00 22.17           C
ATOM   5436  CB  GLN A 759     -36.492   6.275 -36.873  1.00 23.10           C
ATOM   5437  CG  GLN A 759     -36.631   5.154 -37.879  1.00 24.95           C
ATOM   5438  CD  GLN A 759     -35.324   4.378 -37.997  1.00 28.18           C
ATOM   5439  OE1 GLN A 759     -34.481   4.649 -38.874  1.00 30.07           O
ATOM   5440  NE2 GLN A 759     -35.121   3.435 -37.078  1.00 30.04           N
ATOM   5441  C   GLN A 759     -37.425   8.083 -35.472  1.00 22.05           C
ATOM   5442  O   GLN A 759     -36.685   7.753 -34.550  1.00 23.27           O
ATOM   5443  N   ALA A 760     -37.969   9.288 -35.550  1.00 21.25           N
ATOM   5444  CA  ALA A 760     -37.848  10.239 -34.462  1.00 20.79           C
ATOM   5445  CB  ALA A 760     -38.364  11.597 -34.895  1.00 20.68           C
ATOM   5446  C   ALA A 760     -38.643   9.738 -33.267  1.00 21.10           C
ATOM   5447  O   ALA A 760     -39.576   8.948 -33.421  1.00 20.50           O
ATOM   5448  N   LEU A 761     -38.270  10.203 -32.076  1.00 21.64           N
ATOM   5449  CA  LEU A 761     -39.007   9.884 -30.862  1.00 21.84           C
ATOM   5450  CB  LEU A 761     -38.256  10.379 -29.626  1.00 22.29           C
ATOM   5451  CG  LEU A 761     -37.509   9.308 -28.831  1.00 22.54           C
ATOM   5452  CD1 LEU A 761     -36.212   8.880 -29.517  1.00 22.80           C
ATOM   5453  CD2 LEU A 761     -37.234   9.804 -27.424  1.00 22.70           C
ATOM   5454  C   LEU A 761     -40.416  10.463 -30.921  1.00 22.06           C
ATOM   5455  O   LEU A 761     -41.390   9.715 -30.963  1.00 23.19           O
ATOM   5456  N   SER A 762     -40.517  11.790 -30.921  1.00 21.68           N
ATOM   5457  CA  SER A 762     -41.784  12.473 -31.154  1.00 21.20           C
ATOM   5458  CB  SER A 762     -41.960  13.641 -30.177  1.00 19.64           C
ATOM   5459  C   SER A 762     -41.789  12.961 -32.606  1.00 21.82           C
ATOM   5460  O   SER A 762     -40.725  13.288 -33.168  1.00 22.47           O
ATOM   5461  N   SER A 763     -42.962  12.987 -33.233  1.00 21.22           N
ATOM   5462  CA  SER A 763     -43.052  13.558 -34.567  1.00 21.12           C
ATOM   5463  CB  SER A 763     -42.814  12.493 -35.630  1.00 20.88           C
ATOM   5464  OG  SER A 763     -43.929  11.649 -35.754  1.00 20.83           O
ATOM   5465  C   SER A 763     -44.369  14.283 -34.797  1.00 21.79           C
ATOM   5466  O   SER A 763     -45.383  13.921 -34.228  1.00 22.49           O
ATOM   5467  N   SER A 764     -44.339  15.318 -35.624  1.00 22.51           N
ATOM   5468  CA  SER A 764     -45.536  16.074 -35.951  1.00 23.15           C
ATOM   5469  CB  SER A 764     -45.469  17.477 -35.349  1.00 22.96           C
ATOM   5470  OG  SER A 764     -44.376  18.219 -35.873  1.00 22.46           O
ATOM   5471  C   SER A 764     -45.704  16.161 -37.457  1.00 24.58           C
ATOM   5472  O   SER A 764     -44.909  15.613 -38.221  1.00 24.76           O
ATOM   5473  N   VAL A 765     -46.741  16.869 -37.877  1.00 26.21           N
ATOM   5474  CA  VAL A 765     -47.068  17.007 -39.283  1.00 27.84           C
ATOM   5475  CB  VAL A 765     -48.013  15.862 -39.723  1.00 27.54           C
ATOM   5476  CG1 VAL A 765     -49.396  16.034 -39.109  1.00 27.88           C
ATOM   5477  CG2 VAL A 765     -48.096  15.774 -41.240  1.00 28.29           C
ATOM   5478  C   VAL A 765     -47.704  18.389 -39.511  1.00 29.38           C
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ATOM   5479  O   VAL A 765     -48.000  19.107 -38.547  1.00 29.42           O
ATOM   5480  N   SER A 766     -47.903  18.772 -40.769  1.00 30.32           N
ATOM   5481  CA  SER A 766     -48.663  19.984 -41.048  1.00 31.64           C
ATOM   5482  CB  SER A 766     -47.952  20.859 -42.078  1.00 31.06           C
ATOM   5483  OG  SER A 766     -46.720  21.345 -41.553  1.00 29.41           O
ATOM   5484  C   SER A 766     -50.118  19.685 -41.432  1.00 33.69           C
ATOM   5485  O   SER A 766     -51.013  20.461 -41.095  1.00 35.49           O
ATOM   5486  N   SER A 767     -50.351  18.557 -42.109  1.00 35.39           N
ATOM   5487  CA  SER A 767     -51.716  18.046 -42.387  1.00 37.19           C
ATOM   5488  CB  SER A 767     -52.218  17.191 -41.201  1.00 38.29           C
ATOM   5489  OG  SER A 767     -53.305  16.346 -41.565  1.00 39.19           O
ATOM   5490  C   SER A 767     -52.729  19.165 -42.743  1.00 38.06           C
ATOM   5491  O   SER A 767     -53.958  18.988 -42.677  1.00 38.73           O
ATOM   5492  N   GLU A 784     -43.142   6.228 -59.466  1.00 41.57           N
ATOM   5493  CA  GLU A 784     -43.087   7.684 -59.395  1.00 40.70           C
ATOM   5494  CB  GLU A 784     -44.464   8.301 -59.681  1.00 40.97           C
ATOM   5495  C   GLU A 784     -42.575   8.118 -58.022  1.00 39.92           C
ATOM   5496  O   GLU A 784     -43.294   8.024 -57.014  1.00 38.64           O
ATOM   5497  N   GLU A 785     -41.322   8.576 -57.992  1.00 37.68           N
ATOM   5498  CA  GLU A 785     -40.689   9.033 -56.758  1.00 35.31           C
ATOM   5499  CB  GLU A 785     -39.159   9.006 -56.899  1.00 35.23           C
ATOM   5500  CG  GLU A 785     -38.583   7.590 -56.998  1.00 37.67           C
ATOM   5501  CD  GLU A 785     -37.072   7.541 -57.276  1.00 40.55           C
ATOM   5502  OE1 GLU A 785     -36.568   8.400 -58.037  1.00 41.73           O
ATOM   5503  OE2 GLU A 785     -36.379   6.627 -56.748  1.00 39.64           O
ATOM   5504  C   GLU A 785     -41.215  10.421 -56.334  1.00 33.29           C
ATOM   5505  O   GLU A 785     -41.583  11.233 -57.166  1.00 34.08           O
ATOM   5506  N   VAL A 786     -41.298  10.660 -55.031  1.00 30.24           N
ATOM   5507  CA  VAL A 786     -41.653  11.976 -54.503  1.00 27.03           C
ATOM   5508  CB  VAL A 786     -43.124  12.021 -53.996  1.00 26.83           C
ATOM   5509  CG1 VAL A 786     -43.351  11.030 -52.860  1.00 26.32           C
ATOM   5510  CG2 VAL A 786     -43.533  13.440 -53.584  1.00 27.05           C
ATOM   5511  C   VAL A 786     -40.649  12.388 -53.416  1.00 24.87           C
ATOM   5512  O   VAL A 786     -39.833  11.585 -52.967  1.00 24.67           O
ATOM   5513  N   GLU A 787     -40.702  13.644 -53.016  1.00 22.84           N
ATOM   5514  CA  GLU A 787     -39.798  14.153 -52.020  1.00 22.20           C
ATOM   5515  CB  GLU A 787     -39.069  15.368 -52.574  1.00 23.80           C
ATOM   5516  CG  GLU A 787     -37.618  15.469 -52.175  1.00 26.07           C
ATOM   5517  CD  GLU A 787     -36.795  16.184 -53.227  1.00 28.70           C
ATOM   5518  OE1 GLU A 787     -36.140  17.204 -52.899  1.00 30.04           O
ATOM   5519  OE2 GLU A 787     -36.806  15.730 -54.396  1.00 31.22           O
ATOM   5520  C   GLU A 787     -40.616  14.557 -50.812  1.00 20.38           C
ATOM   5521  O   GLU A 787     -41.578  15.314 -50.938  1.00 20.98           O
ATOM   5522  N   VAL A 788     -40.250  14.043 -49.645  1.00 17.81           N
ATOM   5523  CA  VAL A 788     -40.904  14.439 -48.414  1.00 15.98           C
ATOM   5524  CB  VAL A 788     -41.475  13.234 -47.683  1.00 15.68           C
ATOM   5525  CG1 VAL A 788     -42.051  13.659 -46.347  1.00 15.27           C
ATOM   5526  CG2 VAL A 788     -42.528  12.568 -48.545  1.00 15.93           C
ATOM   5527  C   VAL A 788     -39.912  15.142 -47.516  1.00 15.20           C
ATOM   5528  O   VAL A 788     -38.945  14.529 -47.068  1.00 14.89           O
ATOM   5529  N   HIS A 789     -40.170  16.425 -47.248  1.00 14.29           N
ATOM   5530  CA  HIS A 789     -39.254  17.276 -46.504  1.00 13.48           C
ATOM   5531  CB  HIS A 789     -39.267  18.664 -47.101  1.00 13.72           C
ATOM   5532  CG  HIS A 789     -38.496  18.779 -48.403  1.00 14.13           C
ATOM   5533  ND1 HIS A 789     -37.511  19.686 -48.588  1.00 14.27           N
ATOM   5534  CE1 HIS A 789     -37.009  19.555 -49.831  1.00 14.18           C
ATOM   5535  NE2 HIS A 789     -37.664  18.560 -50.443  1.00 14.11           N
ATOM   5536  CD2 HIS A 789     -38.591  18.060 -49.595  1.00 14.18           C
ATOM   5537  C   HIS A 789     -39.589  17.327 -45.042  1.00 12.95           C
ATOM   5538  O   HIS A 789     -40.746  17.364 -44.672  1.00 12.67           O
ATOM   5539  N   ASN A 790     -38.569  17.298 -44.192  1.00 12.77           N
ATOM   5540  CA  ASN A 790     -38.768  17.383 -42.749  1.00 12.61           C
ATOM   5541  CB  ASN A 790     -38.605  16.024 -42.074  1.00 12.95           C
ATOM   5542  CG  ASN A 790     -39.360  14.920 -42.781  1.00 13.49           C
ATOM   5543  OD1 ASN A 790     -40.445  14.499 -42.340  1.00 13.30           O
ATOM   5544  ND2 ASN A 790     -38.774  14.416 -43.880  1.00 13.71           N
ATOM   5545  C   ASN A 790     -37.797  18.328 -42.094  1.00 12.47           C
ATOM   5546  O   ASN A 790     -36.745  18.646 -42.657  1.00 12.44           O
ATOM   5547  N   LEU A 791     -38.161  18.772 -40.892  1.00 12.35           N
ATOM   5548  CA  LEU A 791     -37.240  19.439 -39.973  1.00 12.01           C
ATOM   5549  CB  LEU A 791     -37.880  20.707 -39.379  1.00 11.42           C
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ATOM   5550  CG  LEU A 791     -37.173  21.431 -38.225  1.00 11.03           C
ATOM   5551  CD1 LEU A 791     -35.715  21.747 -38.539  1.00 11.06           C
ATOM   5552  CD2 LEU A 791     -37.914  22.692 -37.855  1.00 10.65           C
ATOM   5553  C   LEU A 791     -36.922  18.435 -38.877  1.00 12.16           C
ATOM   5554  O   LEU A 791     -37.821  17.956 -38.199  1.00 12.38           O
ATOM   5555  N   LEU A 792     -35.652  18.098 -38.721  1.00 12.36           N
ATOM   5556  CA  LEU A 792     -35.253  17.174 -37.677  1.00 12.76           C
ATOM   5557  CB  LEU A 792     -34.156  16.242 -38.178  1.00 12.47           C
ATOM   5558  CG  LEU A 792     -34.416  15.483 -39.467  1.00 12.38           C
ATOM   5559  CD1 LEU A 792     -33.168  14.725 -39.881  1.00 12.39           C
ATOM   5560  CD2 LEU A 792     -35.603  14.551 -39.314  1.00 12.47           C
ATOM   5561  C   LEU A 792     -34.724  17.963 -36.506  1.00 13.33           C
ATOM   5562  O   LEU A 792     -34.097  19.007 -36.687  1.00 13.72           O
ATOM   5563  N   ILE A 793     -34.954  17.465 -35.300  1.00 13.77           N
ATOM   5564  CA  ILE A 793     -34.327  18.063 -34.130  1.00 14.19           C
ATOM   5565  CB  ILE A 793     -35.366  18.576 -33.091  1.00 13.93           C
ATOM   5566  CG1 ILE A 793     -36.360  19.564 -33.729  1.00 13.75           C
ATOM   5567  CD1 ILE A 793     -35.759  20.816 -34.332  1.00 13.29           C
ATOM   5568  CG2 ILE A 793     -34.675  19.224 -31.908  1.00 14.24           C
ATOM   5569  C   ILE A 793     -33.359  17.046 -33.539  1.00 14.70           C
ATOM   5570  O   ILE A 793     -33.758  16.103 -32.864  1.00 15.05           O
ATOM   5571  N   ILE A 794     -32.081  17.230 -33.827  1.00 15.48           N
ATOM   5572  CA  ILE A 794     -31.060  16.288 -33.392  1.00 16.33           C
ATOM   5573  CB  ILE A 794     -30.045  15.999 -34.528  1.00 15.67           C
ATOM   5574  CG1 ILE A 794     -30.701  15.148 -35.599  1.00 15.09           C
ATOM   5575  CD1 ILE A 794     -30.330  15.595 -36.981  1.00 15.46           C
ATOM   5576  CG2 ILE A 794     -28.829  15.255 -34.013  1.00 15.63           C
ATOM   5577  C   ILE A 794     -30.364  16.783 -32.126  1.00 17.23           C
ATOM   5578  O   ILE A 794     -29.845  17.893 -32.098  1.00 17.02           O
ATOM   5579  N   ASP A 795     -30.374  15.939 -31.090  1.00 18.72           N
ATOM   5580  CA  ASP A 795     -29.690  16.205 -29.816  1.00 20.14           C
ATOM   5581  CB  ASP A 795     -29.927  15.057 -28.835  1.00 21.72           C
ATOM   5582  CG  ASP A 795     -29.580  15.435 -27.402  1.00 22.75           C
ATOM   5583  OD2 ASP A 795     -28.413  15.214 -26.986  1.00 22.78           O
ATOM   5584  OD1 ASP A 795     -30.476  15.981 -26.711  1.00 22.89           O
ATOM   5585  C   ASP A 795     -28.193  16.380 -29.986  1.00 20.15           C
ATOM   5586  O   ASP A 795     -27.554  15.615 -30.693  1.00 20.76           O
ATOM   5587  N   GLN A 796     -27.629  17.364 -29.305  1.00 20.40           N
ATOM   5588  CA  GLN A 796     -26.246  17.748 -29.558  1.00 21.18           C
ATOM   5589  CB  GLN A 796     -26.052  19.217 -29.205  1.00 21.56           C
ATOM   5590  CG  GLN A 796     -24.810  19.571 -28.430  1.00 22.65           C
ATOM   5591  CD  GLN A 796     -25.107  20.620 -27.389  1.00 23.85           C
ATOM   5592  OE1 GLN A 796     -25.289  20.295 -26.221  1.00 24.92           O
ATOM   5593  NE2 GLN A 796     -25.196  21.886 -27.808  1.00 23.84           N
ATOM   5594  C   GLN A 796     -25.208  16.822 -28.898  1.00 21.38           C
ATOM   5595  O   GLN A 796     -24.065  16.719 -29.362  1.00 21.04           O
ATOM   5596  N   HIS A 797     -25.623  16.114 -27.852  1.00 21.63           N
ATOM   5597  CA  HIS A 797     -24.715  15.213 -27.145  1.00 21.67           C
ATOM   5598  CB  HIS A 797     -24.876  15.335 -25.625  1.00 22.76           C
ATOM   5599  CG  HIS A 797     -24.572  16.729 -25.103  1.00 24.06           C
ATOM   5600  ND1 HIS A 797     -23.340  17.299 -25.215  1.00 24.32           N
ATOM   5601  CE1 HIS A 797     -23.375  18.544 -24.697  1.00 24.67           C
ATOM   5602  NE2 HIS A 797     -24.633  18.780 -24.255  1.00 24.64           N
ATOM   5603  CD2 HIS A 797     -25.396  17.687 -24.499  1.00 24.07           C
ATOM   5604  C   HIS A 797     -24.829  13.805 -27.612  1.00 21.06           C
ATOM   5605  O   HIS A 797     -23.823  13.179 -27.894  1.00 21.65           O
ATOM   5606  N   THR A 798     -26.052  13.309 -27.758  1.00 20.61           N
ATOM   5607  CA  THR A 798     -26.269  11.910 -28.111  1.00 20.24           C
ATOM   5608  CB  THR A 798     -27.384  11.276 -27.262  1.00 19.85           C
ATOM   5609  OG1 THR A 798     -28.650  11.839 -27.627  1.00 19.74           O
ATOM   5610  CG2 THR A 798     -27.127  11.507 -25.794  1.00 20.40           C
ATOM   5611  C   THR A 798     -26.618  11.669 -29.574  1.00 20.39           C
ATOM   5612  O   THR A 798     -26.752  10.521 -29.986  1.00 21.57           O
ATOM   5613  N   PHE A 799     -26.796  12.740 -30.343  1.00 19.98           N
ATOM   5614  CA  PHE A 799     -27.235  12.654 -31.757  1.00 19.58           C
ATOM   5615  CB  PHE A 799     -26.067  12.332 -32.661  1.00 19.49           C
ATOM   5616  CG  PHE A 799     -24.960  13.311 -32.538  1.00 20.17           C
ATOM   5617  CD1 PHE A 799     -25.088  14.588 -33.066  1.00 20.34           C
ATOM   5618  CE1 PHE A 799     -24.059  15.506 -32.955  1.00 20.49           C
ATOM   5619  CZ  PHE A 799     -22.897  15.160 -32.281  1.00 20.70           C
ATOM   5620  CE2 PHE A 799     -22.761  13.889 -31.738  1.00 20.84           C
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ATOM   5621  CD2 PHE A 799     -23.797  12.977 -31.858  1.00 20.85           C
ATOM   5622  C   PHE A 799     -28.463  11.784 -32.049  1.00 19.23           C
ATOM   5623  O   PHE A 799     -28.666  11.302 -33.170  1.00 18.58           O
ATOM   5624  N   GLU A 800     -29.264  11.589 -31.008  1.00 19.22           N
ATOM   5625  CA  GLU A 800     -30.609  11.092 -31.119  1.00 19.08           C
ATOM   5626  CB  GLU A 800     -31.216  11.065 -29.736  1.00 20.51           C
ATOM   5627  CG  GLU A 800     -31.280   9.716 -29.057  1.00 22.43           C
ATOM   5628  CD  GLU A 800     -32.335   9.734 -27.969  1.00 23.81           C
ATOM   5629  OE1 GLU A 800     -32.151  10.502 -26.990  1.00 24.65           O
ATOM   5630  OE2 GLU A 800     -33.367   9.028 -28.113  1.00 24.24           O
ATOM   5631  C   GLU A 800     -31.451  12.038 -31.966  1.00 18.33           C
ATOM   5632  O   GLU A 800     -31.307  13.275 -31.875  1.00 17.53           O
ATOM   5633  N   VAL A 801     -32.343  11.457 -32.769  1.00 17.31           N
ATOM   5634  CA  VAL A 801     -33.360  12.235 -33.488  1.00 16.37           C
ATOM   5635  CB  VAL A 801     -33.796  11.554 -34.799  1.00 15.84           C
ATOM   5636  CG1 VAL A 801     -34.686  12.479 -35.613  1.00 15.70           C
ATOM   5637  CG2 VAL A 801     -32.586  11.144 -35.607  1.00 15.73           C
ATOM   5638  C   VAL A 801     -34.570  12.448 -32.580  1.00 16.04           C
ATOM   5639  O   VAL A 801     -35.458  11.590 -32.489  1.00 15.98           O
ATOM   5640  N   LEU A 802     -34.590  13.598 -31.910  1.00 15.73           N
ATOM   5641  CA  LEU A 802     -35.589  13.891 -30.874  1.00 15.79           C
ATOM   5642  CB  LEU A 802     -35.133  15.067 -29.989  1.00 15.71           C
ATOM   5643  CG  LEU A 802     -33.882  14.829 -29.122  1.00 15.76           C
ATOM   5644  CD1 LEU A 802     -33.325  16.128 -28.541  1.00 15.62           C
ATOM   5645  CD2 LEU A 802     -34.136  13.777 -28.040  1.00 15.47           C
ATOM   5646  C   LEU A 802     -36.986  14.151 -31.430  1.00 15.66           C
ATOM   5647  O   LEU A 802     -37.992  13.734 -30.828  1.00 15.64           O
ATOM   5648  N   HIS A 803     -37.036  14.831 -32.576  1.00 15.27           N
ATOM   5649  CA  HIS A 803     -38.299  15.168 -33.234  1.00 15.01           C
ATOM   5650  CB  HIS A 803     -38.880  16.442 -32.642  1.00 14.86           C
ATOM   5651  CG  HIS A 803     -40.301  16.695 -33.039  1.00 14.92           C
ATOM   5652  ND1 HIS A 803     -41.338  16.295 -32.292  1.00 15.04           N
ATOM   5653  CE1 HIS A 803     -42.491  16.655 -32.891  1.00 14.90           C
ATOM   5654  NE2 HIS A 803     -42.189  17.282 -34.025  1.00 14.99           N
ATOM   5655  CD2 HIS A 803     -40.841  17.325 -34.151  1.00 15.24           C
ATOM   5656  C   HIS A 803     -38.175  15.315 -34.741  1.00 14.86           C
ATOM   5657  O   HIS A 803     -37.126  15.760 -35.273  1.00 14.43           O
ATOM   5658  N   ALA A 804     -39.250  14.938 -35.440  1.00 14.11           N
ATOM   5659  CA  ALA A 804     -39.367  15.186 -36.865  1.00 13.24           C
ATOM   5660  CB  ALA A 804     -39.214  13.898 -37.651  1.00 13.03           C
ATOM   5661  C   ALA A 804     -40.694  15.855 -37.172  1.00 12.85           C
ATOM   5662  O   ALA A 804     -41.745  15.311 -36.900  1.00 12.98           O
ATOM   5663  N   HIS A 805     -40.640  17.067 -37.695  1.00 12.59           N
ATOM   5664  CA  HIS A 805     -41.816  17.674 -38.279  1.00 12.55           C
ATOM   5665  CB  HIS A 805     -41.844  19.174 -38.002  1.00 12.52           C
ATOM   5666  CG  HIS A 805     -43.030  19.871 -38.602  1.00 12.48           C
ATOM   5667  ND1 HIS A 805     -44.148  20.104 -37.910  1.00 12.57           N
ATOM   5668  CE1 HIS A 805     -45.049  20.714 -38.707  1.00 12.63           C
ATOM   5669  NE2 HIS A 805     -44.502  20.862 -39.920  1.00 12.64           N
ATOM   5670  CD2 HIS A 805     -43.256  20.352 -39.893  1.00 12.56           C
ATOM   5671  C   HIS A 805     -41.813  17.398 -39.762  1.00 12.35           C
ATOM   5672  O   HIS A 805     -40.778  17.485 -40.404  1.00 12.45           O
ATOM   5673  N   GLN A 806     -42.965  17.050 -40.316  1.00 12.16           N
ATOM   5674  CA  GLN A 806     -43.064  16.782 -41.745  1.00 12.39           C
ATOM   5675  CB  GLN A 806     -43.680  15.408 -41.980  1.00 12.00           C
ATOM   5676  CG  GLN A 806     -44.019  15.127 -43.427  1.00 11.97           C
ATOM   5677  CD  GLN A 806     -44.332  13.671 -43.683  1.00 12.07           C
ATOM   5678  OE1 GLN A 806     -43.500  12.782 -43.456  1.00 12.17           O
ATOM   5679  NE2 GLN A 806     -45.521  13.417 -44.186  1.00 11.99           N
ATOM   5680  C   GLN A 806     -43.878  17.873 -42.452  1.00 12.92           C
ATOM   5681  O   GLN A 806     -45.013  18.173 -42.051  1.00 13.58           O
ATOM   5682  N   PHE A 807     -43.313  18.473 -43.496  1.00 12.93           N
ATOM   5683  CA  PHE A 807     -43.999  19.570 -44.175  1.00 13.34           C
ATOM   5684  CB  PHE A 807     -43.013  20.450 -44.945  1.00 13.00           C
ATOM   5685  CG  PHE A 807     -42.062  21.171 -44.059  1.00 12.64           C
ATOM   5686  CD1 PHE A 807     -42.468  22.312 -43.375  1.00 12.49           C
ATOM   5687  CE1 PHE A 807     -41.602  22.966 -42.525  1.00 12.43           C
ATOM   5688  CZ  PHE A 807     -40.317  22.471 -42.344  1.00 12.55           C
ATOM   5689  CE2 PHE A 807     -39.905  21.327 -43.012  1.00 12.42           C
ATOM   5690  CD2 PHE A 807     -40.777  20.683 -43.863  1.00 12.45           C
ATOM   5691  C   PHE A 807     -45.113  19.063 -45.076  1.00 14.06           C
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ATOM   5692  O   PHE A 807     -45.314  17.849 -45.205  1.00 14.23           O
ATOM   5693  N   LEU A 808     -45.839  19.997 -45.685  1.00 14.58           N
ATOM   5694  CA  LEU A 808     -46.978  19.658 -46.527  1.00 15.34           C
ATOM   5695  CB  LEU A 808     -47.784  20.918 -46.856  1.00 15.73           C
ATOM   5696  CG  LEU A 808     -48.617  21.479 -45.685  1.00 15.84           C
ATOM   5697  CD1 LEU A 808     -48.924  22.962 -45.886  1.00 15.45           C
ATOM   5698  CD2 LEU A 808     -49.889  20.664 -45.469  1.00 15.32           C
ATOM   5699  C   LEU A 808     -46.593  18.882 -47.799  1.00 15.65           C
ATOM   5700  O   LEU A 808     -45.484  19.028 -48.311  1.00 15.56           O
ATOM   5701  N   GLN A 809     -47.507  18.027 -48.271  1.00 16.10           N
ATOM   5702  CA  GLN A 809     -47.302  17.277 -49.507  1.00 16.44           C
ATOM   5703  CB  GLN A 809     -48.590  16.539 -49.908  1.00 16.24           C
ATOM   5704  C   GLN A 809     -46.869  18.288 -50.568  1.00 16.78           C
ATOM   5705  O   GLN A 809     -47.356  19.416 -50.564  1.00 17.95           O
ATOM   5706  N   ASN A 810     -45.914  17.923 -51.420  1.00 16.49           N
ATOM   5707  CA  ASN A 810     -45.319  18.878 -52.386  1.00 16.89           C
ATOM   5708  CB  ASN A 810     -46.297  19.193 -53.529  1.00 16.78           C
ATOM   5709  CG  ASN A 810     -46.473  18.029 -54.481  1.00 17.06           C
ATOM   5710  OD1 ASN A 810     -47.588  17.624 -54.754  1.00 17.08           O
ATOM   5711  ND2 ASN A 810     -45.364  17.475 -54.982  1.00 17.28           N
ATOM   5712  C   ASN A 810     -44.689  20.190 -51.840  1.00 17.15           C
ATOM   5713  O   ASN A 810     -44.234  21.036 -52.624  1.00 17.44           O
ATOM   5714  N   GLU A 811     -44.657  20.361 -50.519  1.00 16.97           N
ATOM   5715  CA  GLU A 811     -43.968  21.499 -49.918  1.00 16.72           C
ATOM   5716  CB  GLU A 811     -44.500  21.798 -48.524  1.00 16.95           C
ATOM   5717  CG  GLU A 811     -43.774  22.924 -47.810  1.00 17.03           C
ATOM   5718  CD  GLU A 811     -44.604  23.541 -46.701  1.00 17.59           C
ATOM   5719  OE1 GLU A 811     -45.160  22.775 -45.878  1.00 17.93           O
ATOM   5720  OE2 GLU A 811     -44.705  24.791 -46.650  1.00 17.41           O
ATOM   5721  C   GLU A 811     -42.492  21.218 -49.824  1.00 16.91           C
ATOM   5722  O   GLU A 811     -42.065  20.242 -49.199  1.00 17.30           O
ATOM   5723  N   TYR A 812     -41.710  22.105 -50.417  1.00 16.96           N
ATOM   5724  CA  TYR A 812     -40.267  21.984 -50.451  1.00 16.43           C
ATOM   5725  CB  TYR A 812     -39.805  22.383 -51.834  1.00 16.95           C
ATOM   5726  CG  TYR A 812     -38.496  21.795 -52.249  1.00 18.12           C
ATOM   5727  CD1 TYR A 812     -37.296  22.410 -51.871  1.00 18.37           C
ATOM   5728  CE1 TYR A 812     -36.070  21.895 -52.268  1.00 19.11           C
ATOM   5729  CZ  TYR A 812     -36.026  20.734 -53.051  1.00 19.47           C
ATOM   5730  OH  TYR A 812     -34.771  20.249 -53.422  1.00 19.50           O
ATOM   5731  CE2 TYR A 812     -37.220  20.095 -53.442  1.00 18.84           C
ATOM   5732  CD2 TYR A 812     -38.441  20.630 -53.047  1.00 18.11           C
ATOM   5733  C   TYR A 812     -39.668  22.910 -49.416  1.00 15.57           C
ATOM   5734  O   TYR A 812     -40.003  24.074 -49.388  1.00 15.85           O
ATOM   5735  N   ALA A 813     -38.800  22.393 -48.556  1.00 15.02           N
ATOM   5736  CA  ALA A 813     -38.180  23.201 -47.504  1.00 14.69           C
ATOM   5737  CB  ALA A 813     -38.024  22.383 -46.244  1.00 14.41           C
ATOM   5738  C   ALA A 813     -36.825  23.685 -47.976  1.00 14.89           C
ATOM   5739  O   ALA A 813     -35.939  22.874 -48.208  1.00 15.70           O
ATOM   5740  N   LEU A 814     -36.659  24.998 -48.106  1.00 14.62           N
ATOM   5741  CA  LEU A 814     -35.493  25.574 -48.781  1.00 14.53           C
ATOM   5742  CB  LEU A 814     -35.933  26.658 -49.766  1.00 14.51           C
ATOM   5743  CG  LEU A 814     -36.497  26.221 -51.114  1.00 14.54           C
ATOM   5744  CD1 LEU A 814     -37.030  27.432 -51.847  1.00 14.47           C
ATOM   5745  CD2 LEU A 814     -35.446  25.508 -51.954  1.00 14.72           C
ATOM   5746  C   LEU A 814     -34.428  26.174 -47.877  1.00 14.67           C
ATOM   5747  O   LEU A 814     -33.241  26.092 -48.185  1.00 14.88           O
ATOM   5748  N   SER A 815     -34.852  26.829 -46.802  1.00 14.65           N
ATOM   5749  CA  SER A 815     -33.937  27.575 -45.944  1.00 14.57           C
ATOM   5750  CB  SER A 815     -33.940  29.054 -46.317  1.00 14.41           C
ATOM   5751  OG  SER A 815     -35.220  29.605 -46.144  1.00 14.08           O
ATOM   5752  C   SER A 815     -34.322  27.414 -44.489  1.00 14.78           C
ATOM   5753  O   SER A 815     -35.466  27.084 -44.178  1.00 15.03           O
ATOM   5754  N   LEU A 816     -33.361  27.675 -43.606  1.00 14.67           N
ATOM   5755  CA  LEU A 816     -33.493  27.412 -42.178  1.00 14.37           C
ATOM   5756  CB  LEU A 816     -33.028  25.982 -41.883  1.00 14.39           C
ATOM   5757  CG  LEU A 816     -32.747  25.493 -40.461  1.00 14.28           C
ATOM   5758  CD1 LEU A 816     -34.025  25.206 -39.687  1.00 14.44           C
ATOM   5759  CD2 LEU A 816     -31.926  24.235 -40.576  1.00 14.34           C
ATOM   5760  C   LEU A 816     -32.644  28.410 -41.402  1.00 14.41           C
ATOM   5761  O   LEU A 816     -31.620  28.883 -41.887  1.00 14.97           O
ATOM   5762  N   VAL A 817     -33.053  28.719 -40.187  1.00 14.25           N
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ATOM   5763  CA  VAL A 817     -32.347  29.706 -39.390  1.00 14.51           C
ATOM   5764  CB  VAL A 817     -32.620  31.141 -39.924  1.00 14.25           C
ATOM   5765  CG1 VAL A 817     -34.101  31.348 -40.194  1.00 14.49           C
ATOM   5766  CG2 VAL A 817     -32.115  32.203 -38.976  1.00 14.20           C
ATOM   5767  C   VAL A 817     -32.772  29.517 -37.934  1.00 14.60           C
ATOM   5768  O   VAL A 817     -33.892  29.089 -37.674  1.00 14.78           O
ATOM   5769  N   SER A 818     -31.872  29.789 -36.995  1.00 14.77           N
ATOM   5770  CA  SER A 818     -32.212  29.742 -35.578  1.00 15.44           C
ATOM   5771  CB  SER A 818     -31.407  28.648 -34.878  1.00 15.24           C
ATOM   5772  OG  SER A 818     -31.482  28.754 -33.467  1.00 15.22           O
ATOM   5773  C   SER A 818     -31.917  31.100 -34.959  1.00 16.19           C
ATOM   5774  O   SER A 818     -30.803  31.600 -35.074  1.00 17.01           O
ATOM   5775  N   CYS A 819     -32.893  31.711 -34.304  1.00 16.69           N
ATOM   5776  CA  CYS A 819     -32.654  33.050 -33.783  1.00 17.57           C
ATOM   5777  CB  CYS A 819     -32.422  34.014 -34.945  1.00 17.85           C
ATOM   5778  SG  CYS A 819     -33.805  34.115 -36.108  1.00 17.92           S
ATOM   5779  C   CYS A 819     -33.718  33.626 -32.843  1.00 18.34           C
ATOM   5780  O   CYS A 819     -34.837  33.108 -32.732  1.00 18.14           O
ATOM   5781  N   LYS A 820     -33.317  34.695 -32.153  1.00 19.17           N
ATOM   5782  CA  LYS A 820     -34.207  35.557 -31.393  1.00 19.93           C
ATOM   5783  CB  LYS A 820     -33.437  36.229 -30.262  1.00 20.62           C
ATOM   5784  CG  LYS A 820     -33.155  35.361 -29.054  1.00 21.29           C
ATOM   5785  CD  LYS A 820     -32.085  36.027 -28.207  1.00 22.63           C
ATOM   5786  CE  LYS A 820     -32.441  36.008 -26.729  1.00 24.71           C
ATOM   5787  NZ  LYS A 820     -32.479  34.614 -26.180  1.00 27.50           N
ATOM   5788  C   LYS A 820     -34.688  36.642 -32.336  1.00 20.03           C
ATOM   5789  O   LYS A 820     -33.964  37.014 -33.266  1.00 20.25           O
ATOM   5790  N   LEU A 821     -35.898  37.152 -32.097  1.00 19.84           N
ATOM   5791  CA  LEU A 821     -36.451  38.264 -32.886  1.00 19.60           C
ATOM   5792  CB  LEU A 821     -37.470  37.764 -33.907  1.00 18.61           C
ATOM   5793  CG  LEU A 821     -36.988  36.951 -35.101  1.00 18.52           C
ATOM   5794  CD1 LEU A 821     -38.167  36.412 -35.892  1.00 18.28           C
ATOM   5795  CD2 LEU A 821     -36.075  37.781 -35.995  1.00 18.80           C
ATOM   5796  C   LEU A 821     -37.114  39.296 -31.993  1.00 20.43           C
ATOM   5797  O   LEU A 821     -37.744  38.955 -30.984  1.00 21.13           O
ATOM   5798  N   GLY A 822     -36.979  40.560 -32.365  1.00 20.99           N
ATOM   5799  CA  GLY A 822     -37.623  41.637 -31.626  1.00 21.94           C
ATOM   5800  C   GLY A 822     -37.318  41.580 -30.146  1.00 22.32           C
ATOM   5801  O   GLY A 822     -36.158  41.482 -29.753  1.00 22.59           O
ATOM   5802  N   LYS A 823     -38.373  41.617 -29.338  1.00 22.96           N
ATOM   5803  CA  LYS A 823     -38.271  41.652 -27.881  1.00 23.50           C
ATOM   5804  CB  LYS A 823     -39.138  42.788 -27.337  1.00 24.39           C
ATOM   5805  CG  LYS A 823     -38.675  44.169 -27.760  1.00 25.56           C
ATOM   5806  CD  LYS A 823     -39.602  45.259 -27.251  1.00 26.76           C
ATOM   5807  CE  LYS A 823     -38.924  46.619 -27.366  1.00 28.25           C
ATOM   5808  NZ  LYS A 823     -39.875  47.703 -27.751  1.00 28.96           N
ATOM   5809  C   LYS A 823     -38.689  40.324 -27.238  1.00 23.70           C
ATOM   5810  O   LYS A 823     -39.034  40.277 -26.058  1.00 24.02           O
ATOM   5811  N   ASP A 824     -38.646  39.253 -28.022  1.00 23.38           N
ATOM   5812  CA  ASP A 824     -39.113  37.942 -27.599  1.00 22.56           C
ATOM   5813  CB  ASP A 824     -39.669  37.211 -28.822  1.00 23.15           C
ATOM   5814  CG  ASP A 824     -40.546  36.023 -28.466  1.00 23.23           C
ATOM   5815  OD1 ASP A 824     -40.192  35.234 -27.549  1.00 23.21           O
ATOM   5816  OD2 ASP A 824     -41.584  35.863 -29.148  1.00 22.57           O
ATOM   5817  C   ASP A 824     -37.924  37.180 -27.048  1.00 22.46           C
ATOM   5818  O   ASP A 824     -36.919  37.025 -27.753  1.00 22.85           O
ATOM   5819  N   PRO A 825     -38.022  36.690 -25.791  1.00 22.18           N
ATOM   5820  CA  PRO A 825     -36.864  36.016 -25.190  1.00 22.07           C
ATOM   5821  CB  PRO A 825     -37.272  35.867 -23.716  1.00 21.00           C
ATOM   5822  CG  PRO A 825     -38.751  35.806 -23.743  1.00 20.92           C
ATOM   5823  CD  PRO A 825     -39.181  36.700 -24.877  1.00 21.85           C
ATOM   5824  C   PRO A 825     -36.546  34.647 -25.830  1.00 22.24           C
ATOM   5825  O   PRO A 825     -35.424  34.147 -25.692  1.00 22.46           O
ATOM   5826  N   ASN A 826     -37.515  34.066 -26.533  1.00 22.21           N
ATOM   5827  CA  ASN A 826     -37.352  32.738 -27.120  1.00 22.84           C
ATOM   5828  CB  ASN A 826     -38.692  32.222 -27.637  1.00 23.71           C
ATOM   5829  CG  ASN A 826     -39.740  32.098 -26.548  1.00 24.28           C
ATOM   5830  OD1 ASN A 826     -39.537  32.525 -25.409  1.00 24.42           O
ATOM   5831  ND2 ASN A 826     -40.878  31.504 -26.902  1.00 24.56           N
ATOM   5832  C   ASN A 826     -36.356  32.684 -28.263  1.00 22.55           C
ATOM   5833  O   ASN A 826     -36.101  33.685 -28.926  1.00 23.50           O
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ATOM   5834  N   THR A 827     -35.791  31.506 -28.488  1.00 22.30           N
ATOM   5835  CA  THR A 827     -35.084  31.227 -29.737  1.00 21.97           C
ATOM   5836  CB  THR A 827     -33.686  30.586 -29.515  1.00 22.06           C
ATOM   5837  OG1 THR A 827     -32.882  31.446 -28.700  1.00 23.06           O
ATOM   5838  CG2 THR A 827     -32.959  30.391 -30.837  1.00 21.38           C
ATOM   5839  C   THR A 827     -35.962  30.307 -30.572  1.00 21.02           C
ATOM   5840  O   THR A 827     -36.590  29.381 -30.048  1.00 20.90           O
ATOM   5841  N   TYR A 828     -36.002  30.569 -31.871  1.00 19.72           N
ATOM   5842  CA  TYR A 828     -36.860  29.826 -32.759  1.00 18.62           C
ATOM   5843  CB  TYR A 828     -37.883  30.773 -33.359  1.00 19.31           C
ATOM   5844  CG  TYR A 828     -38.772  31.434 -32.343  1.00 19.91           C
ATOM   5845  CD1 TYR A 828     -39.820  30.733 -31.746  1.00 20.68           C
ATOM   5846  CE1 TYR A 828     -40.648  31.333 -30.813  1.00 21.11           C
ATOM   5847  CZ  TYR A 828     -40.439  32.653 -30.475  1.00 21.38           C
ATOM   5848  OH  TYR A 828     -41.265  33.250 -29.560  1.00 22.22           O
ATOM   5849  CE2 TYR A 828     -39.409  33.373 -31.056  1.00 21.26           C
ATOM   5850  CD2 TYR A 828     -38.583  32.757 -31.987  1.00 20.43           C
ATOM   5851  C   TYR A 828     -36.081  29.168 -33.874  1.00 17.53           C
ATOM   5852  O   TYR A 828     -35.023  29.663 -34.270  1.00 17.29           O
ATOM   5853  N   PHE A 829     -36.599  28.044 -34.370  1.00 16.29           N
ATOM   5854  CA  PHE A 829     -36.197  27.529 -35.676  1.00 15.10           C
ATOM   5855  CB  PHE A 829     -36.248  26.008 -35.735  1.00 14.95           C
ATOM   5856  CG  PHE A 829     -35.180  25.339 -34.931  1.00 15.22           C
ATOM   5857  CD1 PHE A 829     -33.854  25.343 -35.367  1.00 15.37           C
ATOM   5858  CE1 PHE A 829     -32.862  24.730 -34.618  1.00 15.26           C
ATOM   5859  CZ  PHE A 829     -33.195  24.101 -33.421  1.00 15.48           C
ATOM   5860  CE2 PHE A 829     -34.506  24.089 -32.979  1.00 15.16           C
ATOM   5861  CD2 PHE A 829     -35.489  24.707 -33.730  1.00 15.11           C
ATOM   5862  C   PHE A 829     -37.177  28.102 -36.647  1.00 14.47           C
ATOM   5863  O   PHE A 829     -38.369  28.156 -36.360  1.00 14.47           O
ATOM   5864  N   ILE A 830     -36.675  28.548 -37.788  1.00 14.04           N
ATOM   5865  CA  ILE A 830     -37.483  29.277 -38.758  1.00 13.93           C
ATOM   5866  CB  ILE A 830     -37.158  30.795 -38.698  1.00 13.78           C
ATOM   5867  CG1 ILE A 830     -37.472  31.360 -37.312  1.00 13.54           C
ATOM   5868  CD1 ILE A 830     -37.182  32.832 -37.176  1.00 13.54           C
ATOM   5869  CG2 ILE A 830     -37.924  31.566 -39.757  1.00 13.74           C
ATOM   5870  C   ILE A 830     -37.222  28.719 -40.161  1.00 13.85           C
ATOM   5871  O   ILE A 830     -36.129  28.877 -40.688  1.00 14.49           O
ATOM   5872  N   VAL A 831     -38.213  28.059 -40.759  1.00 13.48           N
ATOM   5873  CA  VAL A 831     -38.019  27.401 -42.062  1.00 13.13           C
ATOM   5874  CB  VAL A 831     -38.638  25.986 -42.111  1.00 13.02           C
ATOM   5875  CG1 VAL A 831     -38.430  25.350 -43.482  1.00 12.54           C
ATOM   5876  CG2 VAL A 831     -38.068  25.100 -41.007  1.00 13.06           C
ATOM   5877  C   VAL A 831     -38.648  28.194 -43.172  1.00 13.15           C
ATOM   5878  O   VAL A 831     -39.764  28.691 -43.018  1.00 13.30           O
ATOM   5879  N   GLY A 832     -37.944  28.282 -44.299  1.00 13.17           N
ATOM   5880  CA  GLY A 832     -38.483  28.889 -45.515  1.00 13.30           C
ATOM   5881  C   GLY A 832     -38.822  27.815 -46.525  1.00 13.27           C
ATOM   5882  O   GLY A 832     -37.974  27.018 -46.876  1.00 13.41           O
ATOM   5883  N   THR A 833     -40.068  27.780 -46.985  1.00 13.41           N
ATOM   5884  CA  THR A 833     -40.509  26.721 -47.895  1.00 13.64           C
ATOM   5885  CB  THR A 833     -41.745  25.993 -47.359  1.00 13.53           C
ATOM   5886  OG1 THR A 833     -42.902  26.799 -47.608  1.00 13.58           O
ATOM   5887  CG2 THR A 833     -41.610  25.693 -45.872  1.00 13.26           C
ATOM   5888  C   THR A 833     -40.892  27.275 -49.252  1.00 13.89           C
ATOM   5889  O   THR A 833     -40.839  28.483 -49.457  1.00 14.34           O
ATOM   5890  N   ALA A 834     -41.282  26.388 -50.169  1.00 13.92           N
ATOM   5891  CA  ALA A 834     -41.874  26.774 -51.447  1.00 14.49           C
ATOM   5892  CB  ALA A 834     -40.811  27.031 -52.480  1.00 14.65           C
ATOM   5893  C   ALA A 834     -42.741  25.652 -51.903  1.00 15.22           C
ATOM   5894  O   ALA A 834     -42.435  24.508 -51.643  1.00 15.69           O
ATOM   5895  N   MET A 835     -43.838  25.978 -52.571  1.00 16.65           N
ATOM   5896  CA  MET A 835     -44.747  24.969 -53.094  1.00 17.69           C
ATOM   5897  CB  MET A 835     -46.174  25.497 -53.132  1.00 18.63           C
ATOM   5898  CG  MET A 835     -46.883  25.416 -51.804  1.00 19.98           C
ATOM   5899  SD  MET A 835     -47.081  23.720 -51.208  1.00 22.02           S
ATOM   5900  CE  MET A 835     -46.739  24.064 -49.486  1.00 20.65           C
ATOM   5901  C   MET A 835     -44.318  24.579 -54.490  1.00 18.17           C
ATOM   5902  O   MET A 835     -44.325  25.415 -55.402  1.00 18.56           O
ATOM   5903  N   VAL A 836     -43.965  23.312 -54.661  1.00 18.27           N
ATOM   5904  CA  VAL A 836     -43.425  22.858 -55.925  1.00 19.17           C
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ATOM   5905  CB  VAL A 836     -42.120  22.091 -55.726  1.00 18.73           C
ATOM   5906  CG1 VAL A 836     -41.572  21.626 -57.064  1.00 18.56           C
ATOM   5907  CG2 VAL A 836     -41.116  22.973 -55.013  1.00 18.31           C
ATOM   5908  C   VAL A 836     -44.399  21.988 -56.683  1.00 20.28           C
ATOM   5909  O   VAL A 836     -44.726  20.892 -56.244  1.00 20.81           O
ATOM   5910  N   TYR A 837     -44.854  22.479 -57.828  1.00 21.89           N
ATOM   5911  CA  TYR A 837     -45.688  21.681 -58.714  1.00 23.55           C
ATOM   5912  CB  TYR A 837     -47.029  22.366 -58.967  1.00 23.66           C
ATOM   5913  CG  TYR A 837     -47.863  22.472 -57.715  1.00 23.82           C
ATOM   5914  CD1 TYR A 837     -48.475  21.349 -57.169  1.00 23.68           C
ATOM   5915  CE1 TYR A 837     -49.224  21.431 -56.012  1.00 23.88           C
ATOM   5916  CZ  TYR A 837     -49.371  22.646 -55.384  1.00 24.81           C
ATOM   5917  OH  TYR A 837     -50.124  22.735 -54.230  1.00 26.02           O
ATOM   5918  CE2 TYR A 837     -48.772  23.782 -55.907  1.00 25.07           C
ATOM   5919  CD2 TYR A 837     -48.019  23.688 -57.064  1.00 24.32           C
ATOM   5920  C   TYR A 837     -44.965  21.409 -60.013  1.00 25.06           C
ATOM   5921  O   TYR A 837     -44.210  22.252 -60.483  1.00 26.00           O
ATOM   5922  N   PRO A 838     -45.170  20.212 -60.583  1.00 26.38           N
ATOM   5923  CA  PRO A 838     -44.587  19.839 -61.879  1.00 28.36           C
ATOM   5924  CB  PRO A 838     -44.995  18.371 -62.030  1.00 27.95           C
ATOM   5925  CG  PRO A 838     -45.241  17.901 -60.635  1.00 26.88           C
ATOM   5926  CD  PRO A 838     -45.836  19.073 -59.934  1.00 26.11           C
ATOM   5927  C   PRO A 838     -45.118  20.667 -63.068  1.00 30.43           C
ATOM   5928  O   PRO A 838     -44.360  20.989 -63.980  1.00 29.96           O
ATOM   5929  N   GLU A 839     -46.404  21.005 -63.049  1.00 34.21           N
ATOM   5930  CA  GLU A 839     -47.031  21.775 -64.129  1.00 37.52           C
ATOM   5931  CB  GLU A 839     -48.563  21.694 -64.039  1.00 40.23           C
ATOM   5932  CG  GLU A 839     -49.118  20.308 -63.714  1.00 42.52           C
ATOM   5933  CD  GLU A 839     -49.312  20.089 -62.219  1.00 43.36           C
ATOM   5934  OE1 GLU A 839     -48.412  20.464 -61.431  1.00 41.74           O
ATOM   5935  OE2 GLU A 839     -50.372  19.543 -61.830  1.00 44.58           O
ATOM   5936  C   GLU A 839     -46.605  23.238 -64.086  1.00 38.03           C
ATOM   5937  O   GLU A 839     -46.546  23.915 -65.110  1.00 39.38           O
ATOM   5938  N   GLU A 840     -46.313  23.717 -62.889  1.00 38.16           N
ATOM   5939  CA  GLU A 840     -45.997  25.103 -62.674  1.00 38.37           C
ATOM   5940  CB  GLU A 840     -46.708  25.571 -61.395  1.00 44.04           C
ATOM   5941  CG  GLU A 840     -46.404  26.982 -60.913  1.00 50.48           C
ATOM   5942  CD  GLU A 840     -46.446  27.099 -59.388  1.00 55.97           C
ATOM   5943  OE1 GLU A 840     -45.631  26.428 -58.705  1.00 58.23           O
ATOM   5944  OE2 GLU A 840     -47.287  27.869 -58.867  1.00 58.66           O
ATOM   5945  C   GLU A 840     -44.476  25.231 -62.579  1.00 36.02           C
ATOM   5946  O   GLU A 840     -43.867  24.741 -61.635  1.00 35.67           O
ATOM   5947  N   ALA A 841     -43.872  25.873 -63.578  1.00 33.36           N
ATOM   5948  CA  ALA A 841     -42.428  26.106 -63.610  1.00 31.35           C
ATOM   5949  CB  ALA A 841     -42.009  26.645 -64.965  1.00 30.55           C
ATOM   5950  C   ALA A 841     -41.937  27.037 -62.507  1.00 31.54           C
ATOM   5951  O   ALA A 841     -40.943  26.737 -61.847  1.00 31.65           O
ATOM   5952  N   GLU A 842     -42.627  28.164 -62.320  1.00 31.70           N
ATOM   5953  CA  GLU A 842     -42.178  29.221 -61.403  1.00 31.94           C
ATOM   5954  CB  GLU A 842     -42.353  30.591 -62.049  1.00 35.00           C
ATOM   5955  CG  GLU A 842     -41.577  30.765 -63.335  1.00 39.59           C
ATOM   5956  CD  GLU A 842     -40.954  32.140 -63.456  1.00 42.67           C
ATOM   5957  OE1 GLU A 842     -41.697  33.092 -63.792  1.00 44.57           O
ATOM   5958  OE2 GLU A 842     -39.722  32.262 -63.220  1.00 43.98           O
ATOM   5959  C   GLU A 842     -42.921  29.206 -60.075  1.00 30.30           C
ATOM   5960  O   GLU A 842     -44.147  29.241 -60.058  1.00 31.43           O
ATOM   5961  N   PRO A 843     -42.184  29.182 -58.952  1.00 28.49           N
ATOM   5962  CA  PRO A 843     -42.830  29.129 -57.640  1.00 27.77           C
ATOM   5963  CB  PRO A 843     -41.649  29.087 -56.665  1.00 26.96           C
ATOM   5964  CG  PRO A 843     -40.497  29.653 -57.422  1.00 26.55           C
ATOM   5965  CD  PRO A 843     -40.717  29.241 -58.842  1.00 27.88           C
ATOM   5966  C   PRO A 843     -43.739  30.345 -57.373  1.00 27.58           C
ATOM   5967  O   PRO A 843     -43.303  31.499 -57.504  1.00 27.11           O
ATOM   5968  N   LYS A 844     -44.997  30.072 -57.020  1.00 27.44           N
ATOM   5969  CA  LYS A 844     -46.002  31.123 -56.804  1.00 25.89           C
ATOM   5970  CB  LYS A 844     -47.177  30.980 -57.785  1.00 26.93           C
ATOM   5971  CG  LYS A 844     -46.845  31.287 -59.242  1.00 29.52           C
ATOM   5972  CD  LYS A 844     -46.272  32.700 -59.437  1.00 32.04           C
ATOM   5973  CE  LYS A 844     -46.153  33.091 -60.915  1.00 32.36           C
ATOM   5974  NZ  LYS A 844     -47.488  33.250 -61.580  1.00 32.31           N
ATOM   5975  C   LYS A 844     -46.524  31.182 -55.368  1.00 24.20           C
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ATOM   5976  O   LYS A 844     -47.281  32.087 -55.031  1.00 24.21           O
ATOM   5977  N   GLN A 845     -46.127  30.225 -54.529  1.00 22.46           N
ATOM   5978  CA  GLN A 845     -46.493  30.258 -53.109  1.00 21.27           C
ATOM   5979  CB  GLN A 845     -47.929  29.778 -52.882  1.00 22.22           C
ATOM   5980  CG  GLN A 845     -48.238  28.472 -53.566  1.00 24.19           C
ATOM   5981  CD  GLN A 845     -49.571  27.885 -53.162  1.00 26.04           C
ATOM   5982  OE1 GLN A 845     -49.937  27.876 -51.975  1.00 27.58           O
ATOM   5983  NE2 GLN A 845     -50.302  27.357 -54.147  1.00 26.79           N
ATOM   5984  C   GLN A 845     -45.518  29.511 -52.202  1.00 19.73           C
ATOM   5985  O   GLN A 845     -44.909  28.533 -52.608  1.00 19.32           O
ATOM   5986  N   GLY A 846     -45.381  29.998 -50.972  1.00 18.27           N
ATOM   5987  CA  GLY A 846     -44.487  29.417 -49.995  1.00 17.03           C
ATOM   5988  C   GLY A 846     -44.770  29.955 -48.606  1.00 16.57           C
ATOM   5989  O   GLY A 846     -45.492  30.941 -48.445  1.00 16.36           O
ATOM   5990  N   ARG A 847     -44.195  29.298 -47.601  1.00 15.75           N
ATOM   5991  CA  ARG A 847     -44.403  29.670 -46.208  1.00 15.15           C
ATOM   5992  CB  ARG A 847     -44.888  28.472 -45.402  1.00 15.30           C
ATOM   5993  CG  ARG A 847     -46.331  28.094 -45.607  1.00 15.89           C
ATOM   5994  CD  ARG A 847     -46.815  27.273 -44.424  1.00 16.02           C
ATOM   5995  NE  ARG A 847     -46.301  25.912 -44.454  1.00 15.95           N
ATOM   5996  CZ  ARG A 847     -46.400  25.056 -43.448  1.00 15.83           C
ATOM   5997  NH1 ARG A 847     -46.979  25.419 -42.313  1.00 15.80           N
ATOM   5998  NH2 ARG A 847     -45.901  23.838 -43.572  1.00 15.99           N
ATOM   5999  C   ARG A 847     -43.112  30.112 -45.564  1.00 14.66           C
ATOM   6000  O   ARG A 847     -42.023  29.737 -46.006  1.00 14.62           O
ATOM   6001  N   ILE A 848     -43.250  30.902 -44.505  1.00 14.02           N
ATOM   6002  CA  ILE A 848     -42.232  31.018 -43.479  1.00 13.33           C
ATOM   6003  CB  ILE A 848     -41.739  32.464 -43.311  1.00 12.75           C
ATOM   6004  CG1 ILE A 848     -41.166  32.967 -44.635  1.00 12.39           C
ATOM   6005  CD1 ILE A 848     -40.986  34.458 -44.690  1.00 12.60           C
ATOM   6006  CG2 ILE A 848     -40.702  32.559 -42.202  1.00 12.28           C
ATOM   6007  C   ILE A 848     -42.897  30.501 -42.221  1.00 13.32           C
ATOM   6008  O   ILE A 848     -43.954  30.994 -41.831  1.00 13.34           O
ATOM   6009  N   VAL A 849     -42.310  29.461 -41.639  1.00 13.55           N
ATOM   6010  CA  VAL A 849     -42.873  28.803 -40.464  1.00 13.94           C
ATOM   6011  CB  VAL A 849     -42.991  27.266 -40.636  1.00 13.95           C
ATOM   6012  CG1 VAL A 849     -43.987  26.706 -39.644  1.00 14.14           C
ATOM   6013  CG2 VAL A 849     -43.428  26.887 -42.034  1.00 14.08           C
ATOM   6014  C   VAL A 849     -41.959  29.064 -39.284  1.00 14.24           C
ATOM   6015  O   VAL A 849     -40.746  28.880 -39.385  1.00 14.53           O
ATOM   6016  N   VAL A 850     -42.531  29.478 -38.162  1.00 14.52           N
ATOM   6017  CA  VAL A 850     -41.725  29.729 -36.974  1.00 15.00           C
ATOM   6018  CB  VAL A 850     -41.944  31.148 -36.401  1.00 14.87           C
ATOM   6019  CG1 VAL A 850     -41.060  31.362 -35.182  1.00 14.82           C
ATOM   6020  CG2 VAL A 850     -41.681  32.214 -37.465  1.00 14.43           C
ATOM   6021  C   VAL A 850     -42.025  28.669 -35.930  1.00 15.50           C
ATOM   6022  O   VAL A 850     -43.137  28.596 -35.400  1.00 15.93           O
ATOM   6023  N   PHE A 851     -41.033  27.828 -35.660  1.00 15.88           N
ATOM   6024  CA  PHE A 851     -41.196  26.720 -34.732  1.00 16.16           C
ATOM   6025  CB  PHE A 851     -40.574  25.449 -35.294  1.00 15.51           C
ATOM   6026  CG  PHE A 851     -41.290  24.872 -36.472  1.00 14.84           C
ATOM   6027  CD1 PHE A 851     -42.495  24.230 -36.317  1.00 14.75           C
ATOM   6028  CE1 PHE A 851     -43.140  23.674 -37.401  1.00 14.91           C
ATOM   6029  CZ  PHE A 851     -42.563  23.734 -38.656  1.00 14.81           C
ATOM   6030  CE2 PHE A 851     -41.353  24.371 -38.821  1.00 14.80           C
ATOM   6031  CD2 PHE A 851     -40.721  24.926 -37.728  1.00 14.72           C
ATOM   6032  C   PHE A 851     -40.476  27.035 -33.446  1.00 17.05           C
ATOM   6033  O   PHE A 851     -39.466  27.750 -33.450  1.00 17.12           O
ATOM   6034  N   GLN A 852     -40.971  26.468 -32.351  1.00 18.36           N
ATOM   6035  CA  GLN A 852     -40.227  26.480 -31.099  1.00 19.72           C
ATOM   6036  CB  GLN A 852     -40.814  27.485 -30.122  1.00 19.96           C
ATOM   6037  CG  GLN A 852     -39.873  27.770 -28.967  1.00 20.21           C
ATOM   6038  CD  GLN A 852     -40.597  28.126 -27.689  1.00 20.57           C
ATOM   6039  OE1 GLN A 852     -41.767  28.553 -27.700  1.00 20.03           O
ATOM   6040  NE2 GLN A 852     -39.902  27.958 -26.568  1.00 20.70           N
ATOM   6041  C   GLN A 852     -40.109  25.107 -30.439  1.00 20.20           C
ATOM   6042  O   GLN A 852     -41.099  24.394 -30.266  1.00 19.60           O
ATOM   6043  N   TYR A 853     -38.877  24.760 -30.081  1.00 21.60           N
ATOM   6044  CA  TYR A 853     -38.570  23.497 -29.430  1.00 23.71           C
ATOM   6045  CB  TYR A 853     -37.305  22.859 -30.025  1.00 23.98           C
ATOM   6046  CG  TYR A 853     -36.928  21.536 -29.393  1.00 24.62           C
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ATOM   6047  CD1 TYR A 853     -37.569  20.345 -29.763  1.00 24.78           C
ATOM   6048  CE1 TYR A 853     -37.233  19.137 -29.178  1.00 24.28           C
ATOM   6049  CZ  TYR A 853     -36.239  19.107 -28.211  1.00 25.55           C
ATOM   6050  OH  TYR A 853     -35.876  17.919 -27.602  1.00 26.22           O
ATOM   6051  CE2 TYR A 853     -35.591  20.272 -27.833  1.00 25.72           C
ATOM   6052  CD2 TYR A 853     -35.937  21.473 -28.422  1.00 25.11           C
ATOM   6053  C   TYR A 853     -38.444  23.672 -27.914  1.00 25.55           C
ATOM   6054  O   TYR A 853     -37.380  24.040 -27.375  1.00 25.10           O
ATOM   6055  N   SER A 854     -39.562  23.422 -27.245  1.00 27.82           N
ATOM   6056  CA  SER A 854     -39.627  23.377 -25.797  1.00 29.56           C
ATOM   6057  CB  SER A 854     -40.540  24.480 -25.286  1.00 30.67           C
ATOM   6058  OG  SER A 854     -41.754  24.481 -26.017  1.00 32.24           O
ATOM   6059  C   SER A 854     -40.161  22.008 -25.369  1.00 31.09           C
ATOM   6060  O   SER A 854     -40.861  21.321 -26.146  1.00 29.93           O
ATOM   6061  N   ASP A 855     -39.842  21.629 -24.128  1.00 32.11           N
ATOM   6062  CA  ASP A 855     -40.039  20.262 -23.652  1.00 32.05           C
ATOM   6063  CB  ASP A 855     -41.536  19.946 -23.449  1.00 31.95           C
ATOM   6064  C   ASP A 855     -39.383  19.294 -24.649  1.00 31.91           C
ATOM   6065  O   ASP A 855     -38.193  19.428 -24.975  1.00 30.70           O
ATOM   6066  N   GLY A 856     -40.160  18.338 -25.141  1.00 31.56           N
ATOM   6067  CA  GLY A 856     -39.661  17.405 -26.129  1.00 31.97           C
ATOM   6068  C   GLY A 856     -40.421  17.623 -27.407  1.00 31.90           C
ATOM   6069  O   GLY A 856     -40.420  16.778 -28.302  1.00 32.02           O
ATOM   6070  N   LYS A 857     -41.075  18.772 -27.496  1.00 32.14           N
ATOM   6071  CA  LYS A 857     -41.992  19.009 -28.602  1.00 31.89           C
ATOM   6072  CB  LYS A 857     -43.454  19.082 -28.096  1.00 31.97           C
ATOM   6073  C   LYS A 857     -41.633  20.218 -29.484  1.00 29.52           C
ATOM   6074  O   LYS A 857     -41.096  21.231 -29.018  1.00 27.92           O
ATOM   6075  N   LEU A 858     -41.926  20.070 -30.767  1.00 27.13           N
ATOM   6076  CA  LEU A 858     -41.909  21.164 -31.686  1.00 26.97           C
ATOM   6077  CB  LEU A 858     -41.410  20.672 -33.034  1.00 25.10           C
ATOM   6078  CG  LEU A 858     -40.520  21.599 -33.854  1.00 24.17           C
ATOM   6079  CD1 LEU A 858     -39.439  22.260 -33.009  1.00 23.42           C
ATOM   6080  CD2 LEU A 858     -39.894  20.782 -34.967  1.00 24.01           C
ATOM   6081  C   LEU A 858     -43.328  21.730 -31.811  1.00 28.62           C
ATOM   6082  O   LEU A 858     -44.271  21.002 -32.161  1.00 30.00           O
ATOM   6083  N   GLN A 859     -43.475  23.020 -31.499  1.00 28.52           N
ATOM   6084  CA  GLN A 859     -44.747  23.740 -31.657  1.00 27.23           C
ATOM   6085  CB  GLN A 859     -45.042  24.594 -30.411  1.00 29.33           C
ATOM   6086  CG  GLN A 859     -45.044  23.844 -29.084  1.00 31.42           C
ATOM   6087  CD  GLN A 859     -46.309  23.026 -28.872  1.00 33.73           C
ATOM   6088  OE1 GLN A 859     -46.257  21.794 -28.764  1.00 35.00           O
ATOM   6089  NE2 GLN A 859     -47.458  23.707 -28.820  1.00 34.00           N
ATOM   6090  C   GLN A 859     -44.654  24.661 -32.868  1.00 25.15           C
ATOM   6091  O   GLN A 859     -43.581  25.193 -33.152  1.00 25.81           O
ATOM   6092  N   THR A 860     -45.764  24.858 -33.582  1.00 22.39           N
ATOM   6093  CA  THR A 860     -45.809  25.892 -34.619  1.00 19.82           C
ATOM   6094  CB  THR A 860     -46.701  25.516 -35.814  1.00 19.12           C
ATOM   6095  OG1 THR A 860     -46.196  24.326 -36.427  1.00 19.32           O
ATOM   6096  CG2 THR A 860     -46.694  26.626 -36.851  1.00 18.62           C
ATOM   6097  C   THR A 860     -46.283  27.189 -33.998  1.00 18.91           C
ATOM   6098  O   THR A 860     -47.459  27.329 -33.631  1.00 19.01           O
ATOM   6099  N   VAL A 861     -45.360  28.136 -33.871  1.00 17.46           N
ATOM   6100  CA  VAL A 861     -45.664  29.403 -33.235  1.00 16.79           C
ATOM   6101  CB  VAL A 861     -44.439  29.972 -32.487  1.00 16.93           C
ATOM   6102  CG1 VAL A 861     -44.720  31.373 -31.976  1.00 17.32           C
ATOM   6103  CG2 VAL A 861     -44.043  29.065 -31.330  1.00 16.70           C
ATOM   6104  C   VAL A 861     -46.250  30.425 -34.208  1.00 16.48           C
ATOM   6105  O   VAL A 861     -47.020  31.274 -33.798  1.00 16.64           O
ATOM   6106  N   ALA A 862     -45.894  30.345 -35.492  1.00 16.59           N
ATOM   6107  CA  ALA A 862     -46.434  31.266 -36.508  1.00 16.55           C
ATOM   6108  CB  ALA A 862     -45.920  32.687 -36.279  1.00 16.32           C
ATOM   6109  C   ALA A 862     -46.166  30.833 -37.952  1.00 16.68           C
ATOM   6110  O   ALA A 862     -45.181  30.168 -38.236  1.00 16.40           O
ATOM   6111  N   GLU A 863     -47.064  31.230 -38.848  1.00 17.56           N
ATOM   6112  CA  GLU A 863     -46.902  31.072 -40.283  1.00 18.51           C
ATOM   6113  CB  GLU A 863     -48.113  30.354 -40.857  1.00 19.75           C
ATOM   6114  CG  GLU A 863     -48.079  28.842 -40.792  1.00 21.83           C
ATOM   6115  CD  GLU A 863     -49.250  28.213 -41.540  1.00 23.51           C
ATOM   6116  OE1 GLU A 863     -48.992  27.346 -42.415  1.00 24.07           O
ATOM   6117  OE2 GLU A 863     -50.424  28.597 -41.271  1.00 23.91           O
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ATOM   6118  C   GLU A 863     -46.851  32.447 -40.944  1.00 19.06           C
ATOM   6119  O   GLU A 863     -47.348  33.435 -40.383  1.00 19.83           O
ATOM   6120  N   LYS A 864     -46.278  32.510 -42.145  1.00 18.69           N
ATOM   6121  CA  LYS A 864     -46.487  33.654 -43.048  1.00 18.78           C
ATOM   6122  CB  LYS A 864     -45.409  34.732 -42.856  1.00 18.55           C
ATOM   6123  CG  LYS A 864     -45.952  36.081 -42.416  1.00 18.28           C
ATOM   6124  CD  LYS A 864     -46.052  37.043 -43.591  1.00 18.14           C
ATOM   6125  CE  LYS A 864     -47.168  38.065 -43.430  1.00 18.12           C
ATOM   6126  NZ  LYS A 864     -47.546  38.323 -42.015  1.00 18.59           N
ATOM   6127  C   LYS A 864     -46.514  33.174 -44.490  1.00 18.80           C
ATOM   6128  O   LYS A 864     -45.516  32.653 -44.991  1.00 19.34           O
ATOM   6129  N   GLU A 865     -47.660  33.300 -45.153  1.00 18.25           N
ATOM   6130  CA  GLU A 865     -47.719  32.898 -46.549  1.00 17.72           C
ATOM   6131  CB  GLU A 865     -49.124  32.479 -46.977  1.00 18.02           C
ATOM   6132  CG  GLU A 865     -49.443  31.036 -46.570  1.00 18.92           C
ATOM   6133  CD  GLU A 865     -49.220  29.979 -47.678  1.00 19.66           C
ATOM   6134  OE1 GLU A 865     -49.230  28.761 -47.339  1.00 19.80           O
ATOM   6135  OE2 GLU A 865     -49.057  30.339 -48.882  1.00 19.47           O
ATOM   6136  C   GLU A 865     -47.133  33.999 -47.394  1.00 17.27           C
ATOM   6137  O   GLU A 865     -47.114  35.149 -46.993  1.00 18.15           O
ATOM   6138  N   VAL A 866     -46.590  33.634 -48.537  1.00 16.73           N
ATOM   6139  CA  VAL A 866     -45.681  34.491 -49.268  1.00 16.17           C
ATOM   6140  CB  VAL A 866     -44.231  34.187 -48.838  1.00 16.30           C
ATOM   6141  CG1 VAL A 866     -43.260  34.663 -49.882  1.00 16.93           C
ATOM   6142  CG2 VAL A 866     -43.902  34.819 -47.494  1.00 16.26           C
ATOM   6143  C   VAL A 866     -45.885  34.101 -50.722  1.00 16.06           C
ATOM   6144  O   VAL A 866     -45.994  32.920 -51.024  1.00 16.42           O
ATOM   6145  N   LYS A 867     -45.970  35.069 -51.626  1.00 15.94           N
ATOM   6146  CA  LYS A 867     -46.364  34.744 -52.999  1.00 15.86           C
ATOM   6147  CB  LYS A 867     -47.088  35.914 -53.675  1.00 15.25           C
ATOM   6148  C   LYS A 867     -45.161  34.286 -53.814  1.00 16.01           C
ATOM   6149  O   LYS A 867     -44.887  34.841 -54.879  1.00 16.36           O
ATOM   6150  N   GLY A 868     -44.449  33.275 -53.305  1.00 15.49           N
ATOM   6151  CA  GLY A 868     -43.309  32.690 -53.996  1.00 15.45           C
ATOM   6152  C   GLY A 868     -42.417  31.871 -53.083  1.00 15.82           C
ATOM   6153  O   GLY A 868     -42.809  31.531 -51.960  1.00 15.79           O
ATOM   6154  N   ALA A 869     -41.208  31.563 -53.564  1.00 16.01           N
ATOM   6155  CA  ALA A 869     -40.247  30.721 -52.834  1.00 15.79           C
ATOM   6156  CB  ALA A 869     -39.318  30.023 -53.809  1.00 15.94           C
ATOM   6157  C   ALA A 869     -39.430  31.522 -51.833  1.00 15.79           C
ATOM   6158  O   ALA A 869     -39.037  32.663 -52.111  1.00 15.90           O
ATOM   6159  N   VAL A 870     -39.166  30.920 -50.676  1.00 15.35           N
ATOM   6160  CA  VAL A 870     -38.319  31.548 -49.664  1.00 14.82           C
ATOM   6161  CB  VAL A 870     -38.820  31.298 -48.228  1.00 14.64           C
ATOM   6162  CG1 VAL A 870     -38.094  32.204 -47.249  1.00 14.60           C
ATOM   6163  CG2 VAL A 870     -40.310  31.548 -48.137  1.00 14.99           C
ATOM   6164  C   VAL A 870     -36.945  30.953 -49.790  1.00 14.56           C
ATOM   6165  O   VAL A 870     -36.597  30.052 -49.027  1.00 14.77           O
ATOM   6166  N   TYR A 871     -36.171  31.453 -50.755  1.00 14.30           N
ATOM   6167  CA  TYR A 871     -34.838  30.921 -51.048  1.00 14.32           C
ATOM   6168  CB  TYR A 871     -34.255  31.518 -52.338  1.00 14.19           C
ATOM   6169  CG  TYR A 871     -35.026  31.193 -53.599  1.00 14.01           C
ATOM   6170  CD1 TYR A 871     -35.224  29.872 -53.999  1.00 14.01           C
ATOM   6171  CE1 TYR A 871     -35.934  29.565 -55.146  1.00 14.17           C
ATOM   6172  CZ  TYR A 871     -36.441  30.586 -55.924  1.00 14.58           C
ATOM   6173  OH  TYR A 871     -37.141  30.285 -57.081  1.00 14.78           O
ATOM   6174  CE2 TYR A 871     -36.247  31.911 -55.549  1.00 14.76           C
ATOM   6175  CD2 TYR A 871     -35.539  32.202 -54.396  1.00 14.12           C
ATOM   6176  C   TYR A 871     -33.851  31.099 -49.903  1.00 14.64           C
ATOM   6177  O   TYR A 871     -33.111  30.192 -49.600  1.00 15.77           O
ATOM   6178  N   SER A 872     -33.847  32.255 -49.258  1.00 14.94           N
ATOM   6179  CA  SER A 872     -32.833  32.559 -48.250  1.00 15.03           C
ATOM   6180  CB  SER A 872     -31.726  33.437 -48.847  1.00 15.37           C
ATOM   6181  OG  SER A 872     -30.672  32.662 -49.415  1.00 16.09           O
ATOM   6182  C   SER A 872     -33.452  33.292 -47.092  1.00 15.16           C
ATOM   6183  O   SER A 872     -34.473  33.953 -47.240  1.00 15.75           O
ATOM   6184  N   MET A 873     -32.828  33.171 -45.933  1.00 14.86           N
ATOM   6185  CA  MET A 873     -33.234  33.898 -44.760  1.00 14.39           C
ATOM   6186  CB  MET A 873     -34.198  33.069 -43.940  1.00 14.22           C
ATOM   6187  CG  MET A 873     -35.631  33.089 -44.435  1.00 14.28           C
ATOM   6188  SD  MET A 873     -36.769  32.483 -43.170  1.00 14.34           S
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ATOM   6189  CE  MET A 873     -36.397  30.738 -43.128  1.00 14.06           C
ATOM   6190  C   MET A 873     -31.992  34.188 -43.944  1.00 14.67           C
ATOM   6191  O   MET A 873     -31.103  33.351 -43.847  1.00 14.85           O
ATOM   6192  N   VAL A 874     -31.917  35.390 -43.389  1.00 14.86           N
ATOM   6193  CA  VAL A 874     -30.857  35.756 -42.470  1.00 15.32           C
ATOM   6194  CB  VAL A 874     -29.661  36.441 -43.189  1.00 15.14           C
ATOM   6195  CG1 VAL A 874     -30.111  37.193 -44.415  1.00 15.33           C
ATOM   6196  CG2 VAL A 874     -28.921  37.390 -42.258  1.00 15.37           C
ATOM   6197  C   VAL A 874     -31.459  36.646 -41.389  1.00 15.99           C
ATOM   6198  O   VAL A 874     -32.275  37.508 -41.679  1.00 15.91           O
ATOM   6199  N   GLU A 875     -31.081  36.405 -40.138  1.00 17.16           N
ATOM   6200  CA  GLU A 875     -31.553  37.219 -39.025  1.00 17.94           C
ATOM   6201  CB  GLU A 875     -31.256  36.500 -37.698  1.00 18.13           C
ATOM   6202  CG  GLU A 875     -31.589  37.298 -36.451  1.00 19.31           C
ATOM   6203  CD  GLU A 875     -30.455  38.221 -36.023  1.00 20.48           C
ATOM   6204  OE1 GLU A 875     -29.276  37.811 -36.144  1.00 21.11           O
ATOM   6205  OE2 GLU A 875     -30.735  39.357 -35.562  1.00 21.41           O
ATOM   6206  C   GLU A 875     -30.865  38.586 -39.119  1.00 18.20           C
ATOM   6207  O   GLU A 875     -29.652  38.648 -39.238  1.00 18.93           O
ATOM   6208  N   PHE A 876     -31.631  39.673 -39.081  1.00 18.34           N
ATOM   6209  CA  PHE A 876     -31.096  40.993 -39.441  1.00 18.84           C
ATOM   6210  CB  PHE A 876     -31.546  41.345 -40.871  1.00 18.30           C
ATOM   6211  CG  PHE A 876     -31.019  42.655 -41.388  1.00 18.57           C
ATOM   6212  CD1 PHE A 876     -29.737  42.749 -41.913  1.00 18.90           C
ATOM   6213  CE1 PHE A 876     -29.250  43.959 -42.408  1.00 18.87           C
ATOM   6214  CZ  PHE A 876     -30.054  45.082 -42.389  1.00 18.68           C
ATOM   6215  CE2 PHE A 876     -31.342  44.999 -41.876  1.00 18.57           C
ATOM   6216  CD2 PHE A 876     -31.820  43.794 -41.387  1.00 18.61           C
ATOM   6217  C   PHE A 876     -31.457  42.100 -38.416  1.00 19.67           C
ATOM   6218  O   PHE A 876     -32.474  42.791 -38.545  1.00 19.85           O
ATOM   6219  N   ASN A 877     -30.608  42.254 -37.402  1.00 20.32           N
ATOM   6220  CA  ASN A 877     -30.802  43.251 -36.328  1.00 20.68           C
ATOM   6221  CB  ASN A 877     -30.671  44.687 -36.867  1.00 21.74           C
ATOM   6222  CG  ASN A 877     -29.333  44.946 -37.538  1.00 23.18           C
ATOM   6223  OD1 ASN A 877     -28.284  44.515 -37.053  1.00 24.06           O
ATOM   6224  ND2 ASN A 877     -29.362  45.666 -38.661  1.00 23.89           N
ATOM   6225  C   ASN A 877     -32.107  43.082 -35.527  1.00 19.97           C
ATOM   6226  O   ASN A 877     -32.793  44.057 -35.207  1.00 20.02           O
ATOM   6227  N   GLY A 878     -32.435  41.838 -35.199  1.00 18.87           N
ATOM   6228  CA  GLY A 878     -33.661  41.546 -34.483  1.00 17.41           C
ATOM   6229  C   GLY A 878     -34.854  41.438 -35.404  1.00 16.56           C
ATOM   6230  O   GLY A 878     -35.960  41.145 -34.961  1.00 16.75           O
ATOM   6231  N   LYS A 879     -34.638  41.673 -36.691  1.00 16.01           N
ATOM   6232  CA  LYS A 879     -35.701  41.502 -37.684  1.00 15.34           C
ATOM   6233  CB  LYS A 879     -35.863  42.768 -38.527  1.00 15.33           C
ATOM   6234  CG  LYS A 879     -35.791  44.053 -37.726  1.00 15.23           C
ATOM   6235  CD  LYS A 879     -36.216  45.234 -38.560  1.00 15.63           C
ATOM   6236  CE  LYS A 879     -35.563  46.519 -38.072  1.00 16.14           C
ATOM   6237  NZ  LYS A 879     -36.464  47.693 -38.286  1.00 16.72           N
ATOM   6238  C   LYS A 879     -35.347  40.320 -38.562  1.00 14.81           C
ATOM   6239  O   LYS A 879     -34.222  39.821 -38.501  1.00 15.06           O
ATOM   6240  N   LEU A 880     -36.298  39.862 -39.372  1.00 14.12           N
ATOM   6241  CA  LEU A 880     -36.039  38.742 -40.277  1.00 13.58           C
ATOM   6242  CB  LEU A 880     -37.090  37.654 -40.115  1.00 13.32           C
ATOM   6243  CG  LEU A 880     -36.855  36.335 -40.837  1.00 13.28           C
ATOM   6244  CD1 LEU A 880     -35.807  35.522 -40.103  1.00 13.41           C
ATOM   6245  CD2 LEU A 880     -38.150  35.557 -40.932  1.00 13.17           C
ATOM   6246  C   LEU A 880     -35.968  39.199 -41.727  1.00 13.42           C
ATOM   6247  O   LEU A 880     -36.889  39.825 -42.242  1.00 13.50           O
ATOM   6248  N   LEU A 881     -34.851  38.887 -42.365  1.00 13.30           N
ATOM   6249  CA  LEU A 881     -34.600  39.270 -43.725  1.00 13.45           C
ATOM   6250  CB  LEU A 881     -33.198  39.848 -43.849  1.00 13.45           C
ATOM   6251  CG  LEU A 881     -32.787  40.620 -45.104  1.00 13.67           C
ATOM   6252  CD1 LEU A 881     -33.792  41.702 -45.479  1.00 13.62           C
ATOM   6253  CD2 LEU A 881     -31.394  41.221 -44.918  1.00 13.76           C
ATOM   6254  C   LEU A 881     -34.736  38.019 -44.552  1.00 13.87           C
ATOM   6255  O   LEU A 881     -34.050  37.034 -44.310  1.00 13.86           O
ATOM   6256  N   ALA A 882     -35.653  38.062 -45.516  1.00 14.49           N
ATOM   6257  CA  ALA A 882     -35.995  36.911 -46.342  1.00 14.46           C
ATOM   6258  CB  ALA A 882     -37.376  36.390 -45.989  1.00 14.50           C
ATOM   6259  C   ALA A 882     -35.987  37.344 -47.763  1.00 14.68           C
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ATOM   6260  O   ALA A 882     -36.498  38.403 -48.087  1.00 14.52           O
ATOM   6261  N   SER A 883     -35.401  36.518 -48.612  1.00 15.72           N
ATOM   6262  CA  SER A 883     -35.453  36.730 -50.044  1.00 16.80           C
ATOM   6263  CB  SER A 883     -34.091  36.456 -50.678  1.00 17.05           C
ATOM   6264  OG  SER A 883     -33.835  35.069 -50.773  1.00 16.98           O
ATOM   6265  C   SER A 883     -36.510  35.804 -50.620  1.00 17.41           C
ATOM   6266  O   SER A 883     -36.413  34.584 -50.474  1.00 17.48           O
ATOM   6267  N   ILE A 884     -37.528  36.401 -51.241  1.00 18.05           N
ATOM   6268  CA  ILE A 884     -38.632  35.666 -51.858  1.00 18.69           C
ATOM   6269  CB  ILE A 884     -39.964  36.009 -51.207  1.00 18.68           C
ATOM   6270  CG1 ILE A 884     -39.858  35.848 -49.682  1.00 19.18           C
ATOM   6271  CD1 ILE A 884     -40.834  36.715 -48.907  1.00 19.36           C
ATOM   6272  CG2 ILE A 884     -41.065  35.175 -51.842  1.00 17.71           C
ATOM   6273  C   ILE A 884     -38.761  35.979 -53.342  1.00 19.52           C
ATOM   6274  O   ILE A 884     -38.956  37.139 -53.738  1.00 19.60           O
ATOM   6275  N   ASN A 885     -38.707  34.921 -54.148  1.00 20.36           N
ATOM   6276  CA  ASN A 885     -38.455  35.028 -55.586  1.00 20.32           C
ATOM   6277  CB  ASN A 885     -39.753  35.193 -56.393  1.00 20.59           C
ATOM   6278  CG  ASN A 885     -40.620  33.929 -56.364  1.00 21.61           C
ATOM   6279  OD1 ASN A 885     -40.107  32.798 -56.372  1.00 22.03           O
ATOM   6280  ND2 ASN A 885     -41.936  34.114 -56.318  1.00 21.07           N
ATOM   6281  C   ASN A 885     -37.415  36.097 -55.869  1.00 20.10           C
ATOM   6282  O   ASN A 885     -36.254  35.941 -55.473  1.00 20.00           O
ATOM   6283  N   SER A 886     -37.822  37.185 -56.512  1.00 19.72           N
ATOM   6284  CA  SER A 886     -36.886  38.239 -56.874  1.00 19.27           C
ATOM   6285  CB  SER A 886     -37.020  38.572 -58.346  1.00 19.09           C
ATOM   6286  OG  SER A 886     -38.314  39.070 -58.613  1.00 19.98           O
ATOM   6287  C   SER A 886     -37.132  39.469 -56.019  1.00 19.37           C
ATOM   6288  O   SER A 886     -36.973  40.611 -56.478  1.00 19.53           O
ATOM   6289  N   THR A 887     -37.531  39.220 -54.772  1.00 19.12           N
ATOM   6290  CA  THR A 887     -37.837  40.274 -53.813  1.00 18.61           C
ATOM   6291  CB  THR A 887     -39.352  40.337 -53.514  1.00 18.48           C
ATOM   6292  OG1 THR A 887     -40.026  40.885 -54.650  1.00 18.74           O
ATOM   6293  CG2 THR A 887     -39.649  41.229 -52.330  1.00 18.65           C
ATOM   6294  C   THR A 887     -37.058  40.020 -52.544  1.00 18.12           C
ATOM   6295  O   THR A 887     -36.906  38.876 -52.132  1.00 18.21           O
ATOM   6296  N   VAL A 888     -36.538  41.088 -51.950  1.00 17.77           N
ATOM   6297  CA  VAL A 888     -35.946  41.016 -50.618  1.00 17.71           C
ATOM   6298  CB  VAL A 888     -34.512  41.598 -50.581  1.00 18.13           C
ATOM   6299  CG1 VAL A 888     -33.995  41.691 -49.154  1.00 18.02           C
ATOM   6300  CG2 VAL A 888     -33.569  40.738 -51.412  1.00 18.14           C
ATOM   6301  C   VAL A 888     -36.875  41.734 -49.645  1.00 17.36           C
ATOM   6302  O   VAL A 888     -37.309  42.846 -49.898  1.00 17.71           O
ATOM   6303  N   ARG A 889     -37.183  41.075 -48.537  1.00 17.20           N
ATOM   6304  CA  ARG A 889     -38.275  41.487 -47.667  1.00 16.90           C
ATOM   6305  CB  ARG A 889     -39.477  40.566 -47.909  1.00 17.07           C
ATOM   6306  CG  ARG A 889     -40.735  40.929 -47.150  1.00 17.58           C
ATOM   6307  CD  ARG A 889     -41.952  40.302 -47.801  1.00 18.12           C
ATOM   6308  NE  ARG A 889     -41.972  40.503 -49.252  1.00 18.75           N
ATOM   6309  CZ  ARG A 889     -42.761  39.838 -50.095  1.00 18.84           C
ATOM   6310  NH1 ARG A 889     -43.607  38.918 -49.647  1.00 18.44           N
ATOM   6311  NH2 ARG A 889     -42.703  40.093 -51.396  1.00 19.11           N
ATOM   6312  C   ARG A 889     -37.836  41.414 -46.211  1.00 16.41           C
ATOM   6313  O   ARG A 889     -37.237  40.422 -45.775  1.00 15.81           O
ATOM   6314  N   LEU A 890     -38.133  42.467 -45.462  1.00 16.00           N
ATOM   6315  CA  LEU A 890     -37.735  42.532 -44.071  1.00 16.25           C
ATOM   6316  CB  LEU A 890     -36.936  43.808 -43.818  1.00 16.26           C
ATOM   6317  CG  LEU A 890     -36.307  44.014 -42.438  1.00 16.53           C
ATOM   6318  CD1 LEU A 890     -35.339  42.887 -42.098  1.00 16.40           C
ATOM   6319  CD2 LEU A 890     -35.614  45.374 -42.369  1.00 16.61           C
ATOM   6320  C   LEU A 890     -38.967  42.471 -43.185  1.00 16.53           C
ATOM   6321  O   LEU A 890     -39.934  43.170 -43.435  1.00 16.79           O
ATOM   6322  N   TYR A 891     -38.922  41.634 -42.151  1.00 16.83           N
ATOM   6323  CA  TYR A 891     -40.093  41.353 -41.306  1.00 16.82           C
ATOM   6324  CB  TYR A 891     -40.389  39.845 -41.309  1.00 16.58           C
ATOM   6325  CG  TYR A 891     -40.942  39.316 -42.621  1.00 16.48           C
ATOM   6326  CD1 TYR A 891     -42.275  39.540 -42.981  1.00 16.57           C
ATOM   6327  CE1 TYR A 891     -42.791  39.062 -44.168  1.00 16.35           C
ATOM   6328  CZ  TYR A 891     -41.979  38.347 -45.016  1.00 16.63           C
ATOM   6329  OH  TYR A 891     -42.495  37.875 -46.197  1.00 16.85           O
ATOM   6330  CE2 TYR A 891     -40.655  38.106 -44.689  1.00 16.65           C
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ATOM   6331  CD2 TYR A 891     -40.144  38.589 -43.493  1.00 16.42           C
ATOM   6332  C   TYR A 891     -39.826  41.789 -39.884  1.00 17.09           C
ATOM   6333  O   TYR A 891     -38.736  41.532 -39.371  1.00 17.71           O
ATOM   6334  N   GLU A 892     -40.800  42.442 -39.244  1.00 17.35           N
ATOM   6335  CA  GLU A 892     -40.727  42.724 -37.792  1.00 17.65           C
ATOM   6336  CB  GLU A 892     -41.206  44.143 -37.457  1.00 18.74           C
ATOM   6337  CG  GLU A 892     -40.108  45.206 -37.533  1.00 20.80           C
ATOM   6338  CD  GLU A 892     -40.602  46.623 -37.194  1.00 22.45           C
ATOM   6339  OE1 GLU A 892     -40.709  46.975 -35.989  1.00 22.80           O
ATOM   6340  OE2 GLU A 892     -40.869  47.404 -38.138  1.00 23.46           O
ATOM   6341  C   GLU A 892     -41.510  41.679 -36.990  1.00 17.03           C
ATOM   6342  O   GLU A 892     -42.537  41.184 -37.447  1.00 16.91           O
ATOM   6343  N   TRP A 893     -41.009  41.340 -35.806  1.00 16.58           N
ATOM   6344  CA  TRP A 893     -41.624  40.332 -34.950  1.00 16.49           C
ATOM   6345  CB  TRP A 893     -40.546  39.423 -34.394  1.00 16.33           C
ATOM   6346  CG  TRP A 893     -41.040  38.239 -33.592  1.00 16.06           C
ATOM   6347  CD1 TRP A 893     -40.755  37.937 -32.265  1.00 15.88           C
ATOM   6348  NE1 TRP A 893     -41.363  36.770 -31.887  1.00 15.87           N
ATOM   6349  CE2 TRP A 893     -42.062  36.245 -32.911  1.00 16.00           C
ATOM   6350  CD2 TRP A 893     -41.890  37.140 -34.056  1.00 16.02           C
ATOM   6351  CE3 TRP A 893     -42.519  36.827 -35.260  1.00 16.25           C
ATOM   6352  CZ3 TRP A 893     -43.290  35.664 -35.327  1.00 16.26           C
ATOM   6353  CH2 TRP A 893     -43.446  34.819 -34.214  1.00 16.36           C
ATOM   6354  CZ2 TRP A 893     -42.830  35.094 -32.987  1.00 16.22           C
ATOM   6355  C   TRP A 893     -42.366  40.995 -33.830  1.00 17.01           C
ATOM   6356  O   TRP A 893     -41.759  41.490 -32.884  1.00 17.17           O
ATOM   6357  N   THR A 894     -43.692  40.997 -33.926  1.00 17.68           N
ATOM   6358  CA  THR A 894     -44.548  41.765 -33.019  1.00 18.58           C
ATOM   6359  CB  THR A 894     -45.905  42.064 -33.674  1.00 18.22           C
ATOM   6360  OG1 THR A 894     -46.649  40.850 -33.792  1.00 18.43           O
ATOM   6361  CG2 THR A 894     -45.713  42.650 -35.057  1.00 18.19           C
ATOM   6362  C   THR A 894     -44.777  41.045 -31.677  1.00 19.68           C
ATOM   6363  O   THR A 894     -44.288  39.932 -31.462  1.00 19.77           O
ATOM   6364  N   THR A 895     -45.513  41.683 -30.772  1.00 20.47           N
ATOM   6365  CA  THR A 895     -45.857  41.031 -29.513  1.00 21.49           C
ATOM   6366  CB  THR A 895     -46.065  42.037 -28.354  1.00 21.98           C
ATOM   6367  OG1 THR A 895     -47.124  42.948 -28.687  1.00 22.01           O
ATOM   6368  CG2 THR A 895     -44.759  42.809 -28.030  1.00 21.43           C
ATOM   6369  C   THR A 895     -47.105  40.167 -29.685  1.00 21.83           C
ATOM   6370  O   THR A 895     -47.398  39.310 -28.853  1.00 22.31           O
ATOM   6371  N   GLU A 896     -47.841  40.398 -30.766  1.00 22.28           N
ATOM   6372  CA  GLU A 896     -48.968  39.538 -31.110  1.00 22.72           C
ATOM   6373  CB  GLU A 896     -49.851  40.186 -32.189  1.00 22.55           C
ATOM   6374  C   GLU A 896     -48.409  38.199 -31.581  1.00 23.10           C
ATOM   6375  O   GLU A 896     -49.162  37.256 -31.847  1.00 23.13           O
ATOM   6376  N   LYS A 897     -47.075  38.133 -31.650  1.00 23.63           N
ATOM   6377  CA  LYS A 897     -46.324  36.933 -32.058  1.00 24.67           C
ATOM   6378  CB  LYS A 897     -46.574  35.767 -31.088  1.00 23.88           C
ATOM   6379  CG  LYS A 897     -45.329  34.958 -30.756  1.00 23.49           C
ATOM   6380  CD  LYS A 897     -45.302  34.458 -29.313  1.00 23.13           C
ATOM   6381  CE  LYS A 897     -44.833  35.558 -28.374  1.00 23.60           C
ATOM   6382  NZ  LYS A 897     -44.503  35.039 -27.019  1.00 24.01           N
ATOM   6383  C   LYS A 897     -46.580  36.568 -33.545  1.00 25.81           C
ATOM   6384  O   LYS A 897     -46.935  35.431 -33.892  1.00 25.41           O
ATOM   6385  N   GLU A 898     -46.381  37.570 -34.403  1.00 26.30           N
ATOM   6386  CA  GLU A 898     -46.616  37.461 -35.822  1.00 27.13           C
ATOM   6387  CB  GLU A 898     -47.990  38.056 -36.172  1.00 30.59           C
ATOM   6388  CG  GLU A 898     -48.918  37.135 -36.972  1.00 35.94           C
ATOM   6389  CD  GLU A 898     -48.433  36.849 -38.412  1.00 41.31           C
ATOM   6390  OE1 GLU A 898     -47.466  36.049 -38.589  1.00 40.98           O
ATOM   6391  OE2 GLU A 898     -49.039  37.402 -39.377  1.00 41.89           O
ATOM   6392  C   GLU A 898     -45.498  38.227 -36.530  1.00 25.32           C
ATOM   6393  O   GLU A 898     -44.866  39.090 -35.928  1.00 23.86           O
ATOM   6394  N   LEU A 899     -45.239  37.865 -37.790  1.00 24.76           N
ATOM   6395  CA  LEU A 899     -44.238  38.517 -38.641  1.00 24.01           C
ATOM   6396  CB  LEU A 899     -43.544  37.504 -39.552  1.00 22.22           C
ATOM   6397  CG  LEU A 899     -42.512  36.524 -39.022  1.00 21.35           C
ATOM   6398  CD1 LEU A 899     -42.298  35.403 -40.026  1.00 21.07           C
ATOM   6399  CD2 LEU A 899     -41.211  37.247 -38.762  1.00 21.37           C
ATOM   6400  C   LEU A 899     -44.950  39.512 -39.519  1.00 25.43           C
ATOM   6401  O   LEU A 899     -45.770  39.120 -40.349  1.00 26.96           O
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ATOM   6402  N   ARG A 900     -44.624  40.791 -39.355  1.00 25.97           N
ATOM   6403  CA  ARG A 900     -45.360  41.882 -39.998  1.00 26.03           C
ATOM   6404  CB  ARG A 900     -46.022  42.757 -38.896  1.00 27.98           C
ATOM   6405  CG  ARG A 900     -46.954  43.901 -39.331  1.00 31.45           C
ATOM   6406  CD  ARG A 900     -48.448  43.537 -39.491  1.00 34.20           C
ATOM   6407  NE  ARG A 900     -49.036  42.779 -38.372  1.00 35.31           N
ATOM   6408  CZ  ARG A 900     -49.384  41.487 -38.424  1.00 35.67           C
ATOM   6409  NH1 ARG A 900     -49.216  40.786 -39.542  1.00 36.08           N
ATOM   6410  NH2 ARG A 900     -49.904  40.888 -37.354  1.00 35.17           N
ATOM   6411  C   ARG A 900     -44.389  42.665 -40.925  1.00 24.45           C
ATOM   6412  O   ARG A 900     -43.506  43.375 -40.445  1.00 24.91           O
ATOM   6413  N   THR A 901     -44.546  42.485 -42.242  1.00 22.09           N
ATOM   6414  CA  THR A 901     -43.694  43.097 -43.275  1.00 20.24           C
ATOM   6415  CB  THR A 901     -44.339  43.006 -44.671  1.00 19.55           C
ATOM   6416  OG1 THR A 901     -44.862  41.702 -44.878  1.00 19.98           O
ATOM   6417  CG2 THR A 901     -43.334  43.293 -45.764  1.00 19.67           C
ATOM   6418  C   THR A 901     -43.426  44.570 -43.034  1.00 20.28           C
ATOM   6419  O   THR A 901     -44.354  45.371 -43.023  1.00 20.42           O
ATOM   6420  N   GLU A 902     -42.153  44.925 -42.862  1.00 20.49           N
ATOM   6421  CA  GLU A 902     -41.758  46.317 -42.717  1.00 20.35           C
ATOM   6422  CB  GLU A 902     -40.547  46.488 -41.801  1.00 20.52           C
ATOM   6423  CG  GLU A 902     -40.178  47.954 -41.575  1.00 20.98           C
ATOM   6424  CD  GLU A 902     -38.758  48.165 -41.046  1.00 21.77           C
ATOM   6425  OE1 GLU A 902     -38.151  47.206 -40.514  1.00 22.18           O
ATOM   6426  OE2 GLU A 902     -38.244  49.305 -41.152  1.00 21.77           O
ATOM   6427  C   GLU A 902     -41.472  46.920 -44.068  1.00 20.48           C
ATOM   6428  O   GLU A 902     -41.912  48.036 -44.334  1.00 21.13           O
ATOM   6429  N   CYS A 903     -40.731  46.198 -44.912  1.00 20.24           N
ATOM   6430  CA  CYS A 903     -40.402  46.684 -46.259  1.00 20.66           C
ATOM   6431  CB  CYS A 903     -39.445  47.869 -46.212  1.00 20.57           C
ATOM   6432  SG  CYS A 903     -37.782  47.452 -45.668  1.00 21.54           S
ATOM   6433  C   CYS A 903     -39.881  45.613 -47.217  1.00 21.58           C
ATOM   6434  O   CYS A 903     -39.724  44.442 -46.853  1.00 22.64           O
ATOM   6435  N   ASN A 904     -39.576  46.043 -48.435  1.00 21.65           N
ATOM   6436  CA  ASN A 904     -39.694  45.196 -49.593  1.00 21.99           C
ATOM   6437  CB  ASN A 904     -41.166  45.191 -49.986  1.00 22.04           C
ATOM   6438  CG  ASN A 904     -41.515  44.087 -50.945  1.00 22.86           C
ATOM   6439  OD1 ASN A 904     -41.738  42.937 -50.541  1.00 22.71           O
ATOM   6440  ND2 ASN A 904     -41.603  44.431 -52.229  1.00 23.05           N
ATOM   6441  C   ASN A 904     -38.879  45.789 -50.726  1.00 23.02           C
ATOM   6442  O   ASN A 904     -39.012  46.967 -51.013  1.00 24.75           O
ATOM   6443  N   HIS A 905     -38.041  44.986 -51.379  1.00 23.95           N
ATOM   6444  CA  HIS A 905     -37.214  45.485 -52.489  1.00 24.08           C
ATOM   6445  CB  HIS A 905     -35.794  45.764 -52.024  1.00 24.63           C
ATOM   6446  CG  HIS A 905     -35.008  46.646 -52.968  1.00 25.31           C
ATOM   6447  ND1 HIS A 905     -34.040  46.165 -53.777  1.00 25.28           N
ATOM   6448  CE1 HIS A 905     -33.510  47.178 -54.493  1.00 25.54           C
ATOM   6449  NE2 HIS A 905     -34.146  48.314 -54.143  1.00 25.75           N
ATOM   6450  CD2 HIS A 905     -35.076  48.023 -53.208  1.00 25.43           C
ATOM   6451  C   HIS A 905     -37.195  44.571 -53.675  1.00 23.79           C
ATOM   6452  O   HIS A 905     -36.843  43.402 -53.564  1.00 23.89           O
ATOM   6453  N   TYR A 906     -37.571  45.110 -54.828  1.00 24.09           N
ATOM   6454  CA  TYR A 906     -37.627  44.344 -56.070  1.00 24.63           C
ATOM   6455  CB  TYR A 906     -38.769  44.847 -56.944  1.00 25.38           C
ATOM   6456  CG  TYR A 906     -40.118  44.854 -56.270  1.00 26.41           C
ATOM   6457  CD1 TYR A 906     -40.861  43.675 -56.143  1.00 26.94           C
ATOM   6458  CE1 TYR A 906     -42.104  43.671 -55.536  1.00 28.09           C
ATOM   6459  CZ  TYR A 906     -42.629  44.864 -55.057  1.00 28.94           C
ATOM   6460  OH  TYR A 906     -43.870  44.864 -54.453  1.00 30.01           O
ATOM   6461  CE2 TYR A 906     -41.912  46.050 -55.178  1.00 28.05           C
ATOM   6462  CD2 TYR A 906     -40.667  46.039 -55.781  1.00 26.63           C
ATOM   6463  C   TYR A 906     -36.330  44.492 -56.840  1.00 24.21           C
ATOM   6464  O   TYR A 906     -35.773  45.580 -56.905  1.00 25.09           O
ATOM   6465  N   ASN A 907     -35.861  43.410 -57.445  1.00 22.99           N
ATOM   6466  CA  ASN A 907     -34.583  43.437 -58.123  1.00 22.83           C
ATOM   6467  CB  ASN A 907     -33.573  42.525 -57.397  1.00 23.30           C
ATOM   6468  CG  ASN A 907     -33.578  42.703 -55.874  1.00 23.07           C
ATOM   6469  OD1 ASN A 907     -33.465  43.819 -55.361  1.00 23.20           O
ATOM   6470  ND2 ASN A 907     -33.692  41.590 -55.149  1.00 22.71           N
ATOM   6471  C   ASN A 907     -34.755  42.967 -59.552  1.00 23.33           C
ATOM   6472  O   ASN A 907     -35.815  42.455 -59.908  1.00 23.56           O
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ATOM   6473  N   ASN A 908     -33.708  43.133 -60.364  1.00 24.13           N
ATOM   6474  CA  ASN A 908     -33.625  42.540 -61.719  1.00 24.04           C
ATOM   6475  CB  ASN A 908     -32.570  43.264 -62.525  1.00 24.76           C
ATOM   6476  CG  ASN A 908     -32.828  44.724 -62.604  1.00 27.19           C
ATOM   6477  OD1 ASN A 908     -31.916  45.537 -62.443  1.00 29.04           O
ATOM   6478  ND2 ASN A 908     -34.091  45.087 -62.838  1.00 27.98           N
ATOM   6479  C   ASN A 908     -33.252  41.060 -61.737  1.00 23.61           C
ATOM   6480  O   ASN A 908     -33.055  40.468 -62.807  1.00 23.65           O
ATOM   6481  N   ILE A 909     -33.114  40.480 -60.553  1.00 22.41           N
ATOM   6482  CA  ILE A 909     -32.536  39.167 -60.405  1.00 22.04           C
ATOM   6483  CB  ILE A 909     -31.027  39.227 -60.088  1.00 21.03           C
ATOM   6484  CG1 ILE A 909     -30.750  40.195 -58.945  1.00 20.08           C
ATOM   6485  CD1 ILE A 909     -29.529  39.844 -58.152  1.00 20.02           C
ATOM   6486  CG2 ILE A 909     -30.239  39.616 -61.324  1.00 21.43           C
ATOM   6487  C   ILE A 909     -33.245  38.468 -59.276  1.00 22.47           C
ATOM   6488  O   ILE A 909     -33.775  39.114 -58.372  1.00 22.85           O
ATOM   6489  N   MET A 910     -33.253  37.147 -59.331  1.00 22.52           N
ATOM   6490  CA  MET A 910     -33.905  36.371 -58.319  1.00 23.20           C
ATOM   6491  CB  MET A 910     -34.227  34.996 -58.876  1.00 25.81           C
ATOM   6492  CG  MET A 910     -34.409  33.908 -57.835  1.00 29.32           C
ATOM   6493  SD  MET A 910     -34.334  32.291 -58.629  1.00 35.22           S
ATOM   6494  CE  MET A 910     -35.155  32.681 -60.191  1.00 31.75           C
ATOM   6495  C   MET A 910     -32.979  36.294 -57.114  1.00 22.33           C
ATOM   6496  O   MET A 910     -31.869  35.789 -57.209  1.00 23.39           O
ATOM   6497  N   ALA A 911     -33.423  36.816 -55.983  1.00 20.90           N
ATOM   6498  CA  ALA A 911     -32.588  36.817 -54.791  1.00 19.92           C
ATOM   6499  CB  ALA A 911     -33.184  37.733 -53.741  1.00 19.82           C
ATOM   6500  C   ALA A 911     -32.344  35.402 -54.226  1.00 19.23           C
ATOM   6501  O   ALA A 911     -32.993  34.987 -53.253  1.00 18.64           O
ATOM   6502  N   LEU A 912     -31.421  34.668 -54.858  1.00 18.33           N
ATOM   6503  CA  LEU A 912     -31.011  33.336 -54.393  1.00 17.58           C
ATOM   6504  CB  LEU A 912     -30.129  32.637 -55.420  1.00 17.42           C
ATOM   6505  CG  LEU A 912     -30.671  31.507 -56.284  1.00 17.74           C
ATOM   6506  CD1 LEU A 912     -29.510  30.605 -56.676  1.00 17.19           C
ATOM   6507  CD2 LEU A 912     -31.744  30.693 -55.578  1.00 17.62           C
ATOM   6508  C   LEU A 912     -30.223  33.435 -53.106  1.00 17.16           C
ATOM   6509  O   LEU A 912     -30.537  32.761 -52.124  1.00 17.62           O
ATOM   6510  N   TYR A 913     -29.197  34.282 -53.121  1.00 16.25           N
ATOM   6511  CA  TYR A 913     -28.253  34.378 -52.019  1.00 15.58           C
ATOM   6512  CB  TYR A 913     -26.837  34.384 -52.555  1.00 14.89           C
ATOM   6513  CG  TYR A 913     -26.491  33.172 -53.365  1.00 14.41           C
ATOM   6514  CD1 TYR A 913     -26.161  31.978 -52.747  1.00 13.89           C
ATOM   6515  CE1 TYR A 913     -25.814  30.864 -53.486  1.00 13.66           C
ATOM   6516  CZ  TYR A 913     -25.795  30.935 -54.860  1.00 13.75           C
ATOM   6517  OH  TYR A 913     -25.475  29.824 -55.578  1.00 13.46           O
ATOM   6518  CE2 TYR A 913     -26.113  32.114 -55.513  1.00 14.22           C
ATOM   6519  CD2 TYR A 913     -26.467  33.227 -54.763  1.00 14.52           C
ATOM   6520  C   TYR A 913     -28.466  35.623 -51.194  1.00 15.43           C
ATOM   6521  O   TYR A 913     -28.671  36.707 -51.734  1.00 15.90           O
ATOM   6522  N   LEU A 914     -28.425  35.460 -49.882  1.00 15.17           N
ATOM   6523  CA  LEU A 914     -28.577  36.568 -48.975  1.00 15.69           C
ATOM   6524  CB  LEU A 914     -29.955  36.565 -48.330  1.00 15.79           C
ATOM   6525  CG  LEU A 914     -30.979  37.622 -48.709  1.00 15.92           C
ATOM   6526  CD1 LEU A 914     -31.989  37.768 -47.583  1.00 15.73           C
ATOM   6527  CD2 LEU A 914     -30.288  38.948 -48.961  1.00 16.28           C
ATOM   6528  C   LEU A 914     -27.549  36.437 -47.898  1.00 16.34           C
ATOM   6529  O   LEU A 914     -27.436  35.387 -47.269  1.00 16.79           O
ATOM   6530  N   LYS A 915     -26.781  37.500 -47.696  1.00 16.99           N
ATOM   6531  CA  LYS A 915     -25.812  37.569 -46.608  1.00 17.29           C
ATOM   6532  CB  LYS A 915     -24.427  37.106 -47.080  1.00 17.36           C
ATOM   6533  CG  LYS A 915     -24.354  35.681 -47.637  1.00 17.31           C
ATOM   6534  CD  LYS A 915     -24.739  34.630 -46.605  1.00 17.57           C
ATOM   6535  CE  LYS A 915     -24.187  33.250 -46.949  1.00 17.81           C
ATOM   6536  NZ  LYS A 915     -22.750  33.079 -46.541  1.00 17.47           N
ATOM   6537  C   LYS A 915     -25.777  39.013 -46.093  1.00 17.36           C
ATOM   6538  O   LYS A 915     -26.077  39.946 -46.837  1.00 16.98           O
ATOM   6539  N   THR A 916     -25.451  39.194 -44.817  1.00 17.73           N
ATOM   6540  CA  THR A 916     -25.489  40.521 -44.224  1.00 18.65           C
ATOM   6541  CB  THR A 916     -26.778  40.760 -43.425  1.00 18.65           C
ATOM   6542  OG1 THR A 916     -26.740  39.980 -42.227  1.00 19.21           O
ATOM   6543  CG2 THR A 916     -28.002  40.380 -44.233  1.00 18.47           C
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ATOM   6544  C   THR A 916     -24.331  40.769 -43.279  1.00 19.49           C
ATOM   6545  O   THR A 916     -23.892  39.859 -42.576  1.00 19.80           O
ATOM   6546  N   LYS A 917     -23.849  42.011 -43.279  1.00 20.39           N
ATOM   6547  CA  LYS A 917     -22.972  42.525 -42.235  1.00 21.24           C
ATOM   6548  CB  LYS A 917     -21.522  42.611 -42.712  1.00 20.85           C
ATOM   6549  CG  LYS A 917     -20.568  43.057 -41.618  1.00 21.10           C
ATOM   6550  CD  LYS A 917     -19.157  43.326 -42.113  1.00 21.45           C
ATOM   6551  CE  LYS A 917     -18.205  43.376 -40.924  1.00 21.80           C
ATOM   6552  NZ  LYS A 917     -16.945  44.119 -41.213  1.00 22.54           N
ATOM   6553  C   LYS A 917     -23.468  43.917 -41.810  1.00 22.70           C
ATOM   6554  O   LYS A 917     -23.575  44.834 -42.645  1.00 23.05           O
ATOM   6555  N   GLY A 918     -23.763  44.069 -40.516  1.00 22.74           N
ATOM   6556  CA  GLY A 918     -24.237  45.329 -39.980  1.00 22.09           C
ATOM   6557  C   GLY A 918     -25.526  45.689 -40.669  1.00 23.04           C
ATOM   6558  O   GLY A 918     -26.546  45.013 -40.491  1.00 23.41           O
ATOM   6559  N   ASP A 919     -25.476  46.738 -41.482  1.00 23.64           N
ATOM   6560  CA  ASP A 919     -26.657  47.209 -42.180  1.00 24.44           C
ATOM   6561  CB  ASP A 919     -26.895  48.695 -41.913  1.00 25.73           C
ATOM   6562  CG  ASP A 919     -28.077  48.937 -40.979  1.00 27.71           C
ATOM   6563  OD1 ASP A 919     -28.497  47.982 -40.275  1.00 28.90           O
ATOM   6564  OD2 ASP A 919     -28.594  50.082 -40.952  1.00 28.45           O
ATOM   6565  C   ASP A 919     -26.585  46.935 -43.658  1.00 24.44           C
ATOM   6566  O   ASP A 919     -27.500  47.274 -44.400  1.00 24.92           O
ATOM   6567  N   PHE A 920     -25.494  46.311 -44.083  1.00 25.35           N
ATOM   6568  CA  PHE A 920     -25.289  45.972 -45.494  1.00 25.43           C
ATOM   6569  CB  PHE A 920     -23.796  46.017 -45.857  1.00 26.24           C
ATOM   6570  CG  PHE A 920     -23.225  47.405 -45.885  1.00 27.78           C
ATOM   6571  CD1 PHE A 920     -22.947  48.086 -44.704  1.00 28.09           C
ATOM   6572  CE1 PHE A 920     -22.436  49.379 -44.728  1.00 28.88           C
ATOM   6573  CZ  PHE A 920     -22.182  50.007 -45.941  1.00 29.19           C
ATOM   6574  CE2 PHE A 920     -22.449  49.342 -47.129  1.00 30.49           C
ATOM   6575  CD2 PHE A 920     -22.970  48.043 -47.097  1.00 30.23           C
ATOM   6576  C   PHE A 920     -25.901  44.611 -45.832  1.00 24.33           C
ATOM   6577  O   PHE A 920     -25.903  43.691 -45.004  1.00 23.33           O
ATOM   6578  N   ILE A 921     -26.437  44.506 -47.046  1.00 23.25           N
ATOM   6579  CA  ILE A 921     -27.041  43.273 -47.527  1.00 22.68           C
ATOM   6580  CB  ILE A 921     -28.580  43.406 -47.581  1.00 22.82           C
ATOM   6581  CG1 ILE A 921     -29.168  43.373 -46.176  1.00 22.71           C
ATOM   6582  CD1 ILE A 921     -30.288  44.371 -45.980  1.00 23.23           C
ATOM   6583  CG2 ILE A 921     -29.206  42.286 -48.389  1.00 22.94           C
ATOM   6584  C   ILE A 921     -26.470  42.886 -48.899  1.00 22.26           C
ATOM   6585  O   ILE A 921     -26.465  43.692 -49.840  1.00 22.19           O
ATOM   6586  N   LEU A 922     -25.976  41.656 -48.992  1.00 21.51           N
ATOM   6587  CA  LEU A 922     -25.531  41.091 -50.254  1.00 21.58           C
ATOM   6588  CB  LEU A 922     -24.272  40.280 -50.054  1.00 21.28           C
ATOM   6589  CG  LEU A 922     -23.661  39.843 -51.369  1.00 21.46           C
ATOM   6590  CD1 LEU A 922     -22.583  40.836 -51.739  1.00 22.30           C
ATOM   6591  CD2 LEU A 922     -23.074  38.451 -51.255  1.00 21.41           C
ATOM   6592  C   LEU A 922     -26.600  40.189 -50.844  1.00 22.33           C
ATOM   6593  O   LEU A 922     -27.030  39.230 -50.208  1.00 22.40           O
ATOM   6594  N   VAL A 923     -27.015  40.506 -52.068  1.00 23.48           N
ATOM   6595  CA  VAL A 923     -28.078  39.783 -52.784  1.00 23.23           C
ATOM   6596  CB  VAL A 923     -29.214  40.737 -53.187  1.00 23.45           C
ATOM   6597  CG1 VAL A 923     -30.238  40.007 -54.041  1.00 23.38           C
ATOM   6598  CG2 VAL A 923     -29.853  41.363 -51.952  1.00 23.15           C
ATOM   6599  C   VAL A 923     -27.498  39.214 -54.063  1.00 23.21           C
ATOM   6600  O   VAL A 923     -26.841  39.932 -54.810  1.00 24.87           O
ATOM   6601  N   GLY A 924     -27.738  37.936 -54.328  1.00 22.78           N
ATOM   6602  CA  GLY A 924     -27.123  37.277 -55.487  1.00 21.53           C
ATOM   6603  C   GLY A 924     -28.006  36.210 -56.083  1.00 20.65           C
ATOM   6604  O   GLY A 924     -28.924  35.723 -55.422  1.00 20.93           O
ATOM   6605  N   ASP A 925     -27.732  35.851 -57.334  1.00 19.50           N
ATOM   6606  CA  ASP A 925     -28.463  34.785 -58.005  1.00 18.45           C
ATOM   6607  CB  ASP A 925     -29.391  35.364 -59.071  1.00 18.54           C
ATOM   6608  CG  ASP A 925     -28.646  35.929 -60.258  1.00 18.84           C
ATOM   6609  OD1 ASP A 925     -27.428  36.197 -60.157  1.00 19.03           O
ATOM   6610  OD2 ASP A 925     -29.289  36.108 -61.307  1.00 19.11           O
ATOM   6611  C   ASP A 925     -27.542  33.740 -58.616  1.00 17.66           C
ATOM   6612  O   ASP A 925     -26.331  33.910 -58.635  1.00 16.88           O
ATOM   6613  N   LEU A 926     -28.141  32.673 -59.143  1.00 17.72           N
ATOM   6614  CA  LEU A 926     -27.403  31.558 -59.733  1.00 17.53           C
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ATOM   6615  CB  LEU A 926     -28.368  30.536 -60.329  1.00 17.45           C
ATOM   6616  CG  LEU A 926     -27.791  29.146 -60.649  1.00 18.04           C
ATOM   6617  CD1 LEU A 926     -27.321  28.445 -59.381  1.00 18.47           C
ATOM   6618  CD2 LEU A 926     -28.769  28.254 -61.406  1.00 17.82           C
ATOM   6619  C   LEU A 926     -26.444  32.037 -60.801  1.00 17.83           C
ATOM   6620  O   LEU A 926     -25.432  31.400 -61.081  1.00 18.38           O
ATOM   6621  N   MET A 927     -26.754  33.187 -61.371  1.00 18.34           N
ATOM   6622  CA  MET A 927     -26.098  33.659 -62.560  1.00 18.37           C
ATOM   6623  CB  MET A 927     -27.115  34.357 -63.443  1.00 19.07           C
ATOM   6624  CG  MET A 927     -26.752  34.314 -64.907  1.00 20.61           C
ATOM   6625  SD  MET A 927     -27.528  32.982 -65.827  1.00 21.69           S
ATOM   6626  CE  MET A 927     -26.511  33.036 -67.296  1.00 20.80           C
ATOM   6627  C   MET A 927     -24.945  34.589 -62.229  1.00 18.32           C
ATOM   6628  O   MET A 927     -24.219  35.014 -63.115  1.00 18.39           O
ATOM   6629  N   ARG A 928     -24.773  34.910 -60.955  1.00 18.88           N
ATOM   6630  CA  ARG A 928     -23.568  35.614 -60.516  1.00 19.96           C
ATOM   6631  CB  ARG A 928     -22.374  35.122 -61.348  1.00 20.04           C
ATOM   6632  CG  ARG A 928     -21.201  36.049 -61.518  1.00 21.18           C
ATOM   6633  CD  ARG A 928     -20.285  35.982 -60.335  1.00 21.77           C
ATOM   6634  NE  ARG A 928     -18.989  36.568 -60.636  1.00 23.88           N
ATOM   6635  CZ  ARG A 928     -18.758  37.871 -60.827  1.00 26.00           C
ATOM   6636  NH1 ARG A 928     -19.753  38.772 -60.793  1.00 25.61           N
ATOM   6637  NH2 ARG A 928     -17.512  38.276 -61.056  1.00 27.34           N
ATOM   6638  C   ARG A 928     -23.738  37.149 -60.512  1.00 20.62           C
ATOM   6639  O   ARG A 928     -22.797  37.914 -60.273  1.00 20.94           O
ATOM   6640  N   SER A 929     -24.962  37.590 -60.743  1.00 21.01           N
ATOM   6641  CA  SER A 929     -25.310  38.970 -60.496  1.00 21.66           C
ATOM   6642  CB  SER A 929     -26.672  39.277 -61.103  1.00 21.86           C
ATOM   6643  OG  SER A 929     -26.788  38.671 -62.378  1.00 22.71           O
ATOM   6644  C   SER A 929     -25.316  39.230 -58.981  1.00 22.35           C
ATOM   6645  O   SER A 929     -25.978  38.516 -58.211  1.00 22.31           O
ATOM   6646  N   VAL A 930     -24.551  40.234 -58.558  1.00 22.59           N
ATOM   6647  CA  VAL A 930     -24.544  40.659 -57.162  1.00 22.64           C
ATOM   6648  CB  VAL A 930     -23.187  40.396 -56.472  1.00 22.07           C
ATOM   6649  CG1 VAL A 930     -22.788  38.936 -56.630  1.00 21.96           C
ATOM   6650  CG2 VAL A 930     -22.106  41.295 -57.037  1.00 22.34           C
ATOM   6651  C   VAL A 930     -25.006  42.109 -56.981  1.00 23.49           C
ATOM   6652  O   VAL A 930     -24.750  42.991 -57.819  1.00 23.27           O
ATOM   6653  N   LEU A 931     -25.713  42.330 -55.882  1.00 24.46           N
ATOM   6654  CA  LEU A 931     -26.268  43.623 -55.538  1.00 25.20           C
ATOM   6655  CB  LEU A 931     -27.785  43.594 -55.687  1.00 25.68           C
ATOM   6656  CG  LEU A 931     -28.440  44.266 -56.886  1.00 26.44           C
ATOM   6657  CD1 LEU A 931     -28.029  43.633 -58.207  1.00 27.72           C
ATOM   6658  CD2 LEU A 931     -29.944  44.194 -56.712  1.00 27.28           C
ATOM   6659  C   LEU A 931     -25.934  43.892 -54.090  1.00 26.48           C
ATOM   6660  O   LEU A 931     -26.167  43.036 -53.222  1.00 27.04           O
ATOM   6661  N   LEU A 932     -25.378  45.071 -53.822  1.00 26.60           N
ATOM   6662  CA  LEU A 932     -25.193  45.509 -52.454  1.00 26.57           C
ATOM   6663  CB  LEU A 932     -23.833  46.193 -52.276  1.00 27.14           C
ATOM   6664  CG  LEU A 932     -23.375  46.330 -50.813  1.00 28.96           C
ATOM   6665  CD1 LEU A 932     -23.324  44.988 -50.076  1.00 28.76           C
ATOM   6666  CD2 LEU A 932     -22.040  47.049 -50.705  1.00 29.26           C
ATOM   6667  C   LEU A 932     -26.364  46.423 -52.056  1.00 26.31           C
ATOM   6668  O   LEU A 932     -26.755  47.295 -52.823  1.00 26.28           O
ATOM   6669  N   LEU A 933     -26.937  46.195 -50.873  1.00 25.63           N
ATOM   6670  CA  LEU A 933     -28.072  46.995 -50.387  1.00 24.73           C
ATOM   6671  CB  LEU A 933     -29.357  46.167 -50.413  1.00 24.34           C
ATOM   6672  CG  LEU A 933     -29.939  45.734 -51.752  1.00 23.96           C
ATOM   6673  CD1 LEU A 933     -30.902  44.592 -51.512  1.00 23.57           C
ATOM   6674  CD2 LEU A 933     -30.647  46.878 -52.440  1.00 24.14           C
ATOM   6675  C   LEU A 933     -27.860  47.552 -48.973  1.00 24.49           C
ATOM   6676  O   LEU A 933     -27.155  46.945 -48.152  1.00 25.10           O
ATOM   6677  N   ALA A 934     -28.499  48.688 -48.687  1.00 23.11           N
ATOM   6678  CA  ALA A 934     -28.379  49.344 -47.388  1.00 22.73           C
ATOM   6679  CB  ALA A 934     -27.597  50.636 -47.528  1.00 22.50           C
ATOM   6680  C   ALA A 934     -29.736  49.626 -46.747  1.00 23.17           C
ATOM   6681  O   ALA A 934     -30.504  50.463 -47.240  1.00 23.97           O
ATOM   6682  N   TYR A 935     -30.028  48.936 -45.645  1.00 22.76           N
ATOM   6683  CA  TYR A 935     -31.217  49.232 -44.873  1.00 22.22           C
ATOM   6684  CB  TYR A 935     -31.430  48.225 -43.750  1.00 21.84           C
ATOM   6685  CG  TYR A 935     -32.592  48.600 -42.859  1.00 21.26           C
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ATOM   6686  CD1 TYR A 935     -33.884  48.680 -43.376  1.00 21.48           C
ATOM   6687  CE1 TYR A 935     -34.956  49.039 -42.584  1.00 21.38           C
ATOM   6688  CZ  TYR A 935     -34.749  49.320 -41.246  1.00 21.34           C
ATOM   6689  OH  TYR A 935     -35.829  49.677 -40.471  1.00 21.19           O
ATOM   6690  CE2 TYR A 935     -33.475  49.245 -40.704  1.00 21.02           C
ATOM   6691  CD2 TYR A 935     -32.403  48.893 -41.515  1.00 20.94           C
ATOM   6692  C   TYR A 935     -31.036  50.593 -44.262  1.00 23.03           C
ATOM   6693  O   TYR A 935     -30.080  50.825 -43.526  1.00 24.50           O
ATOM   6694  N   LYS A 936     -31.961  51.492 -44.562  1.00 23.14           N
ATOM   6695  CA  LYS A 936     -31.917  52.846 -44.042  1.00 22.71           C
ATOM   6696  CB  LYS A 936     -32.132  53.843 -45.184  1.00 23.45           C
ATOM   6697  CG  LYS A 936     -31.118  53.694 -46.319  1.00 23.33           C
ATOM   6698  CD  LYS A 936     -29.686  53.814 -45.803  1.00 23.15           C
ATOM   6699  CE  LYS A 936     -28.892  54.849 -46.589  1.00 22.99           C
ATOM   6700  NZ  LYS A 936     -29.630  56.133 -46.729  1.00 22.36           N
ATOM   6701  C   LYS A 936     -32.948  53.016 -42.925  1.00 22.21           C
ATOM   6702  O   LYS A 936     -34.135  53.198 -43.190  1.00 21.75           O
ATOM   6703  N   PRO A 937     -32.492  52.928 -41.663  1.00 22.32           N
ATOM   6704  CA  PRO A 937     -33.393  52.901 -40.515  1.00 22.69           C
ATOM   6705  CB  PRO A 937     -32.433  52.890 -39.319  1.00 22.54           C
ATOM   6706  CG  PRO A 937     -31.213  52.214 -39.841  1.00 22.25           C
ATOM   6707  CD  PRO A 937     -31.088  52.720 -41.254  1.00 22.34           C
ATOM   6708  C   PRO A 937     -34.335  54.093 -40.448  1.00 23.45           C
ATOM   6709  O   PRO A 937     -35.483  53.930 -40.072  1.00 24.66           O
ATOM   6710  N   MET A 938     -33.854  55.275 -40.819  1.00 24.67           N
ATOM   6711  CA  MET A 938     -34.657  56.495 -40.792  1.00 25.32           C
ATOM   6712  CB  MET A 938     -33.748  57.719 -40.793  1.00 25.66           C
ATOM   6713  CG  MET A 938     -32.969  57.932 -39.507  1.00 26.09           C
ATOM   6714  SD  MET A 938     -32.032  59.477 -39.564  1.00 28.44           S
ATOM   6715  CE  MET A 938     -30.734  59.068 -40.739  1.00 28.03           C
ATOM   6716  C   MET A 938     -35.638  56.577 -41.962  1.00 25.82           C
ATOM   6717  O   MET A 938     -36.542  57.412 -41.967  1.00 25.83           O
ATOM   6718  N   GLU A 939     -35.449  55.707 -42.949  1.00 27.54           N
ATOM   6719  CA  GLU A 939     -36.294  55.651 -44.134  1.00 28.84           C
ATOM   6720  CB  GLU A 939     -35.429  55.564 -45.384  1.00 32.21           C
ATOM   6721  CG  GLU A 939     -35.221  56.849 -46.171  1.00 36.05           C
ATOM   6722  CD  GLU A 939     -34.341  56.624 -47.412  1.00 40.07           C
ATOM   6723  OE1 GLU A 939     -33.702  57.592 -47.887  1.00 42.86           O
ATOM   6724  OE2 GLU A 939     -34.275  55.474 -47.916  1.00 40.86           O
ATOM   6725  C   GLU A 939     -37.246  54.452 -44.113  1.00 28.14           C
ATOM   6726  O   GLU A 939     -38.250  54.470 -44.806  1.00 29.23           O
ATOM   6727  N   GLY A 940     -36.917  53.411 -43.347  1.00 27.07           N
ATOM   6728  CA  GLY A 940     -37.735  52.188 -43.264  1.00 27.09           C
ATOM   6729  C   GLY A 940     -37.777  51.439 -44.582  1.00 27.90           C
ATOM   6730  O   GLY A 940     -38.832  50.989 -45.026  1.00 27.05           O
ATOM   6731  N   ASN A 941     -36.600  51.244 -45.160  1.00 29.83           N
ATOM   6732  CA  ASN A 941     -36.436  51.240 -46.599  1.00 30.69           C
ATOM   6733  CB  ASN A 941     -36.381  52.698 -47.034  1.00 34.15           C
ATOM   6734  CG  ASN A 941     -37.044  52.941 -48.357  1.00 37.19           C
ATOM   6735  OD1 ASN A 941     -37.507  52.005 -49.013  1.00 41.81           O
ATOM   6736  ND2 ASN A 941     -37.101  54.210 -48.765  1.00 36.07           N
ATOM   6737  C   ASN A 941     -35.120  50.613 -46.996  1.00 29.48           C
ATOM   6738  O   ASN A 941     -34.217  50.504 -46.182  1.00 30.19           O
ATOM   6739  N   PHE A 942     -34.995  50.222 -48.255  1.00 28.70           N
ATOM   6740  CA  PHE A 942     -33.703  49.772 -48.773  1.00 28.48           C
ATOM   6741  CB  PHE A 942     -33.803  48.388 -49.414  1.00 28.27           C
ATOM   6742  CG  PHE A 942     -34.078  47.289 -48.440  1.00 27.77           C
ATOM   6743  CD1 PHE A 942     -33.126  46.921 -47.504  1.00 28.16           C
ATOM   6744  CE1 PHE A 942     -33.377  45.899 -46.601  1.00 28.68           C
ATOM   6745  CZ  PHE A 942     -34.586  45.227 -46.635  1.00 28.53           C
ATOM   6746  CE2 PHE A 942     -35.540  45.584 -47.574  1.00 28.49           C
ATOM   6747  CD2 PHE A 942     -35.284  46.610 -48.469  1.00 27.76           C
ATOM   6748  C   PHE A 942     -33.166  50.751 -49.788  1.00 28.04           C
ATOM   6749  O   PHE A 942     -33.914  51.545 -50.346  1.00 29.19           O
ATOM   6750  N   GLU A 943     -31.865  50.680 -50.023  1.00 28.27           N
ATOM   6751  CA  GLU A 943     -31.195  51.536 -50.989  1.00 29.79           C
ATOM   6752  CB  GLU A 943     -30.579  52.722 -50.253  1.00 30.41           C
ATOM   6753  CG  GLU A 943     -29.990  53.810 -51.123  1.00 32.01           C
ATOM   6754  CD  GLU A 943     -29.054  54.720 -50.338  1.00 34.90           C
ATOM   6755  OE1 GLU A 943     -28.136  54.200 -49.661  1.00 35.66           O
ATOM   6756  OE2 GLU A 943     -29.224  55.961 -50.393  1.00 36.77           O
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ATOM   6757  C   GLU A 943     -30.111  50.699 -51.668  1.00 30.23           C
ATOM   6758  O   GLU A 943     -29.282  50.107 -50.978  1.00 31.09           O
ATOM   6759  N   GLU A 944     -30.134  50.604 -53.001  1.00 29.96           N
ATOM   6760  CA  GLU A 944     -29.090  49.855 -53.715  1.00 29.58           C
ATOM   6761  CB  GLU A 944     -29.546  49.347 -55.093  1.00 32.65           C
ATOM   6762  CG  GLU A 944     -30.490  50.270 -55.860  1.00 37.83           C
ATOM   6763  CD  GLU A 944     -31.437  49.516 -56.799  1.00 40.89           C
ATOM   6764  OE1 GLU A 944     -31.033  48.455 -57.352  1.00 44.05           O
ATOM   6765  OE2 GLU A 944     -32.590  49.988 -56.983  1.00 39.42           O
ATOM   6766  C   GLU A 944     -27.829  50.680 -53.809  1.00 27.24           C
ATOM   6767  O   GLU A 944     -27.869  51.816 -54.248  1.00 27.45           O
ATOM   6768  N   ILE A 945     -26.722  50.097 -53.363  1.00 25.34           N
ATOM   6769  CA  ILE A 945     -25.448  50.793 -53.213  1.00 24.83           C
ATOM   6770  CB  ILE A 945     -24.723  50.360 -51.912  1.00 24.93           C
ATOM   6771  CG1 ILE A 945     -25.575  50.685 -50.680  1.00 24.76           C
ATOM   6772  CD1 ILE A 945     -26.262  52.037 -50.728  1.00 24.36           C
ATOM   6773  CG2 ILE A 945     -23.337  50.994 -51.803  1.00 24.67           C
ATOM   6774  C   ILE A 945     -24.538  50.526 -54.406  1.00 24.45           C
ATOM   6775  O   ILE A 945     -24.013  51.461 -55.020  1.00 23.81           O
ATOM   6776  N   ALA A 946     -24.346  49.243 -54.708  1.00 24.31           N
ATOM   6777  CA  ALA A 946     -23.527  48.812 -55.832  1.00 24.15           C
ATOM   6778  CB  ALA A 946     -22.112  48.506 -55.380  1.00 22.95           C
ATOM   6779  C   ALA A 946     -24.142  47.610 -56.512  1.00 23.68           C
ATOM   6780  O   ALA A 946     -25.081  47.024 -56.015  1.00 23.04           O
ATOM   6781  N   ARG A 947     -23.577  47.228 -57.641  1.00 25.66           N
ATOM   6782  CA  ARG A 947     -24.206  46.277 -58.527  1.00 28.28           C
ATOM   6783  CB  ARG A 947     -25.339  46.997 -59.271  1.00 29.13           C
ATOM   6784  CG  ARG A 947     -25.768  46.398 -60.594  1.00 30.25           C
ATOM   6785  CD  ARG A 947     -26.981  47.123 -61.145  1.00 30.68           C
ATOM   6786  NE  ARG A 947     -28.212  46.614 -60.552  1.00 31.87           N
ATOM   6787  CZ  ARG A 947     -29.401  46.615 -61.153  1.00 32.55           C
ATOM   6788  NH1 ARG A 947     -29.540  47.101 -62.386  1.00 32.31           N
ATOM   6789  NH2 ARG A 947     -30.459  46.120 -60.517  1.00 33.09           N
ATOM   6790  C   ARG A 947     -23.150  45.766 -59.495  1.00 30.36           C
ATOM   6791  O   ARG A 947     -22.247  46.508 -59.878  1.00 31.84           O
ATOM   6792  N   ASP A 948     -23.241  44.497 -59.872  1.00 32.63           N
ATOM   6793  CA  ASP A 948     -22.357  43.960 -60.900  1.00 34.07           C
ATOM   6794  CB  ASP A 948     -21.032  43.530 -60.299  1.00 35.05           C
ATOM   6795  CG  ASP A 948     -20.007  43.199 -61.353  1.00 38.19           C
ATOM   6796  OD1 ASP A 948     -20.155  43.663 -62.514  1.00 38.25           O
ATOM   6797  OD2 ASP A 948     -19.046  42.474 -61.019  1.00 40.73           O
ATOM   6798  C   ASP A 948     -22.972  42.791 -61.644  1.00 35.34           C
ATOM   6799  O   ASP A 948     -23.247  41.755 -61.054  1.00 38.44           O
ATOM   6800  N   PHE A 949     -23.163  42.949 -62.947  1.00 35.40           N
ATOM   6801  CA  PHE A 949     -23.783  41.908 -63.754  1.00 34.37           C
ATOM   6802  CB  PHE A 949     -24.966  42.470 -64.553  1.00 36.98           C
ATOM   6803  CG  PHE A 949     -26.232  42.587 -63.754  1.00 39.96           C
ATOM   6804  CD1 PHE A 949     -26.329  43.490 -62.690  1.00 41.30           C
ATOM   6805  CE1 PHE A 949     -27.498  43.591 -61.942  1.00 41.22           C
ATOM   6806  CZ  PHE A 949     -28.590  42.796 -62.258  1.00 41.28           C
ATOM   6807  CE2 PHE A 949     -28.508  41.898 -63.319  1.00 41.45           C
ATOM   6808  CD2 PHE A 949     -27.335  41.796 -64.060  1.00 41.23           C
ATOM   6809  C   PHE A 949     -22.759  41.274 -64.677  1.00 32.31           C
ATOM   6810  O   PHE A 949     -22.621  41.669 -65.829  1.00 35.79           O
ATOM   6811  N   ASN A 950     -22.048  40.283 -64.161  1.00 28.49           N
ATOM   6812  CA  ASN A 950     -21.034  39.576 -64.924  1.00 26.20           C
ATOM   6813  CB  ASN A 950     -19.669  39.843 -64.305  1.00 25.65           C
ATOM   6814  CG  ASN A 950     -18.537  39.343 -65.150  1.00 24.84           C
ATOM   6815  OD1 ASN A 950     -17.396  39.715 -64.925  1.00 25.34           O
ATOM   6816  ND2 ASN A 950     -18.838  38.498 -66.128  1.00 24.40           N
ATOM   6817  C   ASN A 950     -21.332  38.071 -64.975  1.00 24.85           C
ATOM   6818  O   ASN A 950     -20.913  37.314 -64.109  1.00 25.87           O
ATOM   6819  N   PRO A 951     -22.018  37.631 -66.022  1.00 23.18           N
ATOM   6820  CA  PRO A 951     -22.725  36.356 -66.023  1.00 22.24           C
ATOM   6821  CB  PRO A 951     -23.494  36.388 -67.358  1.00 23.09           C
ATOM   6822  CG  PRO A 951     -23.331  37.772 -67.908  1.00 22.64           C
ATOM   6823  CD  PRO A 951     -22.054  38.281 -67.337  1.00 22.82           C
ATOM   6824  C   PRO A 951     -21.864  35.087 -65.951  1.00 21.01           C
ATOM   6825  O   PRO A 951     -21.310  34.664 -66.956  1.00 21.07           O
ATOM   6826  N   ASN A 952     -21.798  34.468 -64.776  1.00 20.03           N
ATOM   6827  CA  ASN A 952     -21.258  33.102 -64.624  1.00 18.90           C
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ATOM   6828  CB  ASN A 952     -19.796  33.169 -64.190  1.00 18.81           C
ATOM   6829  CG  ASN A 952     -19.032  31.900 -64.505  1.00 18.94           C
ATOM   6830  OD1 ASN A 952     -19.384  31.160 -65.424  1.00 19.17           O
ATOM   6831  ND2 ASN A 952     -17.967  31.650 -63.757  1.00 18.75           N
ATOM   6832  C   ASN A 952     -22.069  32.308 -63.593  1.00 18.00           C
ATOM   6833  O   ASN A 952     -22.599  32.898 -62.672  1.00 18.28           O
ATOM   6834  N   TRP A 953     -22.182  30.988 -63.734  1.00 17.13           N
ATOM   6835  CA  TRP A 953     -22.813  30.173 -62.670  1.00 16.35           C
ATOM   6836  CB  TRP A 953     -22.704  28.679 -62.956  1.00 16.51           C
ATOM   6837  CG  TRP A 953     -23.293  28.266 -64.260  1.00 16.65           C
ATOM   6838  CD1 TRP A 953     -22.710  27.477 -65.240  1.00 16.64           C
ATOM   6839  NE1 TRP A 953     -23.555  27.337 -66.320  1.00 17.21           N
ATOM   6840  CE2 TRP A 953     -24.710  28.017 -66.114  1.00 17.23           C
ATOM   6841  CD2 TRP A 953     -24.607  28.649 -64.797  1.00 17.33           C
ATOM   6842  CE3 TRP A 953     -25.671  29.441 -64.333  1.00 17.03           C
ATOM   6843  CZ3 TRP A 953     -26.787  29.593 -65.149  1.00 16.90           C
ATOM   6844  CH2 TRP A 953     -26.864  28.972 -66.409  1.00 17.16           C
ATOM   6845  CZ2 TRP A 953     -25.827  28.170 -66.911  1.00 17.21           C
ATOM   6846  C   TRP A 953     -22.130  30.446 -61.377  1.00 16.09           C
ATOM   6847  O   TRP A 953     -20.907  30.351 -61.298  1.00 16.48           O
ATOM   6848  N   MET A 954     -22.898  30.786 -60.348  1.00 15.42           N
ATOM   6849  CA  MET A 954     -22.338  31.085 -59.034  1.00 14.79           C
ATOM   6850  CB  MET A 954     -22.587  32.543 -58.681  1.00 15.51           C
ATOM   6851  CG  MET A 954     -22.050  32.961 -57.320  1.00 16.55           C
ATOM   6852  SD  MET A 954     -22.202  34.723 -56.965  1.00 17.23           S
ATOM   6853  CE  MET A 954     -23.900  34.829 -56.419  1.00 17.22           C
ATOM   6854  C   MET A 954     -22.986  30.181 -58.003  1.00 14.29           C
ATOM   6855  O   MET A 954     -24.206  30.014 -58.021  1.00 14.53           O
ATOM   6856  N   SER A 955     -22.184  29.627 -57.088  1.00 13.42           N
ATOM   6857  CA  SER A 955     -22.657  28.568 -56.188  1.00 12.67           C
ATOM   6858  CB  SER A 955     -21.810  27.318 -56.364  1.00 12.33           C
ATOM   6859  OG  SER A 955     -20.510  27.499 -55.846  1.00 12.20           O
ATOM   6860  C   SER A 955     -22.747  28.915 -54.706  1.00 12.55           C
ATOM   6861  O   SER A 955     -23.382  28.193 -53.932  1.00 12.48           O
ATOM   6862  N   ALA A 956     -22.126  30.022 -54.315  1.00 12.71           N
ATOM   6863  CA  ALA A 956     -21.998  30.392 -52.903  1.00 13.19           C
ATOM   6864  CB  ALA A 956     -21.110  29.387 -52.170  1.00 12.88           C
ATOM   6865  C   ALA A 956     -21.387  31.784 -52.820  1.00 13.75           C
ATOM   6866  O   ALA A 956     -20.524  32.120 -53.624  1.00 14.46           O
ATOM   6867  N   VAL A 957     -21.834  32.596 -51.865  1.00 14.16           N
ATOM   6868  CA  VAL A 957     -21.198  33.883 -51.593  1.00 14.52           C
ATOM   6869  CB  VAL A 957     -21.952  35.086 -52.201  1.00 14.45           C
ATOM   6870  CG1 VAL A 957     -21.527  35.332 -53.629  1.00 14.51           C
ATOM   6871  CG2 VAL A 957     -23.452  34.909 -52.108  1.00 14.56           C
ATOM   6872  C   VAL A 957     -21.045  34.121 -50.104  1.00 15.29           C
ATOM   6873  O   VAL A 957     -21.762  33.539 -49.296  1.00 15.11           O
ATOM   6874  N   GLU A 958     -20.101  34.987 -49.750  1.00 16.68           N
ATOM   6875  CA  GLU A 958     -19.910  35.416 -48.368  1.00 17.64           C
ATOM   6876  CB  GLU A 958     -18.928  34.464 -47.663  1.00 18.77           C
ATOM   6877  CG  GLU A 958     -18.753  34.685 -46.168  1.00 20.40           C
ATOM   6878  CD  GLU A 958     -20.070  34.661 -45.416  1.00 22.43           C
ATOM   6879  OE1 GLU A 958     -20.768  35.707 -45.382  1.00 23.45           O
ATOM   6880  OE2 GLU A 958     -20.403  33.598 -44.845  1.00 23.72           O
ATOM   6881  C   GLU A 958     -19.406  36.867 -48.318  1.00 17.46           C
ATOM   6882  O   GLU A 958     -18.697  37.314 -49.220  1.00 17.47           O
ATOM   6883  N   ILE A 959     -19.766  37.598 -47.270  1.00 17.26           N
ATOM   6884  CA  ILE A 959     -19.159  38.906 -47.031  1.00 17.62           C
ATOM   6885  CB  ILE A 959     -20.129  39.859 -46.307  1.00 17.18           C
ATOM   6886  CG1 ILE A 959     -21.294  40.223 -47.225  1.00 17.01           C
ATOM   6887  CD1 ILE A 959     -22.568  40.548 -46.480  1.00 16.69           C
ATOM   6888  CG2 ILE A 959     -19.412  41.109 -45.820  1.00 17.03           C
ATOM   6889  C   ILE A 959     -17.862  38.759 -46.237  1.00 18.38           C
ATOM   6890  O   ILE A 959     -17.842  38.139 -45.172  1.00 18.29           O
ATOM   6891  N   LEU A 960     -16.780  39.327 -46.762  1.00 19.76           N
ATOM   6892  CA  LEU A 960     -15.497  39.311 -46.067  1.00 21.31           C
ATOM   6893  CB  LEU A 960     -14.336  39.353 -47.057  1.00 20.27           C
ATOM   6894  CG  LEU A 960     -14.258  38.145 -48.012  1.00 20.65           C
ATOM   6895  CD1 LEU A 960     -13.410  38.450 -49.247  1.00 20.78           C
ATOM   6896  CD2 LEU A 960     -13.799  36.858 -47.334  1.00 19.82           C
ATOM   6897  C   LEU A 960     -15.421  40.460 -45.071  1.00 23.67           C
ATOM   6898  O   LEU A 960     -15.059  40.264 -43.905  1.00 24.12           O
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ATOM   6899  N   ASP A 961     -15.779  41.652 -45.544  1.00 26.36           N
ATOM   6900  CA  ASP A 961     -15.912  42.850 -44.710  1.00 29.29           C
ATOM   6901  CB  ASP A 961     -14.539  43.408 -44.329  1.00 28.44           C
ATOM   6902  CG  ASP A 961     -13.719  43.821 -45.528  1.00 28.29           C
ATOM   6903  OD1 ASP A 961     -14.289  44.231 -46.559  1.00 28.05           O
ATOM   6904  OD2 ASP A 961     -12.482  43.745 -45.431  1.00 30.07           O
ATOM   6905  C   ASP A 961     -16.755  43.911 -45.437  1.00 32.84           C
ATOM   6906  O   ASP A 961     -17.248  43.671 -46.545  1.00 33.42           O
ATOM   6907  N   ASP A 962     -16.904  45.086 -44.830  1.00 37.38           N
ATOM   6908  CA  ASP A 962     -17.824  46.104 -45.350  1.00 41.78           C
ATOM   6909  CB  ASP A 962     -17.621  47.446 -44.632  1.00 47.69           C
ATOM   6910  CG  ASP A 962     -17.996  47.390 -43.159  1.00 52.16           C
ATOM   6911  OD1 ASP A 962     -19.082  46.857 -42.841  1.00 55.78           O
ATOM   6912  OD2 ASP A 962     -17.207  47.889 -42.321  1.00 55.28           O
ATOM   6913  C   ASP A 962     -17.695  46.306 -46.860  1.00 41.28           C
ATOM   6914  O   ASP A 962     -18.670  46.686 -47.528  1.00 42.72           O
ATOM   6915  N   ASP A 963     -16.498  46.037 -47.386  1.00 37.28           N
ATOM   6916  CA  ASP A 963     -16.142  46.430 -48.741  1.00 35.39           C
ATOM   6917  CB  ASP A 963     -14.945  47.381 -48.695  1.00 37.38           C
ATOM   6918  CG  ASP A 963     -15.293  48.748 -48.096  1.00 40.19           C
ATOM   6919  OD1 ASP A 963     -16.415  48.930 -47.558  1.00 39.44           O
ATOM   6920  OD2 ASP A 963     -14.428  49.653 -48.172  1.00 42.07           O
ATOM   6921  C   ASP A 963     -15.844  45.268 -49.691  1.00 33.05           C
ATOM   6922  O   ASP A 963     -15.689  45.476 -50.891  1.00 33.27           O
ATOM   6923  N   ASN A 964     -15.775  44.051 -49.161  1.00 30.23           N
ATOM   6924  CA  ASN A 964     -15.324  42.895 -49.938  1.00 27.04           C
ATOM   6925  CB  ASN A 964     -13.904  42.509 -49.531  1.00 26.79           C
ATOM   6926  CG  ASN A 964     -12.889  43.553 -49.926  1.00 27.11           C
ATOM   6927  OD1 ASN A 964     -12.423  43.590 -51.063  1.00 26.37           O
ATOM   6928  ND2 ASN A 964     -12.541  44.414 -48.985  1.00 28.41           N
ATOM   6929  C   ASN A 964     -16.238  41.680 -49.847  1.00 25.01           C
ATOM   6930  O   ASN A 964     -16.671  41.304 -48.759  1.00 23.81           O
ATOM   6931  N   PHE A 965     -16.504  41.068 -51.003  1.00 23.74           N
ATOM   6932  CA  PHE A 965     -17.397  39.911 -51.112  1.00 22.39           C
ATOM   6933  CB  PHE A 965     -18.699  40.322 -51.793  1.00 23.12           C
ATOM   6934  CG  PHE A 965     -19.157  41.668 -51.369  1.00 25.54           C
ATOM   6935  CD1 PHE A 965     -19.563  41.895 -50.049  1.00 26.63           C
ATOM   6936  CE1 PHE A 965     -19.939  43.166 -49.619  1.00 27.30           C
ATOM   6937  CZ  PHE A 965     -19.891  44.229 -50.504  1.00 27.51           C
ATOM   6938  CE2 PHE A 965     -19.469  44.021 -51.813  1.00 28.00           C
ATOM   6939  CD2 PHE A 965     -19.093  42.745 -52.239  1.00 27.17           C
ATOM   6940  C   PHE A 965     -16.733  38.734 -51.813  1.00 21.25           C
ATOM   6941  O   PHE A 965     -16.151  38.871 -52.885  1.00 20.88           O
ATOM   6942  N   LEU A 966     -16.793  37.581 -51.165  1.00 19.92           N
ATOM   6943  CA  LEU A 966     -16.251  36.352 -51.715  1.00 19.36           C
ATOM   6944  CB  LEU A 966     -15.593  35.536 -50.594  1.00 18.94           C
ATOM   6945  CG  LEU A 966     -14.939  34.175 -50.850  1.00 18.35           C
ATOM   6946  CD1 LEU A 966     -13.694  34.333 -51.706  1.00 18.03           C
ATOM   6947  CD2 LEU A 966     -14.609  33.500 -49.522  1.00 17.68           C
ATOM   6948  C   LEU A 966     -17.371  35.551 -52.399  1.00 19.00           C
ATOM   6949  O   LEU A 966     -18.534  35.601 -51.988  1.00 18.59           O
ATOM   6950  N   GLY A 967     -17.014  34.831 -53.454  1.00 18.15           N
ATOM   6951  CA  GLY A 967     -17.979  34.051 -54.191  1.00 17.47           C
ATOM   6952  C   GLY A 967     -17.282  32.907 -54.875  1.00 17.97           C
ATOM   6953  O   GLY A 967     -16.090  33.009 -55.228  1.00 18.24           O
ATOM   6954  N   ALA A 968     -18.006  31.800 -55.039  1.00 17.44           N
ATOM   6955  CA  ALA A 968     -17.522  30.679 -55.828  1.00 16.50           C
ATOM   6956  CB  ALA A 968     -17.704  29.385 -55.069  1.00 16.12           C
ATOM   6957  C   ALA A 968     -18.293  30.659 -57.138  1.00 16.33           C
ATOM   6958  O   ALA A 968     -19.509  30.834 -57.146  1.00 15.94           O
ATOM   6959  N   GLU A 969     -17.578  30.477 -58.243  1.00 16.45           N
ATOM   6960  CA  GLU A 969     -18.173  30.604 -59.567  1.00 17.06           C
ATOM   6961  CB  GLU A 969     -18.087  32.049 -60.075  1.00 17.66           C
ATOM   6962  CG  GLU A 969     -16.715  32.440 -60.581  1.00 19.21           C
ATOM   6963  CD  GLU A 969     -16.730  33.753 -61.331  1.00 21.25           C
ATOM   6964  OE1 GLU A 969     -17.526  33.887 -62.285  1.00 23.17           O
ATOM   6965  OE2 GLU A 969     -15.944  34.661 -60.979  1.00 22.19           O
ATOM   6966  C   GLU A 969     -17.584  29.626 -60.589  1.00 16.72           C
ATOM   6967  O   GLU A 969     -16.528  29.054 -60.380  1.00 16.82           O
ATOM   6968  N   ASN A 970     -18.261  29.495 -61.721  1.00 16.53           N
ATOM   6969  CA  ASN A 970     -18.125  28.327 -62.571  1.00 16.26           C
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ATOM   6970  CB  ASN A 970     -19.012  28.421 -63.801  1.00 16.41           C
ATOM   6971  CG  ASN A 970     -18.720  27.320 -64.795  1.00 15.70           C
ATOM   6972  OD1 ASN A 970     -19.137  26.166 -64.609  1.00 14.95           O
ATOM   6973  ND2 ASN A 970     -17.957  27.659 -65.833  1.00 15.35           N
ATOM   6974  C   ASN A 970     -16.750  27.947 -63.028  1.00 16.12           C
ATOM   6975  O   ASN A 970     -15.956  28.793 -63.443  1.00 15.97           O
ATOM   6976  N   ALA A 971     -16.565  26.625 -63.063  1.00 16.22           N
ATOM   6977  CA  ALA A 971     -15.301  25.933 -63.313  1.00 15.20           C
ATOM   6978  CB  ALA A 971     -14.630  26.415 -64.587  1.00 14.98           C
ATOM   6979  C   ALA A 971     -14.421  26.102 -62.072  1.00 14.81           C
ATOM   6980  O   ALA A 971     -13.229  26.453 -62.164  1.00 14.85           O
ATOM   6981  N   PHE A 972     -15.054  25.886 -60.911  1.00 13.69           N
ATOM   6982  CA  PHE A 972     -14.353  25.702 -59.653  1.00 13.44           C
ATOM   6983  CB  PHE A 972     -13.558  24.385 -59.700  1.00 13.44           C
ATOM   6984  CG  PHE A 972     -14.306  23.259 -60.356  1.00 13.59           C
ATOM   6985  CD1 PHE A 972     -15.323  22.578 -59.670  1.00 13.71           C
ATOM   6986  CE1 PHE A 972     -16.032  21.556 -60.293  1.00 13.50           C
ATOM   6987  CZ  PHE A 972     -15.737  21.211 -61.604  1.00 13.12           C
ATOM   6988  CE2 PHE A 972     -14.742  21.876 -62.290  1.00 13.01           C
ATOM   6989  CD2 PHE A 972     -14.030  22.892 -61.671  1.00 13.29           C
ATOM   6990  C   PHE A 972     -13.446  26.878 -59.308  1.00 13.44           C
ATOM   6991  O   PHE A 972     -12.290  26.691 -58.896  1.00 13.68           O
ATOM   6992  N   ASN A 973     -13.966  28.089 -59.483  1.00 13.14           N
ATOM   6993  CA  ASN A 973     -13.190  29.297 -59.263  1.00 13.46           C
ATOM   6994  CB  ASN A 973     -13.321  30.230 -60.462  1.00 13.58           C
ATOM   6995  CG  ASN A 973     -12.662  29.685 -61.701  1.00 13.45           C
ATOM   6996  OD1 ASN A 973     -11.444  29.590 -61.777  1.00 13.51           O
ATOM   6997  ND2 ASN A 973     -13.467  29.342 -62.690  1.00 13.54           N
ATOM   6998  C   ASN A 973     -13.644  30.039 -58.028  1.00 13.80           C
ATOM   6999  O   ASN A 973     -14.777  29.867 -57.585  1.00 14.14           O
ATOM   7000  N   LEU A 974     -12.766  30.870 -57.475  1.00 14.33           N
ATOM   7001  CA  LEU A 974     -13.169  31.851 -56.467  1.00 15.24           C
ATOM   7002  CB  LEU A 974     -12.382  31.676 -55.170  1.00 14.97           C
ATOM   7003  CG  LEU A 974     -12.587  30.411 -54.325  1.00 15.19           C
ATOM   7004  CD1 LEU A 974     -11.813  30.583 -53.034  1.00 15.68           C
ATOM   7005  CD2 LEU A 974     -14.041  30.123 -53.986  1.00 15.10           C
ATOM   7006  C   LEU A 974     -12.942  33.248 -57.007  1.00 16.18           C
ATOM   7007  O   LEU A 974     -11.934  33.501 -57.673  1.00 16.91           O
ATOM   7008  N   PHE A 975     -13.880  34.154 -56.733  1.00 16.84           N
ATOM   7009  CA  PHE A 975     -13.703  35.579 -57.048  1.00 16.66           C
ATOM   7010  CB  PHE A 975     -14.609  35.977 -58.204  1.00 16.45           C
ATOM   7011  CG  PHE A 975     -16.058  36.067 -57.830  1.00 16.23           C
ATOM   7012  CD1 PHE A 975     -16.845  34.924 -57.767  1.00 15.96           C
ATOM   7013  CE1 PHE A 975     -18.176  35.001 -57.413  1.00 15.74           C
ATOM   7014  CZ  PHE A 975     -18.735  36.230 -57.125  1.00 16.01           C
ATOM   7015  CE2 PHE A 975     -17.963  37.381 -57.178  1.00 16.00           C
ATOM   7016  CD2 PHE A 975     -16.635  37.298 -57.532  1.00 16.06           C
ATOM   7017  C   PHE A 975     -13.967  36.477 -55.839  1.00 17.04           C
ATOM   7018  O   PHE A 975     -14.696  36.108 -54.919  1.00 16.74           O
ATOM   7019  N   VAL A 976     -13.370  37.659 -55.843  1.00 18.62           N
ATOM   7020  CA  VAL A 976     -13.620  38.645 -54.786  1.00 20.31           C
ATOM   7021  CB  VAL A 976     -12.424  38.798 -53.826  1.00 19.18           C
ATOM   7022  CG1 VAL A 976     -12.669  39.930 -52.857  1.00 19.25           C
ATOM   7023  CG2 VAL A 976     -12.194  37.516 -53.053  1.00 18.93           C
ATOM   7024  C   VAL A 976     -13.977  39.992 -55.397  1.00 22.40           C
ATOM   7025  O   VAL A 976     -13.220  40.519 -56.206  1.00 22.82           O
ATOM   7026  N   CYS A 977     -15.145  40.523 -55.015  1.00 25.58           N
ATOM   7027  CA  CYS A 977     -15.614  41.857 -55.435  1.00 27.37           C
ATOM   7028  CB  CYS A 977     -17.094  41.831 -55.771  1.00 29.74           C
ATOM   7029  SG  CYS A 977     -17.455  41.015 -57.328  1.00 37.92           S
ATOM   7030  C   CYS A 977     -15.396  42.886 -54.347  1.00 27.13           C
ATOM   7031  O   CYS A 977     -15.599  42.602 -53.160  1.00 25.64           O
ATOM   7032  N   GLN A 978     -15.009  44.089 -54.766  1.00 27.34           N
ATOM   7033  CA  GLN A 978     -14.658  45.154 -53.839  1.00 28.01           C
ATOM   7034  CB  GLN A 978     -13.196  45.519 -54.010  1.00 27.04           C
ATOM   7035  CG  GLN A 978     -12.688  46.464 -52.951  1.00 27.17           C
ATOM   7036  CD  GLN A 978     -11.200  46.379 -52.792  1.00 27.25           C
ATOM   7037  OE1 GLN A 978     -10.444  47.017 -53.533  1.00 27.30           O
ATOM   7038  NE2 GLN A 978     -10.758  45.592 -51.811  1.00 27.46           N
ATOM   7039  C   GLN A 978     -15.518  46.375 -54.064  1.00 29.10           C
ATOM   7040  O   GLN A 978     -15.728  46.774 -55.209  1.00 30.07           O
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ATOM   7041  N   LYS A 979     -15.997  46.982 -52.980  1.00 31.40           N
ATOM   7042  CA  LYS A 979     -16.932  48.105 -53.098  1.00 35.73           C
ATOM   7043  CB  LYS A 979     -17.533  48.521 -51.755  1.00 35.66           C
ATOM   7044  CG  LYS A 979     -18.562  49.638 -51.887  1.00 34.94           C
ATOM   7045  CD  LYS A 979     -19.457  49.731 -50.663  1.00 36.72           C
ATOM   7046  CE  LYS A 979     -18.733  50.314 -49.458  1.00 38.29           C
ATOM   7047  NZ  LYS A 979     -19.157  49.613 -48.215  1.00 39.80           N
ATOM   7048  C   LYS A 979     -16.322  49.306 -53.791  1.00 38.84           C
ATOM   7049  O   LYS A 979     -16.877  49.793 -54.778  1.00 40.20           O
ATOM   7050  N   ASP A 980     -15.187  49.780 -53.280  1.00 42.54           N
ATOM   7051  CA  ASP A 980     -14.507  50.920 -53.895  1.00 47.50           C
ATOM   7052  CB  ASP A 980     -13.518  51.577 -52.921  1.00 50.94           C
ATOM   7053  CG  ASP A 980     -12.902  52.850 -53.486  1.00 51.41           C
ATOM   7054  OD1 ASP A 980     -13.617  53.596 -54.192  1.00 51.63           O
ATOM   7055  OD2 ASP A 980     -11.702  53.096 -53.234  1.00 51.75           O
ATOM   7056  C   ASP A 980     -13.806  50.525 -55.199  1.00 47.76           C
ATOM   7057  O   ASP A 980     -14.082  51.098 -56.256  1.00 47.25           O
ATOM   7058  N   GLU A 987     -22.391  59.114 -57.781  1.00 50.94           N
ATOM   7059  CA  GLU A 987     -21.253  58.695 -58.598  1.00 53.30           C
ATOM   7060  CB  GLU A 987     -19.967  58.684 -57.741  1.00 50.19           C
ATOM   7061  CG  GLU A 987     -18.685  58.279 -58.469  1.00 48.14           C
ATOM   7062  CD  GLU A 987     -18.003  59.425 -59.202  1.00 46.73           C
ATOM   7063  OE1 GLU A 987     -17.170  60.121 -58.576  1.00 44.82           O
ATOM   7064  OE2 GLU A 987     -18.277  59.606 -60.410  1.00 44.01           O
ATOM   7065  C   GLU A 987     -21.516  57.317 -59.232  1.00 54.62           C
ATOM   7066  O   GLU A 987     -22.473  56.633 -58.865  1.00 52.82           O
ATOM   7067  N   GLU A 988     -20.699  56.949 -60.220  1.00 59.20           N
ATOM   7068  CA  GLU A 988     -20.551  55.547 -60.627  1.00 61.23           C
ATOM   7069  CB  GLU A 988     -20.503  55.355 -62.153  1.00 65.99           C
ATOM   7070  CG  GLU A 988     -19.953  56.529 -62.957  1.00 71.51           C
ATOM   7071  CD  GLU A 988     -21.040  57.488 -63.423  1.00 73.08           C
ATOM   7072  OE1 GLU A 988     -21.855  57.935 -62.580  1.00 74.74           O
ATOM   7073  OE2 GLU A 988     -21.074  57.801 -64.636  1.00 71.07           O
ATOM   7074  C   GLU A 988     -19.333  54.944 -59.928  1.00 58.79           C
ATOM   7075  O   GLU A 988     -18.178  55.235 -60.252  1.00 57.68           O
ATOM   7076  N   ARG A 989     -19.657  54.055 -58.997  1.00 57.25           N
ATOM   7077  CA  ARG A 989     -18.866  53.650 -57.828  1.00 54.18           C
ATOM   7078  CB  ARG A 989     -18.313  54.848 -57.039  1.00 54.68           C
ATOM   7079  CG  ARG A 989     -16.973  55.371 -57.567  1.00 57.70           C
ATOM   7080  CD  ARG A 989     -15.827  55.353 -56.552  1.00 58.41           C
ATOM   7081  NE  ARG A 989     -15.817  56.545 -55.688  1.00 56.87           N
ATOM   7082  CZ  ARG A 989     -14.726  57.114 -55.170  1.00 54.65           C
ATOM   7083  NH1 ARG A 989     -13.516  56.627 -55.427  1.00 54.41           N
ATOM   7084  NH2 ARG A 989     -14.847  58.183 -54.395  1.00 52.34           N
ATOM   7085  C   ARG A 989     -19.977  52.911 -57.068  1.00 50.71           C
ATOM   7086  O   ARG A 989     -19.809  52.414 -55.946  1.00 48.06           O
ATOM   7087  N   GLN A 990     -21.139  52.912 -57.728  1.00 46.34           N
ATOM   7088  CA  GLN A 990     -22.150  51.876 -57.636  1.00 43.05           C
ATOM   7089  CB  GLN A 990     -23.452  52.373 -58.261  1.00 42.71           C
ATOM   7090  CG  GLN A 990     -23.868  53.774 -57.847  1.00 44.27           C
ATOM   7091  CD  GLN A 990     -24.955  54.353 -58.732  1.00 43.49           C
ATOM   7092  OE1 GLN A 990     -25.163  53.900 -59.856  1.00 44.09           O
ATOM   7093  NE2 GLN A 990     -25.649  55.364 -58.231  1.00 42.99           N
ATOM   7094  C   GLN A 990     -21.668  50.657 -58.432  1.00 42.42           C
ATOM   7095  O   GLN A 990     -22.410  49.697 -58.642  1.00 40.42           O
ATOM   7096  N   HIS A 991     -20.424  50.720 -58.897  1.00 44.01           N
ATOM   7097  CA  HIS A 991     -19.834  49.652 -59.681  1.00 43.53           C
ATOM   7098  CB  HIS A 991     -19.163  50.216 -60.939  1.00 52.55           C
ATOM   7099  CG  HIS A 991     -18.509  49.159 -61.811  1.00 61.81           C
ATOM   7100  ND1 HIS A 991     -19.218  48.354 -62.635  1.00 63.55           N
ATOM   7101  CE1 HIS A 991     -18.376  47.511 -63.269  1.00 65.96           C
ATOM   7102  NE2 HIS A 991     -17.122  47.778 -62.853  1.00 67.19           N
ATOM   7103  CD2 HIS A 991     -17.166  48.785 -61.953  1.00 64.96           C
ATOM   7104  C   HIS A 991     -18.854  48.891 -58.850  1.00 37.28           C
ATOM   7105  O   HIS A 991     -17.961  49.476 -58.245  1.00 35.32           O
ATOM   7106  N   LEU A 992     -19.018  47.575 -58.810  1.00 32.54           N
ATOM   7107  CA  LEU A 992     -18.117  46.718 -58.043  1.00 30.74           C
ATOM   7108  CB  LEU A 992     -18.873  45.527 -57.447  1.00 28.09           C
ATOM   7109  CG  LEU A 992     -19.900  45.838 -56.356  1.00 27.16           C
ATOM   7110  CD1 LEU A 992     -20.564  44.567 -55.855  1.00 26.90           C
ATOM   7111  CD2 LEU A 992     -19.284  46.593 -55.191  1.00 26.51           C
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ATOM   7112  C   LEU A 992     -16.912  46.247 -58.867  1.00 30.25           C
ATOM   7113  O   LEU A 992     -17.049  45.878 -60.036  1.00 30.30           O
ATOM   7114  N   GLN A 993     -15.737  46.266 -58.246  1.00 30.06           N
ATOM   7115  CA  GLN A 993     -14.495  45.924 -58.931  1.00 30.79           C
ATOM   7116  CB  GLN A 993     -13.422  46.974 -58.637  1.00 34.35           C
ATOM   7117  CG  GLN A 993     -13.506  48.210 -59.526  1.00 38.35           C
ATOM   7118  CD  GLN A 993     -12.700  48.058 -60.803  1.00 41.94           C
ATOM   7119  OE1 GLN A 993     -11.467  47.996 -60.764  1.00 43.55           O
ATOM   7120  NE2 GLN A 993     -13.393  47.990 -61.948  1.00 43.48           N
ATOM   7121  C   GLN A 993     -13.992  44.520 -58.587  1.00 29.34           C
ATOM   7122  O   GLN A 993     -14.024  44.093 -57.428  1.00 30.11           O
ATOM   7123  N   GLU A 994     -13.527  43.812 -59.605  1.00 26.76           N
ATOM   7124  CA  GLU A 994     -13.116  42.429 -59.457  1.00 25.56           C
ATOM   7125  CB  GLU A 994     -13.357  41.681 -60.774  1.00 27.70           C
ATOM   7126  CG  GLU A 994     -13.478  40.174 -60.626  1.00 30.10           C
ATOM   7127  CD  GLU A 994     -14.043  39.492 -61.865  1.00 31.75           C
ATOM   7128  OE1 GLU A 994     -13.563  39.788 -62.987  1.00 33.36           O
ATOM   7129  OE2 GLU A 994     -14.950  38.636 -61.710  1.00 31.93           O
ATOM   7130  C   GLU A 994     -11.643  42.357 -59.048  1.00 23.21           C
ATOM   7131  O   GLU A 994     -10.764  42.386 -59.898  1.00 22.85           O
ATOM   7132  N   VAL A 995     -11.386  42.250 -57.745  1.00 20.91           N
ATOM   7133  CA  VAL A 995     -10.026  42.363 -57.210  1.00 18.71           C
ATOM   7134  CB  VAL A 995      -9.976  43.206 -55.930  1.00 17.73           C
ATOM   7135  CG1 VAL A 995     -10.435  44.616 -56.224  1.00 17.40           C
ATOM   7136  CG2 VAL A 995     -10.807  42.575 -54.834  1.00 17.53           C
ATOM   7137  C   VAL A 995      -9.294  41.056 -56.948  1.00 18.14           C
ATOM   7138  O   VAL A 995      -8.125  41.077 -56.568  1.00 18.46           O
ATOM   7139  N   GLY A 996      -9.963  39.923 -57.140  1.00 17.33           N
ATOM   7140  CA  GLY A 996      -9.320  38.631 -56.912  1.00 16.20           C
ATOM   7141  C   GLY A 996      -9.964  37.502 -57.674  1.00 15.74           C
ATOM   7142  O   GLY A 996     -11.177  37.354 -57.645  1.00 16.19           O
ATOM   7143  N   LEU A 997      -9.152  36.720 -58.378  1.00 15.36           N
ATOM   7144  CA  LEU A 997      -9.608  35.479 -59.016  1.00 15.14           C
ATOM   7145  CB  LEU A 997      -9.653  35.626 -60.544  1.00 15.66           C
ATOM   7146  CG  LEU A 997     -10.241  36.882 -61.213  1.00 16.14           C
ATOM   7147  CD1 LEU A 997     -10.220  36.745 -62.730  1.00 16.33           C
ATOM   7148  CD2 LEU A 997     -11.661  37.184 -60.747  1.00 16.52           C
ATOM   7149  C   LEU A 997      -8.660  34.337 -58.637  1.00 14.69           C
ATOM   7150  O   LEU A 997      -7.465  34.575 -58.414  1.00 14.95           O
ATOM   7151  N   PHE A 998      -9.180  33.108 -58.582  1.00 13.81           N
ATOM   7152  CA  PHE A 998      -8.385  31.928 -58.227  1.00 13.32           C
ATOM   7153  CB  PHE A 998      -8.227  31.872 -56.717  1.00 13.40           C
ATOM   7154  CG  PHE A 998      -7.219  30.867 -56.230  1.00 13.51           C
ATOM   7155  CD1 PHE A 998      -5.865  30.999 -56.546  1.00 13.31           C
ATOM   7156  CE1 PHE A 998      -4.936  30.091 -56.077  1.00 13.10           C
ATOM   7157  CZ  PHE A 998      -5.342  29.050 -55.261  1.00 13.32           C
ATOM   7158  CE2 PHE A 998      -6.683  28.906 -54.927  1.00 13.45           C
ATOM   7159  CD2 PHE A 998      -7.615  29.815 -55.406  1.00 13.45           C
ATOM   7160  C   PHE A 998      -9.106  30.682 -58.671  1.00 13.25           C
ATOM   7161  O   PHE A 998     -10.275  30.515 -58.358  1.00 13.56           O
ATOM   7162  N   HIS A 999      -8.433  29.798 -59.400  1.00 13.21           N
ATOM   7163  CA  HIS A 999      -9.045  28.507 -59.733  1.00 12.90           C
ATOM   7164  CB  HIS A 999      -8.454  27.923 -61.001  1.00 13.24           C
ATOM   7165  CG  HIS A 999      -9.203  26.717 -61.500  1.00 13.99           C
ATOM   7166  ND1 HIS A 999      -8.762  25.449 -61.310  1.00 14.10           N
ATOM   7167  CE1 HIS A 999      -9.648  24.580 -61.858  1.00 14.00           C
ATOM   7168  NE2 HIS A 999     -10.673  25.297 -62.378  1.00 14.00           N
ATOM   7169  CD2 HIS A 999     -10.434  26.611 -62.176  1.00 14.01           C
ATOM   7170  C   HIS A 999      -8.831  27.554 -58.612  1.00 12.62           C
ATOM   7171  O   HIS A 999      -7.721  27.057 -58.443  1.00 12.81           O
ATOM   7172  N   LEU A1000      -9.879  27.277 -57.834  1.00 12.17           N
ATOM   7173  CA  LEU A1000      -9.750  26.430 -56.629  1.00 11.82           C
ATOM   7174  CB  LEU A1000     -10.908  26.668 -55.657  1.00 11.69           C
ATOM   7175  CG  LEU A1000     -10.911  25.912 -54.320  1.00 11.54           C
ATOM   7176  CD1 LEU A1000      -9.652  26.169 -53.523  1.00 11.61           C
ATOM   7177  CD2 LEU A1000     -12.108  26.307 -53.490  1.00 11.48           C
ATOM   7178  C   LEU A1000      -9.611  24.935 -56.914  1.00 11.63           C
ATOM   7179  O   LEU A1000      -8.790  24.279 -56.317  1.00 11.37           O
ATOM   7180  N   GLY A1001     -10.415  24.399 -57.822  1.00 11.74           N
ATOM   7181  CA  GLY A1001     -10.391  22.955 -58.105  1.00 11.73           C
ATOM   7182  C   GLY A1001     -11.505  22.198 -57.396  1.00 11.74           C
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ATOM   7183  O   GLY A1001     -11.635  20.980 -57.551  1.00 11.56           O
ATOM   7184  N   GLU A1002     -12.300  22.935 -56.617  1.00 11.67           N
ATOM   7185  CA  GLU A1002     -13.474  22.409 -55.934  1.00 11.64           C
ATOM   7186  CB  GLU A1002     -13.256  22.446 -54.418  1.00 11.84           C
ATOM   7187  CG  GLU A1002     -12.072  21.630 -53.916  1.00 12.27           C
ATOM   7188  CD  GLU A1002     -12.255  20.130 -54.122  1.00 12.96           C
ATOM   7189  OE1 GLU A1002     -13.422  19.669 -54.304  1.00 13.31           O
ATOM   7190  OE2 GLU A1002     -11.231  19.403 -54.098  1.00 12.87           O
ATOM   7191  C   GLU A1002     -14.755  23.190 -56.306  1.00 11.54           C
ATOM   7192  O   GLU A1002     -14.687  24.302 -56.832  1.00 11.57           O
ATOM   7193  N   PHE A1003     -15.918  22.592 -56.041  1.00 11.14           N
ATOM   7194  CA  PHE A1003     -17.198  23.272 -56.180  1.00 10.64           C
ATOM   7195  CB  PHE A1003     -18.207  22.351 -56.869  1.00 10.51           C
ATOM   7196  CG  PHE A1003     -19.549  22.994 -57.170  1.00 10.36           C
ATOM   7197  CD1 PHE A1003     -20.521  23.133 -56.180  1.00 10.21           C
ATOM   7198  CE1 PHE A1003     -21.758  23.691 -56.462  1.00  9.97           C
ATOM   7199  CZ  PHE A1003     -22.050  24.106 -57.741  1.00  9.98           C
ATOM   7200  CE2 PHE A1003     -21.105  23.958 -58.744  1.00 10.11           C
ATOM   7201  CD2 PHE A1003     -19.863  23.405 -58.460  1.00 10.25           C
ATOM   7202  C   PHE A1003     -17.643  23.576 -54.773  1.00 10.51           C
ATOM   7203  O   PHE A1003     -17.958  22.669 -54.010  1.00 10.77           O
ATOM   7204  N   VAL A1004     -17.632  24.849 -54.412  1.00 10.44           N
ATOM   7205  CA  VAL A1004     -17.988  25.272 -53.055  1.00 10.48           C
ATOM   7206  CB  VAL A1004     -17.333  26.639 -52.678  1.00 10.22           C
ATOM   7207  CG1 VAL A1004     -17.918  27.206 -51.392  1.00 10.13           C
ATOM   7208  CG2 VAL A1004     -15.830  26.492 -52.548  1.00 10.09           C
ATOM   7209  C   VAL A1004     -19.509  25.359 -52.923  1.00 10.60           C
ATOM   7210  O   VAL A1004     -20.155  26.046 -53.716  1.00 10.80           O
ATOM   7211  N   ASN A1005     -20.069  24.676 -51.924  1.00 10.41           N
ATOM   7212  CA  ASN A1005     -21.487  24.798 -51.630  1.00 10.52           C
ATOM   7213  CB  ASN A1005     -22.092  23.442 -51.250  1.00 10.59           C
ATOM   7214  CG  ASN A1005     -22.273  22.533 -52.443  1.00 10.68           C
ATOM   7215  OD1 ASN A1005     -22.656  22.988 -53.514  1.00 11.13           O
ATOM   7216  ND2 ASN A1005     -22.008  21.244 -52.268  1.00 10.46           N
ATOM   7217  C   ASN A1005     -21.781  25.821 -50.542  1.00 10.60           C
ATOM   7218  O   ASN A1005     -22.826  26.476 -50.568  1.00 10.47           O
ATOM   7219  N   VAL A1006     -20.863  25.964 -49.593  1.00 10.80           N
ATOM   7220  CA  VAL A1006     -21.164  26.696 -48.354  1.00 11.27           C
ATOM   7221  CB  VAL A1006     -21.793  25.772 -47.280  1.00 10.96           C
ATOM   7222  CG1 VAL A1006     -21.024  24.462 -47.170  1.00 11.00           C
ATOM   7223  CG2 VAL A1006     -21.855  26.458 -45.933  1.00 10.77           C
ATOM   7224  C   VAL A1006     -19.946  27.413 -47.781  1.00 11.78           C
ATOM   7225  O   VAL A1006     -18.866  26.843 -47.679  1.00 11.76           O
ATOM   7226  N   PHE A1007     -20.143  28.681 -47.449  1.00 12.58           N
ATOM   7227  CA  PHE A1007     -19.152  29.494 -46.773  1.00 13.45           C
ATOM   7228  CB  PHE A1007     -19.001  30.855 -47.472  1.00 12.55           C
ATOM   7229  CG  PHE A1007     -18.266  30.809 -48.784  1.00 11.95           C
ATOM   7230  CD1 PHE A1007     -16.919  30.421 -48.844  1.00 11.87           C
ATOM   7231  CE1 PHE A1007     -16.237  30.390 -50.054  1.00 11.49           C
ATOM   7232  CZ  PHE A1007     -16.887  30.779 -51.216  1.00 11.37           C
ATOM   7233  CE2 PHE A1007     -18.217  31.183 -51.169  1.00 11.43           C
ATOM   7234  CD2 PHE A1007     -18.897  31.202 -49.958  1.00 11.57           C
ATOM   7235  C   PHE A1007     -19.701  29.747 -45.381  1.00 14.86           C
ATOM   7236  O   PHE A1007     -20.901  29.991 -45.218  1.00 14.93           O
ATOM   7237  N   CYS A1008     -18.839  29.717 -44.377  1.00 16.84           N
ATOM   7238  CA  CYS A1008     -19.220  30.269 -43.091  1.00 18.70           C
ATOM   7239  CB  CYS A1008     -20.041  29.272 -42.289  1.00 19.72           C
ATOM   7240  SG  CYS A1008     -19.068  27.939 -41.585  1.00 22.87           S
ATOM   7241  C   CYS A1008     -18.048  30.782 -42.281  1.00 19.58           C
ATOM   7242  O   CYS A1008     -16.959  30.235 -42.321  1.00 18.72           O
ATOM   7243  N   HIS A1009     -18.305  31.864 -41.561  1.00 22.07           N
ATOM   7244  CA  HIS A1009     -17.361  32.456 -40.639  1.00 24.60           C
ATOM   7245  CB  HIS A1009     -17.924  33.774 -40.146  1.00 24.69           C
ATOM   7246  CG  HIS A1009     -18.026  34.819 -41.235  1.00 25.38           C
ATOM   7247  ND1 HIS A1009     -17.049  35.722 -41.470  1.00 26.09           N
ATOM   7248  CE1 HIS A1009     -17.389  36.487 -42.518  1.00 25.87           C
ATOM   7249  NE2 HIS A1009     -18.579  36.064 -42.971  1.00 25.80           N
ATOM   7250  CD2 HIS A1009     -18.996  35.033 -42.205  1.00 25.50           C
ATOM   7251  C   HIS A1009     -17.121  31.506 -39.520  1.00 27.52           C
ATOM   7252  O   HIS A1009     -18.061  30.888 -39.029  1.00 28.52           O
ATOM   7253  N   GLY A1010     -15.861  31.330 -39.130  1.00 32.03           N
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ATOM   7254  CA  GLY A1010     -15.520  30.289 -38.155  1.00 37.59           C
ATOM   7255  C   GLY A1010     -14.139  30.372 -37.530  1.00 43.77           C
ATOM   7256  O   GLY A1010     -13.410  31.345 -37.735  1.00 45.27           O
ATOM   7257  N   SER A1011     -13.792  29.345 -36.747  1.00 47.42           N
ATOM   7258  CA  SER A1011     -12.465  29.235 -36.134  1.00 48.77           C
ATOM   7259  CB  SER A1011     -12.392  30.061 -34.839  1.00 49.73           C
ATOM   7260  OG  SER A1011     -11.207  29.774 -34.110  1.00 50.58           O
ATOM   7261  C   SER A1011     -12.033  27.770 -35.901  1.00 50.52           C
ATOM   7262  O   SER A1011     -12.531  27.089 -34.987  1.00 50.03           O
ATOM   7263  N   LEU A1012     -11.107  27.305 -36.750  1.00 50.32           N
ATOM   7264  CA  LEU A1012     -10.468  25.981 -36.617  1.00 47.73           C
ATOM   7265  CB  LEU A1012      -9.709  25.593 -37.911  1.00 42.40           C
ATOM   7266  CG  LEU A1012     -10.390  25.477 -39.287  1.00 37.21           C
ATOM   7267  CD1 LEU A1012      -9.428  24.943 -40.320  1.00 32.24           C
ATOM   7268  CD2 LEU A1012     -11.636  24.609 -39.251  1.00 35.27           C
ATOM   7269  C   LEU A1012      -9.464  25.985 -35.477  1.00 48.84           C
ATOM   7270  O   LEU A1012      -9.409  25.039 -34.687  1.00 49.57           O
ATOM   7271  N   VAL A1013      -8.735  27.103 -35.379  1.00 50.31           N
ATOM   7272  CA  VAL A1013      -7.367  27.200 -34.826  1.00 49.45           C
ATOM   7273  CB  VAL A1013      -7.283  27.168 -33.278  1.00 50.72           C
ATOM   7274  CG1 VAL A1013      -5.962  27.791 -32.829  1.00 52.64           C
ATOM   7275  CG2 VAL A1013      -8.454  27.911 -32.642  1.00 51.09           C
ATOM   7276  C   VAL A1013      -6.412  26.177 -35.456  1.00 49.86           C
ATOM   7277  O   VAL A1013      -6.564  24.964 -35.277  1.00 49.98           O
ATOM   7278  N   THR A1024      -2.434  37.070 -40.728  1.00 37.70           N
ATOM   7279  CA  THR A1024      -3.728  36.698 -41.328  1.00 37.51           C
ATOM   7280  CB  THR A1024      -3.850  35.169 -41.546  1.00 35.58           C
ATOM   7281  OG1 THR A1024      -4.004  34.511 -40.287  1.00 35.93           O
ATOM   7282  CG2 THR A1024      -2.626  34.616 -42.247  1.00 33.94           C
ATOM   7283  C   THR A1024      -4.931  37.198 -40.503  1.00 37.68           C
ATOM   7284  O   THR A1024      -4.955  37.057 -39.285  1.00 38.63           O
ATOM   7285  N   GLN A1025      -5.930  37.764 -41.175  1.00 38.15           N
ATOM   7286  CA  GLN A1025      -7.051  38.423 -40.492  1.00 39.94           C
ATOM   7287  CB  GLN A1025      -6.994  39.934 -40.745  1.00 41.20           C
ATOM   7288  CG  GLN A1025      -5.702  40.587 -40.266  1.00 43.85           C
ATOM   7289  CD  GLN A1025      -4.947  41.318 -41.368  1.00 44.62           C
ATOM   7290  OE1 GLN A1025      -5.536  41.774 -42.352  1.00 45.82           O
ATOM   7291  NE2 GLN A1025      -3.633  41.430 -41.206  1.00 43.50           N
ATOM   7292  C   GLN A1025      -8.442  37.858 -40.876  1.00 40.58           C
ATOM   7293  O   GLN A1025      -8.776  37.729 -42.075  1.00 40.34           O
ATOM   7294  N   GLY A1026      -9.244  37.531 -39.855  1.00 37.54           N
ATOM   7295  CA  GLY A1026     -10.586  36.978 -40.065  1.00 34.95           C
ATOM   7296  C   GLY A1026     -10.501  35.512 -40.428  1.00 33.44           C
ATOM   7297  O   GLY A1026      -9.429  34.919 -40.333  1.00 36.78           O
ATOM   7298  N   SER A1027     -11.617  34.913 -40.840  1.00 29.21           N
ATOM   7299  CA  SER A1027     -11.621  33.491 -41.172  1.00 26.30           C
ATOM   7300  CB  SER A1027     -11.234  32.658 -39.942  1.00 26.03           C
ATOM   7301  OG  SER A1027     -11.586  31.299 -40.117  1.00 26.59           O
ATOM   7302  C   SER A1027     -12.952  33.008 -41.752  1.00 24.66           C
ATOM   7303  O   SER A1027     -13.970  32.957 -41.059  1.00 25.58           O
ATOM   7304  N   VAL A1028     -12.933  32.649 -43.028  1.00 22.39           N
ATOM   7305  CA  VAL A1028     -14.085  32.040 -43.672  1.00 20.83           C
ATOM   7306  CB  VAL A1028     -14.479  32.789 -44.950  1.00 20.47           C
ATOM   7307  CG1 VAL A1028     -15.621  32.070 -45.645  1.00 20.07           C
ATOM   7308  CG2 VAL A1028     -14.854  34.225 -44.629  1.00 20.67           C
ATOM   7309  C   VAL A1028     -13.740  30.613 -44.056  1.00 20.06           C
ATOM   7310  O   VAL A1028     -12.726  30.370 -44.716  1.00 20.31           O
ATOM   7311  N   LEU A1029     -14.579  29.671 -43.637  1.00 18.57           N
ATOM   7312  CA  LEU A1029     -14.413  28.271 -44.006  1.00 16.82           C
ATOM   7313  CB  LEU A1029     -14.729  27.362 -42.827  1.00 16.77           C
ATOM   7314  CG  LEU A1029     -14.146  27.721 -41.471  1.00 16.92           C
ATOM   7315  CD1 LEU A1029     -14.977  27.130 -40.347  1.00 16.97           C
ATOM   7316  CD2 LEU A1029     -12.714  27.251 -41.390  1.00 17.64           C
ATOM   7317  C   LEU A1029     -15.361  27.952 -45.138  1.00 15.79           C
ATOM   7318  O   LEU A1029     -16.423  28.567 -45.256  1.00 15.52           O
ATOM   7319  N   PHE A1030     -14.970  27.001 -45.981  1.00 14.78           N
ATOM   7320  CA  PHE A1030     -15.858  26.516 -47.027  1.00 13.92           C
ATOM   7321  CB  PHE A1030     -15.558  27.146 -48.397  1.00 13.46           C
ATOM   7322  CG  PHE A1030     -14.166  26.881 -48.919  1.00 13.51           C
ATOM   7323  CD1 PHE A1030     -13.874  25.707 -49.620  1.00 13.29           C
ATOM   7324  CE1 PHE A1030     -12.605  25.482 -50.116  1.00 13.18           C
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ATOM   7325  CZ  PHE A1030     -11.616  26.437 -49.943  1.00 13.16           C
ATOM   7326  CE2 PHE A1030     -11.893  27.617 -49.275  1.00 13.10           C
ATOM   7327  CD2 PHE A1030     -13.160  27.841 -48.776  1.00 13.31           C
ATOM   7328  C   PHE A1030     -15.922  25.005 -47.101  1.00 13.46           C
ATOM   7329  O   PHE A1030     -14.934  24.320 -46.856  1.00 13.53           O
ATOM   7330  N   GLY A1031     -17.114  24.503 -47.393  1.00 13.09           N
ATOM   7331  CA  GLY A1031     -17.323  23.090 -47.650  1.00 12.94           C
ATOM   7332  C   GLY A1031     -17.711  22.847 -49.097  1.00 12.84           C
ATOM   7333  O   GLY A1031     -18.229  23.727 -49.789  1.00 12.90           O
ATOM   7334  N   THR A1032     -17.526  21.618 -49.536  1.00 12.78           N
ATOM   7335  CA  THR A1032     -17.328  21.362 -50.933  1.00 12.29           C
ATOM   7336  CB  THR A1032     -15.836  21.403 -51.162  1.00 12.33           C
ATOM   7337  OG1 THR A1032     -15.571  22.321 -52.202  1.00 13.25           O
ATOM   7338  CG2 THR A1032     -15.272  20.059 -51.462  1.00 12.33           C
ATOM   7339  C   THR A1032     -17.945  20.036 -51.394  1.00 12.18           C
ATOM   7340  O   THR A1032     -18.226  19.154 -50.583  1.00 12.06           O
ATOM   7341  N   VAL A1033     -18.178  19.915 -52.694  1.00 12.17           N
ATOM   7342  CA  VAL A1033     -18.793  18.716 -53.272  1.00 12.34           C
ATOM   7343  CB  VAL A1033     -19.080  18.909 -54.779  1.00 12.00           C
ATOM   7344  CG1 VAL A1033     -19.368  17.589 -55.455  1.00 11.90           C
ATOM   7345  CG2 VAL A1033     -20.236  19.862 -54.984  1.00 11.82           C
ATOM   7346  C   VAL A1033     -17.943  17.456 -53.049  1.00 12.85           C
ATOM   7347  O   VAL A1033     -18.470  16.404 -52.691  1.00 13.39           O
ATOM   7348  N   ASN A1034     -16.634  17.563 -53.272  1.00 13.29           N
ATOM   7349  CA  ASN A1034     -15.714  16.443 -53.094  1.00 13.53           C
ATOM   7350  CB  ASN A1034     -14.409  16.717 -53.832  1.00 14.09           C
ATOM   7351  CG  ASN A1034     -14.580  16.698 -55.330  1.00 14.92           C
ATOM   7352  OD1 ASN A1034     -14.093  17.574 -56.038  1.00 15.77           O
ATOM   7353  ND2 ASN A1034     -15.281  15.703 -55.823  1.00 15.14           N
ATOM   7354  C   ASN A1034     -15.415  16.155 -51.636  1.00 13.65           C
ATOM   7355  O   ASN A1034     -14.677  15.229 -51.321  1.00 13.70           O
ATOM   7356  N   GLY A1035     -15.968  16.966 -50.745  1.00 14.03           N
ATOM   7357  CA  GLY A1035     -15.749  16.785 -49.313  1.00 14.79           C
ATOM   7358  C   GLY A1035     -14.474  17.405 -48.763  1.00 15.43           C
ATOM   7359  O   GLY A1035     -13.975  16.986 -47.708  1.00 15.90           O
ATOM   7360  N   MET A1036     -13.957  18.415 -49.458  1.00 15.28           N
ATOM   7361  CA  MET A1036     -12.799  19.158 -48.995  1.00 15.06           C
ATOM   7362  CB  MET A1036     -12.005  19.642 -50.206  1.00 15.97           C
ATOM   7363  CG  MET A1036     -10.759  20.461 -49.921  1.00 16.53           C
ATOM   7364  SD  MET A1036     -11.088  22.231 -49.952  1.00 17.60           S
ATOM   7365  CE  MET A1036      -9.452  22.855 -50.322  1.00 16.67           C
ATOM   7366  C   MET A1036     -13.290  20.325 -48.162  1.00 14.83           C
ATOM   7367  O   MET A1036     -14.312  20.930 -48.474  1.00 15.15           O
ATOM   7368  N   ILE A1037     -12.590  20.609 -47.072  1.00 14.46           N
ATOM   7369  CA  ILE A1037     -12.873  21.791 -46.258  1.00 14.00           C
ATOM   7370  CB  ILE A1037     -13.110  21.471 -44.768  1.00 13.38           C
ATOM   7371  CG1 ILE A1037     -14.227  20.458 -44.625  1.00 13.06           C
ATOM   7372  CD1 ILE A1037     -14.350  19.892 -43.236  1.00 13.12           C
ATOM   7373  CG2 ILE A1037     -13.480  22.733 -44.001  1.00 13.26           C
ATOM   7374  C   ILE A1037     -11.690  22.725 -46.394  1.00 14.31           C
ATOM   7375  O   ILE A1037     -10.521  22.298 -46.303  1.00 13.93           O
ATOM   7376  N   GLY A1038     -12.002  23.999 -46.628  1.00 14.48           N
ATOM   7377  CA  GLY A1038     -10.983  24.997 -46.870  1.00 14.69           C
ATOM   7378  C   GLY A1038     -11.093  26.171 -45.940  1.00 14.98           C
ATOM   7379  O   GLY A1038     -12.063  26.307 -45.193  1.00 15.00           O
ATOM   7380  N   LEU A1039     -10.086  27.028 -45.995  1.00 15.27           N
ATOM   7381  CA  LEU A1039     -10.071  28.228 -45.206  1.00 15.70           C
ATOM   7382  CB  LEU A1039      -9.165  28.025 -44.017  1.00 16.05           C
ATOM   7383  CG  LEU A1039      -9.277  29.035 -42.900  1.00 16.50           C
ATOM   7384  CD1 LEU A1039      -9.068  28.302 -41.589  1.00 17.12           C
ATOM   7385  CD2 LEU A1039      -8.238  30.134 -43.097  1.00 16.80           C
ATOM   7386  C   LEU A1039      -9.598  29.399 -46.049  1.00 15.83           C
ATOM   7387  O   LEU A1039      -8.668  29.273 -46.845  1.00 16.01           O
ATOM   7388  N   VAL A1040     -10.264  30.532 -45.885  1.00 15.95           N
ATOM   7389  CA  VAL A1040      -9.884  31.757 -46.573  1.00 16.10           C
ATOM   7390  CB  VAL A1040     -10.957  32.215 -47.591  1.00 15.48           C
ATOM   7391  CG1 VAL A1040     -10.583  33.548 -48.197  1.00 15.28           C
ATOM   7392  CG2 VAL A1040     -11.121  31.191 -48.697  1.00 15.36           C
ATOM   7393  C   VAL A1040      -9.677  32.830 -45.520  1.00 16.79           C
ATOM   7394  O   VAL A1040     -10.490  32.987 -44.608  1.00 16.96           O
ATOM   7395  N   THR A1041      -8.575  33.553 -45.629  1.00 17.75           N
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ATOM   7396  CA  THR A1041      -8.330  34.653 -44.721  1.00 19.00           C
ATOM   7397  CB  THR A1041      -7.616  34.203 -43.438  1.00 19.37           C
ATOM   7398  OG1 THR A1041      -7.448  35.337 -42.584  1.00 19.82           O
ATOM   7399  CG2 THR A1041      -6.243  33.587 -43.755  1.00 19.71           C
ATOM   7400  C   THR A1041      -7.583  35.809 -45.371  1.00 19.73           C
ATOM   7401  O   THR A1041      -6.896  35.647 -46.378  1.00 19.63           O
ATOM   7402  N   SER A1042      -7.731  36.980 -44.775  1.00 20.63           N
ATOM   7403  CA  SER A1042      -7.195  38.179 -45.349  1.00 21.56           C
ATOM   7404  CB  SER A1042      -8.034  39.380 -44.930  1.00 23.04           C
ATOM   7405  OG  SER A1042      -9.186  39.492 -45.758  1.00 25.52           O
ATOM   7406  C   SER A1042      -5.740  38.375 -44.970  1.00 21.98           C
ATOM   7407  O   SER A1042      -5.305  37.997 -43.874  1.00 22.57           O
ATOM   7408  N   LEU A1043      -4.992  38.971 -45.896  1.00 21.35           N
ATOM   7409  CA  LEU A1043      -3.600  39.309 -45.683  1.00 20.71           C
ATOM   7410  CB  LEU A1043      -2.718  38.542 -46.661  1.00 20.24           C
ATOM   7411  CG  LEU A1043      -2.503  37.078 -46.342  1.00 19.60           C
ATOM   7412  CD1 LEU A1043      -1.702  36.423 -47.444  1.00 19.02           C
ATOM   7413  CD2 LEU A1043      -1.781  36.988 -45.015  1.00 20.28           C
ATOM   7414  C   LEU A1043      -3.405  40.773 -45.921  1.00 20.46           C
ATOM   7415  O   LEU A1043      -4.033  41.341 -46.813  1.00 19.78           O
ATOM   7416  N   SER A1044      -2.518  41.380 -45.142  1.00 21.18           N
ATOM   7417  CA  SER A1044      -2.103  42.749 -45.418  1.00 22.26           C
ATOM   7418  CB  SER A1044      -1.366  43.377 -44.218  1.00 22.31           C
ATOM   7419  OG  SER A1044      -0.062  42.847 -44.051  1.00 23.08           O
ATOM   7420  C   SER A1044      -1.256  42.784 -46.696  1.00 22.71           C
ATOM   7421  O   SER A1044      -0.546  41.817 -47.014  1.00 23.63           O
ATOM   7422  N   GLU A1045      -1.368  43.887 -47.430  1.00 22.78           N
ATOM   7423  CA  GLU A1045      -0.648  44.115 -48.688  1.00 23.19           C
ATOM   7424  CB  GLU A1045      -0.802  45.582 -49.075  1.00 25.08           C
ATOM   7425  CG  GLU A1045      -0.262  45.977 -50.435  1.00 26.53           C
ATOM   7426  CD  GLU A1045      -0.539  47.439 -50.759  1.00 28.39           C
ATOM   7427  OE1 GLU A1045      -1.064  48.175 -49.878  1.00 28.76           O
ATOM   7428  OE2 GLU A1045      -0.237  47.850 -51.905  1.00 29.16           O
ATOM   7429  C   GLU A1045       0.837  43.743 -48.630  1.00 22.69           C
ATOM   7430  O   GLU A1045       1.407  43.275 -49.621  1.00 22.42           O
ATOM   7431  N   SER A1046       1.457  43.966 -47.473  1.00 22.05           N
ATOM   7432  CA  SER A1046       2.858  43.605 -47.255  1.00 21.30           C
ATOM   7433  CB  SER A1046       3.327  44.070 -45.867  1.00 21.15           C
ATOM   7434  OG  SER A1046       4.709  43.807 -45.658  1.00 20.79           O
ATOM   7435  C   SER A1046       3.061  42.099 -47.413  1.00 20.95           C
ATOM   7436  O   SER A1046       3.939  41.655 -48.163  1.00 20.73           O
ATOM   7437  N   TRP A1047       2.236  41.320 -46.715  1.00 20.48           N
ATOM   7438  CA  TRP A1047       2.322  39.861 -46.770  1.00 20.22           C
ATOM   7439  CB  TRP A1047       1.490  39.251 -45.666  1.00 21.44           C
ATOM   7440  CG  TRP A1047       2.135  39.411 -44.325  1.00 22.63           C
ATOM   7441  CD1 TRP A1047       1.859  40.371 -43.361  1.00 23.04           C
ATOM   7442  NE1 TRP A1047       2.650  40.191 -42.256  1.00 22.87           N
ATOM   7443  CE2 TRP A1047       3.474  39.146 -42.429  1.00 23.10           C
ATOM   7444  CD2 TRP A1047       3.194  38.591 -43.753  1.00 23.24           C
ATOM   7445  CE3 TRP A1047       3.915  37.492 -44.188  1.00 24.16           C
ATOM   7446  CZ3 TRP A1047       4.896  36.958 -43.336  1.00 24.22           C
ATOM   7447  CH2 TRP A1047       5.149  37.508 -42.071  1.00 24.12           C
ATOM   7448  CZ2 TRP A1047       4.443  38.613 -41.597  1.00 23.81           C
ATOM   7449  C   TRP A1047       1.946  39.265 -48.109  1.00 18.75           C
ATOM   7450  O   TRP A1047       2.561  38.293 -48.572  1.00 17.70           O
ATOM   7451  N   TYR A1048       0.936  39.834 -48.749  1.00 17.41           N
ATOM   7452  CA  TYR A1048       0.581  39.371 -50.074  1.00 16.70           C
ATOM   7453  CB  TYR A1048      -0.681  40.057 -50.583  1.00 15.37           C
ATOM   7454  CG  TYR A1048      -1.003  39.697 -51.998  1.00 14.74           C
ATOM   7455  CD1 TYR A1048      -1.614  38.485 -52.305  1.00 14.50           C
ATOM   7456  CE1 TYR A1048      -1.917  38.140 -53.616  1.00 14.15           C
ATOM   7457  CZ  TYR A1048      -1.594  39.010 -54.637  1.00 14.05           C
ATOM   7458  OH  TYR A1048      -1.883  38.674 -55.939  1.00 13.68           O
ATOM   7459  CE2 TYR A1048      -0.981  40.222 -54.354  1.00 14.29           C
ATOM   7460  CD2 TYR A1048      -0.684  40.555 -53.042  1.00 14.46           C
ATOM   7461  C   TYR A1048       1.763  39.520 -51.059  1.00 16.86           C
ATOM   7462  O   TYR A1048       2.093  38.578 -51.791  1.00 16.84           O
ATOM   7463  N   ASN A1049       2.407  40.688 -51.063  1.00 16.82           N
ATOM   7464  CA  ASN A1049       3.565  40.888 -51.923  1.00 16.88           C
ATOM   7465  CB  ASN A1049       4.060  42.330 -51.866  1.00 17.43           C
ATOM   7466  CG  ASN A1049       3.096  43.314 -52.527  1.00 18.23           C
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ATOM   7467  OD1 ASN A1049       2.470  43.018 -53.550  1.00 18.17           O
ATOM   7468  ND2 ASN A1049       2.993  44.510 -51.949  1.00 18.78           N
ATOM   7469  C   ASN A1049       4.688  39.889 -51.612  1.00 16.62           C
ATOM   7470  O   ASN A1049       5.228  39.252 -52.526  1.00 16.61           O
ATOM   7471  N   LEU A1050       5.001  39.718 -50.326  1.00 16.13           N
ATOM   7472  CA  LEU A1050       6.021  38.746 -49.910  1.00 15.60           C
ATOM   7473  CB  LEU A1050       6.216  38.729 -48.388  1.00 15.22           C
ATOM   7474  CG  LEU A1050       7.148  37.641 -47.827  1.00 14.82           C
ATOM   7475  CD1 LEU A1050       8.605  37.858 -48.222  1.00 14.42           C
ATOM   7476  CD2 LEU A1050       7.019  37.596 -46.316  1.00 14.94           C
ATOM   7477  C   LEU A1050       5.695  37.345 -50.385  1.00 15.45           C
ATOM   7478  O   LEU A1050       6.548  36.672 -50.956  1.00 15.35           O
ATOM   7479  N   LEU A1051       4.460  36.909 -50.142  1.00 15.42           N
ATOM   7480  CA  LEU A1051       4.075  35.539 -50.449  1.00 15.24           C
ATOM   7481  CB  LEU A1051       2.834  35.103 -49.658  1.00 14.68           C
ATOM   7482  CG  LEU A1051       3.031  34.927 -48.137  1.00 14.22           C
ATOM   7483  CD1 LEU A1051       1.712  34.839 -47.393  1.00 14.01           C
ATOM   7484  CD2 LEU A1051       3.893  33.729 -47.801  1.00 13.79           C
ATOM   7485  C   LEU A1051       3.929  35.312 -51.946  1.00 15.68           C
ATOM   7486  O   LEU A1051       4.203  34.216 -52.430  1.00 15.93           O
ATOM   7487  N   LEU A1052       3.560  36.358 -52.686  1.00 16.42           N
ATOM   7488  CA  LEU A1052       3.513  36.271 -54.150  1.00 17.17           C
ATOM   7489  CB  LEU A1052       2.877  37.527 -54.769  1.00 16.72           C
ATOM   7490  CG  LEU A1052       1.900  37.349 -55.953  1.00 16.37           C
ATOM   7491  CD1 LEU A1052       1.320  38.694 -56.332  1.00 16.35           C
ATOM   7492  CD2 LEU A1052       2.520  36.705 -57.186  1.00 16.47           C
ATOM   7493  C   LEU A1052       4.908  35.992 -54.756  1.00 18.11           C
ATOM   7494  O   LEU A1052       5.049  35.129 -55.631  1.00 17.33           O
ATOM   7495  N   ASP A1053       5.923  36.725 -54.288  1.00 19.86           N
ATOM   7496  CA  ASP A1053       7.311  36.444 -54.656  1.00 21.89           C
ATOM   7497  CB  ASP A1053       8.266  37.254 -53.792  1.00 24.04           C
ATOM   7498  CG  ASP A1053       8.560  38.627 -54.358  1.00 26.14           C
ATOM   7499  OD1 ASP A1053       7.598  39.317 -54.780  1.00 26.90           O
ATOM   7500  OD2 ASP A1053       9.758  39.023 -54.348  1.00 26.86           O
ATOM   7501  C   ASP A1053       7.607  34.979 -54.411  1.00 22.42           C
ATOM   7502  O   ASP A1053       8.084  34.257 -55.292  1.00 22.95           O
ATOM   7503  N   MET A1054       7.294  34.547 -53.198  1.00 22.76           N
ATOM   7504  CA  MET A1054       7.636  33.232 -52.734  1.00 22.58           C
ATOM   7505  CB  MET A1054       7.198  33.080 -51.307  1.00 23.58           C
ATOM   7506  CG  MET A1054       8.057  32.105 -50.557  1.00 25.65           C
ATOM   7507  SD  MET A1054       7.670  32.223 -48.813  1.00 28.01           S
ATOM   7508  CE  MET A1054       7.950  30.511 -48.333  1.00 26.01           C
ATOM   7509  C   MET A1054       7.028  32.137 -53.585  1.00 22.18           C
ATOM   7510  O   MET A1054       7.731  31.206 -53.977  1.00 22.45           O
ATOM   7511  N   GLN A1055       5.734  32.250 -53.881  1.00 21.35           N
ATOM   7512  CA  GLN A1055       5.074  31.303 -54.783  1.00 21.28           C
ATOM   7513  CB  GLN A1055       3.646  31.737 -55.099  1.00 20.49           C
ATOM   7514  CG  GLN A1055       2.651  31.348 -54.020  1.00 19.91           C
ATOM   7515  CD  GLN A1055       1.217  31.686 -54.377  1.00 20.07           C
ATOM   7516  OE1 GLN A1055       0.944  32.426 -55.324  1.00 20.18           O
ATOM   7517  NE2 GLN A1055       0.293  31.159 -53.605  1.00 19.48           N
ATOM   7518  C   GLN A1055       5.859  31.101 -56.074  1.00 21.67           C
ATOM   7519  O   GLN A1055       6.111  29.969 -56.491  1.00 21.44           O
ATOM   7520  N   ASN A1056       6.275  32.207 -56.676  1.00 22.47           N
ATOM   7521  CA  ASN A1056       6.963  32.173 -57.952  1.00 23.29           C
ATOM   7522  CB  ASN A1056       7.133  33.579 -58.505  1.00 24.08           C
ATOM   7523  CG  ASN A1056       5.817  34.281 -58.739  1.00 25.17           C
ATOM   7524  OD1 ASN A1056       5.790  35.315 -59.387  1.00 27.55           O
ATOM   7525  ND2 ASN A1056       4.720  33.733 -58.209  1.00 25.07           N
ATOM   7526  C   ASN A1056       8.321  31.515 -57.842  1.00 23.55           C
ATOM   7527  O   ASN A1056       8.757  30.816 -58.762  1.00 24.11           O
ATOM   7528  N   ARG A1057       8.999  31.745 -56.726  1.00 22.71           N
ATOM   7529  CA  ARG A1057      10.302  31.164 -56.552  1.00 22.43           C
ATOM   7530  CB  ARG A1057      11.131  31.994 -55.588  1.00 23.48           C
ATOM   7531  CG  ARG A1057      11.492  33.344 -56.173  1.00 25.45           C
ATOM   7532  CD  ARG A1057      12.110  34.303 -55.163  1.00 28.25           C
ATOM   7533  NE  ARG A1057      12.019  35.686 -55.647  1.00 30.38           N
ATOM   7534  CZ  ARG A1057      12.974  36.316 -56.334  1.00 31.48           C
ATOM   7535  NH1 ARG A1057      14.128  35.711 -56.609  1.00 32.14           N
ATOM   7536  NH2 ARG A1057      12.776  37.560 -56.745  1.00 32.02           N
ATOM   7537  C   ARG A1057      10.172  29.704 -56.138  1.00 21.97           C
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ATOM   7538  O   ARG A1057      10.958  28.868 -56.573  1.00 21.88           O
ATOM   7539  N   LEU A1058       9.147  29.387 -55.344  1.00 21.27           N
ATOM   7540  CA  LEU A1058       8.825  27.985 -55.034  1.00 20.74           C
ATOM   7541  CB  LEU A1058       7.737  27.870 -53.964  1.00 20.54           C
ATOM   7542  CG  LEU A1058       8.105  27.734 -52.480  1.00 20.25           C
ATOM   7543  CD1 LEU A1058       6.830  27.842 -51.651  1.00 20.25           C
ATOM   7544  CD2 LEU A1058       8.868  26.453 -52.151  1.00 19.29           C
ATOM   7545  C   LEU A1058       8.390  27.198 -56.269  1.00 20.41           C
ATOM   7546  O   LEU A1058       8.598  25.985 -56.343  1.00 20.45           O
ATOM   7547  N   ASN A1059       7.780  27.878 -57.235  1.00 19.62           N
ATOM   7548  CA  ASN A1059       7.406  27.211 -58.470  1.00 19.09           C
ATOM   7549  CB  ASN A1059       6.413  28.031 -59.272  1.00 18.30           C
ATOM   7550  CG  ASN A1059       5.060  28.121 -58.590  1.00 17.84           C
ATOM   7551  OD1 ASN A1059       4.619  27.184 -57.932  1.00 17.18           O
ATOM   7552  ND2 ASN A1059       4.399  29.258 -58.740  1.00 18.08           N
ATOM   7553  C   ASN A1059       8.586  26.740 -59.314  1.00 19.40           C
ATOM   7554  O   ASN A1059       8.503  25.700 -59.942  1.00 20.17           O
ATOM   7555  N   LYS A1060       9.690  27.480 -59.284  1.00 19.72           N
ATOM   7556  CA  LYS A1060      10.910  27.095 -60.003  1.00 20.03           C
ATOM   7557  CB  LYS A1060      11.927  28.234 -59.973  1.00 19.98           C
ATOM   7558  CG  LYS A1060      11.444  29.551 -60.553  1.00 20.50           C
ATOM   7559  CD  LYS A1060      12.581  30.558 -60.621  1.00 21.29           C
ATOM   7560  CE  LYS A1060      12.237  31.741 -61.517  1.00 22.12           C
ATOM   7561  NZ  LYS A1060      11.562  32.828 -60.754  1.00 23.27           N
ATOM   7562  C   LYS A1060      11.554  25.827 -59.416  1.00 20.68           C
ATOM   7563  O   LYS A1060      12.178  25.034 -60.130  1.00 20.26           O
ATOM   7564  N   VAL A1061      11.385  25.645 -58.113  1.00 21.47           N
ATOM   7565  CA  VAL A1061      12.057  24.588 -57.374  1.00 22.39           C
ATOM   7566  CB  VAL A1061      12.450  25.103 -55.970  1.00 22.69           C
ATOM   7567  CG1 VAL A1061      12.772  23.960 -55.022  1.00 23.52           C
ATOM   7568  CG2 VAL A1061      13.628  26.052 -56.070  1.00 23.00           C
ATOM   7569  C   VAL A1061      11.249  23.272 -57.284  1.00 23.41           C
ATOM   7570  O   VAL A1061      11.803  22.190 -57.473  1.00 23.89           O
ATOM   7571  N   ILE A1062       9.951  23.362 -56.996  1.00 24.06           N
ATOM   7572  CA  ILE A1062       9.141  22.161 -56.743  1.00 24.77           C
ATOM   7573  CB  ILE A1062       7.836  22.497 -55.998  1.00 23.31           C
ATOM   7574  CG1 ILE A1062       8.162  22.951 -54.575  1.00 22.64           C
ATOM   7575  CD1 ILE A1062       7.002  23.566 -53.841  1.00 22.21           C
ATOM   7576  CG2 ILE A1062       6.906  21.294 -55.995  1.00 22.19           C
ATOM   7577  C   ILE A1062       8.803  21.411 -58.021  1.00 26.59           C
ATOM   7578  O   ILE A1062       8.440  22.030 -59.025  1.00 27.80           O
ATOM   7579  N   LYS A1063       8.929  20.081 -57.973  1.00 27.74           N
ATOM   7580  CA  LYS A1063       8.562  19.207 -59.098  1.00 28.21           C
ATOM   7581  CB  LYS A1063       9.413  17.907 -59.107  1.00 29.80           C
ATOM   7582  CG  LYS A1063       8.757  16.723 -59.842  1.00 32.05           C
ATOM   7583  CD  LYS A1063       9.704  15.920 -60.753  1.00 31.74           C
ATOM   7584  CE  LYS A1063       9.006  15.443 -62.040  1.00 30.05           C
ATOM   7585  NZ  LYS A1063       7.657  14.820 -61.848  1.00 27.71           N
ATOM   7586  C   LYS A1063       7.071  18.890 -59.036  1.00 26.78           C
ATOM   7587  O   LYS A1063       6.591  18.395 -58.025  1.00 27.60           O
ATOM   7588  N   SER A1064       6.342  19.189 -60.110  1.00 25.12           N
ATOM   7589  CA  SER A1064       4.903  18.909 -60.149  1.00 23.81           C
ATOM   7590  CB  SER A1064       4.112  20.124 -60.634  1.00 22.63           C
ATOM   7591  OG  SER A1064       3.884  20.069 -62.027  1.00 21.91           O
ATOM   7592  C   SER A1064       4.623  17.696 -61.029  1.00 23.38           C
ATOM   7593  O   SER A1064       5.255  17.531 -62.079  1.00 23.01           O
ATOM   7594  N   VAL A1065       3.651  16.878 -60.619  1.00 22.64           N
ATOM   7595  CA  VAL A1065       3.551  15.505 -61.115  1.00 22.14           C
ATOM   7596  CB  VAL A1065       2.503  14.663 -60.357  1.00 21.13           C
ATOM   7597  CG1 VAL A1065       2.010  13.495 -61.192  1.00 20.60           C
ATOM   7598  CG2 VAL A1065       3.122  14.134 -59.077  1.00 20.61           C
ATOM   7599  C   VAL A1065       3.507  15.337 -62.642  1.00 23.08           C
ATOM   7600  O   VAL A1065       4.386  14.676 -63.208  1.00 24.48           O
ATOM   7601  N   GLY A1066       2.533  15.936 -63.318  1.00 22.54           N
ATOM   7602  CA  GLY A1066       2.489  15.820 -64.787  1.00 21.43           C
ATOM   7603  C   GLY A1066       3.274  16.919 -65.490  1.00 20.83           C
ATOM   7604  O   GLY A1066       3.009  17.230 -66.667  1.00 20.98           O
ATOM   7605  N   LYS A1067       4.236  17.504 -64.768  1.00 19.54           N
ATOM   7606  CA  LYS A1067       4.927  18.731 -65.195  1.00 18.80           C
ATOM   7607  CB  LYS A1067       5.982  18.439 -66.277  1.00 18.99           C
ATOM   7608  CG  LYS A1067       7.220  17.722 -65.753  1.00 19.21           C
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ATOM   7609  CD  LYS A1067       8.162  17.333 -66.877  1.00 19.52           C
ATOM   7610  CE  LYS A1067       9.531  16.971 -66.320  1.00 20.16           C
ATOM   7611  NZ  LYS A1067      10.346  16.156 -67.269  1.00 20.47           N
ATOM   7612  C   LYS A1067       3.958  19.840 -65.637  1.00 17.84           C
ATOM   7613  O   LYS A1067       4.125  20.438 -66.687  1.00 17.47           O
ATOM   7614  N   ILE A1068       2.943  20.092 -64.820  1.00 17.12           N
ATOM   7615  CA  ILE A1068       2.005  21.181 -65.055  1.00 16.72           C
ATOM   7616  CB  ILE A1068       0.568  20.776 -64.668  1.00 16.45           C
ATOM   7617  CG1 ILE A1068       0.216  19.420 -65.282  1.00 16.00           C
ATOM   7618  CD1 ILE A1068      -1.107  18.870 -64.805  1.00 16.20           C
ATOM   7619  CG2 ILE A1068      -0.431  21.861 -65.072  1.00 16.13           C
ATOM   7620  C   ILE A1068       2.403  22.410 -64.251  1.00 16.65           C
ATOM   7621  O   ILE A1068       2.661  22.326 -63.060  1.00 16.36           O
ATOM   7622  N   GLU A1069       2.436  23.552 -64.916  1.00 17.16           N
ATOM   7623  CA  GLU A1069       2.786  24.805 -64.281  1.00 17.77           C
ATOM   7624  CB  GLU A1069       2.972  25.871 -65.355  1.00 19.98           C
ATOM   7625  CG  GLU A1069       4.204  25.675 -66.223  1.00 23.06           C
ATOM   7626  CD  GLU A1069       5.385  26.529 -65.774  1.00 26.20           C
ATOM   7627  OE1 GLU A1069       5.823  26.391 -64.596  1.00 26.45           O
ATOM   7628  OE2 GLU A1069       5.871  27.350 -66.611  1.00 28.65           O
ATOM   7629  C   GLU A1069       1.721  25.265 -63.266  1.00 17.00           C
ATOM   7630  O   GLU A1069       0.553  25.479 -63.634  1.00 17.06           O
ATOM   7631  N   HIS A1070       2.124  25.431 -61.998  1.00 15.25           N
ATOM   7632  CA  HIS A1070       1.249  25.996 -60.967  1.00 13.96           C
ATOM   7633  CB  HIS A1070       2.063  26.456 -59.769  1.00 13.83           C
ATOM   7634  CG  HIS A1070       1.226  26.966 -58.624  1.00 13.78           C
ATOM   7635  ND1 HIS A1070       0.983  28.281 -58.431  1.00 13.79           N
ATOM   7636  CE1 HIS A1070       0.189  28.434 -57.353  1.00 13.71           C
ATOM   7637  NE2 HIS A1070      -0.085  27.211 -56.858  1.00 13.74           N
ATOM   7638  CD2 HIS A1070       0.540  26.284 -57.614  1.00 13.56           C
ATOM   7639  C   HIS A1070       0.395  27.123 -61.484  1.00 13.43           C
ATOM   7640  O   HIS A1070      -0.801  27.164 -61.247  1.00 12.80           O
ATOM   7641  N   SER A1071       1.013  28.035 -62.221  1.00 13.43           N
ATOM   7642  CA  SER A1071       0.320  29.176 -62.818  1.00 13.53           C
ATOM   7643  CB  SER A1071       1.301  29.982 -63.639  1.00 13.24           C
ATOM   7644  OG  SER A1071       1.520  31.197 -62.986  1.00 13.47           O
ATOM   7645  C   SER A1071      -0.863  28.806 -63.704  1.00 13.62           C
ATOM   7646  O   SER A1071      -1.892  29.499 -63.741  1.00 13.34           O
ATOM   7647  N   PHE A1072      -0.687  27.722 -64.442  1.00 13.62           N
ATOM   7648  CA  PHE A1072      -1.690  27.270 -65.358  1.00 13.70           C
ATOM   7649  CB  PHE A1072      -1.090  26.219 -66.292  1.00 13.71           C
ATOM   7650  CG  PHE A1072      -2.081  25.597 -67.197  1.00 13.67           C
ATOM   7651  CD1 PHE A1072      -2.587  26.309 -68.275  1.00 13.50           C
ATOM   7652  CE1 PHE A1072      -3.531  25.738 -69.111  1.00 13.91           C
ATOM   7653  CZ  PHE A1072      -3.974  24.439 -68.877  1.00 14.23           C
ATOM   7654  CE2 PHE A1072      -3.475  23.718 -67.794  1.00 14.21           C
ATOM   7655  CD2 PHE A1072      -2.533  24.301 -66.958  1.00 13.81           C
ATOM   7656  C   PHE A1072      -2.859  26.707 -64.559  1.00 13.78           C
ATOM   7657  O   PHE A1072      -4.021  26.957 -64.884  1.00 14.11           O
ATOM   7658  N   TRP A1073      -2.525  25.977 -63.495  1.00 13.55           N
ATOM   7659  CA  TRP A1073      -3.493  25.356 -62.591  1.00 13.20           C
ATOM   7660  CB  TRP A1073      -2.729  24.497 -61.584  1.00 12.86           C
ATOM   7661  CG  TRP A1073      -3.488  23.958 -60.388  1.00 12.64           C
ATOM   7662  CD1 TRP A1073      -3.093  24.003 -59.041  1.00 12.50           C
ATOM   7663  NE1 TRP A1073      -4.018  23.382 -58.232  1.00 12.25           N
ATOM   7664  CE2 TRP A1073      -5.042  22.892 -58.977  1.00 12.39           C
ATOM   7665  CD2 TRP A1073      -4.758  23.221 -60.385  1.00 12.38           C
ATOM   7666  CE3 TRP A1073      -5.664  22.840 -61.357  1.00 12.09           C
ATOM   7667  CZ3 TRP A1073      -6.816  22.148 -60.962  1.00 11.82           C
ATOM   7668  CH2 TRP A1073      -7.067  21.841 -59.628  1.00 11.94           C
ATOM   7669  CZ2 TRP A1073      -6.187  22.206 -58.605  1.00 12.22           C
ATOM   7670  C   TRP A1073      -4.373  26.380 -61.927  1.00 13.32           C
ATOM   7671  O   TRP A1073      -5.589  26.300 -62.029  1.00 13.33           O
ATOM   7672  N   ARG A1074      -3.771  27.387 -61.296  1.00 13.77           N
ATOM   7673  CA  ARG A1074      -4.530  28.365 -60.502  1.00 14.41           C
ATOM   7674  CB  ARG A1074      -3.655  28.986 -59.415  1.00 14.02           C
ATOM   7675  CG  ARG A1074      -3.224  28.008 -58.336  1.00 13.84           C
ATOM   7676  CD  ARG A1074      -4.353  27.064 -57.955  1.00 13.55           C
ATOM   7677  NE  ARG A1074      -4.079  26.430 -56.673  1.00 13.40           N
ATOM   7678  CZ  ARG A1074      -4.977  25.779 -55.954  1.00 12.99           C
ATOM   7679  NH1 ARG A1074      -6.222  25.669 -56.381  1.00 13.08           N
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ATOM   7680  NH2 ARG A1074      -4.629  25.254 -54.804  1.00 12.88           N
ATOM   7681  C   ARG A1074      -5.216  29.458 -61.318  1.00 15.26           C
ATOM   7682  O   ARG A1074      -6.027  30.234 -60.781  1.00 14.96           O
ATOM   7683  N   SER A1075      -4.893  29.497 -62.610  1.00 16.29           N
ATOM   7684  CA  SER A1075      -5.442  30.454 -63.531  1.00 17.54           C
ATOM   7685  CB  SER A1075      -4.833  30.208 -64.895  1.00 17.91           C
ATOM   7686  OG  SER A1075      -4.316  31.406 -65.446  1.00 19.24           O
ATOM   7687  C   SER A1075      -6.960  30.294 -63.595  1.00 18.86           C
ATOM   7688  O   SER A1075      -7.463  29.203 -63.850  1.00 19.53           O
ATOM   7689  N   PHE A1076      -7.686  31.375 -63.315  1.00 20.22           N
ATOM   7690  CA  PHE A1076      -9.146  31.400 -63.422  1.00 21.15           C
ATOM   7691  CB  PHE A1076      -9.630  32.840 -63.212  1.00 21.10           C
ATOM   7692  CG  PHE A1076     -11.116  33.041 -63.398  1.00 21.25           C
ATOM   7693  CD1 PHE A1076     -11.696  33.006 -64.679  1.00 20.92           C
ATOM   7694  CE1 PHE A1076     -13.058  33.217 -64.850  1.00 20.26           C
ATOM   7695  CZ  PHE A1076     -13.856  33.492 -63.743  1.00 20.61           C
ATOM   7696  CE2 PHE A1076     -13.296  33.544 -62.468  1.00 20.56           C
ATOM   7697  CD2 PHE A1076     -11.934  33.334 -62.299  1.00 20.90           C
ATOM   7698  C   PHE A1076      -9.568  30.845 -64.790  1.00 22.49           C
ATOM   7699  O   PHE A1076      -9.033  31.255 -65.830  1.00 22.71           O
ATOM   7700  N   HIS A1077     -10.524  29.917 -64.783  1.00 24.61           N
ATOM   7701  CA  HIS A1077     -10.825  29.070 -65.960  1.00 26.47           C
ATOM   7702  CB  HIS A1077     -10.183  27.689 -65.754  1.00 28.32           C
ATOM   7703  CG  HIS A1077     -10.555  26.660 -66.811  1.00 30.35           C
ATOM   7704  ND1 HIS A1077     -10.239  26.808 -68.124  1.00 31.52           N
ATOM   7705  CE1 HIS A1077     -10.688  25.741 -68.816  1.00 31.37           C
ATOM   7706  NE2 HIS A1077     -11.283  24.900 -67.947  1.00 31.98           N
ATOM   7707  CD2 HIS A1077     -11.215  25.433 -66.703  1.00 30.85           C
ATOM   7708  C   HIS A1077     -12.297  28.904 -66.263  1.00 26.24           C
ATOM   7709  O   HIS A1077     -13.103  28.715 -65.366  1.00 24.84           O
ATOM   7710  N   THR A1078     -12.661  28.963 -67.538  1.00 28.55           N
ATOM   7711  CA  THR A1078     -14.008  28.521 -67.961  1.00 30.31           C
ATOM   7712  CB  THR A1078     -14.979  29.705 -68.229  1.00 30.23           C
ATOM   7713  OG1 THR A1078     -14.536  30.468 -69.360  1.00 31.54           O
ATOM   7714  CG2 THR A1078     -15.078  30.608 -67.009  1.00 29.60           C
ATOM   7715  C   THR A1078     -14.017  27.521 -69.144  1.00 30.30           C
ATOM   7716  O   THR A1078     -13.104  27.499 -69.981  1.00 29.83           O
ATOM   7717  N   LYS A1081     -12.811  30.972 -71.684  1.00 50.00           N
ATOM   7718  CA  LYS A1081     -11.960  32.028 -71.127  1.00 48.46           C
ATOM   7719  CB  LYS A1081     -12.810  33.140 -70.490  1.00 45.99           C
ATOM   7720  C   LYS A1081     -10.940  31.494 -70.110  1.00 48.69           C
ATOM   7721  O   LYS A1081     -11.222  30.539 -69.357  1.00 46.95           O
ATOM   7722  N   THR A1082      -9.754  32.118 -70.111  1.00 46.37           N
ATOM   7723  CA  THR A1082      -8.695  31.857 -69.118  1.00 42.00           C
ATOM   7724  CB  THR A1082      -7.761  30.700 -69.553  1.00 42.10           C
ATOM   7725  OG1 THR A1082      -8.368  29.449 -69.192  1.00 43.06           O
ATOM   7726  CG2 THR A1082      -6.366  30.803 -68.895  1.00 39.48           C
ATOM   7727  C   THR A1082      -7.904  33.128 -68.824  1.00 39.27           C
ATOM   7728  O   THR A1082      -7.475  33.830 -69.741  1.00 39.77           O
ATOM   7729  N   GLU A1083      -7.748  33.423 -67.535  1.00 36.33           N
ATOM   7730  CA  GLU A1083      -7.011  34.598 -67.061  1.00 32.57           C
ATOM   7731  CB  GLU A1083      -7.975  35.692 -66.608  1.00 34.84           C
ATOM   7732  CG  GLU A1083      -8.475  36.620 -67.703  1.00 37.67           C
ATOM   7733  CD  GLU A1083      -9.562  37.552 -67.190  1.00 40.78           C
ATOM   7734  OE1 GLU A1083      -9.477  37.978 -66.015  1.00 41.65           O
ATOM   7735  OE2 GLU A1083     -10.509  37.853 -67.951  1.00 43.01           O
ATOM   7736  C   GLU A1083      -6.151  34.195 -65.880  1.00 28.26           C
ATOM   7737  O   GLU A1083      -6.506  33.279 -65.137  1.00 27.38           O
ATOM   7738  N   PRO A1084      -5.022  34.884 -65.686  1.00 25.81           N
ATOM   7739  CA  PRO A1084      -4.139  34.542 -64.562  1.00 24.29           C
ATOM   7740  CB  PRO A1084      -2.961  35.497 -64.735  1.00 23.94           C
ATOM   7741  CG  PRO A1084      -2.986  35.861 -66.180  1.00 24.84           C
ATOM   7742  CD  PRO A1084      -4.431  35.905 -66.560  1.00 25.20           C
ATOM   7743  C   PRO A1084      -4.802  34.752 -63.199  1.00 22.30           C
ATOM   7744  O   PRO A1084      -5.676  35.612 -63.058  1.00 22.29           O
ATOM   7745  N   ALA A1085      -4.395  33.946 -62.218  1.00 20.07           N
ATOM   7746  CA  ALA A1085      -4.841  34.103 -60.834  1.00 18.00           C
ATOM   7747  CB  ALA A1085      -4.247  33.012 -59.952  1.00 17.35           C
ATOM   7748  C   ALA A1085      -4.438  35.472 -60.324  1.00 16.99           C
ATOM   7749  O   ALA A1085      -3.501  36.101 -60.833  1.00 16.01           O
ATOM   7750  N   THR A1086      -5.153  35.942 -59.319  1.00 16.23           N
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ATOM   7751  CA  THR A1086      -4.863  37.252 -58.780  1.00 15.67           C
ATOM   7752  CB  THR A1086      -5.203  38.357 -59.808  1.00 15.86           C
ATOM   7753  OG1 THR A1086      -4.428  39.521 -59.516  1.00 16.98           O
ATOM   7754  CG2 THR A1086      -6.704  38.700 -59.834  1.00 16.00           C
ATOM   7755  C   THR A1086      -5.514  37.485 -57.418  1.00 14.86           C
ATOM   7756  O   THR A1086      -6.603  36.983 -57.147  1.00 14.60           O
ATOM   7757  N   GLY A1087      -4.812  38.200 -56.547  1.00 14.27           N
ATOM   7758  CA  GLY A1087      -5.324  38.507 -55.206  1.00 14.16           C
ATOM   7759  C   GLY A1087      -5.567  37.306 -54.313  1.00 13.99           C
ATOM   7760  O   GLY A1087      -6.234  37.408 -53.287  1.00 14.22           O
ATOM   7761  N   PHE A1088      -5.041  36.158 -54.714  1.00 13.92           N
ATOM   7762  CA  PHE A1088      -5.155  34.944 -53.919  1.00 13.90           C
ATOM   7763  CB  PHE A1088      -6.135  33.955 -54.572  1.00 13.94           C
ATOM   7764  CG  PHE A1088      -7.568  34.201 -54.228  1.00 13.75           C
ATOM   7765  CD1 PHE A1088      -8.103  33.707 -53.052  1.00 13.70           C
ATOM   7766  CE1 PHE A1088      -9.431  33.931 -52.726  1.00 13.78           C
ATOM   7767  CZ  PHE A1088     -10.244  34.652 -53.586  1.00 13.89           C
ATOM   7768  CE2 PHE A1088      -9.722  35.151 -54.767  1.00 13.85           C
ATOM   7769  CD2 PHE A1088      -8.387  34.924 -55.083  1.00 13.84           C
ATOM   7770  C   PHE A1088      -3.799  34.277 -53.781  1.00 13.60           C
ATOM   7771  O   PHE A1088      -3.061  34.170 -54.765  1.00 13.27           O
ATOM   7772  N   ILE A1089      -3.494  33.816 -52.568  1.00 13.32           N
ATOM   7773  CA  ILE A1089      -2.296  33.024 -52.316  1.00 13.36           C
ATOM   7774  CB  ILE A1089      -1.454  33.649 -51.207  1.00 13.27           C
ATOM   7775  CG1 ILE A1089      -0.780  34.898 -51.750  1.00 13.50           C
ATOM   7776  CD1 ILE A1089      -0.442  35.893 -50.673  1.00 13.99           C
ATOM   7777  CG2 ILE A1089      -0.424  32.659 -50.688  1.00 13.15           C
ATOM   7778  C   ILE A1089      -2.615  31.565 -51.983  1.00 13.33           C
ATOM   7779  O   ILE A1089      -3.377  31.275 -51.048  1.00 13.25           O
ATOM   7780  N   ASP A1090      -2.036  30.659 -52.770  1.00 13.07           N
ATOM   7781  CA  ASP A1090      -2.194  29.232 -52.567  1.00 13.03           C
ATOM   7782  CB  ASP A1090      -1.807  28.450 -53.823  1.00 13.15           C
ATOM   7783  CG  ASP A1090      -2.032  26.966 -53.668  1.00 13.56           C
ATOM   7784  OD1 ASP A1090      -2.856  26.593 -52.814  1.00 14.57           O
ATOM   7785  OD2 ASP A1090      -1.395  26.161 -54.367  1.00 13.45           O
ATOM   7786  C   ASP A1090      -1.358  28.773 -51.380  1.00 13.07           C
ATOM   7787  O   ASP A1090      -0.195  28.405 -51.530  1.00 13.24           O
ATOM   7788  N   GLY A1091      -1.969  28.789 -50.201  1.00 13.03           N
ATOM   7789  CA  GLY A1091      -1.316  28.374 -48.973  1.00 12.82           C
ATOM   7790  C   GLY A1091      -0.897  26.928 -49.027  1.00 13.00           C
ATOM   7791  O   GLY A1091       0.024  26.526 -48.321  1.00 13.01           O
ATOM   7792  N   ASP A1092      -1.577  26.136 -49.857  1.00 13.20           N
ATOM   7793  CA  ASP A1092      -1.174  24.756 -50.073  1.00 13.39           C
ATOM   7794  CB  ASP A1092      -2.124  24.048 -51.032  1.00 14.10           C
ATOM   7795  CG  ASP A1092      -3.322  23.415 -50.320  1.00 14.70           C
ATOM   7796  OD1 ASP A1092      -3.625  23.819 -49.183  1.00 15.73           O
ATOM   7797  OD2 ASP A1092      -3.961  22.506 -50.890  1.00 14.40           O
ATOM   7798  C   ASP A1092       0.229  24.751 -50.631  1.00 13.56           C
ATOM   7799  O   ASP A1092       1.083  23.998 -50.160  1.00 14.03           O
ATOM   7800  N   LEU A1093       0.480  25.620 -51.611  1.00 13.43           N
ATOM   7801  CA  LEU A1093       1.827  25.800 -52.161  1.00 13.17           C
ATOM   7802  CB  LEU A1093       1.796  26.633 -53.441  1.00 13.01           C
ATOM   7803  CG  LEU A1093       3.165  26.961 -54.042  1.00 12.83           C
ATOM   7804  CD1 LEU A1093       3.905  25.696 -54.450  1.00 12.79           C
ATOM   7805  CD2 LEU A1093       3.000  27.915 -55.212  1.00 12.93           C
ATOM   7806  C   LEU A1093       2.833  26.403 -51.171  1.00 13.13           C
ATOM   7807  O   LEU A1093       3.953  25.896 -51.042  1.00 13.44           O
ATOM   7808  N   ILE A1094       2.455  27.494 -50.504  1.00 12.71           N
ATOM   7809  CA  ILE A1094       3.342  28.118 -49.517  1.00 12.54           C
ATOM   7810  CB  ILE A1094       2.702  29.365 -48.864  1.00 12.27           C
ATOM   7811  CG1 ILE A1094       2.521  30.483 -49.896  1.00 12.12           C
ATOM   7812  CD1 ILE A1094       3.805  31.059 -50.439  1.00 12.14           C
ATOM   7813  CG2 ILE A1094       3.520  29.849 -47.671  1.00 12.20           C
ATOM   7814  C   ILE A1094       3.814  27.124 -48.447  1.00 12.62           C
ATOM   7815  O   ILE A1094       4.988  27.087 -48.113  1.00 12.21           O
ATOM   7816  N   GLU A1095       2.905  26.294 -47.945  1.00 13.23           N
ATOM   7817  CA  GLU A1095       3.242  25.380 -46.853  1.00 13.72           C
ATOM   7818  CB  GLU A1095       1.986  24.801 -46.194  1.00 14.72           C
ATOM   7819  CG  GLU A1095       1.428  25.768 -45.152  1.00 16.66           C
ATOM   7820  CD  GLU A1095      -0.005  25.477 -44.690  1.00 17.88           C
ATOM   7821  OE1 GLU A1095      -0.378  24.272 -44.602  1.00 18.12           O
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ATOM   7822  OE2 GLU A1095      -0.745  26.473 -44.394  1.00 17.82           O
ATOM   7823  C   GLU A1095       4.252  24.309 -47.224  1.00 13.12           C
ATOM   7824  O   GLU A1095       5.001  23.850 -46.373  1.00 12.96           O
ATOM   7825  N   SER A1096       4.301  23.941 -48.497  1.00 12.84           N
ATOM   7826  CA  SER A1096       5.295  22.985 -48.957  1.00 12.86           C
ATOM   7827  CB  SER A1096       4.978  22.519 -50.370  1.00 12.91           C
ATOM   7828  OG  SER A1096       5.208  23.552 -51.299  1.00 13.20           O
ATOM   7829  C   SER A1096       6.742  23.511 -48.866  1.00 12.94           C
ATOM   7830  O   SER A1096       7.686  22.730 -48.916  1.00 13.08           O
ATOM   7831  N   PHE A1097       6.916  24.822 -48.713  1.00 13.02           N
ATOM   7832  CA  PHE A1097       8.240  25.392 -48.428  1.00 13.13           C
ATOM   7833  CB  PHE A1097       8.140  26.867 -48.015  1.00 12.88           C
ATOM   7834  CG  PHE A1097       9.434  27.459 -47.522  1.00 12.76           C
ATOM   7835  CD1 PHE A1097      10.425  27.855 -48.413  1.00 12.87           C
ATOM   7836  CE1 PHE A1097      11.614  28.406 -47.961  1.00 12.55           C
ATOM   7837  CZ  PHE A1097      11.819  28.575 -46.603  1.00 12.62           C
ATOM   7838  CE2 PHE A1097      10.845  28.186 -45.705  1.00 12.63           C
ATOM   7839  CD2 PHE A1097       9.659  27.635 -46.166  1.00 12.69           C
ATOM   7840  C   PHE A1097       8.980  24.609 -47.360  1.00 13.53           C
ATOM   7841  O   PHE A1097      10.201  24.517 -47.406  1.00 13.79           O
ATOM   7842  N   LEU A1098       8.239  24.044 -46.406  1.00 14.27           N
ATOM   7843  CA  LEU A1098       8.829  23.348 -45.253  1.00 15.01           C
ATOM   7844  CB  LEU A1098       7.796  23.143 -44.156  1.00 14.51           C
ATOM   7845  CG  LEU A1098       7.249  24.433 -43.581  1.00 14.60           C
ATOM   7846  CD1 LEU A1098       5.979  24.141 -42.797  1.00 14.79           C
ATOM   7847  CD2 LEU A1098       8.299  25.140 -42.732  1.00 14.37           C
ATOM   7848  C   LEU A1098       9.445  22.007 -45.619  1.00 15.80           C
ATOM   7849  O   LEU A1098      10.334  21.509 -44.927  1.00 16.53           O
ATOM   7850  N   ASP A1099       8.992  21.435 -46.718  1.00 16.18           N
ATOM   7851  CA  ASP A1099       9.408  20.113 -47.059  1.00 17.20           C
ATOM   7852  CB  ASP A1099       8.190  19.305 -47.543  1.00 18.36           C
ATOM   7853  CG  ASP A1099       7.124  19.102 -46.412  1.00 19.84           C
ATOM   7854  OD1 ASP A1099       7.521  18.793 -45.252  1.00 20.26           O
ATOM   7855  OD2 ASP A1099       5.897  19.262 -46.672  1.00 19.98           O
ATOM   7856  C   ASP A1099      10.610  20.079 -48.025  1.00 17.56           C
ATOM   7857  O   ASP A1099      11.192  19.026 -48.236  1.00 18.09           O
ATOM   7858  N   ILE A1100      11.010  21.224 -48.578  1.00 17.87           N
ATOM   7859  CA  ILE A1100      12.160  21.264 -49.509  1.00 18.52           C
ATOM   7860  CB  ILE A1100      12.091  22.441 -50.535  1.00 18.36           C
ATOM   7861  CG1 ILE A1100      12.307  23.802 -49.856  1.00 18.11           C
ATOM   7862  CD1 ILE A1100      12.196  24.991 -50.786  1.00 18.22           C
ATOM   7863  CG2 ILE A1100      10.787  22.414 -51.327  1.00 18.01           C
ATOM   7864  C   ILE A1100      13.509  21.260 -48.764  1.00 19.48           C
ATOM   7865  O   ILE A1100      13.559  21.529 -47.562  1.00 19.64           O
ATOM   7866  N   SER A1101      14.594  20.957 -49.485  1.00 20.72           N
ATOM   7867  CA  SER A1101      15.931  20.813 -48.878  1.00 21.82           C
ATOM   7868  CB  SER A1101      16.897  20.103 -49.835  1.00 22.16           C
ATOM   7869  OG  SER A1101      17.446  21.001 -50.781  1.00 22.13           O
ATOM   7870  C   SER A1101      16.521  22.154 -48.474  1.00 22.33           C
ATOM   7871  O   SER A1101      16.295  23.155 -49.140  1.00 23.44           O
ATOM   7872  N   ARG A1102      17.304  22.163 -47.403  1.00 22.61           N
ATOM   7873  CA  ARG A1102      17.886  23.404 -46.891  1.00 23.06           C
ATOM   7874  CB  ARG A1102      18.915  23.111 -45.784  1.00 23.77           C
ATOM   7875  CG  ARG A1102      19.447  24.339 -45.073  1.00 24.58           C
ATOM   7876  CD  ARG A1102      18.475  24.840 -44.023  1.00 26.60           C
ATOM   7877  NE  ARG A1102      19.027  25.975 -43.284  1.00 28.86           N
ATOM   7878  CZ  ARG A1102      18.423  26.593 -42.263  1.00 29.92           C
ATOM   7879  NH1 ARG A1102      17.221  26.190 -41.827  1.00 28.81           N
ATOM   7880  NH2 ARG A1102      19.030  27.625 -41.674  1.00 29.84           N
ATOM   7881  C   ARG A1102      18.470  24.308 -47.998  1.00 22.56           C
ATOM   7882  O   ARG A1102      18.228  25.512 -47.986  1.00 21.25           O
ATOM   7883  N   PRO A1103      19.241  23.730 -48.953  1.00 23.49           N
ATOM   7884  CA  PRO A1103      19.748  24.564 -50.066  1.00 24.07           C
ATOM   7885  CB  PRO A1103      20.631  23.600 -50.877  1.00 23.98           C
ATOM   7886  CG  PRO A1103      20.407  22.239 -50.294  1.00 23.89           C
ATOM   7887  CD  PRO A1103      19.939  22.431 -48.890  1.00 23.33           C
ATOM   7888  C   PRO A1103      18.655  25.165 -50.956  1.00 24.11           C
ATOM   7889  O   PRO A1103      18.807  26.287 -51.450  1.00 24.52           O
ATOM   7890  N   LYS A1104      17.572  24.421 -51.153  1.00 23.77           N
ATOM   7891  CA  LYS A1104      16.439  24.911 -51.915  1.00 23.95           C
ATOM   7892  CB  LYS A1104      15.508  23.758 -52.300  1.00 25.24           C
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ATOM	7893	CG	LYS	A1104	16.138	22.658	-53.153	1.00	26.74	C
ATOM	7894	CD	LYS	A1104	16.899	23.196	-54.360	1.00	28.54	C
ATOM	7895	CE	LYS	A1104	16.038	23.303	-55.611	1.00	29.55	C
ATOM	7896	NZ	LYS	A1104	16.594	24.290	-56.593	1.00	29.88	N
ATOM	7897	C	LYS	A1104	15.666	26.012	-51.169	1.00	23.61	C
ATOM	7898	O	LYS	A1104	15.230	26.979	-51.788	1.00	23.72	O
ATOM	7899	N	MET	A1105	15.495	25.860	-49.850	1.00	23.37	N
ATOM	7900	CA	MET	A1105	14.924	26.920	-49.008	1.00	23.10	C
ATOM	7901	CB	MET	A1105	14.958	26.559	-47.527	1.00	21.94	C
ATOM	7902	CG	MET	A1105	14.052	25.426	-47.095	1.00	21.99	C
ATOM	7903	SD	MET	A1105	13.826	25.385	-45.300	1.00	21.66	S
ATOM	7904	CE	MET	A1105	14.050	23.630	-44.980	1.00	22.82	C
ATOM	7905	C	MET	A1105	15.687	28.215	-49.202	1.00	24.47	C
ATOM	7906	O	MET	A1105	15.086	29.274	-49.343	1.00	24.93	O
ATOM	7907	N	GLN	A1106	17.016	28.136	-49.209	1.00	26.69	N
ATOM	7908	CA	GLN	A1106	17.810	29.344	-49.378	1.00	28.53	C
ATOM	7909	CB	GLN	A1106	19.228	29.198	-48.876	1.00	30.06	C
ATOM	7910	CG	GLN	A1106	19.782	30.549	-48.458	1.00	32.31	C
ATOM	7911	CD	GLN	A1106	19.431	30.894	-47.017	1.00	35.13	C
ATOM	7912	OE1	GLN	A1106	19.403	30.010	-46.151	1.00	36.66	O
ATOM	7913	NE2	GLN	A1106	19.186	32.182	-46.744	1.00	34.65	N
ATOM	7914	C	GLN	A1106	17.833	29.834	-50.802	1.00	29.07	C
ATOM	7915	O	GLN	A1106	17.791	31.043	-51.031	1.00	29.68	O
ATOM	7916	N	GLU	A1107	17.903	28.902	-51.753	1.00	29.17	N
ATOM	7917	CA	GLU	A1107	17.797	29.238	-53.166	1.00	29.07	C
ATOM	7918	CB	GLU	A1107	17.391	28.021	-53.979	1.00	29.83	C
ATOM	7919	CG	GLU	A1107	17.581	28.188	-55.474	1.00	31.51	C
ATOM	7920	CD	GLU	A1107	18.381	27.047	-56.080	1.00	33.82	C
ATOM	7921	OE1	GLU	A1107	18.473	26.990	-57.321	1.00	35.18	O
ATOM	7922	OE2	GLU	A1107	18.934	26.207	-55.321	1.00	35.03	O
ATOM	7923	C	GLU	A1107	16.780	30.335	-53.371	1.00	28.97	C
ATOM	7924	O	GLU	A1107	17.083	31.364	-53.970	1.00	28.72	O
ATOM	7925	N	ASN	A1108	15.585	30.135	-52.827	1.00	29.56	N
ATOM	7926	CA	ASN	A1108	14.468	30.991	-53.170	1.00	30.95	C
ATOM	7927	CB	ASN	A1108	13.296	30.150	-53.684	1.00	31.87	C
ATOM	7928	CG	ASN	A1108	12.616	29.372	-52.593	1.00	32.21	C
ATOM	7929	OD1	ASN	A1108	11.979	29.949	-51.707	1.00	32.45	O
ATOM	7930	ND2	ASN	A1108	12.724	28.047	-52.660	1.00	33.01	N
ATOM	7931	C	ASN	A1108	14.020	32.040	-52.139	1.00	30.66	C
ATOM	7932	O	ASN	A1108	13.052	32.759	-52.370	1.00	30.82	O
ATOM	7933	N	VAL	A1109	14.726	32.150	-51.021	1.00	30.93	N
ATOM	7934	CA	VAL	A1109	14.584	33.350	-50.182	1.00	31.54	C
ATOM	7935	CB	VAL	A1109	14.549	33.027	-48.669	1.00	31.14	C
ATOM	7936	CG1	VAL	A1109	13.386	32.100	-48.362	1.00	31.01	C
ATOM	7937	CG2	VAL	A1109	15.858	32.410	-48.195	1.00	30.93	C
ATOM	7938	C	VAL	A1109	15.675	34.377	-50.513	1.00	32.25	C
ATOM	7939	O	VAL	A1109	15.884	35.330	-49.775	1.00	32.10	O
ATOM	7940	N	ALA	A1110	16.339	34.169	-51.654	1.00	34.69	N
ATOM	7941	CA	ALA	A1110	17.505	34.952	-52.089	1.00	34.94	C
ATOM	7942	CB	ALA	A1110	18.108	34.345	-53.349	1.00	33.53	C
ATOM	7943	C	ALA	A1110	17.193	36.420	-52.314	1.00	35.64	C
ATOM	7944	O	ALA	A1110	17.962	37.288	-51.924	1.00	34.43	O
ATOM	7945	N	ASN	A1111	16.063	36.694	-52.948	1.00	39.84	N
ATOM	7946	CA	ASN	A1111	15.674	38.072	-53.225	1.00	44.48	C
ATOM	7947	CB	ASN	A1111	15.724	38.353	-54.739	1.00	46.42	C
ATOM	7948	CG	ASN	A1111	17.063	37.971	-55.367	1.00	46.69	C
ATOM	7949	OD1	ASN	A1111	17.161	36.972	-56.086	1.00	46.01	O
ATOM	7950	ND2	ASN	A1111	18.102	38.762	-55.089	1.00	46.02	N
ATOM	7951	C	ASN	A1111	14.302	38.421	-52.623	1.00	45.28	C
ATOM	7952	O	ASN	A1111	13.378	38.839	-53.331	1.00	47.23	O
ATOM	7953	N	LEU	A1112	14.180	38.240	-51.310	1.00	43.07	N
ATOM	7954	CA	LEU	A1112	12.941	38.545	-50.612	1.00	43.33	C
ATOM	7955	CB	LEU	A1112	12.303	37.271	-50.050	1.00	43.37	C
ATOM	7956	CG	LEU	A1112	12.011	36.107	-50.994	1.00	44.43	C
ATOM	7957	CD1	LEU	A1112	11.229	35.027	-50.261	1.00	43.36	C
ATOM	7958	CD2	LEU	A1112	11.252	36.578	-52.227	1.00	44.79	C
ATOM	7959	C	LEU	A1112	13.150	39.559	-49.490	1.00	43.56	C
ATOM	7960	O	LEU	A1112	13.993	39.360	-48.609	1.00	42.72	O
ATOM	7961	N	GLN	A1113	12.377	40.643	-49.526	1.00	43.01	N
ATOM	7962	CA	GLN	A1113	12.413	41.632	-48.465	1.00	43.86	C
ATOM	7963	CB	GLN	A1113	12.104	43.031	-49.007	1.00	44.44	C

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ATOM   7964  C   GLN A1113      11.427  41.246 -47.381  1.00 45.26           C
ATOM   7965  O   GLN A1113      10.228  41.152 -47.631  1.00 47.72           O
ATOM   7966  N   TYR A1114      11.952  40.995 -46.185  1.00 47.45           N
ATOM   7967  CA  TYR A1114      11.151  40.715 -44.990  1.00 49.79           C
ATOM   7968  CB  TYR A1114      11.989  39.887 -44.016  1.00 48.00           C
ATOM   7969  CG  TYR A1114      11.224  39.175 -42.934  1.00 46.89           C
ATOM   7970  CD1 TYR A1114       9.951  38.679 -43.166  1.00 48.38           C
ATOM   7971  CE1 TYR A1114       9.248  38.015 -42.173  1.00 49.62           C
ATOM   7972  CZ  TYR A1114       9.830  37.820 -40.932  1.00 50.14           C
ATOM   7973  OH  TYR A1114       9.127  37.149 -39.949  1.00 49.58           O
ATOM   7974  CE2 TYR A1114      11.108  38.295 -40.681  1.00 49.30           C
ATOM   7975  CD2 TYR A1114      11.795  38.964 -41.682  1.00 47.69           C
ATOM   7976  C   TYR A1114      10.759  42.054 -44.363  1.00 52.62           C
ATOM   7977  O   TYR A1114      11.312  43.087 -44.745  1.00 54.36           O
ATOM   7978  N   ASP A1115       9.827  42.057 -43.408  1.00 55.08           N
ATOM   7979  CA  ASP A1115       9.374  43.339 -42.840  1.00 60.05           C
ATOM   7980  CB  ASP A1115       8.011  43.755 -43.405  1.00 61.79           C
ATOM   7981  CG  ASP A1115       8.127  44.878 -44.425  1.00 61.82           C
ATOM   7982  OD1 ASP A1115       9.021  44.809 -45.298  1.00 61.29           O
ATOM   7983  OD2 ASP A1115       7.333  45.839 -44.347  1.00 62.41           O
ATOM   7984  C   ASP A1115       9.452  43.579 -41.320  1.00 61.89           C
ATOM   7985  O   ASP A1115       8.662  43.037 -40.539  1.00 61.75           O
ATOM   7986  N   ASP A1116      10.415  44.425 -40.940  1.00 64.53           N
ATOM   7987  CA  ASP A1116      10.607  44.908 -39.565  1.00 64.30           C
ATOM   7988  CB  ASP A1116      11.718  44.110 -38.851  1.00 66.15           C
ATOM   7989  CG  ASP A1116      11.177  43.122 -37.805  1.00 66.69           C
ATOM   7990  OD1 ASP A1116      10.062  42.569 -37.979  1.00 67.25           O
ATOM   7991  OD2 ASP A1116      11.892  42.892 -36.804  1.00 64.93           O
ATOM   7992  C   ASP A1116      10.947  46.414 -39.563  1.00 61.66           C
ATOM   7993  O   ASP A1116      12.063  46.814 -39.926  1.00 57.08           O
ATOM   7994  N   GLY A1117       9.977  47.238 -39.165  1.00 58.28           N
ATOM   7995  CA  GLY A1117      10.180  48.679 -39.069  1.00 54.36           C
ATOM   7996  C   GLY A1117      10.401  49.316 -40.424  1.00 51.59           C
ATOM   7997  O   GLY A1117       9.603  49.129 -41.339  1.00 49.18           O
ATOM   7998  N   ASP A1121      13.226  47.049 -43.825  1.00 35.24           N
ATOM   7999  CA  ASP A1121      13.222  45.764 -44.518  1.00 37.39           C
ATOM   8000  CB  ASP A1121      12.649  45.929 -45.930  1.00 36.73           C
ATOM   8001  C   ASP A1121      14.626  45.131 -44.584  1.00 38.64           C
ATOM   8002  O   ASP A1121      15.639  45.853 -44.598  1.00 38.44           O
ATOM   8003  N   LEU A1122      14.683  43.791 -44.621  1.00 36.90           N
ATOM   8004  CA  LEU A1122      15.961  43.059 -44.809  1.00 34.92           C
ATOM   8005  CB  LEU A1122      16.611  42.674 -43.453  1.00 35.42           C
ATOM   8006  CG  LEU A1122      15.861  41.845 -42.384  1.00 36.68           C
ATOM   8007  CD1 LEU A1122      16.166  40.348 -42.483  1.00 34.54           C
ATOM   8008  CD2 LEU A1122      16.157  42.358 -40.973  1.00 36.18           C
ATOM   8009  C   LEU A1122      15.850  41.833 -45.740  1.00 33.36           C
ATOM   8010  O   LEU A1122      14.786  41.215 -45.850  1.00 32.98           O
ATOM   8011  N   ILE A1123      16.952  41.504 -46.414  1.00 31.32           N
ATOM   8012  CA  ILE A1123      17.055  40.272 -47.185  1.00 30.27           C
ATOM   8013  CB  ILE A1123      18.469  40.074 -47.769  1.00 28.91           C
ATOM   8014  C   ILE A1123      16.701  39.102 -46.267  1.00 30.80           C
ATOM   8015  O   ILE A1123      17.352  38.890 -45.239  1.00 31.07           O
ATOM   8016  N   LYS A1124      15.652  38.367 -46.631  1.00 29.94           N
ATOM   8017  CA  LYS A1124      15.095  37.325 -45.779  1.00 29.34           C
ATOM   8018  CB  LYS A1124      13.719  36.917 -46.289  1.00 28.86           C
ATOM   8019  C   LYS A1124      15.974  36.083 -45.646  1.00 29.80           C
ATOM   8020  O   LYS A1124      16.542  35.604 -46.625  1.00 29.08           O
ATOM   8021  N   VAL A1125      16.057  35.567 -44.419  1.00 31.05           N
ATOM   8022  CA  VAL A1125      16.703  34.283 -44.123  1.00 31.13           C
ATOM   8023  CB  VAL A1125      17.363  34.280 -42.731  1.00 31.02           C
ATOM   8024  CG1 VAL A1125      18.504  33.270 -42.694  1.00 32.28           C
ATOM   8025  CG2 VAL A1125      17.857  35.669 -42.355  1.00 31.26           C
ATOM   8026  C   VAL A1125      15.703  33.125 -44.132  1.00 31.51           C
ATOM   8027  O   VAL A1125      14.536  33.285 -43.762  1.00 31.00           O
ATOM   8028  N   VAL A1126      16.183  31.954 -44.535  1.00 32.43           N
ATOM   8029  CA  VAL A1126      15.442  30.699 -44.410  1.00 32.71           C
ATOM   8030  CB  VAL A1126      16.373  29.497 -44.553  1.00 34.38           C
ATOM   8031  CG1 VAL A1126      16.560  29.158 -46.015  1.00 35.81           C
ATOM   8032  CG2 VAL A1126      17.712  29.762 -43.862  1.00 35.74           C
ATOM   8033  C   VAL A1126      14.720  30.513 -43.087  1.00 33.45           C
ATOM   8034  O   VAL A1126      13.639  29.929 -43.059  1.00 33.37           O
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ATOM   8035  N   ASP A1127      15.330  30.983 -41.993  1.00 34.65           N
ATOM   8036  CA  ASP A1127      14.759  30.815 -40.650  1.00 34.53           C
ATOM   8037  CB  ASP A1127      15.837  30.956 -39.572  1.00 35.66           C
ATOM   8038  CG  ASP A1127      16.758  29.733 -39.490  1.00 37.34           C
ATOM   8039  OD1 ASP A1127      16.329  28.606 -39.840  1.00 38.78           O
ATOM   8040  OD2 ASP A1127      17.917  29.898 -39.057  1.00 37.96           O
ATOM   8041  C   ASP A1127      13.606  31.776 -40.398  1.00 33.55           C
ATOM   8042  O   ASP A1127      12.640  31.421 -39.725  1.00 33.15           O
ATOM   8043  N   ASP A1128      13.712  32.985 -40.952  1.00 33.41           N
ATOM   8044  CA  ASP A1128      12.623  33.965 -40.929  1.00 33.99           C
ATOM   8045  CB  ASP A1128      13.025  35.280 -41.621  1.00 36.13           C
ATOM   8046  CG  ASP A1128      14.397  35.794 -41.189  1.00 38.22           C
ATOM   8047  OD1 ASP A1128      15.065  35.148 -40.347  1.00 39.05           O
ATOM   8048  OD2 ASP A1128      14.814  36.852 -41.711  1.00 38.99           O
ATOM   8049  C   ASP A1128      11.420  33.391 -41.654  1.00 33.18           C
ATOM   8050  O   ASP A1128      10.282  33.595 -41.245  1.00 33.63           O
ATOM   8051  N   LEU A1129      11.677  32.684 -42.749  1.00 31.19           N
ATOM   8052  CA  LEU A1129      10.604  32.044 -43.485  1.00 29.48           C
ATOM   8053  CB  LEU A1129      11.006  31.750 -44.935  1.00 28.06           C
ATOM   8054  CG  LEU A1129      10.536  32.776 -45.969  1.00 28.24           C
ATOM   8055  CD1 LEU A1129       9.044  33.052 -45.842  1.00 28.22           C
ATOM   8056  CD2 LEU A1129      11.314  34.075 -45.849  1.00 28.37           C
ATOM   8057  C   LEU A1129      10.082  30.796 -42.793  1.00 29.30           C
ATOM   8058  O   LEU A1129       8.871  30.623 -42.700  1.00 30.12           O
ATOM   8059  N   ILE A1130      10.979  29.937 -42.301  1.00 28.24           N
ATOM   8060  CA  ILE A1130      10.555  28.702 -41.630  1.00 28.27           C
ATOM   8061  CB  ILE A1130      11.739  27.842 -41.130  1.00 27.18           C
ATOM   8062  CG1 ILE A1130      12.495  27.233 -42.318  1.00 27.17           C
ATOM   8063  CD1 ILE A1130      13.891  26.728 -41.995  1.00 26.98           C
ATOM   8064  CG2 ILE A1130      11.248  26.730 -40.208  1.00 25.72           C
ATOM   8065  C   ILE A1130       9.600  29.021 -40.480  1.00 29.73           C
ATOM   8066  O   ILE A1130       8.621  28.302 -40.265  1.00 30.47           O
ATOM   8067  N   LYS A1131       9.862  30.114 -39.764  1.00 30.44           N
ATOM   8068  CA  LYS A1131       8.957  30.525 -38.699  1.00 30.89           C
ATOM   8069  CB  LYS A1131       9.648  31.414 -37.640  1.00 33.65           C
ATOM   8070  CG  LYS A1131       9.946  32.849 -38.056  1.00 36.37           C
ATOM   8071  CD  LYS A1131       9.416  33.857 -37.036  1.00 38.25           C
ATOM   8072  CE  LYS A1131      10.467  34.898 -36.645  1.00 40.47           C
ATOM   8073  NZ  LYS A1131      11.155  35.550 -37.803  1.00 41.69           N
ATOM   8074  C   LYS A1131       7.668  31.150 -39.246  1.00 28.92           C
ATOM   8075  O   LYS A1131       6.591  30.902 -38.711  1.00 29.52           O
ATOM   8076  N   VAL A1132       7.774  31.927 -40.319  1.00 26.67           N
ATOM   8077  CA  VAL A1132       6.595  32.527 -40.934  1.00 25.75           C
ATOM   8078  CB  VAL A1132       6.969  33.479 -42.076  1.00 24.80           C
ATOM   8079  CG1 VAL A1132       5.770  33.756 -42.971  1.00 23.95           C
ATOM   8080  CG2 VAL A1132       7.508  34.773 -41.510  1.00 25.50           C
ATOM   8081  C   VAL A1132       5.608  31.469 -41.432  1.00 26.28           C
ATOM   8082  O   VAL A1132       4.423  31.535 -41.118  1.00 27.07           O
ATOM   8083  N   VAL A1133       6.102  30.493 -42.189  1.00 26.12           N
ATOM   8084  CA  VAL A1133       5.260  29.442 -42.761  1.00 26.19           C
ATOM   8085  CB  VAL A1133       6.042  28.588 -43.783  1.00 25.61           C
ATOM   8086  CG1 VAL A1133       5.165  27.502 -44.381  1.00 24.34           C
ATOM   8087  CG2 VAL A1133       6.593  29.469 -44.891  1.00 25.52           C
ATOM   8088  C   VAL A1133       4.659  28.549 -41.677  1.00 27.44           C
ATOM   8089  O   VAL A1133       3.546  28.050 -41.828  1.00 27.63           O
ATOM   8090  N   GLU A1134       5.387  28.363 -40.578  1.00 28.67           N
ATOM   8091  CA  GLU A1134       4.909  27.505 -39.496  1.00 29.89           C
ATOM   8092  CB  GLU A1134       6.054  27.057 -38.590  1.00 30.16           C
ATOM   8093  CG  GLU A1134       6.801  25.848 -39.130  1.00 31.12           C
ATOM   8094  CD  GLU A1134       8.034  25.486 -38.314  1.00 32.63           C
ATOM   8095  OE1 GLU A1134       8.208  26.049 -37.207  1.00 33.70           O
ATOM   8096  OE2 GLU A1134       8.831  24.629 -38.777  1.00 32.49           O
ATOM   8097  C   GLU A1134       3.780  28.137 -38.693  1.00 30.17           C
ATOM   8098  O   GLU A1134       2.848  27.443 -38.296  1.00 30.84           O
ATOM   8099  N   GLU A1135       3.866  29.448 -38.459  1.00 30.85           N
ATOM   8100  CA  GLU A1135       2.744  30.210 -37.890  1.00 31.71           C
ATOM   8101  CB  GLU A1135       3.038  31.720 -37.860  1.00 35.83           C
ATOM   8102  CG  GLU A1135       3.960  32.216 -36.749  1.00 40.31           C
ATOM   8103  CD  GLU A1135       3.983  33.746 -36.654  1.00 43.59           C
ATOM   8104  OE1 GLU A1135       5.081  34.349 -36.792  1.00 44.96           O
ATOM   8105  OE2 GLU A1135       2.897  34.349 -36.448  1.00 43.50           O
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ATOM   8106  C   GLU A1135       1.535  29.991 -38.775  1.00 29.30           C
ATOM   8107  O   GLU A1135       0.402  29.949 -38.302  1.00 29.05           O
ATOM   8108  N   LEU A1136       1.798  29.873 -40.072  1.00 27.09           N
ATOM   8109  CA  LEU A1136       0.755  29.781 -41.064  1.00 25.16           C
ATOM   8110  CB  LEU A1136       1.296  30.108 -42.459  1.00 23.82           C
ATOM   8111  CG  LEU A1136       1.486  31.574 -42.855  1.00 22.95           C
ATOM   8112  CD1 LEU A1136       2.167  31.681 -44.202  1.00 23.04           C
ATOM   8113  CD2 LEU A1136       0.163  32.302 -42.919  1.00 23.27           C
ATOM   8114  C   LEU A1136       0.116  28.411 -41.036  1.00 24.58           C
ATOM   8115  O   LEU A1136      -1.077  28.291 -41.229  1.00 24.72           O
ATOM   8116  N   THR A1137       0.899  27.376 -40.775  1.00 24.38           N
ATOM   8117  CA  THR A1137       0.337  26.031 -40.736  1.00 24.79           C
ATOM   8118  CB  THR A1137       1.422  24.915 -40.701  1.00 25.24           C
ATOM   8119  OG1 THR A1137       2.255  25.059 -39.535  1.00 25.74           O
ATOM   8120  CG2 THR A1137       2.281  24.936 -41.964  1.00 23.91           C
ATOM   8121  C   THR A1137      -0.598  25.886 -39.540  1.00 24.49           C
ATOM   8122  O   THR A1137      -1.504  25.050 -39.548  1.00 24.70           O
ATOM   8123  N   ARG A1138      -0.383  26.723 -38.528  1.00 24.29           N
ATOM   8124  CA  ARG A1138      -1.089  26.611 -37.249  1.00 24.50           C
ATOM   8125  CB  ARG A1138      -0.285  27.287 -36.131  1.00 25.68           C
ATOM   8126  CG  ARG A1138       0.926  26.504 -35.666  1.00 26.62           C
ATOM   8127  CD  ARG A1138       1.556  27.144 -34.436  1.00 28.39           C
ATOM   8128  NE  ARG A1138       3.017  27.016 -34.489  1.00 30.69           N
ATOM   8129  CZ  ARG A1138       3.876  28.036 -34.564  1.00 31.14           C
ATOM   8130  NH1 ARG A1138       3.451  29.305 -34.557  1.00 30.58           N
ATOM   8131  NH2 ARG A1138       5.177  27.780 -34.634  1.00 31.67           N
ATOM   8132  C   ARG A1138      -2.506  27.180 -37.269  1.00 23.56           C
ATOM   8133  O   ARG A1138      -3.223  27.076 -36.284  1.00 22.92           O
ATOM   8134  N   ILE A1139      -2.898  27.785 -38.385  1.00 23.69           N
ATOM   8135  CA  ILE A1139      -4.239  28.369 -38.519  1.00 23.36           C
ATOM   8136  CB  ILE A1139      -4.254  29.666 -39.385  1.00 23.04           C
ATOM   8137  CG1 ILE A1139      -4.110  29.342 -40.879  1.00 22.37           C
ATOM   8138  CD1 ILE A1139      -4.149  30.562 -41.761  1.00 22.81           C
ATOM   8139  CG2 ILE A1139      -3.215  30.666 -38.893  1.00 22.81           C
ATOM   8140  C   ILE A1139      -5.279  27.384 -39.064  1.00 23.61           C
ATOM   8141  O   ILE A1139      -6.461  27.737 -39.166  1.00 24.82           O
ATOM   8142  N   HIS A1140      -4.848  26.177 -39.439  1.00 22.36           N
ATOM   8143  CA  HIS A1140      -5.789  25.133 -39.834  1.00 22.01           C
ATOM   8144  CB  HIS A1140      -5.977  25.086 -41.342  1.00 22.33           C
ATOM   8145  CG  HIS A1140      -4.733  24.702 -42.103  1.00 22.62           C
ATOM   8146  ND1 HIS A1140      -3.874  25.617 -42.595  1.00 21.92           N
ATOM   8147  CE1 HIS A1140      -2.868  24.986 -43.217  1.00 21.24           C
ATOM   8148  NE2 HIS A1140      -3.083  23.662 -43.133  1.00 21.58           N
ATOM   8149  CD2 HIS A1140      -4.222  23.450 -42.457  1.00 21.97           C
ATOM   8150  C   HIS A1140      -5.358  23.812 -39.335  1.00 21.94           C
ATOM   8151  O   HIS A1140      -4.251  23.681 -38.841  1.00 22.02           O
ATOM   8152  N   TRP A1141      -6.237  22.818 -39.460  1.00 22.67           N
ATOM   8153  CA  TRP A1141      -5.944  21.454 -39.024  1.00 23.30           C
ATOM   8154  CB  TRP A1141      -7.163  20.547 -39.178  1.00 22.86           C
ATOM   8155  CG  TRP A1141      -8.425  21.008 -38.485  1.00 22.47           C
ATOM   8156  CD1 TRP A1141      -8.545  21.577 -37.220  1.00 22.94           C
ATOM   8157  NE1 TRP A1141      -9.865  21.842 -36.920  1.00 23.01           N
ATOM   8158  CE2 TRP A1141     -10.665  21.457 -37.931  1.00 22.54           C
ATOM   8159  CD2 TRP A1141      -9.799  20.906 -38.985  1.00 22.22           C
ATOM   8160  CE3 TRP A1141     -10.378  20.440 -40.156  1.00 22.03           C
ATOM   8161  CZ3 TRP A1141     -11.771  20.520 -40.290  1.00 22.14           C
ATOM   8162  CH2 TRP A1141     -12.578  21.060 -39.274  1.00 22.30           C
ATOM   8163  CZ2 TRP A1141     -12.038  21.529 -38.071  1.00 22.30           C
ATOM   8164  C   TRP A1141      -4.838  20.914 -39.863  1.00 24.67           C
ATOM   8165  O   TRP A1141      -4.781  21.186 -41.076  1.00 24.33           O
ATOM   8166  N   SER A1142      -3.944  20.149 -39.239  1.00 25.79           N
ATOM   8167  CA  SER A1142      -2.829  19.541 -39.965  1.00 27.12           C
ATOM   8168  CB  SER A1142      -1.668  19.254 -39.025  1.00 28.15           C
ATOM   8169  OG  SER A1142      -2.147  19.068 -37.709  1.00 30.18           O
ATOM   8170  C   SER A1142      -3.275  18.279 -40.708  1.00 27.63           C
ATOM   8171  O   SER A1142      -4.279  17.657 -40.349  1.00 28.45           O
ATOM   8172  N   HIS A1143      -2.541  17.921 -41.757  1.00 26.92           N
ATOM   8173  CA  HIS A1143      -2.928  16.810 -42.617  1.00 25.89           C
ATOM   8174  CB  HIS A1143      -2.536  17.108 -44.063  1.00 26.01           C
ATOM   8175  CG  HIS A1143      -3.166  18.366 -44.608  1.00 27.02           C
ATOM   8176  ND1 HIS A1143      -4.501  18.488 -44.802  1.00 27.30           N
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ATOM   8177  CE1 HIS A1143      -4.777  19.723 -45.283  1.00 27.26           C
ATOM   8178  NE2 HIS A1143      -3.613  20.397 -45.393  1.00 28.18           N
ATOM   8179  CD2 HIS A1143      -2.600  19.592 -44.982  1.00 28.02           C
ATOM   8180  C   HIS A1143      -2.349  15.505 -42.147  1.00 25.45           C
ATOM   8181  O   HIS A1143      -1.208  15.459 -41.692  1.00 26.78           O
ATOM   8182  N   PRO A1144      -3.128  14.417 -42.242  1.00 25.11           N
ATOM   8183  CA  PRO A1144      -2.606  13.109 -41.837  1.00 24.85           C
ATOM   8184  CB  PRO A1144      -3.808  12.162 -42.015  1.00 25.46           C
ATOM   8185  CG  PRO A1144      -4.975  13.001 -42.430  1.00 25.28           C
ATOM   8186  CD  PRO A1144      -4.448  14.324 -42.889  1.00 25.38           C
ATOM   8187  C   PRO A1144      -1.513  12.663 -42.773  1.00 24.34           C
ATOM   8188  O   PRO A1144      -1.622  12.869 -43.975  1.00 24.88           O
ATOM   8189  N   GLN A1145      -0.472  12.050 -42.235  1.00 24.27           N
ATOM   8190  CA  GLN A1145       0.518  11.377 -43.068  1.00 24.84           C
ATOM   8191  CB  GLN A1145       1.717  10.964 -42.220  1.00 26.10           C
ATOM   8192  CG  GLN A1145       2.992  10.756 -43.008  1.00 28.40           C
ATOM   8193  CD  GLN A1145       3.901   9.743 -42.351  1.00 30.36           C
ATOM   8194  OE1 GLN A1145       3.866   8.550 -42.675  1.00 31.06           O
ATOM   8195  NE2 GLN A1145       4.710  10.206 -41.405  1.00 31.51           N
ATOM   8196  C   GLN A1145      -0.108  10.146 -43.746  1.00 24.10           C
ATOM   8197  O   GLN A1145      -0.851   9.399 -43.128  1.00 24.36           O
ATOM   8198  N   PHE A1146       0.175   9.942 -45.022  1.00 23.96           N
ATOM   8199  CA  PHE A1146      -0.385   8.782 -45.725  1.00 23.80           C
ATOM   8200  CB  PHE A1146      -0.501   9.056 -47.227  1.00 22.20           C
ATOM   8201  CG  PHE A1146      -1.195   7.972 -47.987  1.00 20.64           C
ATOM   8202  CD1 PHE A1146      -2.569   7.812 -47.892  1.00 19.55           C
ATOM   8203  CE1 PHE A1146      -3.212   6.810 -48.593  1.00 19.02           C
ATOM   8204  CZ  PHE A1146      -2.481   5.945 -49.399  1.00 19.23           C
ATOM   8205  CE2 PHE A1146      -1.104   6.097 -49.514  1.00 19.47           C
ATOM   8206  CD2 PHE A1146      -0.467   7.105 -48.806  1.00 20.29           C
ATOM   8207  C   PHE A1146       0.433   7.519 -45.462  1.00 24.43           C
ATOM   8208  O   PHE A1146      -0.128   6.472 -45.185  1.00 24.15           O
ATOM   8209  N   GLU A1147       1.757   7.648 -45.574  1.00 26.02           N
ATOM   8210  CA  GLU A1147       2.768   6.618 -45.237  1.00 26.41           C
ATOM   8211  CB  GLU A1147       2.248   5.186 -45.385  1.00 25.97           C
ATOM   8212  C   GLU A1147       3.970   6.831 -46.155  1.00 27.03           C
ATOM   8213  O   GLU A1147       4.076   7.873 -46.823  1.00 27.12           O
ATOM   8214  N   ASN C  48     -55.408  33.311 -97.767  1.00 40.91           N
ATOM   8215  CA  ASN C  48     -54.139  33.875 -97.222  1.00 42.84           C
ATOM   8216  CB  ASN C  48     -53.429  32.877 -96.284  1.00 39.39           C
ATOM   8217  CG  ASN C  48     -53.839  33.042 -94.823  1.00 38.00           C
ATOM   8218  OD1 ASN C  48     -53.083  33.568 -94.007  1.00 35.62           O
ATOM   8219  ND2 ASN C  48     -55.040  32.591 -94.492  1.00 38.12           N
ATOM   8220  C   ASN C  48     -53.188  34.389 -98.308  1.00 46.84           C
ATOM   8221  O   ASN C  48     -53.537  34.420 -99.498  1.00 47.20           O
ATOM   8222  N   PHE C  49     -51.996  34.806 -97.874  1.00 50.66           N
ATOM   8223  CA  PHE C  49     -51.008  35.475 -98.724  1.00 50.09           C
ATOM   8224  CB  PHE C  49     -51.167  37.016 -98.609  1.00 49.42           C
ATOM   8225  CG  PHE C  49     -50.104  37.713 -97.779  1.00 48.77           C
ATOM   8226  CD1 PHE C  49     -49.775  37.281 -96.500  1.00 47.83           C
ATOM   8227  CE1 PHE C  49     -48.795  37.935 -95.760  1.00 47.57           C
ATOM   8228  CZ  PHE C  49     -48.158  39.055 -96.273  1.00 47.51           C
ATOM   8229  CE2 PHE C  49     -48.491  39.516 -97.536  1.00 47.94           C
ATOM   8230  CD2 PHE C  49     -49.460  38.850 -98.279  1.00 49.84           C
ATOM   8231  C   PHE C  49     -49.593  34.970 -98.382  1.00 51.55           C
ATOM   8232  O   PHE C  49     -49.401  34.261 -97.377  1.00 51.51           O
ATOM   8233  N   ASP C  50     -48.616  35.317 -99.220  1.00 51.27           N
ATOM   8234  CA  ASP C  50     -47.261  34.758 -99.115  1.00 50.17           C
ATOM   8235  CB  ASP C  50     -46.541  34.879-100.465  1.00 50.24           C
ATOM   8236  CG  ASP C  50     -45.435  33.861-100.633  1.00 51.15           C
ATOM   8237  OD1 ASP C  50     -45.740  32.652-100.734  1.00 52.59           O
ATOM   8238  OD2 ASP C  50     -44.259  34.271-100.685  1.00 51.62           O
ATOM   8239  C   ASP C  50     -46.443  35.415 -97.995  1.00 48.23           C
ATOM   8240  O   ASP C  50     -45.980  36.549 -98.139  1.00 49.81           O
ATOM   8241  N   THR C  51     -46.255  34.693 -96.890  1.00 45.50           N
ATOM   8242  CA  THR C  51     -45.641  35.267 -95.675  1.00 44.95           C
ATOM   8243  CB  THR C  51     -45.946  34.419 -94.415  1.00 43.31           C
ATOM   8244  OG1 THR C  51     -45.321  33.135 -94.525  1.00 44.12           O
ATOM   8245  CG2 THR C  51     -47.444  34.248 -94.235  1.00 41.89           C
ATOM   8246  C   THR C  51     -44.126  35.566 -95.758  1.00 44.81           C
ATOM   8247  O   THR C  51     -43.565  36.219 -94.867  1.00 43.82           O
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ATOM   8248  N   SER C  52     -43.478  35.104 -96.828  1.00 45.02           N
ATOM   8249  CA  SER C  52     -42.055  35.379 -97.052  1.00 44.99           C
ATOM   8250  CB  SER C  52     -41.395  34.222 -97.800  1.00 43.01           C
ATOM   8251  OG  SER C  52     -41.596  34.354 -99.194  1.00 41.72           O
ATOM   8252  C   SER C  52     -41.824  36.698 -97.814  1.00 45.94           C
ATOM   8253  O   SER C  52     -40.684  37.178 -97.922  1.00 47.52           O
ATOM   8254  N   LEU C  53     -42.909  37.273 -98.333  1.00 43.31           N
ATOM   8255  CA  LEU C  53     -42.842  38.513 -99.098  1.00 41.76           C
ATOM   8256  CB  LEU C  53     -44.171  38.779 -99.829  1.00 42.36           C
ATOM   8257  C   LEU C  53     -42.387  39.749 -98.293  1.00 40.35           C
ATOM   8258  O   LEU C  53     -41.580  40.527 -98.795  1.00 41.07           O
ATOM   8259  N   PRO C  54     -42.900  39.942 -97.053  1.00 39.36           N
ATOM   8260  CA  PRO C  54     -42.531  41.171 -96.346  1.00 38.48           C
ATOM   8261  CB  PRO C  54     -43.415  41.147 -95.094  1.00 38.37           C
ATOM   8262  CG  PRO C  54     -44.535  40.228 -95.423  1.00 39.84           C
ATOM   8263  CD  PRO C  54     -43.922  39.184 -96.307  1.00 40.87           C
ATOM   8264  C   PRO C  54     -41.067  41.231 -95.943  1.00 39.10           C
ATOM   8265  O   PRO C  54     -40.507  42.315 -95.861  1.00 41.57           O
ATOM   8266  N   THR C  55     -40.445  40.080 -95.706  1.00 40.09           N
ATOM   8267  CA  THR C  55     -39.035  40.046 -95.271  1.00 39.55           C
ATOM   8268  CB  THR C  55     -38.713  38.777 -94.418  1.00 40.00           C
ATOM   8269  OG1 THR C  55     -37.426  38.916 -93.790  1.00 37.92           O
ATOM   8270  CG2 THR C  55     -38.760  37.494 -95.267  1.00 38.32           C
ATOM   8271  C   THR C  55     -38.025  40.225 -96.425  1.00 37.57           C
ATOM   8272  O   THR C  55     -36.846  40.526 -96.186  1.00 38.59           O
ATOM   8273  N   SER C  56     -38.497  40.044 -97.661  1.00 35.25           N
ATOM   8274  CA  SER C  56     -37.677  40.264 -98.861  1.00 33.65           C
ATOM   8275  CB  SER C  56     -38.051  39.269 -99.962  1.00 33.12           C
ATOM   8276  OG  SER C  56     -39.389  39.468-100.367  1.00 32.78           O
ATOM   8277  C   SER C  56     -37.742  41.709 -99.400  1.00 31.71           C
ATOM   8278  O   SER C  56     -37.073  42.033-100.376  1.00 32.12           O
ATOM   8279  N   HIS C  57     -38.558  42.554 -98.766  1.00 30.10           N
ATOM   8280  CA  HIS C  57     -38.565  44.009 -99.002  1.00 28.86           C
ATOM   8281  CB  HIS C  57     -37.305  44.653 -98.426  1.00 28.33           C
ATOM   8282  CG  HIS C  57     -37.177  44.504 -96.931  1.00 27.92           C
ATOM   8283  ND1 HIS C  57     -37.923  45.208 -96.072  1.00 27.40           N
ATOM   8284  CE1 HIS C  57     -37.600  44.866 -94.816  1.00 27.91           C
ATOM   8285  NE2 HIS C  57     -36.635  43.942 -94.871  1.00 28.17           N
ATOM   8286  CD2 HIS C  57     -36.347  43.697 -96.159  1.00 28.18           C
ATOM   8287  C   HIS C  57     -38.734  44.395-100.442  1.00 27.94           C
ATOM   8288  O   HIS C  57     -38.009  45.246-100.961  1.00 27.51           O
ATOM   8289  N   THR C  58     -39.713  43.780-101.090  1.00 27.09           N
ATOM   8290  CA  THR C  58     -39.888  43.908-102.525  1.00 27.76           C
ATOM   8291  CB  THR C  58     -41.006  42.972-103.032  1.00 28.09           C
ATOM   8292  OG1 THR C  58     -42.215  43.254-102.326  1.00 29.15           O
ATOM   8293  CG2 THR C  58     -40.641  41.504-102.808  1.00 27.65           C
ATOM   8294  C   THR C  58     -40.170  45.360-102.949  1.00 28.51           C
ATOM   8295  O   THR C  58     -39.881  45.748-104.094  1.00 28.40           O
ATOM   8296  N   TYR C  59     -40.711  46.150-102.015  1.00 27.85           N
ATOM   8297  CA  TYR C  59     -41.034  47.566-102.230  1.00 27.90           C
ATOM   8298  CB  TYR C  59     -41.785  48.103-101.019  1.00 27.30           C
ATOM   8299  CG  TYR C  59     -40.934  48.130 -99.765  1.00 27.52           C
ATOM   8300  CD1 TYR C  59     -40.152  49.245 -99.440  1.00 26.39           C
ATOM   8301  CE1 TYR C  59     -39.360  49.250 -98.302  1.00 27.25           C
ATOM   8302  CZ  TYR C  59     -39.347  48.130 -97.461  1.00 28.31           C
ATOM   8303  OH  TYR C  59     -38.584  48.096 -96.307  1.00 28.36           O
ATOM   8304  CE2 TYR C  59     -40.111  47.021 -97.770  1.00 28.27           C
ATOM   8305  CD2 TYR C  59     -40.894  47.025 -98.913  1.00 28.11           C
ATOM   8306  C   TYR C  59     -39.804  48.456-102.474  1.00 29.86           C
ATOM   8307  O   TYR C  59     -39.946  49.667-102.687  1.00 30.37           O
ATOM   8308  N   LEU C  60     -38.607  47.865-102.401  1.00 32.45           N
ATOM   8309  CA  LEU C  60     -37.341  48.583-102.594  1.00 34.04           C
ATOM   8310  CB  LEU C  60     -36.234  47.974-101.730  1.00 32.88           C
ATOM   8311  CG  LEU C  60     -36.009  48.441-100.289  1.00 32.37           C
ATOM   8312  CD1 LEU C  60     -35.394  47.319 -99.472  1.00 32.04           C
ATOM   8313  CD2 LEU C  60     -35.104  49.658-100.242  1.00 32.19           C
ATOM   8314  C   LEU C  60     -36.912  48.565-104.061  1.00 38.02           C
ATOM   8315  O   LEU C  60     -36.187  49.460-104.512  1.00 40.11           O
ATOM   8316  N   GLY C  61     -37.343  47.539-104.797  1.00 39.84           N
ATOM   8317  CA  GLY C  61     -37.122  47.483-106.238  1.00 42.08           C
ATOM   8318  C   GLY C  61     -36.459  46.218-106.742  1.00 46.03           C
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ATOM   8319  O   GLY C  61     -36.185  45.295-105.972  1.00 45.00           O
ATOM   8320  N   ALA C  62     -36.191  46.210-108.049  1.00 50.43           N
ATOM   8321  CA  ALA C  62     -35.628  45.071-108.792  1.00 53.17           C
ATOM   8322  CB  ALA C  62     -34.852  45.562-110.019  1.00 52.14           C
ATOM   8323  C   ALA C  62     -34.799  44.064-107.974  1.00 54.39           C
ATOM   8324  O   ALA C  62     -35.366  43.211-107.286  1.00 54.82           O
ATOM   8325  N   ASP C  63     -33.471  44.147-108.069  1.00 56.92           N
ATOM   8326  CA  ASP C  63     -32.586  43.127-107.477  1.00 59.41           C
ATOM   8327  CB  ASP C  63     -32.403  41.939-108.435  1.00 58.55           C
ATOM   8328  C   ASP C  63     -31.225  43.685-107.062  1.00 58.37           C
ATOM   8329  O   ASP C  63     -30.595  44.446-107.812  1.00 57.32           O
ATOM   8330  N   MET C  64     -30.774  43.278-105.875  1.00 55.30           N
ATOM   8331  CA  MET C  64     -29.567  43.832-105.259  1.00 54.32           C
ATOM   8332  CB  MET C  64     -29.862  44.262-103.814  1.00 52.60           C
ATOM   8333  CG  MET C  64     -31.114  45.125-103.671  1.00 52.32           C
ATOM   8334  SD  MET C  64     -31.292  45.970-102.081  1.00 50.83           S
ATOM   8335  CE  MET C  64     -32.872  46.771-102.320  1.00 49.66           C
ATOM   8336  C   MET C  64     -28.387  42.857-105.298  1.00 54.43           C
ATOM   8337  O   MET C  64     -28.561  41.665-105.046  1.00 55.10           O
ATOM   8338  N   GLU C  65     -27.196  43.368-105.627  1.00 54.41           N
ATOM   8339  CA  GLU C  65     -25.953  42.582-105.563  1.00 53.12           C
ATOM   8340  CB  GLU C  65     -24.752  43.427-106.004  1.00 50.75           C
ATOM   8341  C   GLU C  65     -25.742  42.069-104.139  1.00 54.15           C
ATOM   8342  O   GLU C  65     -25.888  42.825-103.180  1.00 55.22           O
ATOM   8343  N   GLU C  66     -25.416  40.785-103.999  1.00 55.16           N
ATOM   8344  CA  GLU C  66     -25.337  40.156-102.671  1.00 52.95           C
ATOM   8345  CB  GLU C  66     -26.154  38.862-102.627  1.00 52.21           C
ATOM   8346  CG  GLU C  66     -27.509  38.967-103.304  1.00 53.69           C
ATOM   8347  CD  GLU C  66     -28.582  38.167-102.601  1.00 55.90           C
ATOM   8348  OE1 GLU C  66     -28.870  37.037-103.053  1.00 55.95           O
ATOM   8349  OE2 GLU C  66     -29.136  38.669-101.594  1.00 57.68           O
ATOM   8350  C   GLU C  66     -23.901  39.890-102.238  1.00 52.01           C
ATOM   8351  O   GLU C  66     -23.049  39.573-103.063  1.00 52.32           O
ATOM   8352  N   PHE C  67     -23.643  40.023-100.939  1.00 52.66           N
ATOM   8353  CA  PHE C  67     -22.306  39.822-100.396  1.00 54.50           C
ATOM   8354  CB  PHE C  67     -21.724  41.143 -99.888  1.00 54.48           C
ATOM   8355  CG  PHE C  67     -21.525  42.170-100.967  1.00 56.05           C
ATOM   8356  CD1 PHE C  67     -20.561  41.984-101.958  1.00 56.74           C
ATOM   8357  CE1 PHE C  67     -20.381  42.926-102.959  1.00 56.98           C
ATOM   8358  CZ  PHE C  67     -21.163  44.072-102.977  1.00 56.67           C
ATOM   8359  CE2 PHE C  67     -22.123  44.272-101.996  1.00 55.95           C
ATOM   8360  CD2 PHE C  67     -22.302  43.325-100.998  1.00 55.94           C
ATOM   8361  C   PHE C  67     -22.304  38.784 -99.287  1.00 57.38           C
ATOM   8362  O   PHE C  67     -23.044  38.919 -98.305  1.00 58.95           O
ATOM   8363  N   HIS C  68     -21.476  37.748 -99.458  1.00 58.27           N
ATOM   8364  CA  HIS C  68     -21.325  36.679 -98.464  1.00 57.39           C
ATOM   8365  CB  HIS C  68     -20.694  35.444 -99.099  1.00 56.41           C
ATOM   8366  C   HIS C  68     -20.527  37.160 -97.273  1.00 56.98           C
ATOM   8367  O   HIS C  68     -19.295  37.248 -97.316  1.00 54.86           O
ATOM   8368  N   GLY C  69     -21.238  37.479 -96.196  1.00 57.27           N
ATOM   8369  CA  GLY C  69     -20.667  38.232 -95.079  1.00 55.51           C
ATOM   8370  C   GLY C  69     -19.787  37.461 -94.114  1.00 54.69           C
ATOM   8371  O   GLY C  69     -20.258  36.570 -93.392  1.00 53.58           O
ATOM   8372  N   ARG C  70     -18.506  37.820 -94.089  1.00 52.20           N
ATOM   8373  CA  ARG C  70     -17.578  37.261 -93.117  1.00 50.97           C
ATOM   8374  CB  ARG C  70     -16.280  36.786 -93.790  1.00 54.50           C
ATOM   8375  CG  ARG C  70     -16.473  35.979 -95.071  1.00 56.51           C
ATOM   8376  CD  ARG C  70     -15.149  35.471 -95.626  1.00 59.46           C
ATOM   8377  NE  ARG C  70     -14.806  34.154 -95.086  1.00 64.81           N
ATOM   8378  CZ  ARG C  70     -14.048  33.940 -94.005  1.00 66.91           C
ATOM   8379  NH1 ARG C  70     -13.524  34.961 -93.329  1.00 68.47           N
ATOM   8380  NH2 ARG C  70     -13.810  32.696 -93.596  1.00 64.63           N
ATOM   8381  C   ARG C  70     -17.302  38.303 -92.032  1.00 48.28           C
ATOM   8382  O   ARG C  70     -18.105  38.465 -91.124  1.00 48.50           O
ATOM   8383  N   THR C  71     -16.189  39.026 -92.165  1.00 48.43           N
ATOM   8384  CA  THR C  71     -15.677  39.987 -91.149  1.00 49.20           C
ATOM   8385  CB  THR C  71     -15.370  41.396 -91.758  1.00 47.69           C
ATOM   8386  OG1 THR C  71     -15.215  42.369 -90.709  1.00 43.60           O
ATOM   8387  CG2 THR C  71     -16.475  41.846 -92.732  1.00 47.02           C
ATOM   8388  C   THR C  71     -16.429  40.115 -89.795  1.00 49.59           C
ATOM   8389  O   THR C  71     -17.460  40.797 -89.695  1.00 50.33           O
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ATOM   8390  N   LEU C  72     -15.891  39.432 -88.776  1.00 47.99           N
ATOM   8391  CA  LEU C  72     -16.270  39.628 -87.370  1.00 47.25           C
ATOM   8392  CB  LEU C  72     -16.737  38.313 -86.729  1.00 46.30           C
ATOM   8393  CG  LEU C  72     -18.165  37.785 -86.960  1.00 45.56           C
ATOM   8394  CD1 LEU C  72     -18.357  36.441 -86.263  1.00 42.17           C
ATOM   8395  CD2 LEU C  72     -19.235  38.784 -86.525  1.00 44.00           C
ATOM   8396  C   LEU C  72     -15.075  40.178 -86.593  1.00 47.20           C
ATOM   8397  O   LEU C  72     -13.928  39.924 -86.959  1.00 49.59           O
ATOM   8398  N   HIS C  73     -15.343  40.922 -85.523  1.00 46.24           N
ATOM   8399  CA  HIS C  73     -14.284  41.543 -84.720  1.00 46.89           C
ATOM   8400  CB  HIS C  73     -14.554  43.039 -84.548  1.00 47.59           C
ATOM   8401  CG  HIS C  73     -14.571  43.814 -85.849  1.00 48.07           C
ATOM   8402  ND1 HIS C  73     -13.624  44.716 -86.168  1.00 48.75           N
ATOM   8403  CE1 HIS C  73     -13.890  45.240 -87.382  1.00 48.07           C
ATOM   8404  NE2 HIS C  73     -15.012  44.669 -87.845  1.00 48.06           N
ATOM   8405  CD2 HIS C  73     -15.461  43.784 -86.924  1.00 48.45           C
ATOM   8406  C   HIS C  73     -14.185  40.867 -83.382  1.00 45.92           C
ATOM   8407  O   HIS C  73     -15.183  40.748 -82.681  1.00 44.78           O
ATOM   8408  N   ASP C  74     -12.984  40.415 -83.012  1.00 47.57           N
ATOM   8409  CA  ASP C  74     -12.818  39.600 -81.792  1.00 48.34           C
ATOM   8410  CB  ASP C  74     -11.510  38.766 -81.781  1.00 48.15           C
ATOM   8411  CG  ASP C  74     -10.245  39.605 -82.009  1.00 49.95           C
ATOM   8412  OD1 ASP C  74     -10.344  40.737 -82.534  1.00 52.10           O
ATOM   8413  OD2 ASP C  74      -9.139  39.111 -81.680  1.00 47.80           O
ATOM   8414  C   ASP C  74     -13.033  40.362 -80.488  1.00 48.96           C
ATOM   8415  O   ASP C  74     -12.909  41.589 -80.441  1.00 47.43           O
ATOM   8416  N   ASP C  75     -13.359  39.611 -79.438  1.00 51.08           N
ATOM   8417  CA  ASP C  75     -13.953  40.156 -78.215  1.00 52.40           C
ATOM   8418  CB  ASP C  75     -14.342  39.019 -77.264  1.00 52.50           C
ATOM   8419  CG  ASP C  75     -15.570  38.257 -77.732  1.00 52.35           C
ATOM   8420  OD1 ASP C  75     -16.543  38.893 -78.204  1.00 51.16           O
ATOM   8421  OD2 ASP C  75     -15.568  37.015 -77.605  1.00 54.33           O
ATOM   8422  C   ASP C  75     -13.130  41.204 -77.470  1.00 52.85           C
ATOM   8423  O   ASP C  75     -11.901  41.164 -77.472  1.00 52.46           O
ATOM   8424  N   ASP C  76     -13.850  42.136 -76.839  1.00 54.53           N
ATOM   8425  CA  ASP C  76     -13.295  43.221 -76.004  1.00 53.76           C
ATOM   8426  CB  ASP C  76     -12.544  42.675 -74.780  1.00 55.56           C
ATOM   8427  CG  ASP C  76     -13.463  41.955 -73.804  1.00 58.08           C
ATOM   8428  OD2 ASP C  76     -13.803  42.545 -72.755  1.00 58.30           O
ATOM   8429  OD1 ASP C  76     -13.853  40.801 -74.088  1.00 59.22           O
ATOM   8430  C   ASP C  76     -12.456  44.251 -76.754  1.00 51.64           C
ATOM   8431  O   ASP C  76     -12.004  45.226 -76.156  1.00 51.64           O
ATOM   8432  N   SER C  77     -12.301  44.061 -78.064  1.00 50.44           N
ATOM   8433  CA  SER C  77     -11.459  44.929 -78.894  1.00 50.16           C
ATOM   8434  CB  SER C  77     -11.391  44.389 -80.318  1.00 50.52           C
ATOM   8435  OG  SER C  77     -10.620  45.252 -81.134  1.00 54.29           O
ATOM   8436  C   SER C  77     -11.918  46.388 -78.928  1.00 49.81           C
ATOM   8437  O   SER C  77     -13.042  46.699 -78.532  1.00 51.81           O
ATOM   8438  N   CYS C  78     -11.038  47.273 -79.399  1.00 47.65           N
ATOM   8439  CA  CYS C  78     -11.400  48.670 -79.655  1.00 46.02           C
ATOM   8440  CB  CYS C  78     -10.479  49.639 -78.920  1.00 49.52           C
ATOM   8441  SG  CYS C  78     -10.865  49.775 -77.158  1.00 59.25           S
ATOM   8442  C   CYS C  78     -11.398  48.957 -81.138  1.00 42.86           C
ATOM   8443  O   CYS C  78     -10.356  48.906 -81.793  1.00 41.91           O
ATOM   8444  N   GLN C  79     -12.587  49.244 -81.658  1.00 40.17           N
ATOM   8445  CA  GLN C  79     -12.786  49.484 -83.076  1.00 37.66           C
ATOM   8446  CB  GLN C  79     -13.766  48.470 -83.663  1.00 36.38           C
ATOM   8447  CG  GLN C  79     -13.253  47.038 -83.667  1.00 36.49           C
ATOM   8448  CD  GLN C  79     -11.980  46.869 -84.470  1.00 35.97           C
ATOM   8449  OE1 GLN C  79     -11.936  47.169 -85.669  1.00 35.60           O
ATOM   8450  NE2 GLN C  79     -10.937  46.382 -83.815  1.00 35.58           N
ATOM   8451  C   GLN C  79     -13.303  50.885 -83.319  1.00 36.80           C
ATOM   8452  O   GLN C  79     -14.006  51.454 -82.484  1.00 37.73           O
ATOM   8453  N   VAL C  80     -12.929  51.440 -84.464  1.00 35.52           N
ATOM   8454  CA  VAL C  80     -13.492  52.690 -84.941  1.00 33.70           C
ATOM   8455  CB  VAL C  80     -12.381  53.711 -85.285  1.00 32.73           C
ATOM   8456  CG1 VAL C  80     -12.919  54.846 -86.150  1.00 32.80           C
ATOM   8457  CG2 VAL C  80     -11.750  54.256 -84.009  1.00 31.43           C
ATOM   8458  C   VAL C  80     -14.380  52.365 -86.144  1.00 32.83           C
ATOM   8459  O   VAL C  80     -13.911  51.825 -87.150  1.00 32.58           O
ATOM   8460  N   ILE C  81     -15.672  52.656 -86.012  1.00 32.51           N
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ATOM   8461  CA  ILE C  81     -16.655  52.357 -87.068  1.00 32.66           C
ATOM   8462  CB  ILE C  81     -17.672  51.274 -86.625  1.00 31.62           C
ATOM   8463  CG1 ILE C  81     -16.989  50.179 -85.814  1.00 31.54           C
ATOM   8464  CD1 ILE C  81     -17.950  49.306 -85.047  1.00 31.94           C
ATOM   8465  CG2 ILE C  81     -18.355  50.659 -87.832  1.00 31.39           C
ATOM   8466  C   ILE C  81     -17.433  53.617 -87.474  1.00 32.78           C
ATOM   8467  O   ILE C  81     -17.749  54.453 -86.622  1.00 33.15           O
ATOM   8468  N   PRO C  82     -17.737  53.763 -88.779  1.00 32.81           N
ATOM   8469  CA  PRO C  82     -18.646  54.835 -89.209  1.00 32.86           C
ATOM   8470  CB  PRO C  82     -18.718  54.645 -90.733  1.00 32.78           C
ATOM   8471  CG  PRO C  82     -18.244  53.239 -90.975  1.00 32.91           C
ATOM   8472  CD  PRO C  82     -17.193  53.019 -89.930  1.00 32.48           C
ATOM   8473  C   PRO C  82     -20.043  54.687 -88.602  1.00 31.92           C
ATOM   8474  O   PRO C  82     -20.536  53.571 -88.459  1.00 31.91           O
ATOM   8475  N   VAL C  83     -20.652  55.810 -88.238  1.00 31.55           N
ATOM   8476  CA  VAL C  83     -22.044  55.850 -87.820  1.00 32.34           C
ATOM   8477  CB  VAL C  83     -22.197  56.544 -86.457  1.00 32.37           C
ATOM   8478  CG1 VAL C  83     -23.666  56.755 -86.111  1.00 31.90           C
ATOM   8479  CG2 VAL C  83     -21.491  55.748 -85.370  1.00 32.81           C
ATOM   8480  C   VAL C  83     -22.820  56.639 -88.853  1.00 34.24           C
ATOM   8481  O   VAL C  83     -22.450  57.773 -89.180  1.00 35.46           O
ATOM   8482  N   LEU C  84     -23.893  56.054 -89.374  1.00 36.25           N
ATOM   8483  CA  LEU C  84     -24.703  56.748 -90.375  1.00 39.49           C
ATOM   8484  CB  LEU C  84     -25.508  55.755 -91.216  1.00 40.36           C
ATOM   8485  CG  LEU C  84     -24.822  54.828 -92.223  1.00 39.79           C
ATOM   8486  CD1 LEU C  84     -25.824  54.523 -93.321  1.00 39.35           C
ATOM   8487  CD2 LEU C  84     -23.540  55.403 -92.817  1.00 39.54           C
ATOM   8488  C   LEU C  84     -25.640  57.789 -89.753  1.00 41.47           C
ATOM   8489  O   LEU C  84     -26.301  57.501 -88.752  1.00 41.38           O
ATOM   8490  N   PRO C  85     -25.703  59.001 -90.353  1.00 44.30           N
ATOM   8491  CA  PRO C  85     -26.596  60.098 -89.923  1.00 46.25           C
ATOM   8492  CB  PRO C  85     -26.252  61.241 -90.894  1.00 45.46           C
ATOM   8493  CG  PRO C  85     -24.933  60.887 -91.476  1.00 45.49           C
ATOM   8494  CD  PRO C  85     -24.898  59.389 -91.524  1.00 45.11           C
ATOM   8495  C   PRO C  85     -28.087  59.762 -90.062  1.00 48.12           C
ATOM   8496  O   PRO C  85     -28.484  59.078 -91.012  1.00 49.21           O
ATOM   8497  N   GLN C  86     -28.896  60.250 -89.119  1.00 48.69           N
ATOM   8498  CA  GLN C  86     -30.367  60.123 -89.172  1.00 49.36           C
ATOM   8499  CB  GLN C  86     -30.948  60.841 -90.399  1.00 51.10           C
ATOM   8500  CG  GLN C  86     -30.607  62.316 -90.486  1.00 53.96           C
ATOM   8501  CD  GLN C  86     -30.135  62.709 -91.871  1.00 57.88           C
ATOM   8502  OE1 GLN C  86     -29.172  63.467 -92.015  1.00 60.52           O
ATOM   8503  NE2 GLN C  86     -30.800  62.183 -92.904  1.00 56.82           N
ATOM   8504  C   GLN C  86     -30.878  58.682 -89.116  1.00 47.33           C
ATOM   8505  O   GLN C  86     -32.064  58.426 -89.326  1.00 46.93           O
ATOM   8506  N   VAL C  87     -29.985  57.741 -88.847  1.00 46.99           N
ATOM   8507  CA  VAL C  87     -30.416  56.400 -88.509  1.00 48.31           C
ATOM   8508  CB  VAL C  87     -29.360  55.326 -88.857  1.00 48.85           C
ATOM   8509  CG1 VAL C  87     -29.812  53.952 -88.378  1.00 49.43           C
ATOM   8510  CG2 VAL C  87     -29.106  55.293 -90.355  1.00 49.29           C
ATOM   8511  C   VAL C  87     -30.749  56.388 -87.021  1.00 48.65           C
ATOM   8512  O   VAL C  87     -29.887  56.634 -86.172  1.00 48.40           O
ATOM   8513  N   MET C  88     -32.022  56.155 -86.726  1.00 49.63           N
ATOM   8514  CA  MET C  88     -32.494  55.989 -85.362  1.00 50.44           C
ATOM   8515  CB  MET C  88     -33.556  57.042 -85.008  1.00 52.67           C
ATOM   8516  CG  MET C  88     -33.175  58.483 -85.321  1.00 57.19           C
ATOM   8517  SD  MET C  88     -31.978  59.218 -84.179  1.00 62.30           S
ATOM   8518  CE  MET C  88     -31.746  60.841 -84.924  1.00 60.71           C
ATOM   8519  C   MET C  88     -33.095  54.594 -85.245  1.00 49.60           C
ATOM   8520  O   MET C  88     -33.981  54.227 -86.027  1.00 50.22           O
ATOM   8521  N   MET C  89     -32.579  53.813 -84.298  1.00 46.72           N
ATOM   8522  CA  MET C  89     -33.185  52.541 -83.893  1.00 46.94           C
ATOM   8523  CB  MET C  89     -33.848  51.801 -85.066  1.00 48.19           C
ATOM   8524  CG  MET C  89     -32.898  51.017 -85.952  1.00 48.58           C
ATOM   8525  SD  MET C  89     -33.741  49.657 -86.774  1.00 50.63           S
ATOM   8526  CE  MET C  89     -34.024  48.535 -85.413  1.00 49.84           C
ATOM   8527  C   MET C  89     -32.186  51.631 -83.200  1.00 45.40           C
ATOM   8528  O   MET C  89     -31.007  51.614 -83.541  1.00 46.11           O
ATOM   8529  N   ILE C  90     -32.673  50.875 -82.225  1.00 43.10           N
ATOM   8530  CA  ILE C  90     -31.851  49.904 -81.529  1.00 41.54           C
ATOM   8531  CB  ILE C  90     -32.348  49.668 -80.082  1.00 41.55           C
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ATOM   8532  CG1 ILE C  90     -32.304  50.973 -79.279  1.00 42.36           C
ATOM   8533  CD1 ILE C  90     -33.529  51.854 -79.442  1.00 43.41           C
ATOM   8534  CG2 ILE C  90     -31.512  48.609 -79.382  1.00 40.51           C
ATOM   8535  C   ILE C  90     -31.870  48.620 -82.348  1.00 39.60           C
ATOM   8536  O   ILE C  90     -32.909  47.986 -82.501  1.00 41.67           O
ATOM   8537  N   LEU C  91     -30.717  48.260 -82.892  1.00 36.47           N
ATOM   8538  CA  LEU C  91     -30.624  47.153 -83.831  1.00 35.24           C
ATOM   8539  CB  LEU C  91     -29.780  47.591 -85.035  1.00 34.60           C
ATOM   8540  CG  LEU C  91     -29.450  46.756 -86.271  1.00 33.80           C
ATOM   8541  CD1 LEU C  91     -28.042  46.204 -86.154  1.00 33.17           C
ATOM   8542  CD2 LEU C  91     -30.475  45.671 -86.564  1.00 33.43           C
ATOM   8543  C   LEU C  91     -30.052  45.914 -83.132  1.00 36.11           C
ATOM   8544  O   LEU C  91     -29.052  45.992 -82.413  1.00 39.89           O
ATOM   8545  N   ILE C  92     -30.707  44.777 -83.326  1.00 33.21           N
ATOM   8546  CA  ILE C  92     -30.378  43.560 -82.603  1.00 30.24           C
ATOM   8547  CB  ILE C  92     -31.671  42.904 -82.060  1.00 30.06           C
ATOM   8548  CG1 ILE C  92     -32.304  43.832 -81.022  1.00 30.22           C
ATOM   8549  CD1 ILE C  92     -33.796  43.669 -80.865  1.00 30.47           C
ATOM   8550  CG2 ILE C  92     -31.410  41.535 -81.432  1.00 30.01           C
ATOM   8551  C   ILE C  92     -29.594  42.627 -83.521  1.00 29.15           C
ATOM   8552  O   ILE C  92     -29.911  42.516 -84.700  1.00 27.90           O
ATOM   8553  N   PRO C  93     -28.538  41.979 -82.992  1.00 29.20           N
ATOM   8554  CA  PRO C  93     -27.841  40.941 -83.753  1.00 29.00           C
ATOM   8555  CB  PRO C  93     -27.068  40.183 -82.674  1.00 28.97           C
ATOM   8556  CG  PRO C  93     -26.763  41.222 -81.656  1.00 29.19           C
ATOM   8557  CD  PRO C  93     -27.891  42.225 -81.689  1.00 29.52           C
ATOM   8558  C   PRO C  93     -28.812  40.001 -84.465  1.00 28.65           C
ATOM   8559  O   PRO C  93     -29.724  39.454 -83.834  1.00 28.36           O
ATOM   8560  N   GLY C  94     -28.630  39.852 -85.775  1.00 28.42           N
ATOM   8561  CA  GLY C  94     -29.461  38.958 -86.583  1.00 28.00           C
ATOM   8562  C   GLY C  94     -30.690  39.613 -87.184  1.00 27.59           C
ATOM   8563  O   GLY C  94     -31.316  39.053 -88.072  1.00 27.01           O
ATOM   8564  N   GLN C  95     -31.046  40.793 -86.681  1.00 28.15           N
ATOM   8565  CA  GLN C  95     -32.199  41.537 -87.176  1.00 28.34           C
ATOM   8566  CB  GLN C  95     -32.576  42.658 -86.206  1.00 28.24           C
ATOM   8567  CG  GLN C  95     -33.965  43.251 -86.403  1.00 28.38           C
ATOM   8568  CD  GLN C  95     -34.318  44.351 -85.396  1.00 28.34           C
ATOM   8569  OE1 GLN C  95     -35.468  44.790 -85.332  1.00 29.15           O
ATOM   8570  NE2 GLN C  95     -33.340  44.797 -84.614  1.00 27.40           N
ATOM   8571  C   GLN C  95     -31.826  42.119 -88.515  1.00 29.86           C
ATOM   8572  O   GLN C  95     -30.661  42.414 -88.781  1.00 31.52           O
ATOM   8573  N   THR C  96     -32.807  42.277 -89.377  1.00 30.47           N
ATOM   8574  CA  THR C  96     -32.517  42.777 -90.689  1.00 30.40           C
ATOM   8575  CB  THR C  96     -33.226  41.908 -91.742  1.00 30.74           C
ATOM   8576  OG1 THR C  96     -32.317  41.622 -92.810  1.00 32.25           O
ATOM   8577  CG2 THR C  96     -34.523  42.558 -92.265  1.00 32.34           C
ATOM   8578  C   THR C  96     -32.851  44.282 -90.742  1.00 30.48           C
ATOM   8579  O   THR C  96     -33.789  44.731 -90.073  1.00 32.69           O
ATOM   8580  N   LEU C  97     -32.063  45.059 -91.485  1.00 28.56           N
ATOM   8581  CA  LEU C  97     -32.244  46.508 -91.535  1.00 27.45           C
ATOM   8582  CB  LEU C  97     -31.191  47.202 -90.671  1.00 27.25           C
ATOM   8583  CG  LEU C  97     -31.188  48.738 -90.646  1.00 27.16           C
ATOM   8584  CD1 LEU C  97     -32.492  49.277 -90.087  1.00 27.40           C
ATOM   8585  CD2 LEU C  97     -30.008  49.289 -89.860  1.00 26.55           C
ATOM   8586  C   LEU C  97     -32.181  47.052 -92.959  1.00 27.79           C
ATOM   8587  O   LEU C  97     -31.124  47.016 -93.583  1.00 28.86           O
ATOM   8588  N   PRO C  98     -33.310  47.571 -93.482  1.00 27.51           N
ATOM   8589  CA  PRO C  98     -33.285  48.137 -94.827  1.00 26.97           C
ATOM   8590  CB  PRO C  98     -34.661  47.770 -95.370  1.00 26.42           C
ATOM   8591  CG  PRO C  98     -35.545  47.702 -94.154  1.00 26.82           C
ATOM   8592  CD  PRO C  98     -34.675  47.572 -92.925  1.00 27.20           C
ATOM   8593  C   PRO C  98     -33.105  49.656 -94.781  1.00 27.08           C
ATOM   8594  O   PRO C  98     -33.591  50.304 -93.856  1.00 27.67           O
ATOM   8595  N   LEU C  99     -32.398  50.212 -95.759  1.00 26.93           N
ATOM   8596  CA  LEU C  99     -32.100  51.645 -95.768  1.00 26.96           C
ATOM   8597  CB  LEU C  99     -30.690  51.922 -95.219  1.00 26.12           C
ATOM   8598  CG  LEU C  99     -30.315  51.598 -93.765  1.00 25.67           C
ATOM   8599  CD1 LEU C  99     -28.900  52.075 -93.471  1.00 24.67           C
ATOM   8600  CD2 LEU C  99     -31.292  52.206 -92.764  1.00 25.87           C
ATOM   8601  C   LEU C  99     -32.247  52.264 -97.159  1.00 27.43           C
ATOM   8602  O   LEU C  99     -32.173  51.567 -98.170  1.00 27.81           O
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ATOM   8603  N   GLN C 100     -32.466  53.577 -97.192  1.00 27.30           N
ATOM   8604  CA  GLN C 100     -32.544  54.338 -98.434  1.00 26.51           C
ATOM   8605  CB  GLN C 100     -33.993  54.558 -98.856  1.00 26.96           C
ATOM   8606  CG  GLN C 100     -34.689  53.306 -99.343  1.00 28.55           C
ATOM   8607  CD  GLN C 100     -35.862  53.607-100.243  1.00 29.42           C
ATOM   8608  OE1 GLN C 100     -35.713  54.251-101.280  1.00 30.57           O
ATOM   8609  NE2 GLN C 100     -37.040  53.129 -99.859  1.00 30.28           N
ATOM   8610  C   GLN C 100     -31.870  55.671 -98.224  1.00 26.03           C
ATOM   8611  O   GLN C 100     -32.316  56.484 -97.410  1.00 25.18           O
ATOM   8612  N   LEU C 101     -30.798  55.901 -98.968  1.00 26.45           N
ATOM   8613  CA  LEU C 101     -29.941  57.057 -98.722  1.00 27.97           C
ATOM   8614  CB  LEU C 101     -28.505  56.593 -98.436  1.00 27.99           C
ATOM   8615  CG  LEU C 101     -28.368  55.382 -97.500  1.00 27.16           C
ATOM   8616  CD1 LEU C 101     -27.138  54.572 -97.859  1.00 27.13           C
ATOM   8617  CD2 LEU C 101     -28.370  55.755 -96.024  1.00 26.08           C
ATOM   8618  C   LEU C 101     -29.974  58.062 -99.871  1.00 28.06           C
ATOM   8619  O   LEU C 101     -29.915  57.679-101.038  1.00 27.13           O
ATOM   8620  N   PHE C 102     -30.072  59.346 -99.537  1.00 29.69           N
ATOM   8621  CA  PHE C 102     -30.167  60.378-100.575  1.00 33.44           C
ATOM   8622  CB  PHE C 102     -31.535  61.077-100.557  1.00 32.33           C
ATOM   8623  CG  PHE C 102     -32.701  60.125-100.490  1.00 32.63           C
ATOM   8624  CD1 PHE C 102     -33.177  59.500-101.644  1.00 32.65           C
ATOM   8625  CE1 PHE C 102     -34.244  58.612-101.588  1.00 31.50           C
ATOM   8626  CZ  PHE C 102     -34.847  58.344-100.373  1.00 31.64           C
ATOM   8627  CE2 PHE C 102     -34.381  58.954 -99.213  1.00 31.37           C
ATOM   8628  CD2 PHE C 102     -33.316  59.837 -99.272  1.00 31.86           C
ATOM   8629  C   PHE C 102     -29.032  61.391-100.511  1.00 35.80           C
ATOM   8630  O   PHE C 102     -28.613  61.919-101.542  1.00 35.10           O
ATOM   8631  N   HIS C 103     -28.536  61.658 -99.307  1.00 38.94           N
ATOM   8632  CA  HIS C 103     -27.487  62.655 -99.137  1.00 43.09           C
ATOM   8633  CB  HIS C 103     -27.397  63.118 -97.689  1.00 48.26           C
ATOM   8634  CG  HIS C 103     -28.585  63.936 -97.251  1.00 53.46           C
ATOM   8635  ND1 HIS C 103     -29.495  63.479 -96.365  1.00 55.09           N
ATOM   8636  CE1 HIS C 103     -30.450  64.413 -96.185  1.00 55.96           C
ATOM   8637  NE2 HIS C 103     -30.157  65.467 -96.969  1.00 57.55           N
ATOM   8638  CD2 HIS C 103     -29.016  65.205 -97.643  1.00 54.72           C
ATOM   8639  C   HIS C 103     -26.175  62.137 -99.618  1.00 41.95           C
ATOM   8640  O   HIS C 103     -25.804  61.014 -99.293  1.00 42.13           O
ATOM   8641  N   PRO C 104     -25.463  62.937-100.434  1.00 41.99           N
ATOM   8642  CA  PRO C 104     -24.143  62.520-100.919  1.00 41.37           C
ATOM   8643  CB  PRO C 104     -23.622  63.759-101.665  1.00 40.76           C
ATOM   8644  CG  PRO C 104     -24.603  64.860-101.382  1.00 41.34           C
ATOM   8645  CD  PRO C 104     -25.898  64.206-101.041  1.00 40.84           C
ATOM   8646  C   PRO C 104     -23.221  62.140 -99.759  1.00 41.48           C
ATOM   8647  O   PRO C 104     -22.396  61.236 -99.897  1.00 39.63           O
ATOM   8648  N   GLN C 105     -23.390  62.830 -98.628  1.00 43.46           N
ATOM   8649  CA  GLN C 105     -22.747  62.483 -97.358  1.00 44.79           C
ATOM   8650  CB  GLN C 105     -23.425  63.240 -96.206  1.00 46.42           C
ATOM   8651  CG  GLN C 105     -23.398  64.754 -96.325  1.00 48.08           C
ATOM   8652  CD  GLN C 105     -22.015  65.325 -96.087  1.00 49.62           C
ATOM   8653  OE1 GLN C 105     -21.210  64.751 -95.340  1.00 50.45           O
ATOM   8654  NE2 GLN C 105     -21.725  66.460 -96.724  1.00 48.01           N
ATOM   8655  C   GLN C 105     -22.837  60.972 -97.097  1.00 45.62           C
ATOM   8656  O   GLN C 105     -21.815  60.274 -97.063  1.00 46.32           O
ATOM   8657  N   GLU C 106     -24.073  60.491 -96.921  1.00 44.15           N
ATOM   8658  CA  GLU C 106     -24.382  59.074 -96.731  1.00 41.32           C
ATOM   8659  CB  GLU C 106     -25.896  58.875 -96.596  1.00 40.29           C
ATOM   8660  CG  GLU C 106     -26.559  59.649 -95.465  1.00 39.99           C
ATOM   8661  CD  GLU C 106     -28.049  59.849 -95.688  1.00 40.26           C
ATOM   8662  OE1 GLU C 106     -28.532  59.557 -96.803  1.00 41.69           O
ATOM   8663  OE2 GLU C 106     -28.743  60.310 -94.754  1.00 39.61           O
ATOM   8664  C   GLU C 106     -23.870  58.235 -97.902  1.00 41.34           C
ATOM   8665  O   GLU C 106     -23.121  57.276 -97.704  1.00 42.99           O
ATOM   8666  N   VAL C 107     -24.269  58.622 -99.115  1.00 39.66           N
ATOM   8667  CA  VAL C 107     -23.972  57.877-100.347  1.00 38.41           C
ATOM   8668  CB  VAL C 107     -24.639  58.548-101.585  1.00 37.86           C
ATOM   8669  CG1 VAL C 107     -24.131  57.961-102.890  1.00 37.14           C
ATOM   8670  CG2 VAL C 107     -26.154  58.412-101.514  1.00 37.14           C
ATOM   8671  C   VAL C 107     -22.466  57.643-100.557  1.00 38.26           C
ATOM   8672  O   VAL C 107     -22.068  56.676-101.207  1.00 38.57           O
ATOM   8673  N   SER C 108     -21.635  58.519 -99.994  1.00 37.54           N
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ATOM   8674  CA  SER C 108     -20.190  58.290 -99.968  1.00 37.77           C
ATOM   8675  CB  SER C 108     -19.438  59.580 -99.638  1.00 39.12           C
ATOM   8676  OG  SER C 108     -19.795  60.612-100.533  1.00 40.65           O
ATOM   8677  C   SER C 108     -19.807  57.198 -98.965  1.00 37.43           C
ATOM   8678  O   SER C 108     -19.113  56.237 -99.325  1.00 37.40           O
ATOM   8679  N   MET C 109     -20.272  57.345 -97.719  1.00 35.59           N
ATOM   8680  CA  MET C 109     -19.930  56.425 -96.628  1.00 34.79           C
ATOM   8681  CB  MET C 109     -20.690  56.790 -95.348  1.00 34.81           C
ATOM   8682  C   MET C 109     -20.170  54.957 -96.978  1.00 34.43           C
ATOM   8683  O   MET C 109     -19.394  54.090 -96.589  1.00 35.20           O
ATOM   8684  N   VAL C 110     -21.239  54.691 -97.722  1.00 33.61           N
ATOM   8685  CA  VAL C 110     -21.621  53.325 -98.086  1.00 32.92           C
ATOM   8686  CB  VAL C 110     -23.141  53.231 -98.367  1.00 31.39           C
ATOM   8687  CG1 VAL C 110     -23.561  51.794 -98.634  1.00 30.90           C
ATOM   8688  CG2 VAL C 110     -23.924  53.796 -97.198  1.00 30.43           C
ATOM   8689  C   VAL C 110     -20.812  52.831 -99.292  1.00 33.25           C
ATOM   8690  O   VAL C 110     -20.216  51.749 -99.259  1.00 31.84           O
ATOM   8691  N   ARG C 111     -20.799  53.641-100.350  1.00 34.78           N
ATOM   8692  CA  ARG C 111     -20.051  53.351-101.566  1.00 36.02           C
ATOM   8693  CB  ARG C 111     -19.971  54.606-102.434  1.00 36.55           C
ATOM   8694  CG  ARG C 111     -19.657  54.362-103.901  1.00 36.77           C
ATOM   8695  CD  ARG C 111     -19.758  55.660-104.685  1.00 36.42           C
ATOM   8696  NE  ARG C 111     -21.122  55.943-105.128  1.00 36.80           N
ATOM   8697  CZ  ARG C 111     -21.556  57.144-105.512  1.00 37.60           C
ATOM   8698  NH1 ARG C 111     -20.743  58.194-105.487  1.00 37.77           N
ATOM   8699  NH2 ARG C 111     -22.811  57.303-105.915  1.00 36.75           N
ATOM   8700  C   ARG C 111     -18.655  52.853-101.215  1.00 37.05           C
ATOM   8701  O   ARG C 111     -18.160  51.903-101.826  1.00 37.08           O
ATOM   8702  N   ASN C 112     -18.049  53.481-100.206  1.00 38.08           N
ATOM   8703  CA  ASN C 112     -16.736  53.076 -99.699  1.00 40.02           C
ATOM   8704  CB  ASN C 112     -15.988  54.270 -99.096  1.00 41.72           C
ATOM   8705  CG  ASN C 112     -15.295  55.120-100.152  1.00 42.80           C
ATOM   8706  OD1 ASN C 112     -15.923  55.580-101.115  1.00 42.33           O
ATOM   8707  ND2 ASN C 112     -13.991  55.339 -99.971  1.00 42.91           N
ATOM   8708  C   ASN C 112     -16.755  51.907 -98.711  1.00 39.75           C
ATOM   8709  O   ASN C 112     -15.795  51.144 -98.638  1.00 40.53           O
ATOM   8710  N   LEU C 113     -17.836  51.767 -97.950  1.00 39.68           N
ATOM   8711  CA  LEU C 113     -18.003  50.601 -97.075  1.00 39.46           C
ATOM   8712  CB  LEU C 113     -19.331  50.672 -96.319  1.00 38.50           C
ATOM   8713  CG  LEU C 113     -19.385  51.040 -94.836  1.00 38.16           C
ATOM   8714  CD1 LEU C 113     -18.147  51.783 -94.350  1.00 38.15           C
ATOM   8715  CD2 LEU C 113     -20.647  51.845 -94.576  1.00 38.78           C
ATOM   8716  C   LEU C 113     -17.940  49.308 -97.877  1.00 40.48           C
ATOM   8717  O   LEU C 113     -17.356  48.324 -97.422  1.00 39.85           O
ATOM   8718  N   ILE C 114     -18.539  49.330 -99.072  1.00 41.91           N
ATOM   8719  CA  ILE C 114     -18.600  48.168 -99.959  1.00 43.17           C
ATOM   8720  CB  ILE C 114     -19.279  48.513-101.294  1.00 43.42           C
ATOM   8721  CG1 ILE C 114     -20.686  49.084-101.066  1.00 43.54           C
ATOM   8722  CD1 ILE C 114     -21.669  48.122-100.425  1.00 44.57           C
ATOM   8723  CG2 ILE C 114     -19.295  47.297-102.210  1.00 44.62           C
ATOM   8724  C   ILE C 114     -17.213  47.600-100.243  1.00 45.69           C
ATOM   8725  O   ILE C 114     -16.956  46.415-100.001  1.00 48.31           O
ATOM   8726  N   GLN C 115     -16.320  48.439-100.766  1.00 46.36           N
ATOM   8727  CA  GLN C 115     -14.928  48.051-100.885  1.00 46.86           C
ATOM   8728  CB  GLN C 115     -14.131  49.030-101.771  1.00 47.82           C
ATOM   8729  CG  GLN C 115     -14.851  49.574-103.011  1.00 50.21           C
ATOM   8730  CD  GLN C 115     -15.155  48.523-104.078  1.00 50.48           C
ATOM   8731  OE1 GLN C 115     -16.237  48.527-104.669  1.00 50.88           O
ATOM   8732  NE2 GLN C 115     -14.205  47.624-104.329  1.00 49.47           N
ATOM   8733  C   GLN C 115     -14.371  48.042 -99.465  1.00 47.81           C
ATOM   8734  O   GLN C 115     -13.908  49.075 -98.978  1.00 49.86           O
ATOM   8735  N   LYS C 116     -14.474  46.893 -98.785  1.00 45.30           N
ATOM   8736  CA  LYS C 116     -13.889  46.703 -97.445  1.00 42.66           C
ATOM   8737  CB  LYS C 116     -13.435  48.040 -96.832  1.00 41.26           C
ATOM   8738  C   LYS C 116     -14.801  45.980 -96.455  1.00 41.25           C
ATOM   8739  O   LYS C 116     -15.328  44.901 -96.734  1.00 39.67           O
ATOM   8740  N   ASP C 117     -14.957  46.614 -95.294  1.00 41.25           N
ATOM   8741  CA  ASP C 117     -15.666  46.095 -94.126  1.00 40.39           C
ATOM   8742  CB  ASP C 117     -15.621  47.157 -93.018  1.00 41.17           C
ATOM   8743  CG  ASP C 117     -15.280  46.580 -91.674  1.00 41.70           C
ATOM   8744  OD1 ASP C 117     -14.361  45.738 -91.605  1.00 42.14           O
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ATOM   8745  OD2 ASP C 117     -15.916  46.983 -90.681  1.00 42.34           O
ATOM   8746  C   ASP C 117     -17.124  45.756 -94.406  1.00 38.57           C
ATOM   8747  O   ASP C 117     -17.633  44.734 -93.933  1.00 38.11           O
ATOM   8748  N   ARG C 118     -17.783  46.636 -95.165  1.00 36.88           N
ATOM   8749  CA  ARG C 118     -19.240  46.615 -95.394  1.00 35.49           C
ATOM   8750  CB  ARG C 118     -19.681  45.363 -96.162  1.00 36.51           C
ATOM   8751  CG  ARG C 118     -18.880  45.086 -97.426  1.00 38.55           C
ATOM   8752  CD  ARG C 118     -19.545  44.020 -98.276  1.00 41.03           C
ATOM   8753  NE  ARG C 118     -20.128  42.966 -97.452  1.00 43.54           N
ATOM   8754  CZ  ARG C 118     -19.554  41.794 -97.206  1.00 45.75           C
ATOM   8755  NH1 ARG C 118     -18.372  41.498 -97.736  1.00 47.47           N
ATOM   8756  NH2 ARG C 118     -20.173  40.909 -96.437  1.00 46.95           N
ATOM   8757  C   ARG C 118     -20.067  46.792 -94.116  1.00 33.13           C
ATOM   8758  O   ARG C 118     -21.292  46.671 -94.143  1.00 31.84           O
ATOM   8759  N   THR C 119     -19.392  47.084 -93.004  1.00 31.69           N
ATOM   8760  CA  THR C 119     -20.077  47.266 -91.726  1.00 30.26           C
ATOM   8761  CB  THR C 119     -19.660  46.235 -90.624  1.00 30.53           C
ATOM   8762  OG1 THR C 119     -18.729  46.826 -89.717  1.00 31.51           O
ATOM   8763  CG2 THR C 119     -19.037  44.974 -91.208  1.00 31.29           C
ATOM   8764  C   THR C 119     -19.934  48.691 -91.210  1.00 28.53           C
ATOM   8765  O   THR C 119     -18.861  49.296 -91.287  1.00 27.14           O
ATOM   8766  N   PHE C 120     -21.053  49.206 -90.703  1.00 27.60           N
ATOM   8767  CA  PHE C 120     -21.149  50.507 -90.049  1.00 26.17           C
ATOM   8768  CB  PHE C 120     -22.032  51.443 -90.879  1.00 26.07           C
ATOM   8769  CG  PHE C 120     -23.397  50.877 -91.190  1.00 26.24           C
ATOM   8770  CD1 PHE C 120     -23.573  49.978 -92.247  1.00 25.85           C
ATOM   8771  CE1 PHE C 120     -24.823  49.447 -92.527  1.00 25.60           C
ATOM   8772  CZ  PHE C 120     -25.918  49.820 -91.756  1.00 25.57           C
ATOM   8773  CE2 PHE C 120     -25.759  50.714 -90.704  1.00 25.27           C
ATOM   8774  CD2 PHE C 120     -24.509  51.237 -90.422  1.00 25.34           C
ATOM   8775  C   PHE C 120     -21.760  50.264 -88.667  1.00 25.30           C
ATOM   8776  O   PHE C 120     -22.143  49.138 -88.352  1.00 24.86           O
ATOM   8777  N   ALA C 121     -21.852  51.311 -87.850  1.00 24.92           N
ATOM   8778  CA  ALA C 121     -22.345  51.191 -86.473  1.00 24.65           C
ATOM   8779  CB  ALA C 121     -21.350  51.813 -85.507  1.00 24.77           C
ATOM   8780  C   ALA C 121     -23.728  51.816 -86.278  1.00 24.74           C
ATOM   8781  O   ALA C 121     -23.986  52.925 -86.738  1.00 24.49           O
ATOM   8782  N   VAL C 122     -24.615  51.096 -85.596  1.00 25.32           N
ATOM   8783  CA  VAL C 122     -25.926  51.634 -85.237  1.00 26.25           C
ATOM   8784  CB  VAL C 122     -27.081  50.715 -85.680  1.00 25.92           C
ATOM   8785  CG1 VAL C 122     -28.417  51.378 -85.406  1.00 26.44           C
ATOM   8786  CG2 VAL C 122     -26.972  50.385 -87.157  1.00 26.11           C
ATOM   8787  C   VAL C 122     -25.982  51.848 -83.727  1.00 27.59           C
ATOM   8788  O   VAL C 122     -25.592  50.972 -82.951  1.00 27.24           O
ATOM   8789  N   LEU C 123     -26.474  53.018 -83.324  1.00 29.25           N
ATOM   8790  CA  LEU C 123     -26.419  53.444 -81.931  1.00 30.82           C
ATOM   8791  CB  LEU C 123     -25.783  54.832 -81.820  1.00 29.51           C
ATOM   8792  CG  LEU C 123     -24.360  55.018 -82.336  1.00 29.07           C
ATOM   8793  CD1 LEU C 123     -23.845  56.394 -81.947  1.00 29.20           C
ATOM   8794  CD2 LEU C 123     -23.435  53.933 -81.808  1.00 28.50           C
ATOM   8795  C   LEU C 123     -27.782  53.465 -81.261  1.00 33.34           C
ATOM   8796  O   LEU C 123     -28.766  53.932 -81.840  1.00 34.19           O
ATOM   8797  N   ALA C 124     -27.825  52.959 -80.032  1.00 35.85           N
ATOM   8798  CA  ALA C 124     -28.987  53.103 -79.171  1.00 38.62           C
ATOM   8799  CB  ALA C 124     -29.035  51.968 -78.155  1.00 38.02           C
ATOM   8800  C   ALA C 124     -28.875  54.446 -78.466  1.00 40.53           C
ATOM   8801  O   ALA C 124     -27.964  54.644 -77.666  1.00 44.94           O
ATOM   8802  N   TYR C 125     -29.780  55.374 -78.769  1.00 41.40           N
ATOM   8803  CA  TYR C 125     -29.725  56.709 -78.160  1.00 42.30           C
ATOM   8804  CB  TYR C 125     -30.151  57.799 -79.152  1.00 40.91           C
ATOM   8805  CG  TYR C 125     -29.217  57.965 -80.331  1.00 40.53           C
ATOM   8806  CD1 TYR C 125     -27.931  58.491 -80.161  1.00 39.84           C
ATOM   8807  CE1 TYR C 125     -27.066  58.640 -81.240  1.00 38.90           C
ATOM   8808  CZ  TYR C 125     -27.484  58.267 -82.513  1.00 38.48           C
ATOM   8809  OH  TYR C 125     -26.631  58.418 -83.580  1.00 36.52           O
ATOM   8810  CE2 TYR C 125     -28.758  57.747 -82.711  1.00 39.63           C
ATOM   8811  CD2 TYR C 125     -29.617  57.599 -81.624  1.00 40.31           C
ATOM   8812  C   TYR C 125     -30.533  56.812 -76.859  1.00 44.58           C
ATOM   8813  O   TYR C 125     -31.759  56.627 -76.855  1.00 44.83           O
ATOM   8814  N   SER C 126     -29.826  57.102 -75.761  1.00 45.59           N
ATOM   8815  CA  SER C 126     -30.431  57.302 -74.436  1.00 43.75           C
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ATOM   8816  CB  SER C 126     -29.397  57.050 -73.333  1.00 41.82           C
ATOM   8817  C   SER C 126     -31.004  58.712 -74.303  1.00 42.91           C
ATOM   8818  O   SER C 126     -30.502  59.659 -74.914  1.00 42.27           O
ATOM   8819  N   GLU C 132     -26.021  61.137 -75.343  1.00 43.59           N
ATOM   8820  CA  GLU C 132     -26.690  60.542 -76.504  1.00 45.97           C
ATOM   8821  CB  GLU C 132     -26.101  61.083 -77.818  1.00 44.64           C
ATOM   8822  C   GLU C 132     -26.729  58.987 -76.500  1.00 48.41           C
ATOM   8823  O   GLU C 132     -27.804  58.398 -76.355  1.00 49.32           O
ATOM   8824  N   ALA C 133     -25.575  58.328 -76.654  1.00 46.65           N
ATOM   8825  CA  ALA C 133     -25.551  56.863 -76.792  1.00 43.70           C
ATOM   8826  CB  ALA C 133     -25.494  56.477 -78.260  1.00 43.89           C
ATOM   8827  C   ALA C 133     -24.426  56.169 -76.016  1.00 43.42           C
ATOM   8828  O   ALA C 133     -23.261  56.563 -76.103  1.00 44.48           O
ATOM   8829  N   GLN C 134     -24.787  55.125 -75.269  1.00 42.44           N
ATOM   8830  CA  GLN C 134     -23.823  54.343 -74.483  1.00 41.41           C
ATOM   8831  CB  GLN C 134     -24.371  54.054 -73.074  1.00 42.23           C
ATOM   8832  CG  GLN C 134     -24.166  55.157 -72.038  1.00 43.70           C
ATOM   8833  CD  GLN C 134     -24.993  56.416 -72.303  1.00 45.10           C
ATOM   8834  OE1 GLN C 134     -26.127  56.355 -72.800  1.00 43.96           O
ATOM   8835  NE2 GLN C 134     -24.424  57.571 -71.960  1.00 45.83           N
ATOM   8836  C   GLN C 134     -23.469  53.021 -75.171  1.00 40.10           C
ATOM   8837  O   GLN C 134     -22.362  52.501 -75.003  1.00 39.00           O
ATOM   8838  N   PHE C 135     -24.422  52.482 -75.933  1.00 38.05           N
ATOM   8839  CA  PHE C 135     -24.280  51.166 -76.558  1.00 36.00           C
ATOM   8840  CB  PHE C 135     -25.036  50.103 -75.744  1.00 36.42           C
ATOM   8841  CG  PHE C 135     -24.577  49.966 -74.320  1.00 36.89           C
ATOM   8842  CD1 PHE C 135     -23.482  49.164 -73.999  1.00 38.10           C
ATOM   8843  CE1 PHE C 135     -23.070  49.018 -72.679  1.00 38.43           C
ATOM   8844  CZ  PHE C 135     -23.763  49.668 -71.663  1.00 38.57           C
ATOM   8845  CE2 PHE C 135     -24.861  50.462 -71.970  1.00 37.56           C
ATOM   8846  CD2 PHE C 135     -25.268  50.600 -73.290  1.00 37.27           C
ATOM   8847  C   PHE C 135     -24.818  51.155 -77.996  1.00 34.21           C
ATOM   8848  O   PHE C 135     -25.520  52.085 -78.412  1.00 32.64           O
ATOM   8849  N   GLY C 136     -24.507  50.087 -78.734  1.00 32.17           N
ATOM   8850  CA  GLY C 136     -25.071  49.871 -80.067  1.00 31.45           C
ATOM   8851  C   GLY C 136     -24.712  48.529 -80.685  1.00 31.15           C
ATOM   8852  O   GLY C 136     -24.252  47.618 -79.994  1.00 31.58           O
ATOM   8853  N   THR C 137     -24.921  48.403 -81.993  1.00 30.40           N
ATOM   8854  CA  THR C 137     -24.688  47.131 -82.692  1.00 29.35           C
ATOM   8855  CB  THR C 137     -25.987  46.296 -82.776  1.00 29.68           C
ATOM   8856  OG1 THR C 137     -26.523  46.114 -81.460  1.00 29.16           O
ATOM   8857  CG2 THR C 137     -25.732  44.925 -83.391  1.00 29.83           C
ATOM   8858  C   THR C 137     -24.084  47.328 -84.096  1.00 28.10           C
ATOM   8859  O   THR C 137     -24.502  48.215 -84.844  1.00 26.91           O
ATOM   8860  N   THR C 138     -23.084  46.516 -84.434  1.00 26.94           N
ATOM   8861  CA  THR C 138     -22.524  46.544 -85.785  1.00 26.21           C
ATOM   8862  CB  THR C 138     -21.148  45.822 -85.915  1.00 25.19           C
ATOM   8863  OG1 THR C 138     -21.306  44.398 -85.863  1.00 24.21           O
ATOM   8864  CG2 THR C 138     -20.203  46.261 -84.816  1.00 25.25           C
ATOM   8865  C   THR C 138     -23.543  45.967 -86.753  1.00 26.12           C
ATOM   8866  O   THR C 138     -24.200  44.972 -86.461  1.00 26.31           O
ATOM   8867  N   ALA C 139     -23.706  46.632 -87.880  1.00 26.13           N
ATOM   8868  CA  ALA C 139     -24.556  46.135 -88.932  1.00 26.60           C
ATOM   8869  CB  ALA C 139     -25.763  47.043 -89.118  1.00 25.88           C
ATOM   8870  C   ALA C 139     -23.714  46.050 -90.198  1.00 27.70           C
ATOM   8871  O   ALA C 139     -23.032  47.008 -90.579  1.00 28.28           O
ATOM   8872  N   GLU C 140     -23.758  44.882 -90.827  1.00 28.49           N
ATOM   8873  CA  GLU C 140     -22.934  44.545 -91.978  1.00 29.34           C
ATOM   8874  CB  GLU C 140     -22.323  43.172 -91.727  1.00 31.67           C
ATOM   8875  CG  GLU C 140     -21.433  42.603 -92.817  1.00 34.37           C
ATOM   8876  CD  GLU C 140     -20.921  41.219 -92.444  1.00 36.96           C
ATOM   8877  OE1 GLU C 140     -19.697  41.071 -92.186  1.00 38.02           O
ATOM   8878  OE2 GLU C 140     -21.757  40.286 -92.371  1.00 37.76           O
ATOM   8879  C   GLU C 140     -23.821  44.484 -93.206  1.00 29.21           C
ATOM   8880  O   GLU C 140     -24.877  43.851 -93.176  1.00 29.56           O
ATOM   8881  N   ILE C 141     -23.408  45.144 -94.283  1.00 28.81           N
ATOM   8882  CA  ILE C 141     -24.227  45.178 -95.495  1.00 29.73           C
ATOM   8883  CB  ILE C 141     -23.852  46.353 -96.429  1.00 30.46           C
ATOM   8884  CG1 ILE C 141     -24.121  47.701 -95.734  1.00 30.28           C
ATOM   8885  CD1 ILE C 141     -23.317  48.862 -96.293  1.00 29.75           C
ATOM   8886  CG2 ILE C 141     -24.619  46.253 -97.752  1.00 30.54           C
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ATOM   8887  C   ILE C 141     -24.134  43.858 -96.255  1.00 30.00           C
ATOM   8888  O   ILE C 141     -23.038  43.427 -96.623  1.00 29.80           O
ATOM   8889  N   TYR C 142     -25.283  43.221 -96.482  1.00 30.40           N
ATOM   8890  CA  TYR C 142     -25.323  41.957 -97.218  1.00 31.32           C
ATOM   8891  CB  TYR C 142     -26.014  40.862 -96.398  1.00 29.57           C
ATOM   8892  CG  TYR C 142     -27.506  41.004 -96.187  1.00 28.51           C
ATOM   8893  CD1 TYR C 142     -28.406  40.748 -97.220  1.00 27.98           C
ATOM   8894  CE1 TYR C 142     -29.779  40.856 -97.020  1.00 28.15           C
ATOM   8895  CZ  TYR C 142     -30.272  41.188 -95.759  1.00 28.12           C
ATOM   8896  OH  TYR C 142     -31.625  41.281 -95.563  1.00 26.63           O
ATOM   8897  CE2 TYR C 142     -29.399  41.430 -94.709  1.00 28.61           C
ATOM   8898  CD2 TYR C 142     -28.023  41.332 -94.927  1.00 28.82           C
ATOM   8899  C   TYR C 142     -25.901  42.058 -98.640  1.00 33.15           C
ATOM   8900  O   TYR C 142     -25.771  41.128 -99.438  1.00 33.72           O
ATOM   8901  N   ALA C 143     -26.535  43.191 -98.937  1.00 35.54           N
ATOM   8902  CA  ALA C 143     -27.049  43.497-100.278  1.00 36.57           C
ATOM   8903  CB  ALA C 143     -28.355  42.761-100.550  1.00 36.21           C
ATOM   8904  C   ALA C 143     -27.221  45.010-100.464  1.00 36.90           C
ATOM   8905  O   ALA C 143     -27.482  45.746 -99.507  1.00 35.45           O
ATOM   8906  N   TYR C 144     -27.081  45.454-101.710  1.00 38.42           N
ATOM   8907  CA  TYR C 144     -26.893  46.862-102.028  1.00 40.42           C
ATOM   8908  CB  TYR C 144     -25.449  47.278-101.657  1.00 43.46           C
ATOM   8909  CG  TYR C 144     -24.820  48.338-102.536  1.00 47.25           C
ATOM   8910  CD1 TYR C 144     -24.117  47.987-103.693  1.00 48.36           C
ATOM   8911  CE1 TYR C 144     -23.545  48.953-104.508  1.00 51.79           C
ATOM   8912  CZ  TYR C 144     -23.657  50.300-104.161  1.00 53.84           C
ATOM   8913  OH  TYR C 144     -23.090  51.273-104.973  1.00 55.41           O
ATOM   8914  CE2 TYR C 144     -24.336  50.670-103.006  1.00 52.20           C
ATOM   8915  CD2 TYR C 144     -24.908  49.691-102.202  1.00 50.07           C
ATOM   8916  C   TYR C 144     -27.205  47.117-103.507  1.00 39.96           C
ATOM   8917  O   TYR C 144     -26.762  46.370-104.375  1.00 38.42           O
ATOM   8918  N   ARG C 145     -28.001  48.150-103.779  1.00 42.11           N
ATOM   8919  CA  ARG C 145     -28.187  48.659-105.146  1.00 43.87           C
ATOM   8920  CB  ARG C 145     -29.554  48.272-105.721  1.00 46.02           C
ATOM   8921  CG  ARG C 145     -29.481  47.611-107.099  1.00 50.21           C
ATOM   8922  CD  ARG C 145     -30.379  48.242-108.173  1.00 54.66           C
ATOM   8923  NE  ARG C 145     -31.570  48.930-107.658  1.00 57.11           N
ATOM   8924  CZ  ARG C 145     -32.703  48.334-107.289  1.00 57.24           C
ATOM   8925  NH1 ARG C 145     -33.711  49.069-106.835  1.00 58.20           N
ATOM   8926  NH2 ARG C 145     -32.830  47.012-107.353  1.00 57.69           N
ATOM   8927  C   ARG C 145     -28.031  50.177-105.161  1.00 43.43           C
ATOM   8928  O   ARG C 145     -28.531  50.871-104.267  1.00 43.07           O
ATOM   8929  N   GLU C 146     -27.319  50.683-106.166  1.00 43.36           N
ATOM   8930  CA  GLU C 146     -27.093  52.117-106.310  1.00 45.09           C
ATOM   8931  CB  GLU C 146     -25.593  52.449-106.293  1.00 43.95           C
ATOM   8932  C   GLU C 146     -27.720  52.609-107.602  1.00 46.46           C
ATOM   8933  O   GLU C 146     -27.135  52.459-108.681  1.00 49.04           O
ATOM   8934  N   GLU C 147     -28.916  53.183-107.496  1.00 46.21           N
ATOM   8935  CA  GLU C 147     -29.553  53.804-108.652  1.00 44.75           C
ATOM   8936  CB  GLU C 147     -31.065  53.514-108.709  1.00 45.96           C
ATOM   8937  CG  GLU C 147     -31.924  54.199-107.658  1.00 45.13           C
ATOM   8938  CD  GLU C 147     -33.232  53.467-107.419  1.00 46.42           C
ATOM   8939  OE1 GLU C 147     -33.192  52.220-107.276  1.00 47.50           O
ATOM   8940  OE2 GLU C 147     -34.295  54.131-107.363  1.00 43.58           O
ATOM   8941  C   GLU C 147     -29.248  55.295-108.750  1.00 41.87           C
ATOM   8942  O   GLU C 147     -29.404  56.047-107.788  1.00 38.52           O
ATOM   8943  N   GLN C 148     -28.759  55.687-109.920  1.00 41.20           N
ATOM   8944  CA  GLN C 148     -28.613  57.081-110.277  1.00 40.39           C
ATOM   8945  CB  GLN C 148     -27.132  57.519-110.269  1.00 41.12           C
ATOM   8946  CG  GLN C 148     -26.246  56.980-111.385  1.00 43.11           C
ATOM   8947  CD  GLN C 148     -25.808  55.547-111.168  1.00 44.36           C
ATOM   8948  OE1 GLN C 148     -24.765  55.291-110.562  1.00 45.19           O
ATOM   8949  NE2 GLN C 148     -26.601  54.601-111.665  1.00 44.28           N
ATOM   8950  C   GLN C 148     -29.320  57.313-111.616  1.00 39.24           C
ATOM   8951  O   GLN C 148     -28.692  57.519-112.650  1.00 38.85           O
ATOM   8952  N   ASP C 149     -30.648  57.235-111.571  1.00 39.67           N
ATOM   8953  CA  ASP C 149     -31.502  57.436-112.743  1.00 40.69           C
ATOM   8954  CB  ASP C 149     -32.517  56.292-112.895  1.00 43.61           C
ATOM   8955  CG  ASP C 149     -31.979  54.952-112.386  1.00 49.87           C
ATOM   8956  OD1 ASP C 149     -30.794  54.620-112.650  1.00 52.14           O
ATOM   8957  OD2 ASP C 149     -32.743  54.231-111.705  1.00 52.17           O
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ATOM   8958  C   ASP C 149     -32.217  58.772-112.600  1.00 38.92           C
ATOM   8959  O   ASP C 149     -32.661  59.134-111.502  1.00 37.90           O
ATOM   8960  N   PHE C 150     -32.327  59.493-113.718  1.00 36.69           N
ATOM   8961  CA  PHE C 150     -32.687  60.917-113.728  1.00 35.46           C
ATOM   8962  CB  PHE C 150     -34.036  61.169-113.042  1.00 33.39           C
ATOM   8963  CG  PHE C 150     -35.157  60.334-113.583  1.00 33.19           C
ATOM   8964  CD1 PHE C 150     -35.706  60.603-114.834  1.00 33.45           C
ATOM   8965  CE1 PHE C 150     -36.742  59.823-115.335  1.00 33.27           C
ATOM   8966  CZ  PHE C 150     -37.246  58.768-114.583  1.00 32.45           C
ATOM   8967  CE2 PHE C 150     -36.716  58.497-113.335  1.00 32.32           C
ATOM   8968  CD2 PHE C 150     -35.677  59.278-112.839  1.00 33.23           C
ATOM   8969  C   PHE C 150     -31.575  61.770-113.097  1.00 36.25           C
ATOM   8970  O   PHE C 150     -31.767  62.957-112.814  1.00 36.43           O
ATOM   8971  N   GLY C 151     -30.409  61.155-112.893  1.00 36.58           N
ATOM   8972  CA  GLY C 151     -29.270  61.811-112.246  1.00 34.90           C
ATOM   8973  C   GLY C 151     -29.448  62.044-110.755  1.00 33.84           C
ATOM   8974  O   GLY C 151     -28.720  62.848-110.160  1.00 33.30           O
ATOM   8975  N   ILE C 152     -30.429  61.363-110.160  1.00 32.13           N
ATOM   8976  CA  ILE C 152     -30.637  61.406-108.721  1.00 31.89           C
ATOM   8977  CB  ILE C 152     -32.127  61.493-108.345  1.00 30.79           C
ATOM   8978  CG1 ILE C 152     -32.856  62.548-109.186  1.00 30.30           C
ATOM   8979  CD1 ILE C 152     -34.352  62.622-108.930  1.00 29.31           C
ATOM   8980  CG2 ILE C 152     -32.278  61.755-106.849  1.00 30.35           C
ATOM   8981  C   ILE C 152     -30.091  60.116-108.135  1.00 33.80           C
ATOM   8982  O   ILE C 152     -30.605  59.035-108.439  1.00 35.82           O
ATOM   8983  N   GLU C 153     -29.063  60.232-107.290  1.00 34.84           N
ATOM   8984  CA  GLU C 153     -28.411  59.065-106.684  1.00 34.79           C
ATOM   8985  CB  GLU C 153     -26.949  59.353-106.363  1.00 36.31           C
ATOM   8986  CG  GLU C 153     -26.131  59.739-107.582  1.00 39.82           C
ATOM   8987  CD  GLU C 153     -24.649  59.825-107.290  1.00 43.37           C
ATOM   8988  OE1 GLU C 153     -24.243  59.583-106.123  1.00 44.85           O
ATOM   8989  OE2 GLU C 153     -23.889  60.137-108.234  1.00 44.61           O
ATOM   8990  C   GLU C 153     -29.134  58.595-105.438  1.00 33.65           C
ATOM   8991  O   GLU C 153     -29.287  59.343-104.476  1.00 33.56           O
ATOM   8992  N   ILE C 154     -29.604  57.355-105.483  1.00 32.43           N
ATOM   8993  CA  ILE C 154     -30.215  56.718-104.337  1.00 31.76           C
ATOM   8994  CB  ILE C 154     -31.673  56.273-104.623  1.00 32.87           C
ATOM   8995  CG1 ILE C 154     -32.435  57.308-105.488  1.00 32.76           C
ATOM   8996  CD1 ILE C 154     -32.728  58.639-104.826  1.00 32.18           C
ATOM   8997  CG2 ILE C 154     -32.405  55.880-103.330  1.00 32.47           C
ATOM   8998  C   ILE C 154     -29.398  55.479-104.034  1.00 31.39           C
ATOM   8999  O   ILE C 154     -28.976  54.764-104.941  1.00 31.52           O
ATOM   9000  N   VAL C 155     -29.164  55.235-102.755  1.00 31.41           N
ATOM   9001  CA  VAL C 155     -28.539  53.995-102.324  1.00 30.94           C
ATOM   9002  CB  VAL C 155     -27.162  54.241-101.667  1.00 31.31           C
ATOM   9003  CG1 VAL C 155     -26.637  52.973-101.007  1.00 31.08           C
ATOM   9004  CG2 VAL C 155     -26.166  54.747-102.707  1.00 30.96           C
ATOM   9005  C   VAL C 155     -29.484  53.242-101.394  1.00 30.09           C
ATOM   9006  O   VAL C 155     -29.902  53.759-100.354  1.00 29.69           O
ATOM   9007  N   LYS C 156     -29.840  52.031-101.808  1.00 29.50           N
ATOM   9008  CA  LYS C 156     -30.680  51.150-101.014  1.00 29.58           C
ATOM   9009  CB  LYS C 156     -31.859  50.642-101.845  1.00 30.39           C
ATOM   9010  CG  LYS C 156     -32.816  51.732-102.324  1.00 31.48           C
ATOM   9011  CD  LYS C 156     -33.488  51.348-103.640  1.00 31.80           C
ATOM   9012  CE  LYS C 156     -34.680  52.240-103.951  1.00 32.18           C
ATOM   9013  NZ  LYS C 156     -35.867  51.951-103.089  1.00 32.74           N
ATOM   9014  C   LYS C 156     -29.823  49.984-100.546  1.00 29.44           C
ATOM   9015  O   LYS C 156     -29.136  49.355-101.356  1.00 29.69           O
ATOM   9016  N   VAL C 157     -29.831  49.725 -99.238  1.00 28.28           N
ATOM   9017  CA  VAL C 157     -29.036  48.637 -98.667  1.00 27.93           C
ATOM   9018  CB  VAL C 157     -27.736  49.131 -97.955  1.00 27.95           C
ATOM   9019  CG1 VAL C 157     -26.861  49.935 -98.903  1.00 28.20           C
ATOM   9020  CG2 VAL C 157     -28.043  49.940 -96.703  1.00 27.87           C
ATOM   9021  C   VAL C 157     -29.849  47.797 -97.700  1.00 27.58           C
ATOM   9022  O   VAL C 157     -30.767  48.299 -97.052  1.00 27.79           O
ATOM   9023  N   LYS C 158     -29.506  46.514 -97.615  1.00 27.25           N
ATOM   9024  CA  LYS C 158     -30.030  45.636 -96.570  1.00 26.00           C
ATOM   9025  CB  LYS C 158     -30.719  44.415 -97.169  1.00 25.56           C
ATOM   9026  CG  LYS C 158     -31.850  44.722 -98.128  1.00 25.25           C
ATOM   9027  CD  LYS C 158     -32.649  43.464 -98.379  1.00 25.10           C
ATOM   9028  CE  LYS C 158     -33.308  43.465 -99.740  1.00 24.37           C
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ATOM   9029  NZ  LYS C 158     -34.052  42.187 -99.868  1.00 24.08           N
ATOM   9030  C   LYS C 158     -28.880  45.183 -95.694  1.00 25.47           C
ATOM   9031  O   LYS C 158     -28.013  44.438 -96.141  1.00 25.56           O
ATOM   9032  N   ALA C 159     -28.863  45.656 -94.454  1.00 25.65           N
ATOM   9033  CA  ALA C 159     -27.842  45.259 -93.479  1.00 25.33           C
ATOM   9034  CB  ALA C 159     -27.205  46.486 -92.830  1.00 24.64           C
ATOM   9035  C   ALA C 159     -28.420  44.317 -92.416  1.00 24.69           C
ATOM   9036  O   ALA C 159     -29.635  44.219 -92.246  1.00 24.05           O
ATOM   9037  N   ILE C 160     -27.530  43.630 -91.711  1.00 24.44           N
ATOM   9038  CA  ILE C 160     -27.908  42.685 -90.672  1.00 24.38           C
ATOM   9039  CB  ILE C 160     -27.667  41.226 -91.141  1.00 25.17           C
ATOM   9040  CG1 ILE C 160     -27.806  40.234 -89.978  1.00 25.46           C
ATOM   9041  CD1 ILE C 160     -28.914  39.228 -90.175  1.00 25.97           C
ATOM   9042  CG2 ILE C 160     -26.309  41.073 -91.825  1.00 25.25           C
ATOM   9043  C   ILE C 160     -27.089  42.995 -89.421  1.00 23.89           C
ATOM   9044  O   ILE C 160     -25.867  43.085 -89.489  1.00 24.71           O
ATOM   9045  N   GLY C 161     -27.755  43.182 -88.287  1.00 23.07           N
ATOM   9046  CA  GLY C 161     -27.051  43.395 -87.026  1.00 23.38           C
ATOM   9047  C   GLY C 161     -26.129  42.248 -86.647  1.00 23.57           C
ATOM   9048  O   GLY C 161     -26.519  41.089 -86.703  1.00 23.90           O
ATOM   9049  N   ARG C 162     -24.905  42.571 -86.249  1.00 24.16           N
ATOM   9050  CA  ARG C 162     -23.898  41.545 -85.976  1.00 25.00           C
ATOM   9051  CB  ARG C 162     -22.720  41.685 -86.948  1.00 26.49           C
ATOM   9052  CG  ARG C 162     -23.026  41.282 -88.388  1.00 27.30           C
ATOM   9053  CD  ARG C 162     -22.703  39.815 -88.624  1.00 29.10           C
ATOM   9054  NE  ARG C 162     -23.898  38.998 -88.825  1.00 29.73           N
ATOM   9055  CZ  ARG C 162     -24.210  38.399 -89.975  1.00 30.39           C
ATOM   9056  NH1 ARG C 162     -23.421  38.513 -91.043  1.00 29.87           N
ATOM   9057  NH2 ARG C 162     -25.314  37.677 -90.060  1.00 31.06           N
ATOM   9058  C   ARG C 162     -23.401  41.521 -84.523  1.00 24.40           C
ATOM   9059  O   ARG C 162     -23.617  40.549 -83.807  1.00 23.65           O
ATOM   9060  N   GLN C 163     -22.750  42.591 -84.087  1.00 24.57           N
ATOM   9061  CA  GLN C 163     -22.120  42.595 -82.766  1.00 25.63           C
ATOM   9062  CB  GLN C 163     -20.609  42.605 -82.914  1.00 25.11           C
ATOM   9063  CG  GLN C 163     -20.078  41.415 -83.667  1.00 25.11           C
ATOM   9064  CD  GLN C 163     -18.585  41.347 -83.603  1.00 25.26           C
ATOM   9065  OE1 GLN C 163     -17.903  41.573 -84.600  1.00 26.94           O
ATOM   9066  NE2 GLN C 163     -18.059  41.054 -82.425  1.00 25.03           N
ATOM   9067  C   GLN C 163     -22.541  43.738 -81.849  1.00 26.46           C
ATOM   9068  O   GLN C 163     -22.758  44.870 -82.295  1.00 26.85           O
ATOM   9069  N   ARG C 164     -22.626  43.445 -80.558  1.00 26.40           N
ATOM   9070  CA  ARG C 164     -22.943  44.477 -79.583  1.00 27.25           C
ATOM   9071  CB  ARG C 164     -23.707  43.881 -78.406  1.00 26.39           C
ATOM   9072  CG  ARG C 164     -24.895  43.028 -78.810  1.00 25.56           C
ATOM   9073  CD  ARG C 164     -25.554  42.384 -77.603  1.00 26.18           C
ATOM   9074  NE  ARG C 164     -24.654  41.491 -76.882  1.00 26.53           N
ATOM   9075  CZ  ARG C 164     -24.062  41.787 -75.727  1.00 27.04           C
ATOM   9076  NH1 ARG C 164     -24.270  42.959 -75.140  1.00 26.44           N
ATOM   9077  NH2 ARG C 164     -23.254  40.904 -75.155  1.00 27.72           N
ATOM   9078  C   ARG C 164     -21.667  45.175 -79.105  1.00 28.26           C
ATOM   9079  O   ARG C 164     -20.620  44.543 -78.936  1.00 28.97           O
ATOM   9080  N   PHE C 165     -21.747  46.482 -78.895  1.00 29.29           N
ATOM   9081  CA  PHE C 165     -20.581  47.226 -78.435  1.00 30.05           C
ATOM   9082  CB  PHE C 165     -19.810  47.827 -79.614  1.00 29.79           C
ATOM   9083  CG  PHE C 165     -20.638  48.708 -80.510  1.00 29.73           C
ATOM   9084  CD1 PHE C 165     -21.121  49.934 -80.065  1.00 29.67           C
ATOM   9085  CE1 PHE C 165     -21.872  50.747 -80.894  1.00 29.44           C
ATOM   9086  CZ  PHE C 165     -22.146  50.351 -82.187  1.00 29.09           C
ATOM   9087  CE2 PHE C 165     -21.661  49.141 -82.649  1.00 29.88           C
ATOM   9088  CD2 PHE C 165     -20.908  48.327 -81.814  1.00 30.04           C
ATOM   9089  C   PHE C 165     -20.903  48.299 -77.407  1.00 30.89           C
ATOM   9090  O   PHE C 165     -22.033  48.791 -77.334  1.00 31.38           O
ATOM   9091  N   LYS C 166     -19.886  48.640 -76.620  1.00 32.19           N
ATOM   9092  CA  LYS C 166     -19.914  49.730 -75.648  1.00 33.48           C
ATOM   9093  CB  LYS C 166     -19.151  49.285 -74.391  1.00 34.00           C
ATOM   9094  CG  LYS C 166     -18.925  50.319 -73.298  1.00 35.23           C
ATOM   9095  CD  LYS C 166     -17.575  50.062 -72.624  1.00 36.59           C
ATOM   9096  CE  LYS C 166     -17.667  49.955 -71.102  1.00 36.25           C
ATOM   9097  NZ  LYS C 166     -17.831  51.270 -70.431  1.00 36.47           N
ATOM   9098  C   LYS C 166     -19.246  50.954 -76.302  1.00 34.69           C
ATOM   9099  O   LYS C 166     -18.168  50.844 -76.903  1.00 34.97           O
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ATOM   9100  N   VAL C 167     -19.903  52.107 -76.215  1.00 35.40           N
ATOM   9101  CA  VAL C 167     -19.360  53.345 -76.776  1.00 35.13           C
ATOM   9102  CB  VAL C 167     -20.466  54.414 -76.986  1.00 35.52           C
ATOM   9103  CG1 VAL C 167     -19.868  55.762 -77.384  1.00 34.46           C
ATOM   9104  CG2 VAL C 167     -21.484  53.942 -78.018  1.00 34.56           C
ATOM   9105  C   VAL C 167     -18.292  53.885 -75.838  1.00 34.38           C
ATOM   9106  O   VAL C 167     -18.495  53.932 -74.635  1.00 33.43           O
ATOM   9107  N   LEU C 168     -17.150  54.268 -76.392  1.00 35.94           N
ATOM   9108  CA  LEU C 168     -16.124  54.947 -75.614  1.00 37.92           C
ATOM   9109  CB  LEU C 168     -14.759  54.283 -75.805  1.00 37.39           C
ATOM   9110  CG  LEU C 168     -14.734  52.759 -75.598  1.00 36.53           C
ATOM   9111  CD1 LEU C 168     -13.527  52.134 -76.275  1.00 36.10           C
ATOM   9112  CD2 LEU C 168     -14.782  52.370 -74.126  1.00 36.84           C
ATOM   9113  C   LEU C 168     -16.116  56.441 -75.955  1.00 40.12           C
ATOM   9114  O   LEU C 168     -16.571  57.247 -75.146  1.00 41.66           O
ATOM   9115  N   GLU C 169     -15.648  56.810 -77.149  1.00 41.72           N
ATOM   9116  CA  GLU C 169     -15.775  58.202 -77.611  1.00 43.81           C
ATOM   9117  CB  GLU C 169     -14.410  58.903 -77.707  1.00 45.99           C
ATOM   9118  CG  GLU C 169     -14.503  60.430 -77.655  1.00 48.51           C
ATOM   9119  CD  GLU C 169     -13.290  61.139 -78.246  1.00 50.65           C
ATOM   9120  OE1 GLU C 169     -12.150  60.804 -77.856  1.00 53.21           O
ATOM   9121  OE2 GLU C 169     -13.474  62.047 -79.090  1.00 49.34           O
ATOM   9122  C   GLU C 169     -16.536  58.342 -78.932  1.00 44.72           C
ATOM   9123  O   GLU C 169     -16.589  57.413 -79.741  1.00 44.57           O
ATOM   9124  N   LEU C 170     -17.112  59.524 -79.136  1.00 46.40           N
ATOM   9125  CA  LEU C 170     -17.861  59.848 -80.348  1.00 47.12           C
ATOM   9126  CB  LEU C 170     -19.354  59.899 -80.037  1.00 45.61           C
ATOM   9127  CG  LEU C 170     -20.232  58.898 -80.767  1.00 44.60           C
ATOM   9128  CD1 LEU C 170     -21.443  58.565 -79.912  1.00 44.62           C
ATOM   9129  CD2 LEU C 170     -20.644  59.474 -82.119  1.00 44.18           C
ATOM   9130  C   LEU C 170     -17.417  61.172 -80.976  1.00 48.21           C
ATOM   9131  O   LEU C 170     -17.845  62.247 -80.545  1.00 47.65           O
ATOM   9132  N   GLU C 171     -16.569  61.083 -82.001  1.00 50.90           N
ATOM   9133  CA  GLU C 171     -16.040  62.272 -82.693  1.00 52.69           C
ATOM   9134  CB  GLU C 171     -14.488  62.267 -82.715  1.00 53.99           C
ATOM   9135  CG  GLU C 171     -13.819  61.165 -83.549  1.00 53.64           C
ATOM   9136  CD  GLU C 171     -13.494  59.893 -82.765  1.00 53.43           C
ATOM   9137  OE1 GLU C 171     -14.242  59.531 -81.828  1.00 54.53           O
ATOM   9138  OE2 GLU C 171     -12.489  59.232 -83.104  1.00 52.39           O
ATOM   9139  C   GLU C 171     -16.638  62.471 -84.103  1.00 52.83           C
ATOM   9140  O   GLU C 171     -17.198  61.531 -84.691  1.00 52.05           O
ATOM   9141  N   ARG C 172     -16.528  63.698 -84.623  1.00 52.92           N
ATOM   9142  CA  ARG C 172     -17.066  64.053 -85.948  1.00 51.11           C
ATOM   9143  CB  ARG C 172     -18.264  65.006 -85.825  1.00 50.87           C
ATOM   9144  CG  ARG C 172     -19.466  64.419 -85.090  1.00 52.76           C
ATOM   9145  CD  ARG C 172     -20.525  65.463 -84.750  1.00 53.58           C
ATOM   9146  NE  ARG C 172     -19.957  66.682 -84.163  1.00 55.14           N
ATOM   9147  CZ  ARG C 172     -20.139  67.914 -84.643  1.00 55.64           C
ATOM   9148  NH1 ARG C 172     -20.898  68.117 -85.716  1.00 56.60           N
ATOM   9149  NH2 ARG C 172     -19.573  68.954 -84.042  1.00 54.00           N
ATOM   9150  C   ARG C 172     -15.995  64.673 -86.835  1.00 48.04           C
ATOM   9151  O   ARG C 172     -16.096  64.633 -88.058  1.00 45.64           O
ATOM   9152  N   GLY C 176     -20.324  65.745 -92.321  1.00 49.15           N
ATOM   9153  CA  GLY C 176     -21.169  65.507 -91.148  1.00 51.24           C
ATOM   9154  C   GLY C 176     -21.411  64.033 -90.836  1.00 51.21           C
ATOM   9155  O   GLY C 176     -22.501  63.654 -90.398  1.00 50.27           O
ATOM   9156  N   ILE C 177     -20.396  63.202 -91.069  1.00 50.57           N
ATOM   9157  CA  ILE C 177     -20.480  61.771 -90.772  1.00 50.37           C
ATOM   9158  CB  ILE C 177     -19.938  60.890 -91.934  1.00 50.71           C
ATOM   9159  CG1 ILE C 177     -20.515  61.339 -93.287  1.00 50.99           C
ATOM   9160  CD1 ILE C 177     -22.010  61.129 -93.452  1.00 50.09           C
ATOM   9161  CG2 ILE C 177     -20.226  59.407 -91.692  1.00 49.96           C
ATOM   9162  C   ILE C 177     -19.723  61.477 -89.481  1.00 49.33           C
ATOM   9163  O   ILE C 177     -18.657  62.046 -89.230  1.00 48.56           O
ATOM   9164  N   GLN C 178     -20.293  60.596 -88.663  1.00 48.61           N
ATOM   9165  CA  GLN C 178     -19.725  60.263 -87.364  1.00 47.75           C
ATOM   9166  CB  GLN C 178     -20.835  60.038 -86.332  1.00 48.09           C
ATOM   9167  CG  GLN C 178     -21.364  61.307 -85.680  1.00 48.01           C
ATOM   9168  CD  GLN C 178     -22.824  61.194 -85.274  1.00 47.73           C
ATOM   9169  OE1 GLN C 178     -23.429  60.123 -85.366  1.00 46.07           O
ATOM   9170  NE2 GLN C 178     -23.399  62.307 -84.828  1.00 48.06           N
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ATOM   9171  C   GLN C 178     -18.838  59.031 -87.444  1.00 46.30           C
ATOM   9172  O   GLN C 178     -19.084  58.123 -88.236  1.00 45.88           O
ATOM   9173  N   GLN C 179     -17.789  59.023 -86.632  1.00 44.53           N
ATOM   9174  CA  GLN C 179     -17.014  57.823 -86.415  1.00 43.23           C
ATOM   9175  CB  GLN C 179     -15.599  57.955 -86.988  1.00 43.21           C
ATOM   9176  CG  GLN C 179     -15.579  58.171 -88.500  1.00 44.69           C
ATOM   9177  CD  GLN C 179     -14.678  57.193 -89.248  1.00 45.70           C
ATOM   9178  OE1 GLN C 179     -14.749  55.979 -89.047  1.00 46.32           O
ATOM   9179  NE2 GLN C 179     -13.844  57.721 -90.138  1.00 45.48           N
ATOM   9180  C   GLN C 179     -17.008  57.548 -84.921  1.00 43.10           C
ATOM   9181  O   GLN C 179     -16.769  58.458 -84.120  1.00 42.92           O
ATOM   9182  N   ALA C 180     -17.313  56.300 -84.553  1.00 41.97           N
ATOM   9183  CA  ALA C 180     -17.444  55.901 -83.150  1.00 40.29           C
ATOM   9184  CB  ALA C 180     -18.802  55.260 -82.902  1.00 39.36           C
ATOM   9185  C   ALA C 180     -16.316  54.983 -82.665  1.00 39.26           C
ATOM   9186  O   ALA C 180     -16.019  53.950 -83.285  1.00 35.43           O
ATOM   9187  N   LYS C 181     -15.686  55.397 -81.561  1.00 39.95           N
ATOM   9188  CA  LYS C 181     -14.758  54.552 -80.804  1.00 40.09           C
ATOM   9189  CB  LYS C 181     -13.837  55.402 -79.923  1.00 39.76           C
ATOM   9190  CG  LYS C 181     -13.090  54.615 -78.859  1.00 39.65           C
ATOM   9191  CD  LYS C 181     -11.591  54.811 -78.975  1.00 40.94           C
ATOM   9192  CE  LYS C 181     -11.007  53.864 -80.008  1.00 41.69           C
ATOM   9193  NZ  LYS C 181      -9.990  54.543 -80.858  1.00 42.44           N
ATOM   9194  C   LYS C 181     -15.559  53.554 -79.965  1.00 40.17           C
ATOM   9195  O   LYS C 181     -16.403  53.942 -79.150  1.00 40.86           O
ATOM   9196  N   VAL C 182     -15.277  52.271 -80.161  1.00 38.75           N
ATOM   9197  CA  VAL C 182     -16.205  51.224 -79.777  1.00 37.12           C
ATOM   9198  CB  VAL C 182     -17.132  50.906 -80.976  1.00 36.68           C
ATOM   9199  CG1 VAL C 182     -17.315  49.412 -81.197  1.00 35.97           C
ATOM   9200  CG2 VAL C 182     -18.456  51.635 -80.813  1.00 36.78           C
ATOM   9201  C   VAL C 182     -15.495  49.981 -79.259  1.00 36.86           C
ATOM   9202  O   VAL C 182     -14.634  49.426 -79.941  1.00 38.01           O
ATOM   9203  N   GLN C 183     -15.844  49.566 -78.040  1.00 36.65           N
ATOM   9204  CA  GLN C 183     -15.348  48.298 -77.473  1.00 36.94           C
ATOM   9205  CB  GLN C 183     -14.973  48.448 -75.987  1.00 36.31           C
ATOM   9206  C   GLN C 183     -16.364  47.160 -77.671  1.00 36.22           C
ATOM   9207  O   GLN C 183     -17.496  47.224 -77.173  1.00 35.00           O
ATOM   9208  N   ILE C 184     -15.961  46.131 -78.413  1.00 35.08           N
ATOM   9209  CA  ILE C 184     -16.834  44.983 -78.657  1.00 34.76           C
ATOM   9210  CB  ILE C 184     -16.176  43.945 -79.598  1.00 33.98           C
ATOM   9211  CG1 ILE C 184     -15.836  44.571 -80.965  1.00 33.22           C
ATOM   9212  CD1 ILE C 184     -17.026  45.073 -81.762  1.00 32.20           C
ATOM   9213  CG2 ILE C 184     -17.068  42.718 -79.753  1.00 33.18           C
ATOM   9214  C   ILE C 184     -17.242  44.306 -77.344  1.00 35.47           C
ATOM   9215  O   ILE C 184     -16.394  44.026 -76.477  1.00 35.62           O
ATOM   9216  N   LEU C 185     -18.542  44.060 -77.187  1.00 34.36           N
ATOM   9217  CA  LEU C 185     -19.016  43.268 -76.051  1.00 33.04           C
ATOM   9218  CB  LEU C 185     -20.361  43.773 -75.532  1.00 30.76           C
ATOM   9219  CG  LEU C 185     -20.406  45.235 -75.088  1.00 29.65           C
ATOM   9220  CD1 LEU C 185     -21.827  45.632 -74.724  1.00 29.29           C
ATOM   9221  CD2 LEU C 185     -19.437  45.526 -73.947  1.00 28.76           C
ATOM   9222  C   LEU C 185     -19.089  41.798 -76.447  1.00 33.63           C
ATOM   9223  O   LEU C 185     -19.683  41.458 -77.469  1.00 34.03           O
ATOM   9224  N   PRO C 186     -18.451  40.926 -75.652  1.00 34.23           N
ATOM   9225  CA  PRO C 186     -18.408  39.485 -75.905  1.00 34.38           C
ATOM   9226  CB  PRO C 186     -17.405  38.988 -74.857  1.00 35.52           C
ATOM   9227  CG  PRO C 186     -17.492  39.981 -73.743  1.00 34.59           C
ATOM   9228  CD  PRO C 186     -17.712  41.296 -74.429  1.00 34.50           C
ATOM   9229  C   PRO C 186     -19.761  38.790 -75.690  1.00 33.47           C
ATOM   9230  O   PRO C 186     -20.477  39.118 -74.733  1.00 34.19           O
ATOM   9231  N   GLU C 187     -20.107  37.840 -76.563  1.00 31.35           N
ATOM   9232  CA  GLU C 187     -21.272  36.982 -76.311  1.00 30.42           C
ATOM   9233  CB  GLU C 187     -21.802  36.334 -77.586  1.00 30.44           C
ATOM   9234  CG  GLU C 187     -23.054  35.488 -77.376  1.00 29.89           C
ATOM   9235  CD  GLU C 187     -24.313  36.317 -77.192  1.00 30.44           C
ATOM   9236  OE1 GLU C 187     -24.320  37.505 -77.598  1.00 30.04           O
ATOM   9237  OE2 GLU C 187     -25.303  35.774 -76.648  1.00 30.77           O
ATOM   9238  C   GLU C 187     -20.908  35.915 -75.294  1.00 30.11           C
ATOM   9239  O   GLU C 187     -20.077  35.033 -75.564  1.00 30.06           O
ATOM   9240  N   CYS C 188     -21.537  36.006 -74.127  1.00 28.63           N
ATOM   9241  CA  CYS C 188     -21.168  35.204 -72.983  1.00 26.93           C
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ATOM   9242  CB  CYS C 188     -21.512  35.968 -71.714  1.00 28.99           C
ATOM   9243  SG  CYS C 188     -21.877  34.930 -70.289  1.00 34.68           S
ATOM   9244  C   CYS C 188     -21.846  33.840 -73.036  1.00 24.92           C
ATOM   9245  O   CYS C 188     -23.052  33.729 -72.857  1.00 23.99           O
ATOM   9246  N   VAL C 189     -21.057  32.807 -73.318  1.00 23.98           N
ATOM   9247  CA  VAL C 189     -21.579  31.443 -73.492  1.00 23.07           C
ATOM   9248  CB  VAL C 189     -21.122  30.798 -74.824  1.00 22.52           C
ATOM   9249  CG1 VAL C 189     -21.564  31.643 -76.008  1.00 21.63           C
ATOM   9250  CG2 VAL C 189     -19.612  30.592 -74.851  1.00 23.26           C
ATOM   9251  C   VAL C 189     -21.200  30.547 -72.315  1.00 22.77           C
ATOM   9252  O   VAL C 189     -20.024  30.478 -71.917  1.00 23.03           O
ATOM   9253  N   LEU C 190     -22.199  29.875 -71.746  1.00 21.77           N
ATOM   9254  CA  LEU C 190     -21.979  29.056 -70.557  1.00 21.26           C
ATOM   9255  CB  LEU C 190     -22.724  29.634 -69.347  1.00 20.89           C
ATOM   9256  CG  LEU C 190     -22.598  31.141 -69.113  1.00 20.79           C
ATOM   9257  CD1 LEU C 190     -23.528  31.577 -67.999  1.00 20.74           C
ATOM   9258  CD2 LEU C 190     -21.164  31.537 -68.807  1.00 21.18           C
ATOM   9259  C   LEU C 190     -22.406  27.617 -70.794  1.00 20.89           C
ATOM   9260  O   LEU C 190     -23.376  27.380 -71.509  1.00 21.01           O
ATOM   9261  N   PRO C 191     -21.682  26.650 -70.189  1.00 20.38           N
ATOM   9262  CA  PRO C 191     -22.109  25.255 -70.195  1.00 20.44           C
ATOM   9263  CB  PRO C 191     -20.981  24.551 -69.447  1.00 20.07           C
ATOM   9264  CG  PRO C 191     -20.402  25.599 -68.566  1.00 19.92           C
ATOM   9265  CD  PRO C 191     -20.469  26.847 -69.377  1.00 20.04           C
ATOM   9266  C   PRO C 191     -23.426  25.127 -69.431  1.00 20.86           C
ATOM   9267  O   PRO C 191     -23.985  26.147 -69.026  1.00 21.55           O
ATOM   9268  N   SER C 192     -23.932  23.910 -69.241  1.00 21.13           N
ATOM   9269  CA  SER C 192     -25.111  23.727 -68.394  1.00 22.07           C
ATOM   9270  CB  SER C 192     -25.664  22.315 -68.525  1.00 22.98           C
ATOM   9271  OG  SER C 192     -24.936  21.422 -67.685  1.00 24.06           O
ATOM   9272  C   SER C 192     -24.719  23.982 -66.941  1.00 22.43           C
ATOM   9273  O   SER C 192     -23.532  23.915 -66.591  1.00 22.77           O
ATOM   9274  N   THR C 193     -25.703  24.245 -66.085  1.00 22.61           N
ATOM   9275  CA  THR C 193     -25.416  24.386 -64.660  1.00 23.04           C
ATOM   9276  CB  THR C 193     -26.633  24.792 -63.808  1.00 23.22           C
ATOM   9277  OG1 THR C 193     -27.727  25.222 -64.630  1.00 23.73           O
ATOM   9278  CG2 THR C 193     -26.226  25.905 -62.879  1.00 23.65           C
ATOM   9279  C   THR C 193     -24.838  23.113 -64.050  1.00 22.96           C
ATOM   9280  O   THR C 193     -24.161  23.172 -63.022  1.00 23.90           O
ATOM   9281  N   MET C 194     -25.095  21.974 -64.685  1.00 21.65           N
ATOM   9282  CA  MET C 194     -24.715  20.684 -64.121  1.00 20.83           C
ATOM   9283  CB  MET C 194     -25.774  19.642 -64.458  1.00 20.93           C
ATOM   9284  CG  MET C 194     -27.157  19.991 -63.933  1.00 20.79           C
ATOM   9285  SD  MET C 194     -27.328  19.717 -62.159  1.00 21.07           S
ATOM   9286  CE  MET C 194     -26.579  21.191 -61.449  1.00 20.41           C
ATOM   9287  C   MET C 194     -23.339  20.190 -64.543  1.00 20.40           C
ATOM   9288  O   MET C 194     -22.687  19.459 -63.809  1.00 20.13           O
ATOM   9289  N   SER C 195     -22.901  20.587 -65.730  1.00 20.58           N
ATOM   9290  CA  SER C 195     -21.594  20.181 -66.259  1.00 20.71           C
ATOM   9291  CB  SER C 195     -21.293  20.977 -67.535  1.00 20.64           C
ATOM   9292  OG  SER C 195     -20.819  22.280 -67.216  1.00 20.72           O
ATOM   9293  C   SER C 195     -20.417  20.328 -65.265  1.00 20.41           C
ATOM   9294  O   SER C 195     -19.372  19.739 -65.460  1.00 20.38           O
ATOM   9295  N   ALA C 196     -20.594  21.131 -64.221  1.00 20.87           N
ATOM   9296  CA  ALA C 196     -19.528  21.426 -63.257  1.00 21.28           C
ATOM   9297  CB  ALA C 196     -19.689  22.843 -62.713  1.00 20.99           C
ATOM   9298  C   ALA C 196     -19.529  20.426 -62.107  1.00 21.99           C
ATOM   9299  O   ALA C 196     -18.483  20.076 -61.553  1.00 22.06           O
ATOM   9300  N   VAL C 197     -20.720  19.960 -61.761  1.00 21.96           N
ATOM   9301  CA  VAL C 197     -20.927  19.189 -60.562  1.00 21.08           C
ATOM   9302  CB  VAL C 197     -21.996  19.895 -59.724  1.00 20.64           C
ATOM   9303  CG1 VAL C 197     -23.376  19.302 -59.981  1.00 20.66           C
ATOM   9304  CG2 VAL C 197     -21.627  19.867 -58.258  1.00 20.68           C
ATOM   9305  C   VAL C 197     -21.331  17.740 -60.893  1.00 21.43           C
ATOM   9306  O   VAL C 197     -21.561  16.926 -59.986  1.00 21.30           O
ATOM   9307  N   GLN C 198     -21.389  17.431 -62.196  1.00 21.62           N
ATOM   9308  CA  GLN C 198     -21.889  16.153 -62.704  1.00 22.27           C
ATOM   9309  CB  GLN C 198     -22.066  16.191 -64.228  1.00 23.74           C
ATOM   9310  CG  GLN C 198     -22.623  14.893 -64.834  1.00 24.62           C
ATOM   9311  CD  GLN C 198     -24.145  14.787 -64.716  1.00 25.83           C
ATOM   9312  OE1 GLN C 198     -24.880  15.663 -65.205  1.00 27.24           O
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ATOM   9313  NE2 GLN C 198     -24.627  13.721 -64.065  1.00 24.33           N
ATOM   9314  C   GLN C 198     -20.974  15.010 -62.374  1.00 22.08           C
ATOM   9315  O   GLN C 198     -19.788  15.045 -62.689  1.00 22.03           O
ATOM   9316  N   LEU C 199     -21.543  13.980 -61.765  1.00 22.36           N
ATOM   9317  CA  LEU C 199     -20.817  12.746 -61.507  1.00 23.03           C
ATOM   9318  CB  LEU C 199     -21.706  11.753 -60.746  1.00 22.68           C
ATOM   9319  CG  LEU C 199     -21.706  11.705 -59.208  1.00 22.15           C
ATOM   9320  CD1 LEU C 199     -21.228  12.994 -58.554  1.00 20.88           C
ATOM   9321  CD2 LEU C 199     -23.096  11.326 -58.711  1.00 21.73           C
ATOM   9322  C   LEU C 199     -20.358  12.139 -62.824  1.00 23.39           C
ATOM   9323  O   LEU C 199     -21.142  12.040 -63.764  1.00 23.49           O
ATOM   9324  N   GLU C 200     -19.083  11.759 -62.888  1.00 24.15           N
ATOM   9325  CA  GLU C 200     -18.523  11.071 -64.048  1.00 25.01           C
ATOM   9326  CB  GLU C 200     -17.073  10.675 -63.770  1.00 27.34           C
ATOM   9327  CG  GLU C 200     -16.042  11.632 -64.333  1.00 30.38           C
ATOM   9328  CD  GLU C 200     -14.933  11.959 -63.341  1.00 32.53           C
ATOM   9329  OE1 GLU C 200     -15.130  12.882 -62.513  1.00 32.87           O
ATOM   9330  OE2 GLU C 200     -13.858  11.308 -63.401  1.00 33.82           O
ATOM   9331  C   GLU C 200     -19.327   9.829 -64.444  1.00 24.25           C
ATOM   9332  O   GLU C 200     -19.522   9.565 -65.626  1.00 23.76           O
ATOM   9333  N   SER C 201     -19.788   9.070 -63.453  1.00 23.80           N
ATOM   9334  CA  SER C 201     -20.521   7.830 -63.711  1.00 24.17           C
ATOM   9335  CB  SER C 201     -20.784   7.086 -62.402  1.00 24.00           C
ATOM   9336  OG  SER C 201     -21.361   7.952 -61.444  1.00 24.53           O
ATOM   9337  C   SER C 201     -21.841   8.030 -64.491  1.00 24.32           C
ATOM   9338  O   SER C 201     -22.279   7.131 -65.234  1.00 24.55           O
ATOM   9339  N   LEU C 202     -22.456   9.204 -64.327  1.00 23.37           N
ATOM   9340  CA  LEU C 202     -23.756   9.491 -64.933  1.00 22.52           C
ATOM   9341  CB  LEU C 202     -24.641  10.294 -63.977  1.00 22.04           C
ATOM   9342  CG  LEU C 202     -24.808   9.908 -62.509  1.00 21.63           C
ATOM   9343  CD1 LEU C 202     -25.641  10.967 -61.806  1.00 21.05           C
ATOM   9344  CD2 LEU C 202     -25.444   8.536 -62.349  1.00 21.34           C
ATOM   9345  C   LEU C 202     -23.630  10.248 -66.241  1.00 22.37           C
ATOM   9346  O   LEU C 202     -24.631  10.587 -66.857  1.00 22.79           O
ATOM   9347  N   ASN C 203     -22.405  10.541 -66.650  1.00 22.67           N
ATOM   9348  CA  ASN C 203     -22.164  11.131 -67.960  1.00 23.88           C
ATOM   9349  CB  ASN C 203     -20.665  11.161 -68.257  1.00 22.53           C
ATOM   9350  CG  ASN C 203     -19.966  12.331 -67.615  1.00 21.37           C
ATOM   9351  OD1 ASN C 203     -18.760  12.303 -67.405  1.00 20.80           O
ATOM   9352  ND2 ASN C 203     -20.720  13.372 -67.307  1.00 21.55           N
ATOM   9353  C   ASN C 203     -22.898  10.375 -69.076  1.00 26.04           C
ATOM   9354  O   ASN C 203     -23.499  10.983 -69.972  1.00 26.30           O
ATOM   9355  N   LYS C 204     -22.859   9.044 -68.989  1.00 28.41           N
ATOM   9356  CA  LYS C 204     -23.413   8.153 -70.012  1.00 29.77           C
ATOM   9357  CB  LYS C 204     -23.100   6.693 -69.661  1.00 30.77           C
ATOM   9358  CG  LYS C 204     -21.631   6.434 -69.349  1.00 32.76           C
ATOM   9359  CD  LYS C 204     -21.333   4.961 -69.074  1.00 33.49           C
ATOM   9360  CE  LYS C 204     -21.648   4.559 -67.640  1.00 33.32           C
ATOM   9361  NZ  LYS C 204     -23.113   4.359 -67.458  1.00 34.55           N
ATOM   9362  C   LYS C 204     -24.921   8.338 -70.220  1.00 29.95           C
ATOM   9363  O   LYS C 204     -25.475   7.894 -71.223  1.00 30.63           O
ATOM   9364  N   CYS C 205     -25.579   9.000 -69.278  1.00 29.93           N
ATOM   9365  CA  CYS C 205     -27.025   9.137 -69.324  1.00 30.55           C
ATOM   9366  CB  CYS C 205     -27.628   8.771 -67.977  1.00 30.39           C
ATOM   9367  SG  CYS C 205     -26.915   7.269 -67.293  1.00 31.81           S
ATOM   9368  C   CYS C 205     -27.450  10.537 -69.705  1.00 31.15           C
ATOM   9369  O   CYS C 205     -28.651  10.833 -69.736  1.00 31.36           O
ATOM   9370  N   GLN C 206     -26.470  11.392 -70.001  1.00 31.36           N
ATOM   9371  CA  GLN C 206     -26.741  12.807 -70.222  1.00 31.39           C
ATOM   9372  CB  GLN C 206     -25.485  13.669 -70.034  1.00 31.08           C
ATOM   9373  CG  GLN C 206     -25.205  14.048 -68.577  1.00 32.12           C
ATOM   9374  CD  GLN C 206     -26.385  14.756 -67.886  1.00 33.35           C
ATOM   9375  OE1 GLN C 206     -27.460  14.173 -67.714  1.00 34.34           O
ATOM   9376  NE2 GLN C 206     -26.176  16.010 -67.468  1.00 32.07           N
ATOM   9377  C   GLN C 206     -27.438  13.068 -71.548  1.00 31.87           C
ATOM   9378  O   GLN C 206     -28.205  14.026 -71.669  1.00 32.96           O
ATOM   9379  N   ILE C 207     -27.196  12.199 -72.528  1.00 32.18           N
ATOM   9380  CA  ILE C 207     -27.991  12.199 -73.758  1.00 32.08           C
ATOM   9381  CB  ILE C 207     -27.202  11.651 -74.967  1.00 30.95           C
ATOM   9382  CG1 ILE C 207     -26.096  12.641 -75.356  1.00 31.20           C
ATOM   9383  CD1 ILE C 207     -24.981  12.048 -76.199  1.00 31.52           C
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ATOM   9384  CG2 ILE C 207     -28.126  11.417 -76.157  1.00 29.68           C
ATOM   9385  C   ILE C 207     -29.281  11.415 -73.542  1.00 32.22           C
ATOM   9386  O   ILE C 207     -29.255  10.321 -72.993  1.00 31.30           O
ATOM   9387  N   PHE C 208     -30.399  11.999 -73.969  1.00 34.27           N
ATOM   9388  CA  PHE C 208     -31.717  11.372 -73.855  1.00 36.28           C
ATOM   9389  CB  PHE C 208     -32.709  12.356 -73.233  1.00 38.45           C
ATOM   9390  CG  PHE C 208     -32.226  12.990 -71.966  1.00 41.26           C
ATOM   9391  CD1 PHE C 208     -31.605  12.224 -70.971  1.00 42.83           C
ATOM   9392  CE1 PHE C 208     -31.170  12.812 -69.785  1.00 44.02           C
ATOM   9393  CZ  PHE C 208     -31.365  14.173 -69.576  1.00 43.88           C
ATOM   9394  CE2 PHE C 208     -31.994  14.942 -70.553  1.00 44.27           C
ATOM   9395  CD2 PHE C 208     -32.421  14.350 -71.741  1.00 42.65           C
ATOM   9396  C   PHE C 208     -32.279  10.896 -75.204  1.00 36.09           C
ATOM   9397  O   PHE C 208     -31.917  11.430 -76.252  1.00 33.65           O
ATOM   9398  N   PRO C 209     -33.178   9.889 -75.175  1.00 37.08           N
ATOM   9399  CA  PRO C 209     -34.035   9.607 -76.328  1.00 38.05           C
ATOM   9400  CB  PRO C 209     -34.944   8.484 -75.823  1.00 37.29           C
ATOM   9401  CG  PRO C 209     -34.177   7.834 -74.731  1.00 37.21           C
ATOM   9402  CD  PRO C 209     -33.403   8.934 -74.073  1.00 37.17           C
ATOM   9403  C   PRO C 209     -34.875  10.841 -76.670  1.00 39.98           C
ATOM   9404  O   PRO C 209     -35.470  11.448 -75.771  1.00 41.36           O
ATOM   9405  N   SER C 210     -34.918  11.207 -77.949  1.00 40.34           N
ATOM   9406  CA  SER C 210     -35.511  12.478 -78.361  1.00 42.06           C
ATOM   9407  CB  SER C 210     -35.150  12.798 -79.810  1.00 42.46           C
ATOM   9408  OG  SER C 210     -35.202  11.632 -80.606  1.00 44.76           O
ATOM   9409  C   SER C 210     -37.023  12.559 -78.133  1.00 43.61           C
ATOM   9410  O   SER C 210     -37.715  11.546 -78.095  1.00 44.00           O
ATOM   9411  N   LYS C 211     -37.513  13.784 -77.969  1.00 47.83           N
ATOM   9412  CA  LYS C 211     -38.909  14.059 -77.605  1.00 51.30           C
ATOM   9413  CB  LYS C 211     -39.069  15.529 -77.150  1.00 51.58           C
ATOM   9414  CG  LYS C 211     -38.272  16.543 -77.974  1.00 51.85           C
ATOM   9415  CD  LYS C 211     -37.751  17.689 -77.112  1.00 53.24           C
ATOM   9416  CE  LYS C 211     -36.335  18.114 -77.510  1.00 52.78           C
ATOM   9417  NZ  LYS C 211     -35.724  19.108 -76.573  1.00 47.88           N
ATOM   9418  C   LYS C 211     -39.881  13.747 -78.741  1.00 53.32           C
ATOM   9419  O   LYS C 211     -39.659  14.186 -79.876  1.00 55.48           O
ATOM   9420  N   PRO C 212     -40.955  12.978 -78.444  1.00 54.57           N
ATOM   9421  CA  PRO C 212     -42.053  12.783 -79.407  1.00 55.36           C
ATOM   9422  CB  PRO C 212     -43.045  11.905 -78.635  1.00 55.16           C
ATOM   9423  CG  PRO C 212     -42.200  11.161 -77.657  1.00 54.18           C
ATOM   9424  CD  PRO C 212     -41.108  12.115 -77.255  1.00 54.02           C
ATOM   9425  C   PRO C 212     -42.704  14.113 -79.812  1.00 54.85           C
ATOM   9426  O   PRO C 212     -42.675  15.077 -79.039  1.00 54.21           O
ATOM   9427  N   VAL C 213     -43.278  14.160 -81.014  1.00 55.16           N
ATOM   9428  CA  VAL C 213     -43.784  15.421 -81.586  1.00 55.48           C
ATOM   9429  CB  VAL C 213     -43.693  15.445 -83.137  1.00 53.71           C
ATOM   9430  CG1 VAL C 213     -42.283  15.809 -83.582  1.00 51.13           C
ATOM   9431  CG2 VAL C 213     -44.136  14.115 -83.742  1.00 52.69           C
ATOM   9432  C   VAL C 213     -45.193  15.825 -81.112  1.00 56.11           C
ATOM   9433  O   VAL C 213     -46.142  15.038 -81.155  1.00 55.14           O
ATOM   9434  N   TYR C 221     -44.941  17.855 -70.831  1.00 59.00           N
ATOM   9435  CA  TYR C 221     -45.662  16.772 -70.167  1.00 59.89           C
ATOM   9436  CB  TYR C 221     -46.533  15.986 -71.168  1.00 64.56           C
ATOM   9437  CG  TYR C 221     -45.911  15.733 -72.534  1.00 67.38           C
ATOM   9438  CD1 TYR C 221     -45.634  16.794 -73.413  1.00 66.88           C
ATOM   9439  CE1 TYR C 221     -45.079  16.565 -74.662  1.00 67.09           C
ATOM   9440  CZ  TYR C 221     -44.814  15.259 -75.061  1.00 69.42           C
ATOM   9441  OH  TYR C 221     -44.268  15.027 -76.301  1.00 70.32           O
ATOM   9442  CE2 TYR C 221     -45.092  14.189 -74.220  1.00 68.40           C
ATOM   9443  CD2 TYR C 221     -45.642  14.429 -72.968  1.00 67.91           C
ATOM   9444  C   TYR C 221     -44.716  15.852 -69.378  1.00 58.43           C
ATOM   9445  O   TYR C 221     -43.841  16.342 -68.648  1.00 59.17           O
ATOM   9446  N   LYS C 222     -44.900  14.532 -69.512  1.00 53.69           N
ATOM   9447  CA  LYS C 222     -44.057  13.545 -68.813  1.00 47.25           C
ATOM   9448  CB  LYS C 222     -44.617  12.110 -68.910  1.00 45.93           C
ATOM   9449  CG  LYS C 222     -45.339  11.775 -70.209  1.00 49.11           C
ATOM   9450  CD  LYS C 222     -44.429  11.130 -71.248  1.00 49.94           C
ATOM   9451  CE  LYS C 222     -44.539   9.612 -71.231  1.00 49.87           C
ATOM   9452  NZ  LYS C 222     -43.450   8.988 -72.029  1.00 48.94           N
ATOM   9453  C   LYS C 222     -42.609  13.607 -69.283  1.00 44.03           C
ATOM   9454  O   LYS C 222     -41.689  13.523 -68.465  1.00 43.95           O
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ATOM   9455  N   TRP C 223     -42.413  13.794 -70.590  1.00 39.58           N
ATOM   9456  CA  TRP C 223     -41.070  13.898 -71.161  1.00 34.76           C
ATOM   9457  CB  TRP C 223     -41.109  14.061 -72.679  1.00 33.31           C
ATOM   9458  CG  TRP C 223     -39.738  13.892 -73.290  1.00 33.47           C
ATOM   9459  CD1 TRP C 223     -39.158  12.717 -73.773  1.00 33.76           C
ATOM   9460  NE1 TRP C 223     -37.875  12.949 -74.220  1.00 33.13           N
ATOM   9461  CE2 TRP C 223     -37.540  14.250 -74.056  1.00 32.70           C
ATOM   9462  CD2 TRP C 223     -38.698  14.923 -73.449  1.00 33.19           C
ATOM   9463  CE3 TRP C 223     -38.614  16.284 -73.161  1.00 32.27           C
ATOM   9464  CZ3 TRP C 223     -37.429  16.955 -73.465  1.00 32.08           C
ATOM   9465  CH2 TRP C 223     -36.337  16.292 -74.050  1.00 32.16           C
ATOM   9466  CZ2 TRP C 223     -36.374  14.928 -74.356  1.00 32.22           C
ATOM   9467  C   TRP C 223     -40.266  15.003 -70.525  1.00 33.33           C
ATOM   9468  O   TRP C 223     -39.067  14.849 -70.302  1.00 32.25           O
ATOM   9469  N   TRP C 224     -40.917  16.124 -70.218  1.00 32.00           N
ATOM   9470  CA  TRP C 224     -40.240  17.248 -69.570  1.00 30.09           C
ATOM   9471  CB  TRP C 224     -40.963  18.566 -69.840  1.00 28.89           C
ATOM   9472  CG  TRP C 224     -40.704  19.028 -71.242  1.00 28.27           C
ATOM   9473  CD1 TRP C 224     -41.482  18.787 -72.369  1.00 28.15           C
ATOM   9474  NE1 TRP C 224     -40.898  19.330 -73.491  1.00 28.05           N
ATOM   9475  CE2 TRP C 224     -39.722  19.916 -73.181  1.00 27.70           C
ATOM   9476  CD2 TRP C 224     -39.527  19.751 -71.735  1.00 27.51           C
ATOM   9477  CE3 TRP C 224     -38.382  20.265 -71.147  1.00 26.49           C
ATOM   9478  CZ3 TRP C 224     -37.458  20.927 -71.960  1.00 26.25           C
ATOM   9479  CH2 TRP C 224     -37.667  21.083 -73.342  1.00 26.32           C
ATOM   9480  CZ2 TRP C 224     -38.799  20.577 -73.978  1.00 26.87           C
ATOM   9481  C   TRP C 224     -40.033  17.026 -68.109  1.00 29.90           C
ATOM   9482  O   TRP C 224     -39.049  17.503 -67.539  1.00 29.30           O
ATOM   9483  N   GLN C 225     -40.945  16.290 -67.483  1.00 30.10           N
ATOM   9484  CA  GLN C 225     -40.754  15.916 -66.094  1.00 30.63           C
ATOM   9485  CB  GLN C 225     -42.043  15.382 -65.483  1.00 34.32           C
ATOM   9486  CG  GLN C 225     -43.091  16.462 -65.225  1.00 39.23           C
ATOM   9487  CD  GLN C 225     -44.379  15.896 -64.646  1.00 42.45           C
ATOM   9488  OE1 GLN C 225     -44.377  14.805 -64.054  1.00 44.71           O
ATOM   9489  NE2 GLN C 225     -45.492  16.628 -64.817  1.00 41.85           N
ATOM   9490  C   GLN C 225     -39.639  14.894 -66.020  1.00 28.76           C
ATOM   9491  O   GLN C 225     -38.820  14.927 -65.097  1.00 28.26           O
ATOM   9492  N   LYS C 226     -39.596  14.014 -67.023  1.00 26.92           N
ATOM   9493  CA  LYS C 226     -38.505  13.060 -67.196  1.00 25.64           C
ATOM   9494  CB  LYS C 226     -38.824  12.094 -68.340  1.00 25.24           C
ATOM   9495  C   LYS C 226     -37.159  13.774 -67.432  1.00 24.58           C
ATOM   9496  O   LYS C 226     -36.182  13.539 -66.704  1.00 23.90           O
ATOM   9497  N   TYR C 227     -37.130  14.641 -68.446  1.00 23.65           N
ATOM   9498  CA  TYR C 227     -35.978  15.498 -68.760  1.00 22.85           C
ATOM   9499  CB  TYR C 227     -36.397  16.557 -69.780  1.00 23.05           C
ATOM   9500  CG  TYR C 227     -35.350  17.605 -70.113  1.00 22.92           C
ATOM   9501  CD1 TYR C 227     -34.471  17.422 -71.176  1.00 23.07           C
ATOM   9502  CE1 TYR C 227     -33.532  18.377 -71.501  1.00 22.62           C
ATOM   9503  CZ  TYR C 227     -33.465  19.541 -70.765  1.00 22.94           C
ATOM   9504  OH  TYR C 227     -32.520  20.485 -71.091  1.00 23.68           O
ATOM   9505  CE2 TYR C 227     -34.329  19.761 -69.705  1.00 22.85           C
ATOM   9506  CD2 TYR C 227     -35.272  18.799 -69.392  1.00 23.00           C
ATOM   9507  C   TYR C 227     -35.412  16.183 -67.516  1.00 22.51           C
ATOM   9508  O   TYR C 227     -34.200  16.130 -67.266  1.00 22.61           O
ATOM   9509  N   GLN C 228     -36.292  16.827 -66.748  1.00 21.29           N
ATOM   9510  CA  GLN C 228     -35.888  17.531 -65.539  1.00 20.54           C
ATOM   9511  CB  GLN C 228     -37.064  18.288 -64.912  1.00 19.85           C
ATOM   9512  CG  GLN C 228     -36.623  19.442 -64.019  1.00 19.47           C
ATOM   9513  CD  GLN C 228     -37.608  19.772 -62.913  1.00 19.25           C
ATOM   9514  OE1 GLN C 228     -38.152  20.885 -62.858  1.00 18.74           O
ATOM   9515  NE2 GLN C 228     -37.830  18.815 -62.009  1.00 19.20           N
ATOM   9516  C   GLN C 228     -35.257  16.597 -64.503  1.00 20.68           C
ATOM   9517  O   GLN C 228     -34.262  16.966 -63.874  1.00 20.83           O
ATOM   9518  N   ARG C 229     -35.835  15.400 -64.333  1.00 19.94           N
ATOM   9519  CA  ARG C 229     -35.366  14.450 -63.321  1.00 19.49           C
ATOM   9520  CB  ARG C 229     -36.360  13.291 -63.114  1.00 19.04           C
ATOM   9521  C   ARG C 229     -33.981  13.905 -63.649  1.00 19.38           C
ATOM   9522  O   ARG C 229     -33.166  13.702 -62.733  1.00 19.62           O
ATOM   9523  N   ARG C 230     -33.716  13.681 -64.942  1.00 18.55           N
ATOM   9524  CA  ARG C 230     -32.462  13.046 -65.374  1.00 18.27           C
ATOM   9525  CB  ARG C 230     -32.667  12.127 -66.589  1.00 17.93           C
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ATOM   9526  C   ARG C 230     -31.332  14.044 -65.635  1.00 18.00           C
ATOM   9527  O   ARG C 230     -30.191  13.793 -65.260  1.00 18.43           O
ATOM   9528  N   LYS C 231     -31.644  15.168 -66.270  1.00 17.44           N
ATOM   9529  CA  LYS C 231     -30.624  16.174 -66.572  1.00 17.13           C
ATOM   9530  CB  LYS C 231     -31.167  17.209 -67.555  1.00 16.73           C
ATOM   9531  CG  LYS C 231     -30.385  18.504 -67.610  1.00 16.10           C
ATOM   9532  CD  LYS C 231     -30.494  19.057 -69.003  1.00 16.58           C
ATOM   9533  CE  LYS C 231     -29.450  20.108 -69.301  1.00 16.81           C
ATOM   9534  NZ  LYS C 231     -29.463  20.333 -70.771  1.00 16.80           N
ATOM   9535  C   LYS C 231     -30.088  16.862 -65.312  1.00 16.84           C
ATOM   9536  O   LYS C 231     -28.890  17.103 -65.189  1.00 17.01           O
ATOM   9537  N   PHE C 232     -30.981  17.164 -64.380  1.00 16.39           N
ATOM   9538  CA  PHE C 232     -30.620  17.920 -63.199  1.00 16.04           C
ATOM   9539  CB  PHE C 232     -31.635  19.018 -62.975  1.00 15.93           C
ATOM   9540  CG  PHE C 232     -31.623  20.042 -64.049  1.00 16.07           C
ATOM   9541  CD1 PHE C 232     -30.554  20.916 -64.168  1.00 15.99           C
ATOM   9542  CE1 PHE C 232     -30.523  21.862 -65.168  1.00 16.20           C
ATOM   9543  CZ  PHE C 232     -31.569  21.935 -66.077  1.00 16.59           C
ATOM   9544  CE2 PHE C 232     -32.647  21.067 -65.972  1.00 16.48           C
ATOM   9545  CD2 PHE C 232     -32.665  20.121 -64.959  1.00 16.27           C
ATOM   9546  C   PHE C 232     -30.491  17.056 -61.964  1.00 15.98           C
ATOM   9547  O   PHE C 232     -30.621  17.534 -60.843  1.00 16.07           O
ATOM   9548  N   HIS C 233     -30.214  15.780 -62.179  1.00 15.70           N
ATOM   9549  CA  HIS C 233     -30.095  14.840 -61.095  1.00 15.74           C
ATOM   9550  CB  HIS C 233     -29.733  13.477 -61.629  1.00 15.16           C
ATOM   9551  CG  HIS C 233     -29.676  12.432 -60.575  1.00 14.81           C
ATOM   9552  ND1 HIS C 233     -28.529  11.911 -60.153  1.00 15.17           N
ATOM   9553  CE1 HIS C 233     -28.778  11.006 -59.187  1.00 15.24           C
ATOM   9554  NE2 HIS C 233     -30.097  10.969 -58.988  1.00 14.89           N
ATOM   9555  CD2 HIS C 233     -30.682  11.837 -59.825  1.00 14.75           C
ATOM   9556  C   HIS C 233     -29.088  15.268 -60.067  1.00 16.45           C
ATOM   9557  O   HIS C 233     -29.369  15.259 -58.857  1.00 16.75           O
ATOM   9558  N   CYS C 234     -27.912  15.678 -60.533  1.00 17.12           N
ATOM   9559  CA  CYS C 234     -26.808  16.017 -59.639  1.00 17.27           C
ATOM   9560  CB  CYS C 234     -25.501  16.019 -60.410  1.00 18.17           C
ATOM   9561  SG  CYS C 234     -25.002  14.356 -60.882  1.00 19.89           S
ATOM   9562  C   CYS C 234     -26.979  17.329 -58.868  1.00 17.09           C
ATOM   9563  O   CYS C 234     -26.016  17.833 -58.281  1.00 17.38           O
ATOM   9564  N   ALA C 235     -28.199  17.874 -58.856  1.00 16.24           N
ATOM   9565  CA  ALA C 235     -28.517  18.993 -57.979  1.00 15.55           C
ATOM   9566  CB  ALA C 235     -29.946  19.449 -58.182  1.00 15.36           C
ATOM   9567  C   ALA C 235     -28.298  18.567 -56.536  1.00 15.51           C
ATOM   9568  O   ALA C 235     -27.913  19.375 -55.697  1.00 15.38           O
ATOM   9569  N   ASN C 236     -28.518  17.284 -56.260  1.00 15.24           N
ATOM   9570  CA  ASN C 236     -28.387  16.758 -54.919  1.00 15.04           C
ATOM   9571  CB  ASN C 236     -28.747  15.290 -54.907  1.00 16.24           C
ATOM   9572  CG  ASN C 236     -30.231  15.063 -55.141  1.00 17.51           C
ATOM   9573  OD1 ASN C 236     -30.716  15.171 -56.277  1.00 17.96           O
ATOM   9574  ND2 ASN C 236     -30.967  14.741 -54.064  1.00 17.56           N
ATOM   9575  C   ASN C 236     -27.019  16.963 -54.311  1.00 14.35           C
ATOM   9576  O   ASN C 236     -26.873  16.907 -53.088  1.00 13.84           O
ATOM   9577  N   LEU C 237     -26.038  17.226 -55.181  1.00 13.77           N
ATOM   9578  CA  LEU C 237     -24.639  17.470 -54.813  1.00 13.22           C
ATOM   9579  CB  LEU C 237     -23.739  17.143 -56.003  1.00 13.30           C
ATOM   9580  CG  LEU C 237     -23.536  15.682 -56.428  1.00 13.70           C
ATOM   9581  CD1 LEU C 237     -22.236  15.115 -55.884  1.00 13.92           C
ATOM   9582  CD2 LEU C 237     -24.695  14.779 -56.028  1.00 13.79           C
ATOM   9583  C   LEU C 237     -24.440  18.928 -54.424  1.00 12.92           C
ATOM   9584  O   LEU C 237     -23.435  19.306 -53.811  1.00 12.49           O
ATOM   9585  N   THR C 238     -25.421  19.742 -54.799  1.00 12.76           N
ATOM   9586  CA  THR C 238     -25.362  21.176 -54.644  1.00 12.24           C
ATOM   9587  CB  THR C 238     -25.613  21.886 -56.000  1.00 12.07           C
ATOM   9588  OG1 THR C 238     -27.015  22.071 -56.220  1.00 11.66           O
ATOM   9589  CG2 THR C 238     -25.037  21.079 -57.163  1.00 11.99           C
ATOM   9590  C   THR C 238     -26.401  21.577 -53.618  1.00 12.19           C
ATOM   9591  O   THR C 238     -27.017  20.740 -52.988  1.00 11.84           O
ATOM   9592  N   SER C 239     -26.616  22.867 -53.468  1.00 12.91           N
ATOM   9593  CA  SER C 239     -27.517  23.362 -52.442  1.00 13.54           C
ATOM   9594  CB  SER C 239     -26.807  24.431 -51.608  1.00 13.54           C
ATOM   9595  OG  SER C 239     -26.062  25.269 -52.467  1.00 13.80           O
ATOM   9596  C   SER C 239     -28.846  23.892 -53.000  1.00 13.78           C
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ATOM   9597  O   SER C 239     -29.552  24.631 -52.314  1.00 14.37           O
ATOM   9598  N   TRP C 240     -29.197  23.504 -54.222  1.00 13.87           N
ATOM   9599  CA  TRP C 240     -30.508  23.847 -54.776  1.00 14.36           C
ATOM   9600  CB  TRP C 240     -30.435  25.135 -55.600  1.00 14.43           C
ATOM   9601  CG  TRP C 240     -30.622  26.315 -54.689  1.00 14.97           C
ATOM   9602  CD1 TRP C 240     -31.744  26.625 -53.897  1.00 15.12           C
ATOM   9603  NE1 TRP C 240     -31.523  27.754 -53.136  1.00 14.78           N
ATOM   9604  CE2 TRP C 240     -30.296  28.226 -53.358  1.00 14.80           C
ATOM   9605  CD2 TRP C 240     -29.645  27.329 -54.358  1.00 15.07           C
ATOM   9606  CE3 TRP C 240     -28.354  27.592 -54.762  1.00 15.05           C
ATOM   9607  CZ3 TRP C 240     -27.714  28.694 -54.210  1.00 15.22           C
ATOM   9608  CH2 TRP C 240     -28.357  29.538 -53.272  1.00 15.30           C
ATOM   9609  CZ2 TRP C 240     -29.662  29.311 -52.834  1.00 14.82           C
ATOM   9610  C   TRP C 240     -31.270  22.725 -55.473  1.00 14.75           C
ATOM   9611  O   TRP C 240     -30.704  21.673 -55.790  1.00 14.98           O
ATOM   9612  N   PRO C 241     -32.577  22.928 -55.704  1.00 14.83           N
ATOM   9613  CA  PRO C 241     -33.408  21.896 -56.289  1.00 15.37           C
ATOM   9614  CB  PRO C 241     -34.823  22.336 -55.900  1.00 15.45           C
ATOM   9615  CG  PRO C 241     -34.677  23.547 -55.042  1.00 15.05           C
ATOM   9616  CD  PRO C 241     -33.363  24.124 -55.395  1.00 14.77           C
ATOM   9617  C   PRO C 241     -33.315  21.825 -57.816  1.00 15.97           C
ATOM   9618  O   PRO C 241     -32.891  22.794 -58.458  1.00 16.18           O
ATOM   9619  N   ARG C 242     -33.738  20.684 -58.376  1.00 16.47           N
ATOM   9620  CA  ARG C 242     -33.867  20.484 -59.831  1.00 16.39           C
ATOM   9621  CB  ARG C 242     -34.557  19.145 -60.129  1.00 17.50           C
ATOM   9622  CG  ARG C 242     -33.621  17.945 -60.005  1.00 19.59           C
ATOM   9623  CD  ARG C 242     -34.281  16.589 -60.293  1.00 20.79           C
ATOM   9624  NE  ARG C 242     -34.739  15.950 -59.064  1.00 21.38           N
ATOM   9625  CZ  ARG C 242     -36.010  15.910 -58.666  1.00 22.16           C
ATOM   9626  NH1 ARG C 242     -36.974  16.454 -59.422  1.00 21.68           N
ATOM   9627  NH2 ARG C 242     -36.318  15.314 -57.508  1.00 22.31           N
ATOM   9628  C   ARG C 242     -34.626  21.613 -60.518  1.00 15.80           C
ATOM   9629  O   ARG C 242     -34.194  22.107 -61.556  1.00 15.63           O
ATOM   9630  N   TRP C 243     -35.747  22.027 -59.920  1.00 15.28           N
ATOM   9631  CA  TRP C 243     -36.653  23.014 -60.523  1.00 14.41           C
ATOM   9632  CB  TRP C 243     -38.016  23.022 -59.830  1.00 14.04           C
ATOM   9633  CG  TRP C 243     -37.972  23.197 -58.327  1.00 13.76           C
ATOM   9634  CD1 TRP C 243     -37.986  22.194 -57.358  1.00 13.71           C
ATOM   9635  NE1 TRP C 243     -37.949  22.729 -56.090  1.00 13.52           N
ATOM   9636  CE2 TRP C 243     -37.914  24.079 -56.142  1.00 13.61           C
ATOM   9637  CD2 TRP C 243     -37.935  24.457 -57.570  1.00 13.56           C
ATOM   9638  CE3 TRP C 243     -37.898  25.802 -57.910  1.00 13.33           C
ATOM   9639  CZ3 TRP C 243     -37.848  26.751 -56.872  1.00 13.50           C
ATOM   9640  CH2 TRP C 243     -37.840  26.368 -55.508  1.00 13.27           C
ATOM   9641  CZ2 TRP C 243     -37.868  25.030 -55.121  1.00 13.27           C
ATOM   9642  C   TRP C 243     -36.086  24.400 -60.577  1.00 14.17           C
ATOM   9643  O   TRP C 243     -36.615  25.261 -61.283  1.00 14.00           O
ATOM   9644  N   LEU C 244     -35.008  24.639 -59.835  1.00 14.04           N
ATOM   9645  CA  LEU C 244     -34.320  25.929 -59.911  1.00 13.86           C
ATOM   9646  CB  LEU C 244     -33.543  26.226 -58.635  1.00 13.41           C
ATOM   9647  CG  LEU C 244     -32.777  27.524 -58.799  1.00 13.43           C
ATOM   9648  CD1 LEU C 244     -33.691  28.732 -58.656  1.00 13.62           C
ATOM   9649  CD2 LEU C 244     -31.649  27.576 -57.799  1.00 13.99           C
ATOM   9650  C   LEU C 244     -33.375  25.936 -61.100  1.00 13.72           C
ATOM   9651  O   LEU C 244     -33.461  26.784 -61.998  1.00 13.30           O
ATOM   9652  N   TYR C 245     -32.470  24.969 -61.098  1.00 13.66           N
ATOM   9653  CA  TYR C 245     -31.561  24.807 -62.194  1.00 13.81           C
ATOM   9654  CB  TYR C 245     -30.733  23.549 -61.974  1.00 13.45           C
ATOM   9655  CG  TYR C 245     -29.740  23.687 -60.833  1.00 13.26           C
ATOM   9656  CD1 TYR C 245     -28.661  24.570 -60.926  1.00 13.35           C
ATOM   9657  CE1 TYR C 245     -27.745  24.708 -59.894  1.00 13.08           C
ATOM   9658  CZ  TYR C 245     -27.894  23.951 -58.741  1.00 13.02           C
ATOM   9659  OH  TYR C 245     -26.979  24.089 -57.720  1.00 12.49           O
ATOM   9660  CE2 TYR C 245     -28.962  23.068 -58.618  1.00 13.05           C
ATOM   9661  CD2 TYR C 245     -29.876  22.941 -59.662  1.00 13.18           C
ATOM   9662  C   TYR C 245     -32.349  24.788 -63.517  1.00 14.28           C
ATOM   9663  O   TYR C 245     -31.842  25.184 -64.587  1.00 14.77           O
ATOM   9664  N   SER C 246     -33.610  24.377 -63.418  1.00 14.31           N
ATOM   9665  CA  SER C 246     -34.500  24.298 -64.559  1.00 14.22           C
ATOM   9666  CB  SER C 246     -35.797  23.587 -64.173  1.00 13.89           C
ATOM   9667  OG  SER C 246     -36.412  23.020 -65.307  1.00 13.72           O
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ATOM   9668  C   SER C 246     -34.787  25.685 -65.099  1.00 14.49           C
ATOM   9669  O   SER C 246     -34.832  25.877 -66.310  1.00 15.32           O
ATOM   9670  N   LEU C 247     -34.945  26.656 -64.199  1.00 14.48           N
ATOM   9671  CA  LEU C 247     -35.226  28.050 -64.577  1.00 14.24           C
ATOM   9672  CB  LEU C 247     -35.737  28.833 -63.366  1.00 13.64           C
ATOM   9673  CG  LEU C 247     -37.092  28.452 -62.796  1.00 13.35           C
ATOM   9674  CD1 LEU C 247     -37.291  29.071 -61.423  1.00 13.05           C
ATOM   9675  CD2 LEU C 247     -38.197  28.878 -63.750  1.00 13.39           C
ATOM   9676  C   LEU C 247     -34.026  28.787 -65.211  1.00 14.53           C
ATOM   9677  O   LEU C 247     -34.141  29.952 -65.559  1.00 14.26           O
ATOM   9678  N   TYR C 248     -32.880  28.112 -65.337  1.00 15.31           N
ATOM   9679  CA  TYR C 248     -31.717  28.659 -66.068  1.00 15.94           C
ATOM   9680  CB  TYR C 248     -30.542  28.940 -65.121  1.00 15.63           C
ATOM   9681  CG  TYR C 248     -30.849  29.992 -64.083  1.00 15.54           C
ATOM   9682  CD1 TYR C 248     -31.443  29.638 -62.863  1.00 15.64           C
ATOM   9683  CE1 TYR C 248     -31.741  30.597 -61.904  1.00 15.61           C
ATOM   9684  CZ  TYR C 248     -31.452  31.933 -62.164  1.00 15.76           C
ATOM   9685  OH  TYR C 248     -31.752  32.875 -61.205  1.00 16.10           O
ATOM   9686  CE2 TYR C 248     -30.872  32.315 -63.377  1.00 15.49           C
ATOM   9687  CD2 TYR C 248     -30.572  31.345 -64.324  1.00 15.32           C
ATOM   9688  C   TYR C 248     -31.267  27.776 -67.235  1.00 16.39           C
ATOM   9689  O   TYR C 248     -30.182  27.967 -67.776  1.00 16.44           O
ATOM   9690  N   ASP C 249     -32.126  26.834 -67.623  1.00 17.22           N
ATOM   9691  CA  ASP C 249     -31.821  25.829 -68.636  1.00 17.95           C
ATOM   9692  CB  ASP C 249     -32.470  24.484 -68.251  1.00 18.52           C
ATOM   9693  CG  ASP C 249     -32.268  23.385 -69.313  1.00 19.28           C
ATOM   9694  OD1 ASP C 249     -31.108  23.000 -69.608  1.00 19.43           O
ATOM   9695  OD2 ASP C 249     -33.288  22.883 -69.840  1.00 19.76           O
ATOM   9696  C   ASP C 249     -32.323  26.302 -69.989  1.00 18.51           C
ATOM   9697  O   ASP C 249     -33.539  26.350 -70.236  1.00 18.94           O
ATOM   9698  N   ALA C 250     -31.381  26.646 -70.867  1.00 18.92           N
ATOM   9699  CA  ALA C 250     -31.695  27.197 -72.191  1.00 18.61           C
ATOM   9700  CB  ALA C 250     -30.439  27.345 -73.021  1.00 18.15           C
ATOM   9701  C   ALA C 250     -32.723  26.371 -72.934  1.00 18.91           C
ATOM   9702  O   ALA C 250     -33.625  26.911 -73.544  1.00 19.22           O
ATOM   9703  N   GLU C 251     -32.597  25.056 -72.861  1.00 19.84           N
ATOM   9704  CA  GLU C 251     -33.498  24.183 -73.589  1.00 20.75           C
ATOM   9705  CB  GLU C 251     -33.020  22.724 -73.521  1.00 23.28           C
ATOM   9706  CG  GLU C 251     -31.496  22.564 -73.421  1.00 27.05           C
ATOM   9707  CD  GLU C 251     -30.774  22.680 -74.769  1.00 31.07           C
ATOM   9708  OE1 GLU C 251     -30.755  21.684 -75.532  1.00 32.67           O
ATOM   9709  OE2 GLU C 251     -30.197  23.760 -75.065  1.00 33.25           O
ATOM   9710  C   GLU C 251     -34.931  24.365 -73.069  1.00 19.50           C
ATOM   9711  O   GLU C 251     -35.874  24.484 -73.856  1.00 19.11           O
ATOM   9712  N   THR C 252     -35.085  24.444 -71.749  1.00 18.54           N
ATOM   9713  CA  THR C 252     -36.422  24.604 -71.144  1.00 17.88           C
ATOM   9714  CB  THR C 252     -36.409  24.460 -69.603  1.00 17.24           C
ATOM   9715  OG1 THR C 252     -35.565  23.375 -69.227  1.00 17.52           O
ATOM   9716  CG2 THR C 252     -37.797  24.190 -69.088  1.00 16.72           C
ATOM   9717  C   THR C 252     -37.046  25.946 -71.511  1.00 17.19           C
ATOM   9718  O   THR C 252     -38.150  25.995 -72.044  1.00 16.64           O
ATOM   9719  N   LEU C 253     -36.316  27.017 -71.220  1.00 16.69           N
ATOM   9720  CA  LEU C 253     -36.774  28.366 -71.440  1.00 16.60           C
ATOM   9721  CB  LEU C 253     -35.640  29.334 -71.124  1.00 16.32           C
ATOM   9722  CG  LEU C 253     -35.300  29.533 -69.646  1.00 16.12           C
ATOM   9723  CD1 LEU C 253     -33.814  29.765 -69.482  1.00 15.93           C
ATOM   9724  CD2 LEU C 253     -36.100  30.666 -69.028  1.00 15.72           C
ATOM   9725  C   LEU C 253     -37.243  28.542 -72.877  1.00 17.32           C
ATOM   9726  O   LEU C 253     -38.340  29.048 -73.124  1.00 17.03           O
ATOM   9727  N   MET C 254     -36.410  28.092 -73.819  1.00 18.59           N
ATOM   9728  CA  MET C 254     -36.699  28.163 -75.255  1.00 19.27           C
ATOM   9729  CB  MET C 254     -35.587  27.480 -76.067  1.00 19.24           C
ATOM   9730  CG  MET C 254     -34.286  28.272 -76.206  1.00 19.30           C
ATOM   9731  SD  MET C 254     -33.130  27.598 -77.442  1.00 19.82           S
ATOM   9732  CE  MET C 254     -32.451  26.173 -76.599  1.00 19.99           C
ATOM   9733  C   MET C 254     -38.057  27.526 -75.563  1.00 20.03           C
ATOM   9734  O   MET C 254     -38.853  28.077 -76.328  1.00 19.99           O
ATOM   9735  N   ASP C 255     -38.311  26.378 -74.938  1.00 21.37           N
ATOM   9736  CA  ASP C 255     -39.577  25.662 -75.062  1.00 22.36           C
ATOM   9737  CB  ASP C 255     -39.485  24.311 -74.359  1.00 23.47           C
ATOM   9738  CG  ASP C 255     -40.677  23.430 -74.648  1.00 24.95           C
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ATOM   9739  OD1 ASP C 255     -40.781  22.920 -75.788  1.00 25.85           O
ATOM   9740  OD2 ASP C 255     -41.512  23.249 -73.735  1.00 26.09           O
ATOM   9741  C   ASP C 255     -40.759  26.457 -74.505  1.00 22.49           C
ATOM   9742  O   ASP C 255     -41.803  26.562 -75.150  1.00 23.31           O
ATOM   9743  N   ARG C 256     -40.594  27.015 -73.312  1.00 22.59           N
ATOM   9744  CA  ARG C 256     -41.629  27.856 -72.707  1.00 22.81           C
ATOM   9745  CB  ARG C 256     -41.210  28.310 -71.300  1.00 21.46           C
ATOM   9746  CG  ARG C 256     -41.274  27.216 -70.241  1.00 20.00           C
ATOM   9747  CD  ARG C 256     -40.560  27.616 -68.968  1.00 19.62           C
ATOM   9748  NE  ARG C 256     -41.235  28.712 -68.276  1.00 19.78           N
ATOM   9749  CZ  ARG C 256     -40.641  29.564 -67.442  1.00 19.72           C
ATOM   9750  NH1 ARG C 256     -39.338  29.471 -67.189  1.00 19.89           N
ATOM   9751  NH2 ARG C 256     -41.347  30.532 -66.880  1.00 19.30           N
ATOM   9752  C   ARG C 256     -41.947  29.059 -73.598  1.00 24.00           C
ATOM   9753  O   ARG C 256     -43.108  29.470 -73.709  1.00 24.22           O
ATOM   9754  N   ILE C 257     -40.912  29.607 -74.238  1.00 25.25           N
ATOM   9755  CA  ILE C 257     -41.085  30.713 -75.182  1.00 26.82           C
ATOM   9756  CB  ILE C 257     -39.745  31.427 -75.515  1.00 26.81           C
ATOM   9757  CG1 ILE C 257     -39.202  32.161 -74.284  1.00 26.51           C
ATOM   9758  CD1 ILE C 257     -37.727  32.502 -74.373  1.00 26.76           C
ATOM   9759  CG2 ILE C 257     -39.916  32.440 -76.637  1.00 26.25           C
ATOM   9760  C   ILE C 257     -41.792  30.232 -76.448  1.00 27.92           C
ATOM   9761  O   ILE C 257     -42.727  30.875 -76.909  1.00 28.42           O
ATOM   9762  N   LYS C 258     -41.363  29.089 -76.987  1.00 29.78           N
ATOM   9763  CA  LYS C 258     -42.007  28.504 -78.175  1.00 31.23           C
ATOM   9764  CB  LYS C 258     -41.534  27.073 -78.435  1.00 32.04           C
ATOM   9765  CG  LYS C 258     -40.271  26.986 -79.273  1.00 34.19           C
ATOM   9766  CD  LYS C 258     -39.868  25.541 -79.530  1.00 35.74           C
ATOM   9767  CE  LYS C 258     -38.447  25.462 -80.076  1.00 37.80           C
ATOM   9768  NZ  LYS C 258     -38.015  24.063 -80.362  1.00 37.95           N
ATOM   9769  C   LYS C 258     -43.522  28.529 -78.072  1.00 31.54           C
ATOM   9770  O   LYS C 258     -44.201  29.025 -78.975  1.00 32.23           O
ATOM   9771  N   LYS C 259     -44.045  28.018 -76.960  1.00 30.87           N
ATOM   9772  CA  LYS C 259     -45.492  27.925 -76.760  1.00 31.43           C
ATOM   9773  CB  LYS C 259     -45.806  27.233 -75.430  1.00 30.41           C
ATOM   9774  CG  LYS C 259     -45.522  25.745 -75.505  1.00 30.13           C
ATOM   9775  CD  LYS C 259     -45.284  25.114 -74.152  1.00 29.96           C
ATOM   9776  CE  LYS C 259     -44.817  23.679 -74.330  1.00 29.65           C
ATOM   9777  NZ  LYS C 259     -45.363  22.796 -73.266  1.00 29.97           N
ATOM   9778  C   LYS C 259     -46.239  29.259 -76.912  1.00 32.03           C
ATOM   9779  O   LYS C 259     -47.315  29.305 -77.509  1.00 32.66           O
ATOM   9780  N   GLN C 260     -45.659  30.339 -76.398  1.00 32.93           N
ATOM   9781  CA  GLN C 260     -46.230  31.669 -76.594  1.00 33.87           C
ATOM   9782  CB  GLN C 260     -45.521  32.717 -75.723  1.00 35.69           C
ATOM   9783  CG  GLN C 260     -45.012  32.211 -74.375  1.00 36.79           C
ATOM   9784  CD  GLN C 260     -45.875  32.641 -73.200  1.00 37.13           C
ATOM   9785  OE1 GLN C 260     -45.495  33.524 -72.423  1.00 36.68           O
ATOM   9786  NE2 GLN C 260     -47.038  32.017 -73.061  1.00 37.51           N
ATOM   9787  C   GLN C 260     -46.135  32.050 -78.073  1.00 32.94           C
ATOM   9788  O   GLN C 260     -47.116  32.455 -78.672  1.00 33.48           O
ATOM   9789  N   LEU C 261     -44.953  31.882 -78.658  1.00 33.21           N
ATOM   9790  CA  LEU C 261     -44.726  32.185 -80.074  1.00 34.64           C
ATOM   9791  CB  LEU C 261     -43.258  31.939 -80.446  1.00 33.70           C
ATOM   9792  CG  LEU C 261     -42.121  32.765 -79.842  1.00 32.36           C
ATOM   9793  CD1 LEU C 261     -40.802  32.215 -80.334  1.00 32.19           C
ATOM   9794  CD2 LEU C 261     -42.229  34.229 -80.222  1.00 32.93           C
ATOM   9795  C   LEU C 261     -45.633  31.368 -81.007  1.00 36.22           C
ATOM   9796  O   LEU C 261     -45.859  31.751 -82.161  1.00 35.31           O
ATOM   9797  N   ARG C 262     -46.130  30.243 -80.490  1.00 38.64           N
ATOM   9798  CA  ARG C 262     -47.024  29.337 -81.209  1.00 41.28           C
ATOM   9799  CB  ARG C 262     -47.115  28.000 -80.460  1.00 44.98           C
ATOM   9800  CG  ARG C 262     -47.739  26.837 -81.230  1.00 46.98           C
ATOM   9801  CD  ARG C 262     -47.233  25.483 -80.723  1.00 48.56           C
ATOM   9802  NE  ARG C 262     -45.783  25.478 -80.476  1.00 51.46           N
ATOM   9803  CZ  ARG C 262     -44.841  25.459 -81.425  1.00 52.29           C
ATOM   9804  NH1 ARG C 262     -45.174  25.437 -82.712  1.00 52.70           N
ATOM   9805  NH2 ARG C 262     -43.557  25.465 -81.085  1.00 51.44           N
ATOM   9806  C   ARG C 262     -48.411  29.942 -81.344  1.00 42.20           C
ATOM   9807  O   ARG C 262     -49.129  29.646 -82.303  1.00 43.35           O
ATOM   9808  N   GLU C 263     -48.790  30.787 -80.386  1.00 44.06           N
ATOM   9809  CA  GLU C 263     -50.077  31.477 -80.447  1.00 47.84           C
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ATOM   9810  CB  GLU C 263     -50.515  31.940 -79.049  1.00 51.09           C
ATOM   9811  CG  GLU C 263     -50.085  33.349 -78.671  1.00 57.28           C
ATOM   9812  CD  GLU C 263     -49.610  33.457 -77.232  1.00 64.07           C
ATOM   9813  OE1 GLU C 263     -50.136  32.711 -76.369  1.00 68.03           O
ATOM   9814  OE2 GLU C 263     -48.701  34.285 -76.969  1.00 63.80           O
ATOM   9815  C   GLU C 263     -50.073  32.627 -81.485  1.00 47.88           C
ATOM   9816  O   GLU C 263     -51.080  33.311 -81.680  1.00 48.06           O
ATOM   9817  N   TRP C 264     -48.929  32.817 -82.146  1.00 49.24           N
ATOM   9818  CA  TRP C 264     -48.797  33.751 -83.274  1.00 48.11           C
ATOM   9819  CB  TRP C 264     -47.637  34.729 -83.037  1.00 46.73           C
ATOM   9820  CG  TRP C 264     -47.756  35.484 -81.715  1.00 46.62           C
ATOM   9821  CD1 TRP C 264     -48.915  35.706 -80.964  1.00 47.65           C
ATOM   9822  NE1 TRP C 264     -48.641  36.433 -79.826  1.00 45.58           N
ATOM   9823  CE2 TRP C 264     -47.336  36.748 -79.765  1.00 44.69           C
ATOM   9824  CD2 TRP C 264     -46.690  36.168 -80.957  1.00 45.87           C
ATOM   9825  CE3 TRP C 264     -45.319  36.346 -81.133  1.00 46.07           C
ATOM   9826  CZ3 TRP C 264     -44.608  37.076 -80.161  1.00 44.78           C
ATOM   9827  CH2 TRP C 264     -45.246  37.618 -79.031  1.00 44.28           C
ATOM   9828  CZ2 TRP C 264     -46.623  37.464 -78.814  1.00 44.82           C
ATOM   9829  C   TRP C 264     -48.702  33.025 -84.611  1.00 49.12           C
ATOM   9830  O   TRP C 264     -48.659  33.662 -85.665  1.00 47.87           O
ATOM   9831  N   ASP C 265     -48.661  31.681 -84.559  1.00 50.74           N
ATOM   9832  CA  ASP C 265     -49.059  30.797 -85.681  1.00 49.67           C
ATOM   9833  CB  ASP C 265     -48.275  29.467 -85.680  1.00 48.64           C
ATOM   9834  CG  ASP C 265     -48.916  28.381 -86.605  1.00 49.22           C
ATOM   9835  OD1 ASP C 265     -48.708  28.434 -87.846  1.00 46.85           O
ATOM   9836  OD2 ASP C 265     -49.616  27.472 -86.085  1.00 45.67           O
ATOM   9837  C   ASP C 265     -50.554  30.491 -85.564  1.00 49.03           C
ATOM   9838  O   ASP C 265     -51.273  30.445 -86.563  1.00 47.68           O
ATOM   9839  N   SER C 272     -38.088  24.850 -88.261  1.00 40.77           N
ATOM   9840  CA  SER C 272     -38.825  25.753 -87.381  1.00 41.58           C
ATOM   9841  CB  SER C 272     -39.150  25.056 -86.044  1.00 41.18           C
ATOM   9842  OG  SER C 272     -40.444  24.475 -86.058  1.00 39.55           O
ATOM   9843  C   SER C 272     -38.092  27.095 -87.156  1.00 41.72           C
ATOM   9844  O   SER C 272     -38.293  28.049 -87.912  1.00 42.23           O
ATOM   9845  N   LEU C 273     -37.259  27.151 -86.107  1.00 39.80           N
ATOM   9846  CA  LEU C 273     -36.482  28.352 -85.717  1.00 36.44           C
ATOM   9847  CB  LEU C 273     -37.188  29.151 -84.597  1.00 35.60           C
ATOM   9848  CG  LEU C 273     -38.664  28.934 -84.237  1.00 34.87           C
ATOM   9849  CD1 LEU C 273     -38.810  27.805 -83.218  1.00 34.17           C
ATOM   9850  CD2 LEU C 273     -39.264  30.220 -83.697  1.00 34.18           C
ATOM   9851  C   LEU C 273     -35.087  27.890 -85.248  1.00 34.15           C
ATOM   9852  O   LEU C 273     -34.795  26.694 -85.280  1.00 33.39           O
ATOM   9853  N   PRO C 274     -34.218  28.823 -84.811  1.00 32.84           N
ATOM   9854  CA  PRO C 274     -32.879  28.353 -84.450  1.00 32.66           C
ATOM   9855  CB  PRO C 274     -32.121  29.646 -84.129  1.00 32.26           C
ATOM   9856  CG  PRO C 274     -32.931  30.753 -84.728  1.00 31.84           C
ATOM   9857  CD  PRO C 274     -34.348  30.284 -84.655  1.00 32.75           C
ATOM   9858  C   PRO C 274     -32.884  27.417 -83.234  1.00 33.21           C
ATOM   9859  O   PRO C 274     -33.785  27.492 -82.385  1.00 32.41           O
ATOM   9860  N   SER C 275     -31.891  26.528 -83.178  1.00 33.75           N
ATOM   9861  CA  SER C 275     -31.737  25.572 -82.075  1.00 32.87           C
ATOM   9862  CB  SER C 275     -31.299  24.203 -82.598  1.00 33.74           C
ATOM   9863  OG  SER C 275     -32.142  23.765 -83.653  1.00 35.23           O
ATOM   9864  C   SER C 275     -30.713  26.093 -81.080  1.00 31.88           C
ATOM   9865  O   SER C 275     -30.799  25.805 -79.881  1.00 32.38           O
ATOM   9866  N   ASN C 276     -29.744  26.850 -81.597  1.00 30.05           N
ATOM   9867  CA  ASN C 276     -28.781  27.569 -80.782  1.00 29.46           C
ATOM   9868  CB  ASN C 276     -27.686  28.172 -81.664  1.00 30.73           C
ATOM   9869  CG  ASN C 276     -26.553  28.789 -80.858  1.00 31.97           C
ATOM   9870  OD1 ASN C 276     -26.780  29.553 -79.919  1.00 32.94           O
ATOM   9871  ND2 ASN C 276     -25.319  28.458 -81.227  1.00 32.30           N
ATOM   9872  C   ASN C 276     -29.467  28.677 -79.993  1.00 29.22           C
ATOM   9873  O   ASN C 276     -30.107  29.563 -80.584  1.00 29.70           O
ATOM   9874  N   PRO C 277     -29.327  28.639 -78.653  1.00 27.66           N
ATOM   9875  CA  PRO C 277     -29.951  29.615 -77.748  1.00 26.72           C
ATOM   9876  CB  PRO C 277     -29.406  29.220 -76.366  1.00 26.44           C
ATOM   9877  CG  PRO C 277     -29.009  27.797 -76.512  1.00 26.49           C
ATOM   9878  CD  PRO C 277     -28.538  27.635 -77.923  1.00 26.78           C
ATOM   9879  C   PRO C 277     -29.603  31.075 -78.072  1.00 25.35           C
ATOM   9880  O   PRO C 277     -30.472  31.933 -77.972  1.00 24.83           O
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ATOM   9881  N   ILE C 278     -28.351  31.345 -78.444  1.00 24.57           N
ATOM   9882  CA  ILE C 278     -27.930  32.694 -78.846  1.00 25.01           C
ATOM   9883  CB  ILE C 278     -26.464  32.724 -79.342  1.00 24.99           C
ATOM   9884  CG1 ILE C 278     -25.498  32.298 -78.238  1.00 24.76           C
ATOM   9885  CD1 ILE C 278     -24.143  31.872 -78.760  1.00 24.60           C
ATOM   9886  CG2 ILE C 278     -26.098  34.108 -79.859  1.00 25.15           C
ATOM   9887  C   ILE C 278     -28.829  33.242 -79.959  1.00 25.04           C
ATOM   9888  O   ILE C 278     -29.382  34.333 -79.844  1.00 24.34           O
ATOM   9889  N   ASP C 279     -28.976  32.471 -81.031  1.00 25.63           N
ATOM   9890  CA  ASP C 279     -29.787  32.892 -82.160  1.00 26.77           C
ATOM   9891  CB  ASP C 279     -29.721  31.851 -83.269  1.00 27.30           C
ATOM   9892  CG  ASP C 279     -28.349  31.736 -83.871  1.00 28.23           C
ATOM   9893  OD1 ASP C 279     -27.719  32.791 -84.147  1.00 28.37           O
ATOM   9894  OD2 ASP C 279     -27.904  30.588 -84.076  1.00 28.99           O
ATOM   9895  C   ASP C 279     -31.229  33.105 -81.737  1.00 26.45           C
ATOM   9896  O   ASP C 279     -31.829  34.145 -81.997  1.00 26.30           O
ATOM   9897  N   PHE C 280     -31.768  32.100 -81.070  1.00 27.14           N
ATOM   9898  CA  PHE C 280     -33.154  32.093 -80.663  1.00 26.89           C
ATOM   9899  CB  PHE C 280     -33.428  30.839 -79.835  1.00 27.45           C
ATOM   9900  CG  PHE C 280     -34.869  30.623 -79.524  1.00 28.05           C
ATOM   9901  CD1 PHE C 280     -35.472  31.289 -78.460  1.00 27.72           C
ATOM   9902  CE1 PHE C 280     -36.810  31.084 -78.167  1.00 27.94           C
ATOM   9903  CZ  PHE C 280     -37.562  30.204 -78.934  1.00 28.04           C
ATOM   9904  CE2 PHE C 280     -36.973  29.532 -79.993  1.00 28.81           C
ATOM   9905  CD2 PHE C 280     -35.631  29.740 -80.285  1.00 28.63           C
ATOM   9906  C   PHE C 280     -33.461  33.344 -79.864  1.00 26.11           C
ATOM   9907  O   PHE C 280     -34.428  34.032 -80.146  1.00 26.03           O
ATOM   9908  N   SER C 281     -32.602  33.646 -78.892  1.00 26.07           N
ATOM   9909  CA  SER C 281     -32.819  34.754 -77.962  1.00 25.48           C
ATOM   9910  CB  SER C 281     -31.774  34.734 -76.850  1.00 25.03           C
ATOM   9911  OG  SER C 281     -30.494  35.048 -77.360  1.00 24.63           O
ATOM   9912  C   SER C 281     -32.805  36.096 -78.666  1.00 24.70           C
ATOM   9913  O   SER C 281     -33.548  36.996 -78.296  1.00 24.25           O
ATOM   9914  N   TYR C 282     -31.964  36.210 -79.689  1.00 25.19           N
ATOM   9915  CA  TYR C 282     -31.899  37.410 -80.543  1.00 26.07           C
ATOM   9916  CB  TYR C 282     -30.561  37.464 -81.288  1.00 24.52           C
ATOM   9917  CG  TYR C 282     -29.406  37.882 -80.422  1.00 24.02           C
ATOM   9918  CD1 TYR C 282     -29.531  38.953 -79.536  1.00 24.03           C
ATOM   9919  CE1 TYR C 282     -28.472  39.350 -78.743  1.00 23.57           C
ATOM   9920  CZ  TYR C 282     -27.267  38.679 -78.825  1.00 23.46           C
ATOM   9921  OH  TYR C 282     -26.216  39.083 -78.025  1.00 24.10           O
ATOM   9922  CE2 TYR C 282     -27.115  37.612 -79.695  1.00 23.40           C
ATOM   9923  CD2 TYR C 282     -28.180  37.223 -80.491  1.00 23.56           C
ATOM   9924  C   TYR C 282     -33.067  37.558 -81.545  1.00 27.06           C
ATOM   9925  O   TYR C 282     -33.466  38.686 -81.882  1.00 27.49           O
ATOM   9926  N   ARG C 283     -33.588  36.425 -82.022  1.00 27.46           N
ATOM   9927  CA  ARG C 283     -34.729  36.410 -82.928  1.00 28.87           C
ATOM   9928  CB  ARG C 283     -34.890  35.034 -83.557  1.00 30.00           C
ATOM   9929  CG  ARG C 283     -36.146  34.846 -84.390  1.00 32.61           C
ATOM   9930  CD  ARG C 283     -35.867  34.874 -85.889  1.00 36.71           C
ATOM   9931  NE  ARG C 283     -36.430  33.684 -86.541  1.00 39.75           N
ATOM   9932  CZ  ARG C 283     -35.709  32.760 -87.185  1.00 43.26           C
ATOM   9933  NH1 ARG C 283     -36.313  31.704 -87.724  1.00 45.47           N
ATOM   9934  NH2 ARG C 283     -34.385  32.890 -87.307  1.00 42.99           N
ATOM   9935  C   ARG C 283     -36.029  36.848 -82.231  1.00 30.12           C
ATOM   9936  O   ARG C 283     -36.828  37.591 -82.814  1.00 31.39           O
ATOM   9937  N   VAL C 284     -36.252  36.401 -80.993  1.00 29.48           N
ATOM   9938  CA  VAL C 284     -37.460  36.822 -80.281  1.00 28.39           C
ATOM   9939  CB  VAL C 284     -37.990  35.789 -79.242  1.00 28.16           C
ATOM   9940  CG1 VAL C 284     -37.629  34.363 -79.644  1.00 26.88           C
ATOM   9941  CG2 VAL C 284     -37.524  36.108 -77.828  1.00 27.84           C
ATOM   9942  C   VAL C 284     -37.273  38.196 -79.665  1.00 28.39           C
ATOM   9943  O   VAL C 284     -38.252  38.892 -79.399  1.00 29.42           O
ATOM   9944  N   ALA C 285     -36.018  38.587 -79.453  1.00 27.76           N
ATOM   9945  CA  ALA C 285     -35.708  39.926 -78.993  1.00 28.24           C
ATOM   9946  CB  ALA C 285     -34.216  40.081 -78.815  1.00 28.14           C
ATOM   9947  C   ALA C 285     -36.238  40.972 -79.983  1.00 29.97           C
ATOM   9948  O   ALA C 285     -36.834  41.983 -79.583  1.00 30.58           O
ATOM   9949  N   ALA C 286     -36.025  40.718 -81.274  1.00 30.69           N
ATOM   9950  CA  ALA C 286     -36.448  41.637 -82.327  1.00 31.68           C
ATOM   9951  CB  ALA C 286     -35.699  41.330 -83.616  1.00 30.93           C
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ATOM   9952  C   ALA C 286     -37.977  41.636 -82.555  1.00 33.39           C
ATOM   9953  O   ALA C 286     -38.528  42.597 -83.087  1.00 34.59           O
ATOM   9954  N   CYS C 287     -38.644  40.556 -82.150  1.00 34.85           N
ATOM   9955  CA  CYS C 287     -40.098  40.439 -82.244  1.00 35.87           C
ATOM   9956  CB  CYS C 287     -40.529  38.986 -82.079  1.00 37.35           C
ATOM   9957  SG  CYS C 287     -40.231  37.965 -83.518  1.00 43.15           S
ATOM   9958  C   CYS C 287     -40.821  41.253 -81.184  1.00 36.43           C
ATOM   9959  O   CYS C 287     -41.879  41.824 -81.452  1.00 37.84           O
ATOM   9960  N   LEU C 288     -40.276  41.267 -79.971  1.00 35.03           N
ATOM   9961  CA  LEU C 288     -40.991  41.819 -78.836  1.00 35.07           C
ATOM   9962  CB  LEU C 288     -40.237  41.545 -77.545  1.00 34.67           C
ATOM   9963  CG  LEU C 288     -40.311  40.153 -76.947  1.00 35.16           C
ATOM   9964  CD1 LEU C 288     -39.866  40.248 -75.495  1.00 35.61           C
ATOM   9965  CD2 LEU C 288     -41.713  39.564 -77.056  1.00 35.42           C
ATOM   9966  C   LEU C 288     -41.216  43.312 -78.976  1.00 35.84           C
ATOM   9967  O   LEU C 288     -40.243  44.062 -79.061  1.00 36.33           O
ATOM   9968  N   PRO C 289     -42.501  43.745 -79.006  1.00 36.70           N
ATOM   9969  CA  PRO C 289     -42.866  45.157 -79.014  1.00 36.03           C
ATOM   9970  CB  PRO C 289     -44.295  45.137 -78.500  1.00 35.97           C
ATOM   9971  CG  PRO C 289     -44.848  43.871 -79.077  1.00 35.67           C
ATOM   9972  CD  PRO C 289     -43.699  42.890 -79.160  1.00 36.35           C
ATOM   9973  C   PRO C 289     -41.951  46.016 -78.139  1.00 37.10           C
ATOM   9974  O   PRO C 289     -41.009  46.593 -78.676  1.00 40.90           O
ATOM   9975  N   ILE C 290     -42.191  46.086 -76.828  1.00 34.72           N
ATOM   9976  CA  ILE C 290     -41.410  46.967 -75.901  1.00 34.74           C
ATOM   9977  CB  ILE C 290     -40.328  46.195 -75.105  1.00 34.13           C
ATOM   9978  CG1 ILE C 290     -39.263  45.599 -76.022  1.00 34.54           C
ATOM   9979  CD1 ILE C 290     -38.103  44.973 -75.273  1.00 33.13           C
ATOM   9980  CG2 ILE C 290     -40.966  45.120 -74.245  1.00 34.73           C
ATOM   9981  C   ILE C 290     -40.836  48.316 -76.419  1.00 35.35           C
ATOM   9982  O   ILE C 290     -40.934  48.662 -77.601  1.00 35.02           O
ATOM   9983  N   ASP C 291     -40.255  49.093 -75.513  1.00 35.99           N
ATOM   9984  CA  ASP C 291     -39.918  50.481 -75.825  1.00 37.77           C
ATOM   9985  CB  ASP C 291     -40.776  51.429 -74.986  1.00 39.91           C
ATOM   9986  CG  ASP C 291     -40.505  51.293 -73.510  1.00 43.06           C
ATOM   9987  OD1 ASP C 291     -39.509  51.887 -73.043  1.00 44.32           O
ATOM   9988  OD2 ASP C 291     -41.274  50.579 -72.822  1.00 45.28           O
ATOM   9989  C   ASP C 291     -38.432  50.813 -75.662  1.00 37.24           C
ATOM   9990  O   ASP C 291     -37.696  50.123 -74.953  1.00 36.37           O
ATOM   9991  N   ASP C 292     -38.015  51.896 -76.311  1.00 37.32           N
ATOM   9992  CA  ASP C 292     -36.608  52.286 -76.383  1.00 38.14           C
ATOM   9993  CB  ASP C 292     -36.464  53.716 -76.946  1.00 36.56           C
ATOM   9994  C   ASP C 292     -35.815  52.105 -75.068  1.00 38.37           C
ATOM   9995  O   ASP C 292     -34.622  51.799 -75.108  1.00 38.28           O
ATOM   9996  N   VAL C 293     -36.464  52.276 -73.915  1.00 37.99           N
ATOM   9997  CA  VAL C 293     -35.745  52.122 -72.635  1.00 38.63           C
ATOM   9998  CB  VAL C 293     -36.333  52.988 -71.472  1.00 38.57           C
ATOM   9999  CG1 VAL C 293     -37.749  52.562 -71.100  1.00 38.29           C
ATOM  10000  CG2 VAL C 293     -35.423  52.942 -70.245  1.00 36.68           C
ATOM  10001  C   VAL C 293     -35.542  50.656 -72.225  1.00 38.06           C
ATOM  10002  O   VAL C 293     -34.486  50.304 -71.700  1.00 37.75           O
ATOM  10003  N   LEU C 294     -36.550  49.816 -72.467  1.00 37.06           N
ATOM  10004  CA  LEU C 294     -36.437  48.381 -72.213  1.00 36.27           C
ATOM  10005  CB  LEU C 294     -37.814  47.716 -72.156  1.00 36.41           C
ATOM  10006  CG  LEU C 294     -38.719  47.862 -70.932  1.00 36.58           C
ATOM  10007  CD1 LEU C 294     -40.001  47.085 -71.182  1.00 36.16           C
ATOM  10008  CD2 LEU C 294     -38.047  47.391 -69.646  1.00 35.78           C
ATOM  10009  C   LEU C 294     -35.576  47.676 -73.268  1.00 36.41           C
ATOM  10010  O   LEU C 294     -34.881  46.705 -72.949  1.00 35.36           O
ATOM  10011  N   ARG C 295     -35.634  48.152 -74.518  1.00 35.14           N
ATOM  10012  CA  ARG C 295     -34.827  47.574 -75.597  1.00 34.94           C
ATOM  10013  CB  ARG C 295     -35.191  48.163 -76.969  1.00 35.66           C
ATOM  10014  CG  ARG C 295     -34.992  47.226 -78.168  1.00 35.06           C
ATOM  10015  CD  ARG C 295     -36.229  46.344 -78.378  1.00 37.48           C
ATOM  10016  NE  ARG C 295     -36.537  45.924 -79.761  1.00 36.88           N
ATOM  10017  CZ  ARG C 295     -35.851  46.254 -80.855  1.00 36.22           C
ATOM  10018  NH1 ARG C 295     -34.772  47.021 -80.782  1.00 35.37           N
ATOM  10019  NH2 ARG C 295     -36.245  45.797 -82.034  1.00 35.21           N
ATOM  10020  C   ARG C 295     -33.336  47.741 -75.329  1.00 34.76           C
ATOM  10021  O   ARG C 295     -32.547  46.870 -75.679  1.00 37.11           O
ATOM  10022  N   ILE C 296     -32.950  48.847 -74.699  1.00 33.40           N
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ATOM  10023  CA  ILE C 296     -31.546  49.065 -74.352  1.00 34.38           C
ATOM  10024  CB  ILE C 296     -31.262  50.534 -73.955  1.00 33.46           C
ATOM  10025  CG1 ILE C 296     -31.535  51.464 -75.143  1.00 33.50           C
ATOM  10026  CD1 ILE C 296     -31.491  52.944 -74.816  1.00 34.05           C
ATOM  10027  CG2 ILE C 296     -29.822  50.704 -73.475  1.00 32.80           C
ATOM  10028  C   ILE C 296     -31.074  48.080 -73.267  1.00 35.96           C
ATOM  10029  O   ILE C 296     -29.898  47.683 -73.244  1.00 36.60           O
ATOM  10030  N   GLN C 297     -32.001  47.670 -72.399  1.00 36.43           N
ATOM  10031  CA  GLN C 297     -31.728  46.672 -71.360  1.00 37.07           C
ATOM  10032  CB  GLN C 297     -32.917  46.518 -70.415  1.00 39.07           C
ATOM  10033  CG  GLN C 297     -33.566  47.823 -69.995  1.00 40.39           C
ATOM  10034  CD  GLN C 297     -32.981  48.395 -68.727  1.00 40.49           C
ATOM  10035  OE1 GLN C 297     -33.653  48.444 -67.700  1.00 40.70           O
ATOM  10036  NE2 GLN C 297     -31.727  48.836 -68.790  1.00 41.16           N
ATOM  10037  C   GLN C 297     -31.348  45.304 -71.926  1.00 37.03           C
ATOM  10038  O   GLN C 297     -30.287  44.786 -71.591  1.00 37.89           O
ATOM  10039  N   LEU C 298     -32.196  44.712 -72.774  1.00 36.05           N
ATOM  10040  CA  LEU C 298     -31.860  43.402 -73.357  1.00 35.64           C
ATOM  10041  CB  LEU C 298     -32.933  42.866 -74.305  1.00 36.93           C
ATOM  10042  CG  LEU C 298     -34.401  43.177 -74.149  1.00 37.23           C
ATOM  10043  CD1 LEU C 298     -34.699  44.324 -75.091  1.00 38.13           C
ATOM  10044  CD2 LEU C 298     -35.217  41.954 -74.529  1.00 36.79           C
ATOM  10045  C   LEU C 298     -30.566  43.484 -74.130  1.00 34.52           C
ATOM  10046  O   LEU C 298     -29.747  42.567 -74.087  1.00 33.95           O
ATOM  10047  N   LEU C 299     -30.410  44.581 -74.863  1.00 33.13           N
ATOM  10048  CA  LEU C 299     -29.192  44.847 -75.600  1.00 31.13           C
ATOM  10049  CB  LEU C 299     -29.306  46.174 -76.352  1.00 30.94           C
ATOM  10050  CG  LEU C 299     -28.741  46.171 -77.774  1.00 30.82           C
ATOM  10051  CD1 LEU C 299     -27.316  46.693 -77.815  1.00 29.78           C
ATOM  10052  CD2 LEU C 299     -28.844  44.784 -78.409  1.00 31.72           C
ATOM  10053  C   LEU C 299     -27.977  44.833 -74.670  1.00 28.89           C
ATOM  10054  O   LEU C 299     -26.945  44.259 -75.011  1.00 27.64           O
ATOM  10055  N   LYS C 300     -28.123  45.440 -73.492  1.00 27.65           N
ATOM  10056  CA  LYS C 300     -27.107  45.370 -72.444  1.00 27.32           C
ATOM  10057  CB  LYS C 300     -27.504  46.232 -71.242  1.00 28.97           C
ATOM  10058  CG  LYS C 300     -27.272  47.728 -71.388  1.00 30.72           C
ATOM  10059  CD  LYS C 300     -27.310  48.413 -70.023  1.00 32.19           C
ATOM  10060  CE  LYS C 300     -27.893  49.822 -70.121  1.00 33.84           C
ATOM  10061  NZ  LYS C 300     -27.718  50.643 -68.882  1.00 33.39           N
ATOM  10062  C   LYS C 300     -26.821  43.934 -71.961  1.00 25.72           C
ATOM  10063  O   LYS C 300     -25.726  43.663 -71.465  1.00 25.16           O
ATOM  10064  N   ILE C 301     -27.801  43.033 -72.097  1.00 24.42           N
ATOM  10065  CA  ILE C 301     -27.667  41.637 -71.630  1.00 23.75           C
ATOM  10066  CB  ILE C 301     -29.024  40.897 -71.577  1.00 23.63           C
ATOM  10067  CG1 ILE C 301     -29.974  41.562 -70.579  1.00 23.57           C
ATOM  10068  CD1 ILE C 301     -31.429  41.168 -70.756  1.00 23.28           C
ATOM  10069  CG2 ILE C 301     -28.825  39.432 -71.209  1.00 23.63           C
ATOM  10070  C   ILE C 301     -26.689  40.828 -72.486  1.00 23.44           C
ATOM  10071  O   ILE C 301     -26.796  40.787 -73.721  1.00 23.47           O
ATOM  10072  N   GLY C 302     -25.745  40.172 -71.817  1.00 23.28           N
ATOM  10073  CA  GLY C 302     -24.673  39.453 -72.511  1.00 22.91           C
ATOM  10074  C   GLY C 302     -24.914  37.970 -72.678  1.00 21.86           C
ATOM  10075  O   GLY C 302     -24.290  37.323 -73.512  1.00 21.82           O
ATOM  10076  N   SER C 303     -25.824  37.433 -71.881  1.00 21.13           N
ATOM  10077  CA  SER C 303     -26.053  36.012 -71.863  1.00 20.93           C
ATOM  10078  CB  SER C 303     -26.044  35.500 -70.427  1.00 20.48           C
ATOM  10079  OG  SER C 303     -26.274  34.107 -70.406  1.00 20.30           O
ATOM  10080  C   SER C 303     -27.356  35.604 -72.554  1.00 21.36           C
ATOM  10081  O   SER C 303     -28.402  36.243 -72.382  1.00 21.74           O
ATOM  10082  N   ALA C 304     -27.279  34.517 -73.320  1.00 21.06           N
ATOM  10083  CA  ALA C 304     -28.448  33.898 -73.918  1.00 19.98           C
ATOM  10084  CB  ALA C 304     -28.052  32.647 -74.687  1.00 19.81           C
ATOM  10085  C   ALA C 304     -29.477  33.567 -72.852  1.00 19.86           C
ATOM  10086  O   ALA C 304     -30.647  33.863 -73.036  1.00 20.67           O
ATOM  10087  N   ILE C 305     -29.035  32.971 -71.737  1.00 19.24           N
ATOM  10088  CA  ILE C 305     -29.942  32.514 -70.671  1.00 18.55           C
ATOM  10089  CB  ILE C 305     -29.201  31.781 -69.515  1.00 18.58           C
ATOM  10090  CG1 ILE C 305     -28.263  30.669 -70.024  1.00 18.40           C
ATOM  10091  CD1 ILE C 305     -28.941  29.551 -70.784  1.00 18.48           C
ATOM  10092  CG2 ILE C 305     -30.191  31.270 -68.468  1.00 18.36           C
ATOM  10093  C   ILE C 305     -30.707  33.683 -70.072  1.00 18.36           C
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ATOM  10094  O   ILE C 305     -31.922  33.622 -69.937  1.00 17.96           O
ATOM  10095  N   GLN C 306     -29.983  34.738 -69.707  1.00 18.57           N
ATOM  10096  CA  GLN C 306     -30.591  35.951 -69.156  1.00 19.27           C
ATOM  10097  CB  GLN C 306     -29.517  36.894 -68.615  1.00 19.46           C
ATOM  10098  CG  GLN C 306     -28.913  36.454 -67.284  1.00 19.54           C
ATOM  10099  CD  GLN C 306     -27.729  37.305 -66.849  1.00 19.08           C
ATOM  10100  OE1 GLN C 306     -26.943  37.777 -67.678  1.00 19.16           O
ATOM  10101  NE2 GLN C 306     -27.588  37.493 -65.540  1.00 18.86           N
ATOM  10102  C   GLN C 306     -31.448  36.684 -70.189  1.00 19.90           C
ATOM  10103  O   GLN C 306     -32.373  37.406 -69.830  1.00 20.22           O
ATOM  10104  N   ARG C 307     -31.123  36.503 -71.468  1.00 20.23           N
ATOM  10105  CA  ARG C 307     -31.916  37.046 -72.554  1.00 20.21           C
ATOM  10106  CB  ARG C 307     -31.145  36.958 -73.876  1.00 20.52           C
ATOM  10107  CG  ARG C 307     -31.461  38.075 -74.861  1.00 20.90           C
ATOM  10108  CD  ARG C 307     -30.519  38.089 -76.056  1.00 20.92           C
ATOM  10109  NE  ARG C 307     -29.161  38.498 -75.702  1.00 20.95           N
ATOM  10110  CZ  ARG C 307     -28.068  37.758 -75.902  1.00 21.30           C
ATOM  10111  NH1 ARG C 307     -28.159  36.559 -76.476  1.00 20.76           N
ATOM  10112  NH2 ARG C 307     -26.871  38.229 -75.550  1.00 21.22           N
ATOM  10113  C   ARG C 307     -33.265  36.319 -72.635  1.00 20.37           C
ATOM  10114  O   ARG C 307     -34.316  36.955 -72.576  1.00 21.50           O
ATOM  10115  N   LEU C 308     -33.227  34.992 -72.737  1.00 20.23           N
ATOM  10116  CA  LEU C 308     -34.438  34.155 -72.759  1.00 20.32           C
ATOM  10117  CB  LEU C 308     -34.073  32.673 -72.881  1.00 20.70           C
ATOM  10118  CG  LEU C 308     -33.268  32.244 -74.099  1.00 21.09           C
ATOM  10119  CD1 LEU C 308     -32.603  30.903 -73.864  1.00 20.67           C
ATOM  10120  CD2 LEU C 308     -34.166  32.199 -75.323  1.00 22.13           C
ATOM  10121  C   LEU C 308     -35.320  34.336 -71.532  1.00 20.13           C
ATOM  10122  O   LEU C 308     -36.537  34.437 -71.659  1.00 20.52           O
ATOM  10123  N   ARG C 309     -34.706  34.345 -70.349  1.00 19.90           N
ATOM  10124  CA  ARG C 309     -35.425  34.553 -69.090  1.00 20.13           C
ATOM  10125  CB  ARG C 309     -34.459  34.526 -67.896  1.00 18.99           C
ATOM  10126  CG  ARG C 309     -34.095  33.148 -67.380  1.00 17.70           C
ATOM  10127  CD  ARG C 309     -33.274  33.233 -66.101  1.00 17.13           C
ATOM  10128  NE  ARG C 309     -33.974  33.925 -65.023  1.00 16.78           N
ATOM  10129  CZ  ARG C 309     -34.872  33.362 -64.214  1.00 17.20           C
ATOM  10130  NH1 ARG C 309     -35.456  34.079 -63.266  1.00 17.64           N
ATOM  10131  NH2 ARG C 309     -35.204  32.083 -64.343  1.00 17.19           N
ATOM  10132  C   ARG C 309     -36.165  35.887 -69.116  1.00 21.15           C
ATOM  10133  O   ARG C 309     -37.388  35.933 -69.096  1.00 21.36           O
ATOM  10134  N   CYS C 310     -35.408  36.971 -69.178  1.00 22.99           N
ATOM  10135  CA  CYS C 310     -35.973  38.305 -69.264  1.00 25.31           C
ATOM  10136  CB  CYS C 310     -34.865  39.311 -69.532  1.00 26.45           C
ATOM  10137  SG  CYS C 310     -35.488  40.836 -70.235  1.00 31.22           S
ATOM  10138  C   CYS C 310     -37.061  38.420 -70.337  1.00 25.64           C
ATOM  10139  O   CYS C 310     -38.079  39.073 -70.129  1.00 26.48           O
ATOM  10140  N   GLU C 311     -36.832  37.787 -71.481  1.00 26.35           N
ATOM  10141  CA  GLU C 311     -37.833  37.706 -72.553  1.00 26.99           C
ATOM  10142  CB  GLU C 311     -37.230  37.072 -73.804  1.00 28.74           C
ATOM  10143  CG  GLU C 311     -36.550  38.082 -74.711  1.00 30.40           C
ATOM  10144  CD  GLU C 311     -35.443  37.470 -75.536  1.00 32.39           C
ATOM  10145  OE1 GLU C 311     -34.517  38.220 -75.927  1.00 32.28           O
ATOM  10146  OE2 GLU C 311     -35.500  36.239 -75.788  1.00 33.97           O
ATOM  10147  C   GLU C 311     -39.126  36.985 -72.184  1.00 25.49           C
ATOM  10148  O   GLU C 311     -40.193  37.396 -72.603  1.00 25.23           O
ATOM  10149  N   LEU C 312     -39.030  35.897 -71.431  1.00 24.86           N
ATOM  10150  CA  LEU C 312     -40.230  35.243 -70.909  1.00 24.74           C
ATOM  10151  CB  LEU C 312     -39.899  33.952 -70.159  1.00 23.78           C
ATOM  10152  CG  LEU C 312     -40.150  32.627 -70.872  1.00 23.40           C
ATOM  10153  CD1 LEU C 312     -39.717  31.508 -69.953  1.00 23.33           C
ATOM  10154  CD2 LEU C 312     -41.603  32.441 -71.284  1.00 22.97           C
ATOM  10155  C   LEU C 312     -40.998  36.168 -69.992  1.00 24.49           C
ATOM  10156  O   LEU C 312     -42.216  36.217 -70.043  1.00 25.14           O
ATOM  10157  N   ASP C 313     -40.271  36.896 -69.154  1.00 24.85           N
ATOM  10158  CA  ASP C 313     -40.867  37.842 -68.223  1.00 26.03           C
ATOM  10159  CB  ASP C 313     -39.764  38.598 -67.491  1.00 26.34           C
ATOM  10160  CG  ASP C 313     -40.217  39.140 -66.176  1.00 26.52           C
ATOM  10161  OD1 ASP C 313     -40.949  40.145 -66.161  1.00 27.11           O
ATOM  10162  OD2 ASP C 313     -39.827  38.564 -65.148  1.00 27.32           O
ATOM  10163  C   ASP C 313     -41.794  38.832 -68.945  1.00 26.70           C
ATOM  10164  O   ASP C 313     -42.977  38.955 -68.606  1.00 26.90           O
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ATOM  10165  N   ILE C 314     -41.252  39.517 -69.948  1.00 26.55           N
ATOM  10166  CA  ILE C 314     -42.011  40.486 -70.725  1.00 27.26           C
ATOM  10167  CB  ILE C 314     -41.133  41.135 -71.811  1.00 26.78           C
ATOM  10168  CG1 ILE C 314     -40.254  42.222 -71.190  1.00 26.02           C
ATOM  10169  CD1 ILE C 314     -38.883  42.325 -71.818  1.00 25.58           C
ATOM  10170  CG2 ILE C 314     -41.992  41.714 -72.928  1.00 27.03           C
ATOM  10171  C   ILE C 314     -43.279  39.883 -71.341  1.00 28.45           C
ATOM  10172  O   ILE C 314     -44.343  40.503 -71.295  1.00 29.63           O
ATOM  10173  N   MET C 315     -43.162  38.674 -71.894  1.00 28.95           N
ATOM  10174  CA  MET C 315     -44.286  37.985 -72.539  1.00 29.61           C
ATOM  10175  CB  MET C 315     -43.816  36.724 -73.255  1.00 30.58           C
ATOM  10176  CG  MET C 315     -43.066  37.003 -74.546  1.00 31.00           C
ATOM  10177  SD  MET C 315     -42.417  35.497 -75.288  1.00 30.79           S
ATOM  10178  CE  MET C 315     -40.876  36.143 -75.920  1.00 31.83           C
ATOM  10179  C   MET C 315     -45.427  37.645 -71.588  1.00 29.96           C
ATOM  10180  O   MET C 315     -46.585  37.631 -71.995  1.00 30.79           O
ATOM  10181  N   ASN C 316     -45.101  37.367 -70.329  1.00 30.06           N
ATOM  10182  CA  ASN C 316     -46.127  37.206 -69.304  1.00 30.44           C
ATOM  10183  CB  ASN C 316     -45.617  36.350 -68.144  1.00 29.69           C
ATOM  10184  CG  ASN C 316     -44.856  35.123 -68.609  1.00 29.04           C
ATOM  10185  OD1 ASN C 316     -45.088  34.611 -69.705  1.00 28.78           O
ATOM  10186  ND2 ASN C 316     -43.932  34.648 -67.776  1.00 28.93           N
ATOM  10187  C   ASN C 316     -46.615  38.554 -68.784  1.00 31.74           C
ATOM  10188  O   ASN C 316     -47.818  38.791 -68.719  1.00 32.40           O
ATOM  10189  N   LYS C 317     -45.675  39.445 -68.453  1.00 33.15           N
ATOM  10190  CA  LYS C 317     -45.988  40.683 -67.731  1.00 34.23           C
ATOM  10191  CB  LYS C 317     -44.776  41.153 -66.900  1.00 32.44           C
ATOM  10192  C   LYS C 317     -46.558  41.839 -68.583  1.00 36.18           C
ATOM  10193  O   LYS C 317     -47.017  42.832 -68.031  1.00 37.68           O
ATOM  10194  N   CYS C 318     -46.560  41.713 -69.909  1.00 37.88           N
ATOM  10195  CA  CYS C 318     -46.960  42.846 -70.763  1.00 38.72           C
ATOM  10196  CB  CYS C 318     -45.746  43.384 -71.518  1.00 39.19           C
ATOM  10197  SG  CYS C 318     -44.485  44.100 -70.444  1.00 41.50           S
ATOM  10198  C   CYS C 318     -48.116  42.577 -71.740  1.00 39.26           C
ATOM  10199  O   CYS C 318     -47.918  42.556 -72.960  1.00 40.67           O
ATOM  10200  N   THR C 319     -49.324  42.423 -71.207  1.00 38.30           N
ATOM  10201  CA  THR C 319     -50.478  42.049 -72.035  1.00 37.99           C
ATOM  10202  CB  THR C 319     -51.581  41.372 -71.203  1.00 38.81           C
ATOM  10203  OG1 THR C 319     -52.170  42.329 -70.312  1.00 39.89           O
ATOM  10204  CG2 THR C 319     -51.001  40.204 -70.409  1.00 40.26           C
ATOM  10205  C   THR C 319     -51.099  43.174 -72.896  1.00 37.48           C
ATOM  10206  O   THR C 319     -51.687  42.890 -73.946  1.00 37.41           O
ATOM  10207  N   SER C 320     -50.981  44.431 -72.461  1.00 35.49           N
ATOM  10208  CA  SER C 320     -51.559  45.561 -73.210  1.00 32.94           C
ATOM  10209  CB  SER C 320     -52.553  46.331 -72.342  1.00 31.59           C
ATOM  10210  OG  SER C 320     -51.914  47.378 -71.648  1.00 31.98           O
ATOM  10211  C   SER C 320     -50.499  46.507 -73.822  1.00 32.42           C
ATOM  10212  O   SER C 320     -49.314  46.432 -73.476  1.00 32.80           O
ATOM  10213  N   LEU C 321     -50.941  47.382 -74.734  1.00 30.81           N
ATOM  10214  CA  LEU C 321     -50.062  48.300 -75.473  1.00 28.89           C
ATOM  10215  CB  LEU C 321     -49.645  47.669 -76.802  1.00 28.75           C
ATOM  10216  CG  LEU C 321     -48.589  46.561 -76.788  1.00 28.35           C
ATOM  10217  CD1 LEU C 321     -48.677  45.748 -78.067  1.00 28.82           C
ATOM  10218  CD2 LEU C 321     -47.187  47.118 -76.609  1.00 27.54           C
ATOM  10219  C   LEU C 321     -50.761  49.627 -75.745  1.00 28.02           C
ATOM  10220  O   LEU C 321     -51.854  49.640 -76.303  1.00 27.49           O
ATOM  10221  N   CYS C 322     -50.199  50.812 -75.419  1.00 28.00           N
ATOM  10222  CA  CYS C 322     -50.929  52.143 -75.567  1.00 27.86           C
ATOM  10223  CB  CYS C 322     -51.485  52.598 -74.220  1.00 28.61           C
ATOM  10224  SG  CYS C 322     -51.570  51.417 -72.879  1.00 29.62           S
ATOM  10225  C   CYS C 322     -50.269  53.419 -76.203  1.00 27.28           C
ATOM  10226  O   CYS C 322     -49.110  53.368 -76.437  1.00 27.58           O
ATOM  10227  O   CYS C 323     -49.014  54.729 -75.263  1.00 30.00           O
ATOM  10228  N   CYS C 323     -51.010  54.459 -76.543  1.00 30.00           N
ATOM  10229  CA  CYS C 323     -50.249  55.511 -77.146  1.00 30.00           C
ATOM  10230  C   CYS C 323     -49.039  55.460 -76.252  1.00 30.00           C
ATOM  10231  CB  CYS C 323     -50.885  56.872 -77.051  1.00 20.00           C
ATOM  10232  SG  CYS C 323     -49.691  58.075 -77.649  1.00 20.00           S
ATOM  10233  N   LYS C 324     -48.028  56.226 -76.591  1.00 28.55           N
ATOM  10234  CA  LYS C 324     -46.840  56.257 -75.770  1.00 28.81           C
ATOM  10235  CB  LYS C 324     -45.628  56.075 -76.630  1.00 30.57           C
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ATOM  10236  CG  LYS C 324     -44.475  55.416 -75.919  1.00 32.15           C
ATOM  10237  CD  LYS C 324     -43.337  56.369 -75.729  1.00 33.14           C
ATOM  10238  CE  LYS C 324     -42.094  55.607 -75.403  1.00 34.39           C
ATOM  10239  NZ  LYS C 324     -41.941  54.532 -76.413  1.00 37.31           N
ATOM  10240  C   LYS C 324     -46.811  57.625 -75.221  1.00 28.84           C
ATOM  10241  O   LYS C 324     -46.538  57.849 -74.068  1.00 28.50           O
ATOM  10242  N   GLN C 325     -47.097  58.566 -76.099  1.00 28.91           N
ATOM  10243  CA  GLN C 325     -47.386  59.908 -75.720  1.00 29.27           C
ATOM  10244  CB  GLN C 325     -47.964  60.651 -76.892  1.00 29.31           C
ATOM  10245  CG  GLN C 325     -48.329  62.077 -76.578  1.00 30.12           C
ATOM  10246  CD  GLN C 325     -47.121  62.932 -76.399  1.00 30.82           C
ATOM  10247  OE1 GLN C 325     -46.041  62.584 -76.831  1.00 32.09           O
ATOM  10248  NE2 GLN C 325     -47.295  64.051 -75.756  1.00 30.42           N
ATOM  10249  C   GLN C 325     -48.421  59.689 -74.677  1.00 29.77           C
ATOM  10250  O   GLN C 325     -48.343  58.704 -74.000  1.00 31.34           O
ATOM  10251  O   CYS C 326     -50.813  58.254 -74.443  1.00 30.00           O
ATOM  10252  N   CYS C 326     -49.376  60.622 -74.552  1.00 30.00           N
ATOM  10253  CA  CYS C 326     -50.516  60.461 -73.649  1.00 30.00           C
ATOM  10254  C   CYS C 326     -50.590  58.979 -73.482  1.00 30.00           C
ATOM  10255  CB  CYS C 326     -51.807  61.021 -74.265  1.00 20.00           C
ATOM  10256  SG  CYS C 326     -53.080  59.832 -74.782  1.00 20.00           S
ATOM  10257  N   GLN C 327     -50.344  58.493 -72.285  1.00 33.71           N
ATOM  10258  CA  GLN C 327     -49.940  57.119 -72.213  1.00 35.17           C
ATOM  10259  CB  GLN C 327     -48.576  57.051 -71.543  1.00 35.36           C
ATOM  10260  CG  GLN C 327     -48.613  57.030 -70.042  1.00 35.93           C
ATOM  10261  CD  GLN C 327     -47.304  57.405 -69.443  1.00 37.72           C
ATOM  10262  OE1 GLN C 327     -46.651  58.307 -69.915  1.00 39.64           O
ATOM  10263  NE2 GLN C 327     -46.911  56.716 -68.400  1.00 37.96           N
ATOM  10264  C   GLN C 327     -50.836  56.102 -71.564  1.00 36.84           C
ATOM  10265  O   GLN C 327     -50.459  54.961 -71.485  1.00 38.04           O
ATOM  10266  N   GLU C 328     -51.993  56.499 -71.079  1.00 38.65           N
ATOM  10267  CA  GLU C 328     -52.828  55.571 -70.341  1.00 40.08           C
ATOM  10268  CB  GLU C 328     -53.379  56.225 -69.069  1.00 42.82           C
ATOM  10269  CG  GLU C 328     -52.335  56.504 -67.990  1.00 44.75           C
ATOM  10270  CD  GLU C 328     -52.049  55.307 -67.105  1.00 46.60           C
ATOM  10271  OE1 GLU C 328     -50.866  55.031 -66.859  1.00 47.60           O
ATOM  10272  OE2 GLU C 328     -52.996  54.638 -66.650  1.00 47.01           O
ATOM  10273  C   GLU C 328     -53.934  55.044 -71.215  1.00 38.58           C
ATOM  10274  O   GLU C 328     -55.000  54.719 -70.755  1.00 39.47           O
ATOM  10275  N   THR C 329     -53.636  54.933 -72.492  1.00 37.05           N
ATOM  10276  CA  THR C 329     -54.638  54.654 -73.538  1.00 35.59           C
ATOM  10277  CB  THR C 329     -54.863  55.893 -74.440  1.00 35.01           C
ATOM  10278  OG1 THR C 329     -55.454  56.942 -73.656  1.00 34.92           O
ATOM  10279  CG2 THR C 329     -55.772  55.558 -75.637  1.00 33.48           C
ATOM  10280  C   THR C 329     -54.349  53.391 -74.373  1.00 34.31           C
ATOM  10281  O   THR C 329     -53.374  53.338 -75.120  1.00 34.17           O
ATOM  10282  N   GLU C 330     -55.234  52.399 -74.256  1.00 32.74           N
ATOM  10283  CA  GLU C 330     -55.038  51.070 -74.852  1.00 31.44           C
ATOM  10284  CB  GLU C 330     -55.945  50.054 -74.160  1.00 32.33           C
ATOM  10285  CG  GLU C 330     -55.767  48.626 -74.642  1.00 33.30           C
ATOM  10286  CD  GLU C 330     -56.359  47.609 -73.687  1.00 33.72           C
ATOM  10287  OE1 GLU C 330     -55.567  46.890 -73.048  1.00 33.81           O
ATOM  10288  OE2 GLU C 330     -57.608  47.535 -73.566  1.00 33.76           O
ATOM  10289  C   GLU C 330     -55.266  51.021 -76.360  1.00 29.81           C
ATOM  10290  O   GLU C 330     -56.343  51.358 -76.843  1.00 29.73           O
ATOM  10291  N   ILE C 331     -54.248  50.583 -77.095  1.00 28.55           N
ATOM  10292  CA  ILE C 331     -54.343  50.467 -78.552  1.00 28.42           C
ATOM  10293  CB  ILE C 331     -53.049  50.955 -79.280  1.00 28.07           C
ATOM  10294  CG1 ILE C 331     -52.582  52.331 -78.766  1.00 28.27           C
ATOM  10295  CD1 ILE C 331     -53.463  53.516 -79.141  1.00 28.42           C
ATOM  10296  CG2 ILE C 331     -53.231  50.970 -80.798  1.00 27.94           C
ATOM  10297  C   ILE C 331     -54.679  49.023 -78.942  1.00 28.11           C
ATOM  10298  O   ILE C 331     -55.602  48.781 -79.722  1.00 27.74           O
ATOM  10299  N   THR C 332     -53.937  48.071 -78.383  1.00 28.31           N
ATOM  10300  CA  THR C 332     -54.138  46.654 -78.682  1.00 29.06           C
ATOM  10301  CB  THR C 332     -53.504  46.270 -80.044  1.00 29.15           C
ATOM  10302  OG1 THR C 332     -53.924  44.954 -80.422  1.00 30.59           O
ATOM  10303  CG2 THR C 332     -51.979  46.323 -79.987  1.00 29.46           C
ATOM  10304  C   THR C 332     -53.649  45.740 -77.535  1.00 29.20           C
ATOM  10305  O   THR C 332     -53.127  46.221 -76.528  1.00 28.24           O
ATOM  10306  N   THR C 333     -53.848  44.432 -77.683  1.00 30.52           N
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ATOM  10307  CA  THR C 333     -53.397  43.465 -76.673  1.00 32.61           C
ATOM  10308  CB  THR C 333     -54.568  42.827 -75.873  1.00 31.18           C
ATOM  10309  OG1 THR C 333     -55.584  42.356 -76.770  1.00 30.23           O
ATOM  10310  CG2 THR C 333     -55.167  43.828 -74.906  1.00 30.69           C
ATOM  10311  C   THR C 333     -52.524  42.358 -77.265  1.00 34.87           C
ATOM  10312  O   THR C 333     -52.358  42.262 -78.489  1.00 34.02           O
ATOM  10313  N   LYS C 334     -51.961  41.540 -76.371  1.00 36.51           N
ATOM  10314  CA  LYS C 334     -51.210  40.348 -76.736  1.00 37.13           C
ATOM  10315  CB  LYS C 334     -50.842  39.555 -75.478  1.00 38.57           C
ATOM  10316  CG  LYS C 334     -50.070  38.267 -75.729  1.00 39.10           C
ATOM  10317  CD  LYS C 334     -49.551  37.657 -74.429  1.00 39.18           C
ATOM  10318  CE  LYS C 334     -48.358  36.747 -74.699  1.00 39.28           C
ATOM  10319  NZ  LYS C 334     -47.892  36.022 -73.490  1.00 38.25           N
ATOM  10320  C   LYS C 334     -52.060  39.496 -77.650  1.00 37.78           C
ATOM  10321  O   LYS C 334     -51.610  39.094 -78.725  1.00 38.45           O
ATOM  10322  N   ASN C 335     -53.301  39.252 -77.226  1.00 37.48           N
ATOM  10323  CA  ASN C 335     -54.260  38.467 -78.003  1.00 38.20           C
ATOM  10324  CB  ASN C 335     -55.683  38.708 -77.493  1.00 39.97           C
ATOM  10325  CG  ASN C 335     -55.892  38.217 -76.077  1.00 40.91           C
ATOM  10326  OD1 ASN C 335     -56.974  38.392 -75.510  1.00 41.71           O
ATOM  10327  ND2 ASN C 335     -54.865  37.597 -75.496  1.00 39.92           N
ATOM  10328  C   ASN C 335     -54.224  38.739 -79.506  1.00 37.45           C
ATOM  10329  O   ASN C 335     -54.407  37.823 -80.306  1.00 38.02           O
ATOM  10330  N   GLU C 336     -53.982  39.995 -79.882  1.00 36.22           N
ATOM  10331  CA  GLU C 336     -54.143  40.423 -81.274  1.00 35.67           C
ATOM  10332  CB  GLU C 336     -54.736  41.827 -81.335  1.00 37.40           C
ATOM  10333  CG  GLU C 336     -56.005  41.993 -80.503  1.00 41.69           C
ATOM  10334  CD  GLU C 336     -57.188  41.141 -80.975  1.00 43.76           C
ATOM  10335  OE1 GLU C 336     -58.269  41.249 -80.348  1.00 45.56           O
ATOM  10336  OE2 GLU C 336     -57.057  40.376 -81.965  1.00 44.52           O
ATOM  10337  C   GLU C 336     -52.887  40.317 -82.138  1.00 32.73           C
ATOM  10338  O   GLU C 336     -52.972  40.335 -83.364  1.00 31.22           O
ATOM  10339  N   ILE C 337     -51.733  40.197 -81.493  1.00 31.40           N
ATOM  10340  CA  ILE C 337     -50.459  40.092 -82.196  1.00 31.48           C
ATOM  10341  CB  ILE C 337     -49.252  40.134 -81.221  1.00 30.92           C
ATOM  10342  CG1 ILE C 337     -49.192  41.468 -80.484  1.00 30.27           C
ATOM  10343  CD1 ILE C 337     -48.276  41.453 -79.285  1.00 30.16           C
ATOM  10344  CG2 ILE C 337     -47.940  39.898 -81.956  1.00 30.13           C
ATOM  10345  C   ILE C 337     -50.405  38.806 -83.017  1.00 32.03           C
ATOM  10346  O   ILE C 337     -50.673  37.711 -82.503  1.00 32.55           O
ATOM  10347  N   PHE C 338     -50.068  38.950 -84.295  1.00 31.24           N
ATOM  10348  CA  PHE C 338     -49.843  37.803 -85.156  1.00 31.26           C
ATOM  10349  CB  PHE C 338     -51.139  37.423 -85.889  1.00 29.91           C
ATOM  10350  CG  PHE C 338     -51.416  38.249 -87.103  1.00 29.35           C
ATOM  10351  CD1 PHE C 338     -51.610  39.620 -87.003  1.00 29.62           C
ATOM  10352  CE1 PHE C 338     -51.849  40.384 -88.133  1.00 29.58           C
ATOM  10353  CZ  PHE C 338     -51.911  39.779 -89.375  1.00 29.65           C
ATOM  10354  CE2 PHE C 338     -51.727  38.412 -89.487  1.00 29.61           C
ATOM  10355  CD2 PHE C 338     -51.477  37.656 -88.354  1.00 29.42           C
ATOM  10356  C   PHE C 338     -48.688  38.085 -86.131  1.00 31.80           C
ATOM  10357  O   PHE C 338     -48.403  39.246 -86.455  1.00 30.79           O
ATOM  10358  N   SER C 339     -48.023  37.019 -86.575  1.00 32.10           N
ATOM  10359  CA  SER C 339     -46.869  37.124 -87.463  1.00 31.91           C
ATOM  10360  CB  SER C 339     -45.873  35.998 -87.188  1.00 31.13           C
ATOM  10361  OG  SER C 339     -45.839  35.703 -85.801  1.00 32.80           O
ATOM  10362  C   SER C 339     -47.316  37.061 -88.901  1.00 32.38           C
ATOM  10363  O   SER C 339     -47.450  35.989 -89.469  1.00 32.27           O
ATOM  10364  N   LEU C 340     -47.556  38.219 -89.493  1.00 34.71           N
ATOM  10365  CA  LEU C 340     -47.859  38.274 -90.908  1.00 35.52           C
ATOM  10366  CB  LEU C 340     -48.348  39.662 -91.299  1.00 35.93           C
ATOM  10367  CG  LEU C 340     -49.641  39.766 -92.106  1.00 36.00           C
ATOM  10368  CD1 LEU C 340     -49.574  40.991 -93.003  1.00 35.67           C
ATOM  10369  CD2 LEU C 340     -49.928  38.510 -92.917  1.00 35.09           C
ATOM  10370  C   LEU C 340     -46.588  37.947 -91.662  1.00 36.98           C
ATOM  10371  O   LEU C 340     -46.620  37.231 -92.658  1.00 39.23           O
ATOM  10372  N   SER C 341     -45.468  38.474 -91.171  1.00 37.68           N
ATOM  10373  CA  SER C 341     -44.161  38.147 -91.712  1.00 37.80           C
ATOM  10374  CB  SER C 341     -43.172  39.297 -91.482  1.00 38.13           C
ATOM  10375  OG  SER C 341     -41.822  38.877 -91.638  1.00 37.74           O
ATOM  10376  C   SER C 341     -43.647  36.885 -91.058  1.00 38.72           C
ATOM  10377  O   SER C 341     -43.706  36.741 -89.830  1.00 38.63           O
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ATOM  10378  N   LEU C 342     -43.165  35.973 -91.899  1.00 40.54           N
ATOM  10379  CA  LEU C 342     -42.340  34.835 -91.486  1.00 43.39           C
ATOM  10380  CB  LEU C 342     -41.423  34.430 -92.647  1.00 44.01           C
ATOM  10381  CG  LEU C 342     -41.111  32.959 -92.938  1.00 44.26           C
ATOM  10382  CD1 LEU C 342     -40.377  32.869 -94.269  1.00 43.78           C
ATOM  10383  CD2 LEU C 342     -40.311  32.287 -91.822  1.00 44.08           C
ATOM  10384  C   LEU C 342     -41.481  35.143 -90.245  1.00 45.31           C
ATOM  10385  O   LEU C 342     -41.512  34.399 -89.260  1.00 44.98           O
ATOM  10386  N   CYS C 343     -40.733  36.247 -90.300  1.00 46.18           N
ATOM  10387  CA  CYS C 343     -39.808  36.643 -89.230  1.00 46.90           C
ATOM  10388  CB  CYS C 343     -39.038  37.880 -89.655  1.00 49.16           C
ATOM  10389  SG  CYS C 343     -38.070  37.582 -91.138  1.00 57.66           S
ATOM  10390  C   CYS C 343     -40.445  36.900 -87.867  1.00 45.38           C
ATOM  10391  O   CYS C 343     -39.741  36.955 -86.855  1.00 43.57           O
ATOM  10392  N   GLY C 344     -41.765  37.076 -87.846  1.00 44.02           N
ATOM  10393  CA  GLY C 344     -42.484  37.366 -86.606  1.00 40.38           C
ATOM  10394  C   GLY C 344     -43.482  38.510 -86.673  1.00 36.50           C
ATOM  10395  O   GLY C 344     -43.802  39.008 -87.752  1.00 38.19           O
ATOM  10396  N   PRO C 345     -44.000  38.922 -85.511  1.00 33.82           N
ATOM  10397  CA  PRO C 345     -44.947  40.027 -85.425  1.00 33.17           C
ATOM  10398  CB  PRO C 345     -45.425  39.964 -83.974  1.00 32.76           C
ATOM  10399  CG  PRO C 345     -44.343  39.254 -83.242  1.00 34.07           C
ATOM  10400  CD  PRO C 345     -43.830  38.243 -84.216  1.00 34.07           C
ATOM  10401  C   PRO C 345     -44.317  41.386 -85.692  1.00 32.34           C
ATOM  10402  O   PRO C 345     -45.032  42.373 -85.824  1.00 30.68           O
ATOM  10403  N   MET C 346     -42.990  41.432 -85.766  1.00 32.93           N
ATOM  10404  CA  MET C 346     -42.282  42.700 -85.925  1.00 33.39           C
ATOM  10405  CB  MET C 346     -42.016  43.346 -84.566  1.00 32.96           C
ATOM  10406  CG  MET C 346     -41.696  44.824 -84.642  1.00 33.63           C
ATOM  10407  SD  MET C 346     -41.946  45.666 -83.069  1.00 34.92           S
ATOM  10408  CE  MET C 346     -40.604  44.977 -82.111  1.00 34.80           C
ATOM  10409  C   MET C 346     -40.986  42.586 -86.735  1.00 33.84           C
ATOM  10410  O   MET C 346     -40.181  41.663 -86.537  1.00 35.08           O
ATOM  10411  N   ALA C 347     -40.821  43.532 -87.663  1.00 32.32           N
ATOM  10412  CA  ALA C 347     -39.629  43.664 -88.497  1.00 29.12           C
ATOM  10413  CB  ALA C 347     -39.805  42.900 -89.798  1.00 28.73           C
ATOM  10414  C   ALA C 347     -39.416  45.142 -88.765  1.00 27.16           C
ATOM  10415  O   ALA C 347     -40.289  45.949 -88.481  1.00 26.54           O
ATOM  10416  N   ALA C 348     -38.249  45.503 -89.283  1.00 27.20           N
ATOM  10417  CA  ALA C 348     -37.982  46.895 -89.638  1.00 27.50           C
ATOM  10418  CB  ALA C 348     -36.568  47.296 -89.245  1.00 27.43           C
ATOM  10419  C   ALA C 348     -38.239  47.166 -91.127  1.00 27.44           C
ATOM  10420  O   ALA C 348     -37.817  46.399 -91.999  1.00 26.69           O
ATOM  10421  N   TYR C 349     -38.934  48.266 -91.399  1.00 27.16           N
ATOM  10422  CA  TYR C 349     -39.247  48.659 -92.757  1.00 27.05           C
ATOM  10423  CB  TYR C 349     -40.728  48.435 -93.023  1.00 27.71           C
ATOM  10424  CG  TYR C 349     -41.197  47.020 -92.752  1.00 28.88           C
ATOM  10425  CD1 TYR C 349     -40.981  46.005 -93.689  1.00 28.96           C
ATOM  10426  CE1 TYR C 349     -41.412  44.711 -93.454  1.00 28.30           C
ATOM  10427  CZ  TYR C 349     -42.078  44.412 -92.274  1.00 28.78           C
ATOM  10428  OH  TYR C 349     -42.499  43.113 -92.053  1.00 29.31           O
ATOM  10429  CE2 TYR C 349     -42.316  45.402 -91.328  1.00 28.21           C
ATOM  10430  CD2 TYR C 349     -41.874  46.696 -91.570  1.00 28.25           C
ATOM  10431  C   TYR C 349     -38.887  50.125 -92.975  1.00 26.87           C
ATOM  10432  O   TYR C 349     -39.060  50.944 -92.065  1.00 26.43           O
ATOM  10433  N   VAL C 350     -38.373  50.446 -94.168  1.00 26.11           N
ATOM  10434  CA  VAL C 350     -38.085  51.833 -94.546  1.00 26.68           C
ATOM  10435  CB  VAL C 350     -36.881  51.972 -95.510  1.00 27.48           C
ATOM  10436  CG1 VAL C 350     -35.754  52.785 -94.894  1.00 27.76           C
ATOM  10437  CG2 VAL C 350     -36.413  50.627 -96.037  1.00 28.18           C
ATOM  10438  C   VAL C 350     -39.250  52.461 -95.276  1.00 26.91           C
ATOM  10439  O   VAL C 350     -39.904  51.808 -96.086  1.00 26.80           O
ATOM  10440  N   ASN C 351     -39.484  53.744 -95.022  1.00 26.97           N
ATOM  10441  CA  ASN C 351     -40.415  54.501 -95.839  1.00 27.90           C
ATOM  10442  CB  ASN C 351     -41.217  55.490 -94.985  1.00 28.15           C
ATOM  10443  CG  ASN C 351     -40.381  56.640 -94.459  1.00 27.29           C
ATOM  10444  OD1 ASN C 351     -39.291  56.938 -94.961  1.00 26.27           O
ATOM  10445  ND2 ASN C 351     -40.901  57.301 -93.439  1.00 26.94           N
ATOM  10446  C   ASN C 351     -39.685  55.194 -96.988  1.00 29.01           C
ATOM  10447  O   ASN C 351     -38.474  55.025 -97.133  1.00 29.86           O
ATOM  10448  N   PRO C 352     -40.415  55.978 -97.810  1.00 29.88           N
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ATOM  10449  CA  PRO C 352     -39.808  56.566 -99.000  1.00 30.10           C
ATOM  10450  CB  PRO C 352     -41.011  57.142 -99.749  1.00 29.21           C
ATOM  10451  CG  PRO C 352     -42.188  56.393 -99.218  1.00 28.50           C
ATOM  10452  CD  PRO C 352     -41.866  56.232 -97.777  1.00 29.02           C
ATOM  10453  C   PRO C 352     -38.772  57.661 -98.708  1.00 31.67           C
ATOM  10454  O   PRO C 352     -37.851  57.855 -99.503  1.00 32.87           O
ATOM  10455  N   HIS C 353     -38.918  58.369 -97.590  1.00 32.77           N
ATOM  10456  CA  HIS C 353     -37.946  59.404 -97.216  1.00 33.72           C
ATOM  10457  CB  HIS C 353     -38.599  60.537 -96.417  1.00 35.44           C
ATOM  10458  CG  HIS C 353     -39.852  61.106 -97.056  1.00 38.40           C
ATOM  10459  ND1 HIS C 353     -40.058  61.104 -98.391  1.00 39.95           N
ATOM  10460  CE1 HIS C 353     -41.250  61.680 -98.664  1.00 40.46           C
ATOM  10461  NE2 HIS C 353     -41.804  62.064 -97.500  1.00 40.61           N
ATOM  10462  CD2 HIS C 353     -40.970  61.725 -96.487  1.00 40.14           C
ATOM  10463  C   HIS C 353     -36.776  58.827 -96.463  1.00 33.50           C
ATOM  10464  O   HIS C 353     -35.946  59.565 -95.924  1.00 33.28           O
ATOM  10465  N   GLY C 354     -36.705  57.497 -96.415  1.00 33.28           N
ATOM  10466  CA  GLY C 354     -35.577  56.793 -95.810  1.00 33.10           C
ATOM  10467  C   GLY C 354     -35.653  56.577 -94.310  1.00 32.71           C
ATOM  10468  O   GLY C 354     -34.667  56.177 -93.696  1.00 31.57           O
ATOM  10469  N   TYR C 355     -36.823  56.831 -93.724  1.00 33.97           N
ATOM  10470  CA  TYR C 355     -37.036  56.667 -92.280  1.00 34.69           C
ATOM  10471  CB  TYR C 355     -38.036  57.715 -91.778  1.00 37.28           C
ATOM  10472  CG  TYR C 355     -38.183  57.728 -90.279  1.00 42.96           C
ATOM  10473  CD1 TYR C 355     -38.981  56.775 -89.631  1.00 44.82           C
ATOM  10474  CE1 TYR C 355     -39.114  56.763 -88.247  1.00 48.40           C
ATOM  10475  CZ  TYR C 355     -38.450  57.714 -87.484  1.00 50.11           C
ATOM  10476  OH  TYR C 355     -38.610  57.681 -86.112  1.00 52.38           O
ATOM  10477  CE2 TYR C 355     -37.650  58.678 -88.100  1.00 48.33           C
ATOM  10478  CD2 TYR C 355     -37.521  58.682 -89.492  1.00 45.58           C
ATOM  10479  C   TYR C 355     -37.467  55.224 -91.882  1.00 33.90           C
ATOM  10480  O   TYR C 355     -38.316  54.606 -92.537  1.00 35.81           O
ATOM  10481  N   VAL C 356     -36.888  54.697 -90.809  1.00 30.43           N
ATOM  10482  CA  VAL C 356     -37.075  53.293 -90.456  1.00 29.32           C
ATOM  10483  CB  VAL C 356     -35.741  52.688 -89.999  1.00 27.63           C
ATOM  10484  CG1 VAL C 356     -35.947  51.361 -89.287  1.00 28.21           C
ATOM  10485  CG2 VAL C 356     -34.822  52.516 -91.192  1.00 27.01           C
ATOM  10486  C   VAL C 356     -38.193  53.041 -89.415  1.00 31.40           C
ATOM  10487  O   VAL C 356     -38.264  53.723 -88.389  1.00 32.81           O
ATOM  10488  N   HIS C 357     -39.065  52.064 -89.688  1.00 32.30           N
ATOM  10489  CA  HIS C 357     -40.176  51.722 -88.774  1.00 32.20           C
ATOM  10490  CB  HIS C 357     -41.529  52.147 -89.346  1.00 32.68           C
ATOM  10491  CG  HIS C 357     -41.739  53.628 -89.386  1.00 32.55           C
ATOM  10492  ND1 HIS C 357     -42.012  54.345 -88.288  1.00 32.45           N
ATOM  10493  CE1 HIS C 357     -42.158  55.638 -88.623  1.00 33.55           C
ATOM  10494  NE2 HIS C 357     -41.977  55.747 -89.948  1.00 33.97           N
ATOM  10495  CD2 HIS C 357     -41.725  54.524 -90.451  1.00 33.08           C
ATOM  10496  C   HIS C 357     -40.248  50.259 -88.473  1.00 32.01           C
ATOM  10497  O   HIS C 357     -40.483  49.438 -89.365  1.00 31.26           O
ATOM  10498  N   GLU C 358     -40.076  49.923 -87.201  1.00 32.29           N
ATOM  10499  CA  GLU C 358     -40.326  48.569 -86.736  1.00 31.67           C
ATOM  10500  CB  GLU C 358     -39.530  48.279 -85.466  1.00 31.92           C
ATOM  10501  CG  GLU C 358     -38.069  48.660 -85.568  1.00 33.28           C
ATOM  10502  CD  GLU C 358     -37.276  48.182 -84.381  1.00 35.29           C
ATOM  10503  OE1 GLU C 358     -36.868  47.002 -84.394  1.00 37.09           O
ATOM  10504  OE2 GLU C 358     -37.055  48.982 -83.442  1.00 35.36           O
ATOM  10505  C   GLU C 358     -41.821  48.442 -86.480  1.00 31.24           C
ATOM  10506  O   GLU C 358     -42.326  48.874 -85.427  1.00 31.08           O
ATOM  10507  N   THR C 359     -42.545  47.895 -87.455  1.00 29.38           N
ATOM  10508  CA  THR C 359     -44.003  47.848 -87.334  1.00 28.07           C
ATOM  10509  CB  THR C 359     -44.752  48.381 -88.596  1.00 27.94           C
ATOM  10510  OG1 THR C 359     -45.150  47.305 -89.442  1.00 28.73           O
ATOM  10511  CG2 THR C 359     -43.872  49.324 -89.393  1.00 28.08           C
ATOM  10512  C   THR C 359     -44.468  46.467 -86.879  1.00 26.94           C
ATOM  10513  O   THR C 359     -43.905  45.442 -87.278  1.00 26.51           O
ATOM  10514  N   LEU C 360     -45.473  46.474 -86.004  1.00 25.71           N
ATOM  10515  CA  LEU C 360     -46.022  45.280 -85.379  1.00 24.53           C
ATOM  10516  CB  LEU C 360     -46.115  45.497 -83.862  1.00 24.04           C
ATOM  10517  CG  LEU C 360     -46.906  44.509 -82.999  1.00 23.67           C
ATOM  10518  CD1 LEU C 360     -46.065  43.278 -82.707  1.00 24.04           C
ATOM  10519  CD2 LEU C 360     -47.354  45.169 -81.705  1.00 23.41           C
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ATOM  10520  C   LEU C 360     -47.404  44.984 -85.948  1.00 24.21           C
ATOM  10521  O   LEU C 360     -48.301  45.827 -85.870  1.00 24.41           O
ATOM  10522  N   THR C 361     -47.579  43.790 -86.514  1.00 23.92           N
ATOM  10523  CA  THR C 361     -48.870  43.397 -87.084  1.00 23.85           C
ATOM  10524  CB  THR C 361     -48.729  42.357 -88.212  1.00 23.69           C
ATOM  10525  OG1 THR C 361     -47.794  41.344 -87.823  1.00 24.01           O
ATOM  10526  CG2 THR C 361     -48.246  43.019 -89.485  1.00 24.12           C
ATOM  10527  C   THR C 361     -49.809  42.856 -86.022  1.00 24.06           C
ATOM  10528  O   THR C 361     -49.494  41.876 -85.340  1.00 23.84           O
ATOM  10529  N   VAL C 362     -50.959  43.510 -85.880  1.00 24.37           N
ATOM  10530  CA  VAL C 362     -52.024  43.017 -85.017  1.00 25.30           C
ATOM  10531  CB  VAL C 362     -52.234  43.910 -83.768  1.00 25.94           C
ATOM  10532  CG1 VAL C 362     -51.020  43.856 -82.842  1.00 25.96           C
ATOM  10533  CG2 VAL C 362     -52.584  45.342 -84.157  1.00 25.68           C
ATOM  10534  C   VAL C 362     -53.331  42.896 -85.788  1.00 25.90           C
ATOM  10535  O   VAL C 362     -53.508  43.563 -86.808  1.00 26.82           O
ATOM  10536  N   TYR C 363     -54.237  42.044 -85.302  1.00 27.09           N
ATOM  10537  CA  TYR C 363     -55.584  41.901 -85.881  1.00 28.27           C
ATOM  10538  CB  TYR C 363     -56.253  40.626 -85.390  1.00 29.21           C
ATOM  10539  CG  TYR C 363     -55.636  39.351 -85.887  1.00 30.08           C
ATOM  10540  CD1 TYR C 363     -55.544  39.077 -87.254  1.00 30.49           C
ATOM  10541  CE1 TYR C 363     -54.990  37.891 -87.710  1.00 31.12           C
ATOM  10542  CZ  TYR C 363     -54.539  36.951 -86.790  1.00 31.84           C
ATOM  10543  OH  TYR C 363     -53.991  35.764 -87.214  1.00 32.13           O
ATOM  10544  CE2 TYR C 363     -54.633  37.198 -85.432  1.00 32.27           C
ATOM  10545  CD2 TYR C 363     -55.182  38.392 -84.989  1.00 31.16           C
ATOM  10546  C   TYR C 363     -56.506  43.074 -85.564  1.00 28.66           C
ATOM  10547  O   TYR C 363     -57.041  43.701 -86.472  1.00 29.23           O
ATOM  10548  N   LYS C 364     -56.709  43.328 -84.270  1.00 29.45           N
ATOM  10549  CA  LYS C 364     -57.552  44.424 -83.771  1.00 30.16           C
ATOM  10550  CB  LYS C 364     -58.527  43.918 -82.693  1.00 31.84           C
ATOM  10551  CG  LYS C 364     -59.956  43.644 -83.144  1.00 32.80           C
ATOM  10552  CD  LYS C 364     -60.188  42.167 -83.445  1.00 33.71           C
ATOM  10553  CE  LYS C 364     -61.333  41.585 -82.619  1.00 34.51           C
ATOM  10554  NZ  LYS C 364     -62.535  42.470 -82.549  1.00 35.90           N
ATOM  10555  C   LYS C 364     -56.724  45.562 -83.166  1.00 29.61           C
ATOM  10556  O   LYS C 364     -55.652  45.337 -82.593  1.00 29.16           O
ATOM  10557  N   ALA C 365     -57.249  46.781 -83.287  1.00 28.84           N
ATOM  10558  CA  ALA C 365     -56.656  47.963 -82.673  1.00 27.41           C
ATOM  10559  CB  ALA C 365     -55.609  48.581 -83.584  1.00 27.30           C
ATOM  10560  C   ALA C 365     -57.735  48.978 -82.330  1.00 26.97           C
ATOM  10561  O   ALA C 365     -58.511  49.410 -83.190  1.00 26.92           O
ATOM  10562  N   SER C 366     -57.770  49.362 -81.065  1.00 26.43           N
ATOM  10563  CA  SER C 366     -58.808  50.240 -80.565  1.00 26.51           C
ATOM  10564  CB  SER C 366     -59.233  49.776 -79.173  1.00 27.33           C
ATOM  10565  OG  SER C 366     -59.448  48.373 -79.168  1.00 28.88           O
ATOM  10566  C   SER C 366     -58.372  51.707 -80.530  1.00 25.73           C
ATOM  10567  O   SER C 366     -57.177  52.012 -80.608  1.00 25.80           O
ATOM  10568  N   ASN C 367     -59.362  52.600 -80.420  1.00 24.57           N
ATOM  10569  CA  ASN C 367     -59.156  54.047 -80.238  1.00 23.02           C
ATOM  10570  CB  ASN C 367     -58.712  54.378 -78.802  1.00 22.99           C
ATOM  10571  CG  ASN C 367     -59.408  53.531 -77.763  1.00 22.84           C
ATOM  10572  OD1 ASN C 367     -58.844  52.554 -77.276  1.00 23.01           O
ATOM  10573  ND2 ASN C 367     -60.640  53.891 -77.426  1.00 22.29           N
ATOM  10574  C   ASN C 367     -58.178  54.677 -81.221  1.00 21.97           C
ATOM  10575  O   ASN C 367     -57.268  55.394 -80.813  1.00 22.08           O
ATOM  10576  N   LEU C 368     -58.359  54.404 -82.508  1.00 20.84           N
ATOM  10577  CA  LEU C 368     -57.565  55.069 -83.541  1.00 19.91           C
ATOM  10578  CB  LEU C 368     -56.617  54.078 -84.236  1.00 19.47           C
ATOM  10579  CG  LEU C 368     -55.562  53.382 -83.359  1.00 19.30           C
ATOM  10580  CD1 LEU C 368     -54.953  52.201 -84.087  1.00 18.97           C
ATOM  10581  CD2 LEU C 368     -54.473  54.329 -82.877  1.00 18.79           C
ATOM  10582  C   LEU C 368     -58.447  55.797 -84.555  1.00 19.53           C
ATOM  10583  O   LEU C 368     -59.595  55.421 -84.786  1.00 19.57           O
ATOM  10584  N   ASN C 369     -57.909  56.858 -85.139  1.00 19.40           N
ATOM  10585  CA  ASN C 369     -58.584  57.555 -86.226  1.00 19.63           C
ATOM  10586  CB  ASN C 369     -58.770  59.031 -85.894  1.00 19.34           C
ATOM  10587  CG  ASN C 369     -59.623  59.246 -84.676  1.00 19.08           C
ATOM  10588  OD1 ASN C 369     -60.677  58.625 -84.518  1.00 18.93           O
ATOM  10589  ND2 ASN C 369     -59.179  60.142 -83.805  1.00 19.48           N
ATOM  10590  C   ASN C 369     -57.789  57.427 -87.505  1.00 19.56           C
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ATOM  10591  O   ASN C 369     -56.556  57.409 -87.465  1.00 19.77           O
ATOM  10592  N   LEU C 370     -58.497  57.348 -88.631  1.00 19.37           N
ATOM  10593  CA  LEU C 370     -57.866  57.153 -89.935  1.00 19.79           C
ATOM  10594  CB  LEU C 370     -58.388  55.868 -90.588  1.00 18.90           C
ATOM  10595  CG  LEU C 370     -58.449  54.639 -89.660  1.00 18.33           C
ATOM  10596  CD1 LEU C 370     -59.367  53.550 -90.204  1.00 17.58           C
ATOM  10597  CD2 LEU C 370     -57.059  54.091 -89.351  1.00 17.97           C
ATOM  10598  C   LEU C 370     -58.071  58.372 -90.845  1.00 20.82           C
ATOM  10599  O   LEU C 370     -59.199  58.847 -91.015  1.00 20.66           O
ATOM  10600  N   ILE C 371     -56.971  58.896 -91.387  1.00 22.07           N
ATOM  10601  CA  ILE C 371     -57.014  60.082 -92.252  1.00 24.28           C
ATOM  10602  CB  ILE C 371     -56.358  61.340 -91.596  1.00 25.12           C
ATOM  10603  CG1 ILE C 371     -54.863  61.122 -91.306  1.00 25.59           C
ATOM  10604  CD1 ILE C 371     -53.936  61.577 -92.418  1.00 25.85           C
ATOM  10605  CG2 ILE C 371     -57.117  61.783 -90.342  1.00 24.41           C
ATOM  10606  C   ILE C 371     -56.386  59.804 -93.620  1.00 25.93           C
ATOM  10607  O   ILE C 371     -55.495  58.955 -93.747  1.00 27.08           O
ATOM  10608  N   GLY C 372     -56.847  60.519 -94.642  1.00 26.96           N
ATOM  10609  CA  GLY C 372     -56.378  60.277 -96.004  1.00 28.86           C
ATOM  10610  C   GLY C 372     -56.985  59.028 -96.627  1.00 30.00           C
ATOM  10611  O   GLY C 372     -57.900  58.415 -96.059  1.00 29.29           O
ATOM  10612  N   ARG C 373     -56.456  58.648 -97.791  1.00 31.35           N
ATOM  10613  CA  ARG C 373     -57.042  57.604 -98.620  1.00 32.80           C
ATOM  10614  CB  ARG C 373     -57.135  58.106-100.058  1.00 36.06           C
ATOM  10615  CG  ARG C 373     -58.443  57.802-100.768  1.00 39.89           C
ATOM  10616  CD  ARG C 373     -58.316  58.066-102.268  1.00 42.07           C
ATOM  10617  NE  ARG C 373     -57.800  56.895-102.985  1.00 44.79           N
ATOM  10618  CZ  ARG C 373     -58.521  56.127-103.804  1.00 45.67           C
ATOM  10619  NH1 ARG C 373     -57.957  55.077-104.395  1.00 44.79           N
ATOM  10620  NH2 ARG C 373     -59.802  56.407-104.044  1.00 45.23           N
ATOM  10621  C   ARG C 373     -56.158  56.364 -98.572  1.00 32.66           C
ATOM  10622  O   ARG C 373     -54.927  56.486 -98.611  1.00 32.01           O
ATOM  10623  N   PRO C 374     -56.772  55.159 -98.477  1.00 32.71           N
ATOM  10624  CA  PRO C 374     -55.966  53.925 -98.497  1.00 32.13           C
ATOM  10625  CB  PRO C 374     -57.022  52.812 -98.515  1.00 31.20           C
ATOM  10626  CG  PRO C 374     -58.195  53.420 -97.820  1.00 30.94           C
ATOM  10627  CD  PRO C 374     -58.201  54.871 -98.241  1.00 31.76           C
ATOM  10628  C   PRO C 374     -55.070  53.866 -99.737  1.00 32.34           C
ATOM  10629  O   PRO C 374     -55.530  54.143-100.849  1.00 32.78           O
ATOM  10630  N   SER C 375     -53.797  53.542 -99.527  1.00 31.71           N
ATOM  10631  CA  SER C 375     -52.791  53.601-100.582  1.00 30.15           C
ATOM  10632  CB  SER C 375     -51.961  54.874-100.429  1.00 30.26           C
ATOM  10633  OG  SER C 375     -50.830  54.862-101.281  1.00 30.88           O
ATOM  10634  C   SER C 375     -51.883  52.370-100.556  1.00 29.43           C
ATOM  10635  O   SER C 375     -51.508  51.899 -99.488  1.00 28.84           O
ATOM  10636  N   THR C 376     -51.546  51.856-101.739  1.00 28.48           N
ATOM  10637  CA  THR C 376     -50.613  50.736-101.881  1.00 27.27           C
ATOM  10638  CB  THR C 376     -51.040  49.798-103.014  1.00 24.95           C
ATOM  10639  OG1 THR C 376     -51.017  50.522-104.238  1.00 23.33           O
ATOM  10640  CG2 THR C 376     -52.424  49.274-102.780  1.00 23.82           C
ATOM  10641  C   THR C 376     -49.201  51.247-102.184  1.00 28.37           C
ATOM  10642  O   THR C 376     -48.225  50.485-102.163  1.00 28.70           O
ATOM  10643  N   GLU C 377     -49.114  52.540-102.481  1.00 29.94           N
ATOM  10644  CA  GLU C 377     -47.854  53.234-102.735  1.00 31.69           C
ATOM  10645  CB  GLU C 377     -48.126  54.737-102.774  1.00 33.99           C
ATOM  10646  CG  GLU C 377     -47.120  55.566-103.541  1.00 38.01           C
ATOM  10647  CD  GLU C 377     -47.642  56.967-103.878  1.00 43.36           C
ATOM  10648  OE1 GLU C 377     -48.866  57.122-104.150  1.00 45.65           O
ATOM  10649  OE2 GLU C 377     -46.819  57.920-103.887  1.00 45.18           O
ATOM  10650  C   GLU C 377     -46.786  52.907-101.676  1.00 31.03           C
ATOM  10651  O   GLU C 377     -46.911  53.288-100.515  1.00 30.52           O
ATOM  10652  N   HIS C 378     -45.754  52.175-102.090  1.00 30.76           N
ATOM  10653  CA  HIS C 378     -44.604  51.856-101.238  1.00 30.21           C
ATOM  10654  CB  HIS C 378     -43.903  53.144-100.774  1.00 31.11           C
ATOM  10655  CG  HIS C 378     -42.454  52.955-100.362  1.00 31.85           C
ATOM  10656  ND1 HIS C 378     -42.066  52.919 -99.074  1.00 32.07           N
ATOM  10657  CE1 HIS C 378     -40.727  52.758 -99.011  1.00 31.67           C
ATOM  10658  NE2 HIS C 378     -40.256  52.695-100.266  1.00 31.92           N
ATOM  10659  CD2 HIS C 378     -41.291  52.815-101.125  1.00 32.55           C
ATOM  10660  C   HIS C 378     -45.000  51.001-100.067  1.00 29.68           C
ATOM  10661  O   HIS C 378     -44.337  51.017 -99.032  1.00 31.57           O
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ATOM  10662  N   SER C 379     -46.079  50.235-100.220  1.00 28.49           N
ATOM  10663  CA  SER C 379     -46.575  49.371 -99.135  1.00 27.29           C
ATOM  10664  CB  SER C 379     -47.971  48.838 -99.447  1.00 26.54           C
ATOM  10665  OG  SER C 379     -48.225  47.660 -98.708  1.00 25.40           O
ATOM  10666  C   SER C 379     -45.656  48.197 -98.817  1.00 26.95           C
ATOM  10667  O   SER C 379     -45.233  47.462 -99.711  1.00 28.52           O
ATOM  10668  N   TRP C 380     -45.385  48.010 -97.532  1.00 25.98           N
ATOM  10669  CA  TRP C 380     -44.525  46.928 -97.060  1.00 25.57           C
ATOM  10670  CB  TRP C 380     -44.028  47.230 -95.642  1.00 25.56           C
ATOM  10671  CG  TRP C 380     -43.357  48.583 -95.532  1.00 25.28           C
ATOM  10672  CD1 TRP C 380     -42.506  49.182 -96.451  1.00 25.01           C
ATOM  10673  NE1 TRP C 380     -42.107  50.412 -96.017  1.00 24.70           N
ATOM  10674  CE2 TRP C 380     -42.642  50.692 -94.821  1.00 24.72           C
ATOM  10675  CD2 TRP C 380     -43.471  49.550 -94.443  1.00 25.05           C
ATOM  10676  CE3 TRP C 380     -44.153  49.586 -93.239  1.00 25.17           C
ATOM  10677  CZ3 TRP C 380     -44.012  50.716 -92.431  1.00 25.22           C
ATOM  10678  CH2 TRP C 380     -43.205  51.796 -92.810  1.00 25.01           C
ATOM  10679  CZ2 TRP C 380     -42.511  51.803 -94.016  1.00 24.76           C
ATOM  10680  C   TRP C 380     -45.185  45.579 -97.114  1.00 25.27           C
ATOM  10681  O   TRP C 380     -44.546  44.561 -96.872  1.00 24.64           O
ATOM  10682  N   PHE C 381     -46.474  45.558 -97.433  1.00 26.22           N
ATOM  10683  CA  PHE C 381     -47.229  44.307 -97.527  1.00 26.50           C
ATOM  10684  CB  PHE C 381     -48.246  44.199 -96.387  1.00 25.82           C
ATOM  10685  CG  PHE C 381     -47.628  44.285 -95.025  1.00 26.00           C
ATOM  10686  CD1 PHE C 381     -46.986  43.182 -94.465  1.00 26.58           C
ATOM  10687  CE1 PHE C 381     -46.400  43.260 -93.216  1.00 26.43           C
ATOM  10688  CZ  PHE C 381     -46.448  44.452 -92.511  1.00 26.23           C
ATOM  10689  CE2 PHE C 381     -47.081  45.555 -93.062  1.00 26.05           C
ATOM  10690  CD2 PHE C 381     -47.665  45.468 -94.311  1.00 25.88           C
ATOM  10691  C   PHE C 381     -47.928  44.198 -98.875  1.00 26.97           C
ATOM  10692  O   PHE C 381     -49.091  44.585 -98.995  1.00 27.72           O
ATOM  10693  N   PRO C 382     -47.218  43.675 -99.899  1.00 27.09           N
ATOM  10694  CA  PRO C 382     -47.826  43.553-101.227  1.00 26.40           C
ATOM  10695  CB  PRO C 382     -46.841  42.669-102.005  1.00 26.79           C
ATOM  10696  CG  PRO C 382     -45.557  42.755-101.257  1.00 27.82           C
ATOM  10697  CD  PRO C 382     -45.900  43.014 -99.820  1.00 27.53           C
ATOM  10698  C   PRO C 382     -49.168  42.861-101.105  1.00 26.11           C
ATOM  10699  O   PRO C 382     -49.261  41.767-100.531  1.00 25.37           O
ATOM  10700  N   GLY C 383     -50.205  43.521-101.610  1.00 26.70           N
ATOM  10701  CA  GLY C 383     -51.568  43.020-101.507  1.00 26.64           C
ATOM  10702  C   GLY C 383     -52.434  43.924-100.666  1.00 26.98           C
ATOM  10703  O   GLY C 383     -53.661  43.924-100.811  1.00 28.25           O
ATOM  10704  N   TYR C 384     -51.789  44.710 -99.799  1.00 27.12           N
ATOM  10705  CA  TYR C 384     -52.484  45.613 -98.878  1.00 26.44           C
ATOM  10706  CB  TYR C 384     -52.121  45.265 -97.431  1.00 26.85           C
ATOM  10707  CG  TYR C 384     -52.609  43.890 -97.040  1.00 27.90           C
ATOM  10708  CD1 TYR C 384     -53.934  43.686 -96.667  1.00 28.21           C
ATOM  10709  CE1 TYR C 384     -54.401  42.431 -96.333  1.00 28.83           C
ATOM  10710  CZ  TYR C 384     -53.538  41.350 -96.371  1.00 29.60           C
ATOM  10711  OH  TYR C 384     -54.008  40.103 -96.034  1.00 30.66           O
ATOM  10712  CE2 TYR C 384     -52.212  41.517 -96.741  1.00 29.10           C
ATOM  10713  CD2 TYR C 384     -51.757  42.783 -97.082  1.00 28.57           C
ATOM  10714  C   TYR C 384     -52.261  47.101 -99.165  1.00 25.94           C
ATOM  10715  O   TYR C 384     -51.221  47.492 -99.710  1.00 26.36           O
ATOM  10716  N   ALA C 385     -53.264  47.913 -98.830  1.00 25.24           N
ATOM  10717  CA  ALA C 385     -53.145  49.374 -98.836  1.00 24.98           C
ATOM  10718  CB  ALA C 385     -54.306  50.005 -99.584  1.00 24.99           C
ATOM  10719  C   ALA C 385     -53.082  49.918 -97.407  1.00 24.92           C
ATOM  10720  O   ALA C 385     -53.767  49.410 -96.512  1.00 24.46           O
ATOM  10721  N   TRP C 386     -52.269  50.961 -97.208  1.00 25.24           N
ATOM  10722  CA  TRP C 386     -52.079  51.587 -95.886  1.00 24.58           C
ATOM  10723  CB  TRP C 386     -50.593  51.738 -95.548  1.00 24.60           C
ATOM  10724  CG  TRP C 386     -49.804  52.456 -96.605  1.00 25.04           C
ATOM  10725  CD1 TRP C 386     -49.049  51.890 -97.616  1.00 25.20           C
ATOM  10726  NE1 TRP C 386     -48.478  52.862 -98.399  1.00 25.72           N
ATOM  10727  CE2 TRP C 386     -48.817  54.097 -97.961  1.00 25.52           C
ATOM  10728  CD2 TRP C 386     -49.673  53.915 -96.797  1.00 25.69           C
ATOM  10729  CE3 TRP C 386     -50.158  55.047 -96.131  1.00 25.67           C
ATOM  10730  CZ3 TRP C 386     -49.813  56.312 -96.620  1.00 24.69           C
ATOM  10731  CH2 TRP C 386     -48.987  56.463 -97.738  1.00 25.02           C
ATOM  10732  CZ2 TRP C 386     -48.472  55.358 -98.431  1.00 25.62           C
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ATOM  10733  C   TRP C 386     -52.804  52.902 -95.719  1.00 24.02           C
ATOM  10734  O   TRP C 386     -52.861  53.736 -96.640  1.00 23.62           O
ATOM  10735  N   THR C 387     -53.397  53.074 -94.539  1.00 23.40           N
ATOM  10736  CA  THR C 387     -54.011  54.339 -94.147  1.00 23.26           C
ATOM  10737  CB  THR C 387     -55.552  54.258 -94.007  1.00 23.30           C
ATOM  10738  OG1 THR C 387     -56.131  53.665 -95.178  1.00 23.65           O
ATOM  10739  CG2 THR C 387     -56.149  55.644 -93.808  1.00 23.15           C
ATOM  10740  C   THR C 387     -53.422  54.717 -92.808  1.00 22.72           C
ATOM  10741  O   THR C 387     -53.299  53.873 -91.915  1.00 22.46           O
ATOM  10742  N   VAL C 388     -53.047  55.987 -92.690  1.00 22.21           N
ATOM  10743  CA  VAL C 388     -52.463  56.528 -91.475  1.00 21.65           C
ATOM  10744  CB  VAL C 388     -51.947  57.972 -91.713  1.00 21.69           C
ATOM  10745  CG1 VAL C 388     -51.613  58.682 -90.409  1.00 21.73           C
ATOM  10746  CG2 VAL C 388     -50.731  57.952 -92.635  1.00 21.77           C
ATOM  10747  C   VAL C 388     -53.497  56.456 -90.347  1.00 21.44           C
ATOM  10748  O   VAL C 388     -54.672  56.763 -90.552  1.00 21.51           O
ATOM  10749  N   ALA C 389     -53.054  56.001 -89.179  1.00 20.82           N
ATOM  10750  CA  ALA C 389     -53.901  55.892 -88.007  1.00 20.61           C
ATOM  10751  CB  ALA C 389     -53.967  54.442 -87.557  1.00 20.77           C
ATOM  10752  C   ALA C 389     -53.276  56.742 -86.922  1.00 20.96           C
ATOM  10753  O   ALA C 389     -52.043  56.786 -86.839  1.00 21.40           O
ATOM  10754  N   GLN C 390     -54.092  57.397 -86.081  1.00 20.76           N
ATOM  10755  CA  GLN C 390     -53.524  58.115 -84.917  1.00 20.94           C
ATOM  10756  CB  GLN C 390     -53.147  59.550 -85.293  1.00 20.81           C
ATOM  10757  CG  GLN C 390     -54.302  60.435 -85.708  1.00 21.03           C
ATOM  10758  CD  GLN C 390     -53.903  61.417 -86.795  1.00 20.90           C
ATOM  10759  OE1 GLN C 390     -53.188  61.062 -87.727  1.00 20.56           O
ATOM  10760  NE2 GLN C 390     -54.369  62.654 -86.681  1.00 20.73           N
ATOM  10761  C   GLN C 390     -54.281  58.073 -83.571  1.00 21.07           C
ATOM  10762  O   GLN C 390     -55.494  57.898 -83.544  1.00 21.22           O
ATOM  10763  N   CYS C 391     -53.529  58.283 -82.493  1.00 21.48           N
ATOM  10764  CA  CYS C 391     -54.071  58.341 -81.142  1.00 21.88           C
ATOM  10765  CB  CYS C 391     -52.994  58.798 -80.155  1.00 23.62           C
ATOM  10766  SG  CYS C 391     -53.251  58.235 -78.456  1.00 24.16           S
ATOM  10767  C   CYS C 391     -55.283  59.259 -81.052  1.00 21.54           C
ATOM  10768  O   CYS C 391     -55.161  60.484 -81.033  1.00 21.45           O
ATOM  10769  N   LYS C 392     -56.453  58.638 -80.995  1.00 21.02           N
ATOM  10770  CA  LYS C 392     -57.739  59.335 -80.860  1.00 20.07           C
ATOM  10771  CB  LYS C 392     -58.810  58.309 -80.452  1.00 20.00           C
ATOM  10772  CG  LYS C 392     -60.146  58.873 -79.999  1.00 20.67           C
ATOM  10773  CD  LYS C 392     -60.707  58.099 -78.804  1.00 21.00           C
ATOM  10774  CE  LYS C 392     -61.403  56.808 -79.222  1.00 20.98           C
ATOM  10775  NZ  LYS C 392     -61.934  56.071 -78.048  1.00 20.32           N
ATOM  10776  C   LYS C 392     -57.696  60.527 -79.868  1.00 19.59           C
ATOM  10777  O   LYS C 392     -58.312  61.564 -80.116  1.00 19.54           O
ATOM  10778  N   ILE C 393     -56.969  60.368 -78.759  1.00 18.72           N
ATOM  10779  CA  ILE C 393     -56.805  61.425 -77.757  1.00 18.31           C
ATOM  10780  CB  ILE C 393     -56.440  60.841 -76.359  1.00 17.23           C
ATOM  10781  CG1 ILE C 393     -57.417  59.738 -75.914  1.00 16.62           C
ATOM  10782  CD1 ILE C 393     -58.888  60.078 -76.034  1.00 16.59           C
ATOM  10783  CG2 ILE C 393     -56.297  61.941 -75.315  1.00 16.87           C
ATOM  10784  C   ILE C 393     -55.685  62.362 -78.197  1.00 19.08           C
ATOM  10785  O   ILE C 393     -55.843  63.574 -78.244  1.00 19.38           O
ATOM  10786  N   CYS C 394     -54.520  61.818 -78.533  1.00 20.70           N
ATOM  10787  CA  CYS C 394     -53.347  62.673 -78.770  1.00 21.35           C
ATOM  10788  CB  CYS C 394     -52.188  62.275 -77.839  1.00 22.80           C
ATOM  10789  SG  CYS C 394     -50.953  61.146 -78.509  1.00 23.92           S
ATOM  10790  C   CYS C 394     -52.857  62.892 -80.220  1.00 21.21           C
ATOM  10791  O   CYS C 394     -51.894  63.630 -80.432  1.00 21.16           O
ATOM  10792  N   ALA C 395     -53.505  62.287 -81.216  1.00 20.74           N
ATOM  10793  CA  ALA C 395     -53.177  62.630 -82.596  1.00 20.39           C
ATOM  10794  CB  ALA C 395     -53.272  64.130 -82.838  1.00 20.57           C
ATOM  10795  C   ALA C 395     -51.787  62.099 -82.932  1.00 19.77           C
ATOM  10796  O   ALA C 395     -51.366  62.147 -84.087  1.00 19.25           O
ATOM  10797  N   SER C 396     -51.097  61.596 -81.914  1.00 19.91           N
ATOM  10798  CA  SER C 396     -49.774  61.009 -82.077  1.00 20.17           C
ATOM  10799  CB  SER C 396     -49.218  60.548 -80.724  1.00 20.10           C
ATOM  10800  OG  SER C 396     -48.308  59.474 -80.860  1.00 20.63           O
ATOM  10801  C   SER C 396     -49.856  59.845 -83.043  1.00 20.44           C
ATOM  10802  O   SER C 396     -50.426  58.808 -82.731  1.00 21.13           O
ATOM  10803  N   HIS C 397     -49.275  60.031 -84.218  1.00 20.97           N
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ATOM  10804  CA  HIS C 397     -49.300  59.035 -85.262  1.00 21.61           C
ATOM  10805  CB  HIS C 397     -48.510  59.544 -86.462  1.00 22.55           C
ATOM  10806  CG  HIS C 397     -48.269  58.501 -87.506  1.00 23.83           C
ATOM  10807  ND1 HIS C 397     -47.035  58.102 -87.852  1.00 24.43           N
ATOM  10808  CE1 HIS C 397     -47.129  57.135 -88.779  1.00 25.57           C
ATOM  10809  NE2 HIS C 397     -48.436  56.912 -89.021  1.00 25.65           N
ATOM  10810  CD2 HIS C 397     -49.162  57.729 -88.249  1.00 24.44           C
ATOM  10811  C   HIS C 397     -48.795  57.683 -84.769  1.00 22.20           C
ATOM  10812  O   HIS C 397     -47.591  57.487 -84.549  1.00 22.16           O
ATOM  10813  N   ILE C 398     -49.727  56.742 -84.591  1.00 22.21           N
ATOM  10814  CA  ILE C 398     -49.447  55.449 -83.944  1.00 21.94           C
ATOM  10815  CB  ILE C 398     -50.674  54.960 -83.118  1.00 21.28           C
ATOM  10816  CG1 ILE C 398     -50.987  55.913 -81.947  1.00 21.45           C
ATOM  10817  CD1 ILE C 398     -49.957  55.979 -80.839  1.00 21.66           C
ATOM  10818  CG2 ILE C 398     -50.510  53.525 -82.638  1.00 20.78           C
ATOM  10819  C   ILE C 398     -49.026  54.359 -84.942  1.00 22.75           C
ATOM  10820  O   ILE C 398     -48.460  53.342 -84.545  1.00 23.32           O
ATOM  10821  N   GLY C 399     -49.305  54.560 -86.231  1.00 22.76           N
ATOM  10822  CA  GLY C 399     -49.054  53.510 -87.222  1.00 22.66           C
ATOM  10823  C   GLY C 399     -49.995  53.551 -88.411  1.00 23.04           C
ATOM  10824  O   GLY C 399     -50.291  54.629 -88.941  1.00 23.19           O
ATOM  10825  N   TRP C 400     -50.459  52.373 -88.836  1.00 23.20           N
ATOM  10826  CA  TRP C 400     -51.282  52.238 -90.050  1.00 23.42           C
ATOM  10827  CB  TRP C 400     -50.400  52.022 -91.291  1.00 23.86           C
ATOM  10828  CG  TRP C 400     -49.297  53.040 -91.465  1.00 23.58           C
ATOM  10829  CD1 TRP C 400     -49.366  54.267 -92.119  1.00 23.51           C
ATOM  10830  NE1 TRP C 400     -48.162  54.916 -92.066  1.00 23.68           N
ATOM  10831  CE2 TRP C 400     -47.255  54.181 -91.388  1.00 23.56           C
ATOM  10832  CD2 TRP C 400     -47.925  52.944 -90.976  1.00 23.38           C
ATOM  10833  CE3 TRP C 400     -47.209  51.995 -90.261  1.00 23.30           C
ATOM  10834  CZ3 TRP C 400     -45.870  52.259 -89.962  1.00 23.92           C
ATOM  10835  CH2 TRP C 400     -45.242  53.451 -90.375  1.00 23.81           C
ATOM  10836  CZ2 TRP C 400     -45.926  54.433 -91.090  1.00 23.62           C
ATOM  10837  C   TRP C 400     -52.273  51.111 -89.988  1.00 23.35           C
ATOM  10838  O   TRP C 400     -51.991  50.047 -89.417  1.00 22.27           O
ATOM  10839  N   LYS C 401     -53.435  51.335 -90.604  1.00 23.79           N
ATOM  10840  CA  LYS C 401     -54.363  50.252 -90.937  1.00 24.46           C
ATOM  10841  CB  LYS C 401     -55.816  50.688 -90.780  1.00 24.09           C
ATOM  10842  CG  LYS C 401     -56.803  49.611 -91.196  1.00 23.23           C
ATOM  10843  CD  LYS C 401     -58.244  50.012 -90.948  1.00 22.72           C
ATOM  10844  CE  LYS C 401     -59.140  48.794 -91.043  1.00 22.41           C
ATOM  10845  NZ  LYS C 401     -60.526  49.070 -90.600  1.00 22.50           N
ATOM  10846  C   LYS C 401     -54.137  49.777 -92.368  1.00 25.20           C
ATOM  10847  O   LYS C 401     -54.076  50.579 -93.306  1.00 24.71           O
ATOM  10848  N   PHE C 402     -54.015  48.466 -92.527  1.00 26.71           N
ATOM  10849  CA  PHE C 402     -53.828  47.878 -93.844  1.00 27.68           C
ATOM  10850  CB  PHE C 402     -52.655  46.896 -93.855  1.00 28.40           C
ATOM  10851  CG  PHE C 402     -51.303  47.552 -93.753  1.00 29.07           C
ATOM  10852  CD2 PHE C 402     -50.578  47.866 -94.902  1.00 29.82           C
ATOM  10853  CE2 PHE C 402     -49.323  48.460 -94.810  1.00 29.71           C
ATOM  10854  CZ  PHE C 402     -48.780  48.748 -93.565  1.00 29.24           C
ATOM  10855  CE1 PHE C 402     -49.490  48.438 -92.413  1.00 28.84           C
ATOM  10856  CD1 PHE C 402     -50.741  47.841 -92.510  1.00 28.82           C
ATOM  10857  C   PHE C 402     -55.101  47.168 -94.251  1.00 27.64           C
ATOM  10858  O   PHE C 402     -55.692  46.433 -93.459  1.00 27.81           O
ATOM  10859  N   THR C 403     -55.527  47.411 -95.484  1.00 27.40           N
ATOM  10860  CA  THR C 403     -56.710  46.771 -96.026  1.00 27.27           C
ATOM  10861  CB  THR C 403     -57.783  47.805 -96.394  1.00 26.67           C
ATOM  10862  OG1 THR C 403     -57.175  48.886 -97.109  1.00 26.59           O
ATOM  10863  CG2 THR C 403     -58.445  48.342 -95.144  1.00 25.92           C
ATOM  10864  C   THR C 403     -56.321  45.994 -97.265  1.00 27.96           C
ATOM  10865  O   THR C 403     -55.388  46.375 -97.970  1.00 28.37           O
ATOM  10866  N   ALA C 404     -57.022  44.890 -97.515  1.00 28.74           N
ATOM  10867  CA  ALA C 404     -56.804  44.091 -98.709  1.00 28.90           C
ATOM  10868  CB  ALA C 404     -57.426  42.722 -98.534  1.00 28.84           C
ATOM  10869  C   ALA C 404     -57.387  44.791 -99.934  1.00 30.60           C
ATOM  10870  O   ALA C 404     -58.324  45.606 -99.820  1.00 29.71           O
ATOM  10871  N   THR C 405     -56.808  44.490-101.098  1.00 32.77           N
ATOM  10872  CA  THR C 405     -57.319  44.975-102.392  1.00 34.13           C
ATOM  10873  CB  THR C 405     -56.211  45.638-103.241  1.00 32.82           C
ATOM  10874  OG1 THR C 405     -54.926  45.276-102.721  1.00 30.39           O
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ATOM  10875  CG2 THR C 405     -56.355  47.171-103.222  1.00 32.92           C
ATOM  10876  C   THR C 405     -58.009  43.861-103.193  1.00 35.64           C
ATOM  10877  O   THR C 405     -58.655  44.121-104.203  1.00 35.44           O
ATOM  10878  N   LYS C 406     -57.864  42.626-102.723  1.00 38.71           N
ATOM  10879  CA  LYS C 406     -58.526  41.477-103.326  1.00 43.17           C
ATOM  10880  CB  LYS C 406     -57.499  40.407-103.723  1.00 47.20           C
ATOM  10881  CG  LYS C 406     -56.657  40.703-104.961  1.00 48.72           C
ATOM  10882  CD  LYS C 406     -55.541  39.668-105.101  1.00 49.63           C
ATOM  10883  CE  LYS C 406     -54.635  39.945-106.293  1.00 50.26           C
ATOM  10884  NZ  LYS C 406     -55.316  39.665-107.589  1.00 50.93           N
ATOM  10885  C   LYS C 406     -59.527  40.875-102.340  1.00 44.23           C
ATOM  10886  O   LYS C 406     -59.270  40.828-101.133  1.00 44.55           O
ATOM  10887  N   LYS C 407     -60.658  40.404-102.863  1.00 45.17           N
ATOM  10888  CA  LYS C 407     -61.727  39.848-102.036  1.00 45.67           C
ATOM  10889  CB  LYS C 407     -63.088  40.024-102.728  1.00 47.68           C
ATOM  10890  CG  LYS C 407     -63.931  41.185-102.199  1.00 49.68           C
ATOM  10891  CD  LYS C 407     -64.295  41.019-100.719  1.00 51.04           C
ATOM  10892  CE  LYS C 407     -65.264  39.861-100.481  1.00 51.28           C
ATOM  10893  NZ  LYS C 407     -65.171  39.333 -99.090  1.00 50.49           N
ATOM  10894  C   LYS C 407     -61.500  38.381-101.664  1.00 45.25           C
ATOM  10895  O   LYS C 407     -62.369  37.742-101.071  1.00 44.78           O
ATOM  10896  N   ASP C 408     -60.326  37.861-102.006  1.00 45.55           N
ATOM  10897  CA  ASP C 408     -60.000  36.452-101.789  1.00 46.17           C
ATOM  10898  CB  ASP C 408     -59.590  35.799-103.117  1.00 47.92           C
ATOM  10899  CG  ASP C 408     -58.441  36.542-103.811  1.00 50.72           C
ATOM  10900  OD1 ASP C 408     -58.569  37.767-104.043  1.00 49.75           O
ATOM  10901  OD2 ASP C 408     -57.410  35.901-104.127  1.00 51.05           O
ATOM  10902  C   ASP C 408     -58.885  36.294-100.754  1.00 45.25           C
ATOM  10903  O   ASP C 408     -58.552  35.184-100.353  1.00 44.45           O
ATOM  10904  N   MET C 409     -58.317  37.420-100.332  1.00 46.02           N
ATOM  10905  CA  MET C 409     -57.178  37.446 -99.418  1.00 45.36           C
ATOM  10906  CB  MET C 409     -56.454  38.782 -99.541  1.00 44.14           C
ATOM  10907  CG  MET C 409     -55.603  38.905-100.783  1.00 44.40           C
ATOM  10908  SD  MET C 409     -54.746  40.485-100.854  1.00 45.71           S
ATOM  10909  CE  MET C 409     -53.161  39.955-101.511  1.00 44.45           C
ATOM  10910  C   MET C 409     -57.618  37.274 -97.978  1.00 46.56           C
ATOM  10911  O   MET C 409     -58.655  37.815 -97.574  1.00 47.61           O
ATOM  10912  N   SER C 410     -56.826  36.541 -97.195  1.00 45.59           N
ATOM  10913  CA  SER C 410     -57.057  36.479 -95.748  1.00 43.55           C
ATOM  10914  CB  SER C 410     -56.977  35.056 -95.221  1.00 42.41           C
ATOM  10915  OG  SER C 410     -57.771  34.940 -94.058  1.00 43.14           O
ATOM  10916  C   SER C 410     -56.134  37.441 -94.983  1.00 43.24           C
ATOM  10917  O   SER C 410     -55.052  37.784 -95.476  1.00 42.29           O
ATOM  10918  N   PRO C 411     -56.494  37.759 -93.721  1.00 42.22           N
ATOM  10919  CA  PRO C 411     -56.727  39.095 -93.201  1.00 39.59           C
ATOM  10920  CB  PRO C 411     -55.355  39.482 -92.646  1.00 39.42           C
ATOM  10921  CG  PRO C 411     -54.715  38.164 -92.294  1.00 40.84           C
ATOM  10922  CD  PRO C 411     -55.638  37.051 -92.764  1.00 42.23           C
ATOM  10923  C   PRO C 411     -57.235  40.087 -94.251  1.00 38.13           C
ATOM  10924  O   PRO C 411     -56.478  40.515 -95.124  1.00 38.17           O
ATOM  10925  N   GLN C 412     -58.520  40.432 -94.174  1.00 36.11           N
ATOM  10926  CA  GLN C 412     -59.075  41.491 -95.022  1.00 34.08           C
ATOM  10927  CB  GLN C 412     -60.604  41.394 -95.115  1.00 32.51           C
ATOM  10928  CG  GLN C 412     -61.083  40.457 -96.221  1.00 32.05           C
ATOM  10929  CD  GLN C 412     -60.680  40.918 -97.628  1.00 31.67           C
ATOM  10930  OE1 GLN C 412     -61.300  41.817 -98.205  1.00 30.90           O
ATOM  10931  NE2 GLN C 412     -59.649  40.282 -98.193  1.00 30.63           N
ATOM  10932  C   GLN C 412     -58.607  42.872 -94.553  1.00 33.05           C
ATOM  10933  O   GLN C 412     -58.502  43.816 -95.343  1.00 32.50           O
ATOM  10934  N   LYS C 413     -58.318  42.967 -93.259  1.00 32.05           N
ATOM  10935  CA  LYS C 413     -57.598  44.099 -92.690  1.00 30.72           C
ATOM  10936  CB  LYS C 413     -58.562  45.214 -92.262  1.00 29.67           C
ATOM  10937  CG  LYS C 413     -59.205  45.037 -90.894  1.00 29.94           C
ATOM  10938  CD  LYS C 413     -60.456  44.178 -90.956  1.00 31.98           C
ATOM  10939  CE  LYS C 413     -60.160  42.721 -90.619  1.00 33.11           C
ATOM  10940  NZ  LYS C 413     -61.178  41.794 -91.194  1.00 34.69           N
ATOM  10941  C   LYS C 413     -56.738  43.632 -91.510  1.00 30.14           C
ATOM  10942  O   LYS C 413     -56.966  42.566 -90.939  1.00 30.32           O
ATOM  10943  N   PHE C 414     -55.725  44.422 -91.185  1.00 29.43           N
ATOM  10944  CA  PHE C 414     -54.949  44.248 -89.966  1.00 29.84           C
ATOM  10945  CB  PHE C 414     -53.873  43.162 -90.126  1.00 30.59           C
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ATOM  10946  CG  PHE C 414     -52.790  43.514 -91.108  1.00 31.07           C
ATOM  10947  CD1 PHE C 414     -52.936  43.223 -92.458  1.00 30.91           C
ATOM  10948  CE1 PHE C 414     -51.945  43.553 -93.366  1.00 31.64           C
ATOM  10949  CZ  PHE C 414     -50.785  44.173 -92.930  1.00 31.60           C
ATOM  10950  CE2 PHE C 414     -50.625  44.466 -91.588  1.00 31.81           C
ATOM  10951  CD2 PHE C 414     -51.623  44.139 -90.682  1.00 31.37           C
ATOM  10952  C   PHE C 414     -54.305  45.589 -89.668  1.00 29.80           C
ATOM  10953  O   PHE C 414     -54.223  46.454 -90.555  1.00 29.64           O
ATOM  10954  N   TRP C 415     -53.850  45.765 -88.432  1.00 28.78           N
ATOM  10955  CA  TRP C 415     -53.170  46.998 -88.064  1.00 28.14           C
ATOM  10956  CB  TRP C 415     -53.774  47.619 -86.801  1.00 29.01           C
ATOM  10957  CG  TRP C 415     -55.005  48.485 -87.056  1.00 29.70           C
ATOM  10958  CD1 TRP C 415     -55.046  49.858 -87.354  1.00 29.56           C
ATOM  10959  NE1 TRP C 415     -56.342  50.290 -87.513  1.00 29.12           N
ATOM  10960  CE2 TRP C 415     -57.204  49.267 -87.339  1.00 29.99           C
ATOM  10961  CD2 TRP C 415     -56.404  48.063 -87.041  1.00 29.10           C
ATOM  10962  CE3 TRP C 415     -57.051  46.860 -86.821  1.00 29.53           C
ATOM  10963  CZ3 TRP C 415     -58.452  46.831 -86.884  1.00 31.48           C
ATOM  10964  CH2 TRP C 415     -59.205  47.990 -87.170  1.00 32.68           C
ATOM  10965  CZ2 TRP C 415     -58.590  49.232 -87.405  1.00 31.47           C
ATOM  10966  C   TRP C 415     -51.692  46.805 -87.938  1.00 26.85           C
ATOM  10967  O   TRP C 415     -51.225  45.785 -87.426  1.00 26.36           O
ATOM  10968  N   GLY C 416     -50.947  47.781 -88.450  1.00 26.11           N
ATOM  10969  CA  GLY C 416     -49.492  47.806 -88.341  1.00 24.91           C
ATOM  10970  C   GLY C 416     -49.093  48.970 -87.463  1.00 23.86           C
ATOM  10971  O   GLY C 416     -49.324  50.131 -87.805  1.00 23.87           O
ATOM  10972  N   LEU C 417     -48.512  48.659 -86.316  1.00 22.91           N
ATOM  10973  CA  LEU C 417     -48.267  49.665 -85.311  1.00 22.85           C
ATOM  10974  CB  LEU C 417     -48.923  49.256 -84.002  1.00 22.05           C
ATOM  10975  CG  LEU C 417     -50.410  48.905 -84.089  1.00 21.54           C
ATOM  10976  CD1 LEU C 417     -50.899  48.334 -82.771  1.00 20.93           C
ATOM  10977  CD2 LEU C 417     -51.243  50.108 -84.514  1.00 21.03           C
ATOM  10978  C   LEU C 417     -46.784  49.869 -85.119  1.00 23.87           C
ATOM  10979  O   LEU C 417     -46.047  48.926 -84.847  1.00 24.49           O
ATOM  10980  N   THR C 418     -46.338  51.106 -85.279  1.00 25.14           N
ATOM  10981  CA  THR C 418     -44.925  51.401 -85.123  1.00 25.89           C
ATOM  10982  CB  THR C 418     -44.490  52.700 -85.859  1.00 27.18           C
ATOM  10983  OG1 THR C 418     -43.135  53.018 -85.507  1.00 28.92           O
ATOM  10984  CG2 THR C 418     -45.402  53.880 -85.515  1.00 27.26           C
ATOM  10985  C   THR C 418     -44.512  51.374 -83.649  1.00 24.74           C
ATOM  10986  O   THR C 418     -45.136  51.997 -82.799  1.00 23.05           O
ATOM  10987  N   ARG C 419     -43.453  50.616 -83.389  1.00 25.11           N
ATOM  10988  CA  ARG C 419     -42.970  50.286 -82.054  1.00 25.49           C
ATOM  10989  CB  ARG C 419     -41.810  49.307 -82.196  1.00 25.54           C
ATOM  10990  CG  ARG C 419     -41.188  48.824 -80.915  1.00 26.51           C
ATOM  10991  CD  ARG C 419     -39.758  48.375 -81.165  1.00 28.45           C
ATOM  10992  NE  ARG C 419     -38.791  49.480 -81.162  1.00 29.09           N
ATOM  10993  CZ  ARG C 419     -38.300  50.050 -80.058  1.00 30.69           C
ATOM  10994  NH1 ARG C 419     -37.422  51.044 -80.154  1.00 31.68           N
ATOM  10995  NH2 ARG C 419     -38.694  49.642 -78.852  1.00 30.69           N
ATOM  10996  C   ARG C 419     -42.559  51.504 -81.207  1.00 26.18           C
ATOM  10997  O   ARG C 419     -42.719  51.503 -79.986  1.00 27.26           O
ATOM  10998  N   SER C 420     -42.049  52.546 -81.847  1.00 26.70           N
ATOM  10999  CA  SER C 420     -41.657  53.750 -81.121  1.00 27.14           C
ATOM  11000  CB  SER C 420     -40.787  54.630 -81.996  1.00 28.41           C
ATOM  11001  OG  SER C 420     -41.527  55.041 -83.130  1.00 32.16           O
ATOM  11002  C   SER C 420     -42.866  54.547 -80.646  1.00 27.05           C
ATOM  11003  O   SER C 420     -42.735  55.458 -79.830  1.00 27.62           O
ATOM  11004  N   ALA C 421     -44.040  54.204 -81.162  1.00 27.34           N
ATOM  11005  CA  ALA C 421     -45.274  54.878 -80.777  1.00 27.16           C
ATOM  11006  CB  ALA C 421     -46.208  54.991 -81.968  1.00 26.54           C
ATOM  11007  C   ALA C 421     -45.989  54.195 -79.610  1.00 28.17           C
ATOM  11008  O   ALA C 421     -46.995  54.723 -79.117  1.00 29.31           O
ATOM  11009  N   LEU C 422     -45.476  53.043 -79.160  1.00 27.26           N
ATOM  11010  CA  LEU C 422     -46.175  52.233 -78.147  1.00 27.01           C
ATOM  11011  CB  LEU C 422     -46.448  50.821 -78.673  1.00 26.12           C
ATOM  11012  CG  LEU C 422     -47.114  50.591 -80.033  1.00 25.82           C
ATOM  11013  CD1 LEU C 422     -46.909  49.145 -80.478  1.00 25.98           C
ATOM  11014  CD2 LEU C 422     -48.593  50.943 -80.012  1.00 25.16           C
ATOM  11015  C   LEU C 422     -45.470  52.147 -76.779  1.00 28.04           C
ATOM  11016  O   LEU C 422     -44.248  52.316 -76.676  1.00 29.23           O
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ATOM  11017  N   LEU C 423     -46.261  51.883 -75.737  1.00 27.88           N
ATOM  11018  CA  LEU C 423     -45.753  51.624 -74.389  1.00 28.03           C
ATOM  11019  CB  LEU C 423     -46.060  52.795 -73.450  1.00 26.84           C
ATOM  11020  CG  LEU C 423     -45.070  53.239 -72.365  1.00 26.34           C
ATOM  11021  CD1 LEU C 423     -45.815  53.961 -71.259  1.00 26.27           C
ATOM  11022  CD2 LEU C 423     -44.250  52.106 -71.774  1.00 26.60           C
ATOM  11023  C   LEU C 423     -46.436  50.362 -73.859  1.00 29.34           C
ATOM  11024  O   LEU C 423     -47.650  50.360 -73.639  1.00 29.98           O
ATOM  11025  N   PRO C 424     -45.668  49.276 -73.675  1.00 30.36           N
ATOM  11026  CA  PRO C 424     -46.239  48.064 -73.102  1.00 31.37           C
ATOM  11027  CB  PRO C 424     -45.080  47.066 -73.177  1.00 31.26           C
ATOM  11028  CG  PRO C 424     -43.852  47.919 -73.212  1.00 31.24           C
ATOM  11029  CD  PRO C 424     -44.257  49.088 -74.051  1.00 30.70           C
ATOM  11030  C   PRO C 424     -46.663  48.290 -71.655  1.00 32.48           C
ATOM  11031  O   PRO C 424     -45.967  48.970 -70.904  1.00 32.43           O
ATOM  11032  N   THR C 425     -47.813  47.747 -71.280  1.00 34.69           N
ATOM  11033  CA  THR C 425     -48.317  47.930 -69.935  1.00 37.50           C
ATOM  11034  CB  THR C 425     -49.548  48.881 -69.886  1.00 38.16           C
ATOM  11035  OG1 THR C 425     -49.276  50.071 -70.632  1.00 37.03           O
ATOM  11036  CG2 THR C 425     -49.892  49.279 -68.435  1.00 38.92           C
ATOM  11037  C   THR C 425     -48.649  46.592 -69.296  1.00 39.57           C
ATOM  11038  O   THR C 425     -49.005  45.625 -69.983  1.00 37.46           O
ATOM  11039  N   ILE C 426     -48.473  46.553 -67.975  1.00 43.46           N
ATOM  11040  CA  ILE C 426     -48.937  45.468 -67.121  1.00 45.95           C
ATOM  11041  CB  ILE C 426     -47.798  44.921 -66.194  1.00 46.03           C
ATOM  11042  CG1 ILE C 426     -48.335  44.390 -64.852  1.00 45.69           C
ATOM  11043  CD1 ILE C 426     -48.686  42.916 -64.857  1.00 46.22           C
ATOM  11044  CG2 ILE C 426     -46.689  45.950 -66.000  1.00 45.70           C
ATOM  11045  C   ILE C 426     -50.162  45.989 -66.359  1.00 48.33           C
ATOM  11046  O   ILE C 426     -50.023  46.625 -65.303  1.00 49.38           O
ATOM  11047  N   PRO C 427     -51.369  45.731 -66.915  1.00 50.24           N
ATOM  11048  CA  PRO C 427     -52.650  46.315 -66.482  1.00 50.66           C
ATOM  11049  CB  PRO C 427     -53.656  45.712 -67.466  1.00 50.44           C
ATOM  11050  CG  PRO C 427     -53.038  44.418 -67.883  1.00 49.52           C
ATOM  11051  CD  PRO C 427     -51.568  44.706 -67.960  1.00 49.41           C
ATOM  11052  C   PRO C 427     -53.038  45.942 -65.052  1.00 51.88           C
ATOM  11053  O   PRO C 427     -52.543  44.944 -64.523  1.00 50.60           O
ATOM  11054  N   ASP C 428     -53.933  46.743 -64.463  1.00 54.14           N
ATOM  11055  CA  ASP C 428     -54.423  46.607 -63.075  1.00 54.72           C
ATOM  11056  CB  ASP C 428     -54.090  45.241 -62.450  1.00 57.03           C
ATOM  11057  CG  ASP C 428     -54.903  44.095 -63.050  1.00 57.54           C
ATOM  11058  OD1 ASP C 428     -55.606  44.309 -64.064  1.00 57.45           O
ATOM  11059  OD2 ASP C 428     -54.821  42.971 -62.507  1.00 58.01           O
ATOM  11060  C   ASP C 428     -53.878  47.722 -62.198  1.00 54.29           C
ATOM  11061  O   ASP C 428     -54.622  48.608 -61.782  1.00 55.54           O
ATOM  11062 ZN    ZN C   1     -52.468  59.031 -77.507  1.00 81.35          ZN
ATOM  11063  O1  MOL B   1     -44.038  55.904 -93.534  1.00 40.49           O
ATOM  11064  C2  MOL B   1     -44.496  56.170 -94.644  1.00 39.14           C
ATOM  11065  C6  MOL B   1     -44.445  57.434 -95.230  1.00 39.50           C
ATOM  11066  C9  MOL B   1     -43.947  58.660 -94.800  1.00 39.12           C
ATOM  11067  C12 MOL B   1     -44.036  59.772 -95.633  1.00 37.74           C
ATOM  11068  C13 MOL B   1     -44.621  59.663 -96.893  1.00 37.65           C
ATOM  11069  C10 MOL B   1     -45.118  58.439 -97.325  1.00 37.83           C
ATOM  11070  N3  MOL B   1     -45.677  58.322 -98.524  1.00 39.22           N
ATOM  11071  C7  MOL B   1     -45.025  57.339 -96.487  1.00 38.40           C
ATOM  11072  C3  MOL B   1     -45.482  55.904 -96.711  1.00 37.69           C
ATOM  11073  N1  MOL B   1     -45.054  55.274 -95.456  1.00 38.23           N
ATOM  11074  C1  MOL B   1     -45.250  53.859 -95.112  1.00 37.99           C
ATOM  11075  C5  MOL B   1     -46.746  53.568 -94.971  1.00 37.76           C
ATOM  11076  C8  MOL B   1     -46.973  52.088 -94.675  1.00 38.45           C
ATOM  11077  C11 MOL B   1     -46.309  51.222 -95.747  1.00 39.26           C
ATOM  11078  O3  MOL B   1     -46.773  50.114 -95.999  1.00 40.19           O
ATOM  11079  N2  MOL B   1     -45.181  51.685 -96.448  1.00 38.85           N
ATOM  11080  C4  MOL B   1     -44.631  52.952 -96.184  1.00 37.61           C
ATOM  11081  O2  MOL B   1     -43.634  53.323 -96.799  1.00 36.34           O
ATOM  11082  O   HOH D   1       2.391  18.476 -57.850  1.00 17.05           O
ATOM  11083  O   HOH D   2     -12.951  15.067 -62.591  1.00 15.90           O
ATOM  11084  O   HOH D   3      -7.873 -10.205 -73.836  1.00 19.74           O
ATOM  11085  O   HOH D   4     -15.937  14.727 -33.157  1.00 16.16           O
ATOM  11086  O   HOH D   5       1.714   7.665  -7.104  1.00 39.27           O
ATOM  11087  O   HOH D   6     -25.723  27.363 -36.461  1.00 14.97           O
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ATOM  11088  O   HOH D   7     -32.441   2.389 -42.642  1.00 22.10           O
ATOM  11089  O   HOH D   8     -32.137   7.614 -37.522  1.00 20.66           O
ATOM  11090  O   HOH D   9     -48.718  17.406 -35.548  1.00 38.21           O
ATOM  11091  O   HOH D  10     -48.302  27.267 -49.470  1.00 24.08           O
ATOM  11092  O   HOH D  11     -37.013  28.815 -26.871  1.00 20.05           O
ATOM  11093  O   HOH D  12     -60.235  51.997 -84.012  1.00 17.67           O
ATOM  11094  O   HOH D  13     -58.438  45.605 -79.491  1.00 30.89           O
ATOM  11095  O   HOH D  14     -22.402  45.556 -63.957  1.00 28.50           O
ATOM  11096  O   HOH D  15     -43.075  24.840 -58.945  1.00 18.58           O
ATOM  11097  O   HOH D  16     -48.921  52.096-105.880  1.00 22.47           O
ATOM  11098  O   HOH D  17     -55.483  51.292-103.346  1.00 40.75           O
ATOM  11099  O   HOH D  18     -58.085  49.218 -99.665  1.00 41.57           O
END
```

TABLE 4. Atomic coordinates for CRBN(TBD):Pomalidomide (Murine protein)

```
HEADER    ----                                      XX-XXX-XX   xxxx
COMPND    ---
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM     : REFMAC 5.6.0117
REMARK   3   AUTHORS     :
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   2.00
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  30.00
REMARK   3   DATA CUTOFF            (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  91.37
REMARK   3   NUMBER OF REFLECTIONS             :   28750
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD          : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION  : RANDOM
REMARK   3   R VALUE     (WORKING + TEST SET) : 0.19883
REMARK   3   R VALUE            (WORKING SET) :  0.19655
REMARK   3   FREE R VALUE                     :  0.24000
REMARK   3   FREE R VALUE TEST SET SIZE   (%) :  5.1
REMARK   3   FREE R VALUE TEST SET COUNT      :  1536
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED           :      20
REMARK   3   BIN RESOLUTION RANGE HIGH           :    2.000
REMARK   3   BIN RESOLUTION RANGE LOW            :    2.052
REMARK   3   REFLECTION IN BIN     (WORKING SET) :     2036
REMARK   3   BIN COMPLETENESS (WORKING+TEST) (%) :    91.32
REMARK   3   BIN R VALUE           (WORKING SET) :    0.198
REMARK   3   BIN FREE R VALUE SET COUNT          :      111
REMARK   3   BIN FREE R VALUE                    :    0.244
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   ALL ATOMS               :     3157
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT           (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  22.876
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) : NULL
REMARK   3    B22 (A**2) : NULL
REMARK   3    B33 (A**2) : NULL
REMARK   3    B12 (A**2) : NULL
REMARK   3    B13 (A**2) : NULL
REMARK   3    B23 (A**2) : NULL
REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                            (A):   0.182
REMARK   3   ESU BASED ON FREE R VALUE                       (A):   0.167
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REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                 (A):   0.105
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):   6.738
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.947
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.930
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES        COUNT    RMS    WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS        (A):  3057 ; 0.017 ; 0.019
REMARK   3   BOND ANGLES REFINED ATOMS   (DEGREES):  4163 ; 1.723 ; 1.931
REMARK   3   TORSION ANGLES, PERIOD 1    (DEGREES):   356 ;17.202 ; 5.000
REMARK   3   TORSION ANGLES, PERIOD 2    (DEGREES):   105 ;41.339 ;23.905
REMARK   3   TORSION ANGLES, PERIOD 3    (DEGREES):   516 ;15.489 ;15.000
REMARK   3   TORSION ANGLES, PERIOD 4    (DEGREES):     8 ;12.460 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS       (A**3):   465 ; 0.112 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS      (A):  2184 ; 0.019 ; 0.021
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.     COUNT   RMS    WEIGHT
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NCS TYPE: LOCAL
REMARK   3   NUMBER OF DIFFERENT NCS PAIRS  :   6
REMARK   3  GROUP  CHAIN1    RANGE     CHAIN2     RANGE    COUNT RMS  WEIGHT
REMARK   3    1     D   321    426       A   321    426     129  0.06  0.05
REMARK   3    2     D   321    425       B   321    425     123  0.07  0.05
REMARK   3    3     D   321    425       C   321    425     120  0.07  0.05
REMARK   3    4     A   321    425       B   321    425     127  0.06  0.05
REMARK   3    5     A   321    425       C   321    425     125  0.07  0.05
REMARK   3    6     B   321    427       C   321    427     127  0.07  0.05
REMARK   3
REMARK   3  TWIN DETAILS
REMARK   3   NUMBER OF TWIN DOMAINS  : NULL
REMARK   3
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :    4
REMARK   3   ATOM RECORD CONTAINS RESIDUAL B FACTORS ONLY
REMARK   3
REMARK   3   TLS GROUP :     1
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   D   -10        D  9999
REMARK   3    ORIGIN FOR THE GROUP (A): -54.6488 -43.2246  -9.1355
REMARK   3    T TENSOR
REMARK   3      T11:   0.0449 T22:   0.0609
REMARK   3      T33:   0.0451 T12:   0.0214
REMARK   3      T13:  -0.0017 T23:  -0.0302
REMARK   3    L TENSOR
REMARK   3      L11:   1.8641 L22:   1.0729
REMARK   3      L33:   1.3703 L12:  -0.9776
REMARK   3      L13:  -0.3315 L23:   0.4284
REMARK   3    S TENSOR
REMARK   3      S11:   0.0326 S12:  -0.0774 S13:   0.0790
REMARK   3      S21:  -0.0715 S22:   0.1331 S23:  -0.0656
REMARK   3      S31:  -0.0229 S32:   0.0512 S33:  -0.1657
REMARK   3
REMARK   3   TLS GROUP :     2
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A   -10        A  9999
REMARK   3    ORIGIN FOR THE GROUP (A): -43.1674 -61.8511 -17.2067
REMARK   3    T TENSOR
REMARK   3      T11:   0.0961 T22:   0.0577
REMARK   3      T33:   0.0433 T12:   0.0667
REMARK   3      T13:  -0.0355 T23:  -0.0218
REMARK   3    L TENSOR
REMARK   3      L11:   1.2102 L22:   1.0632
REMARK   3      L33:   1.6053 L12:  -0.7697
REMARK   3      L13:   0.6016 L23:   0.1378
REMARK   3    S TENSOR
REMARK   3      S11:   0.1405 S12:   0.0556 S13:  -0.0495
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REMARK   3      S21:  -0.1257 S22:  -0.0515 S23:  -0.0591
REMARK   3      S31:   0.0855 S32:   0.1366 S33:  -0.0890
REMARK   3
REMARK   3   TLS GROUP :     3
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   B   -10        B  9999
REMARK   3    ORIGIN FOR THE GROUP (A): -62.7105 -54.8717 -27.4066
REMARK   3    T TENSOR
REMARK   3      T11:   0.0935 T22:   0.0782
REMARK   3      T33:   0.1060 T12:   0.0354
REMARK   3      T13:  -0.0780 T23:  -0.0561
REMARK   3    L TENSOR
REMARK   3      L11:   0.9704 L22:   1.3670
REMARK   3      L33:   1.8001 L12:  -0.0106
REMARK   3      L13:   0.5310 L23:   0.1324
REMARK   3    S TENSOR
REMARK   3      S11:   0.0495 S12:   0.2002 S13:  -0.0722
REMARK   3      S21:  -0.1607 S22:  -0.0989 S23:   0.2555
REMARK   3      S31:   0.1626 S32:   0.1066 S33:   0.0493
REMARK   3
REMARK   3   TLS GROUP :     4
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   C   -10        C  9999
REMARK   3    ORIGIN FOR THE GROUP (A): -81.9343 -54.7508 -42.6687
REMARK   3    T TENSOR
REMARK   3      T11:   0.0489 T22:   0.1203
REMARK   3      T33:   0.1222 T12:   0.0048
REMARK   3      T13:  -0.0491 T23:   0.0798
REMARK   3    L TENSOR
REMARK   3      L11:   1.8956 L22:   2.6463
REMARK   3      L33:   2.0505 L12:  -0.0976
REMARK   3      L13:   1.1206 L23:   0.0699
REMARK   3    S TENSOR
REMARK   3      S11:  -0.0783 S12:  -0.1677 S13:  -0.1032
REMARK   3      S21:   0.0919 S22:   0.0341 S23:  -0.2101
REMARK   3      S31:   0.0414 S32:   0.1410 S33:   0.0442
REMARK   3
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED :  MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.20
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS:
REMARK   3  HYDROGENS HAVE BEEN USED IF PRESENT IN THE INPUT
REMARK   3  U VALUES      : RESIDUAL ONLY
REMARK   3
LINKR           SER D 343                   GLU D 360                gap
LINKR           SER B 343                   GLU B 360                gap
LINKR           SER A 343                   GLU A 360                gap
LINKR           SER C 343                   GLU C 360                gap
CRYST1  143.340  143.340  143.340  90.00  90.00  90.00 I 2 3
SCALE1      0.006976  0.000000  0.000000        0.00000
SCALE2      0.000000  0.006976  0.000000        0.00000
SCALE3      0.000000  0.000000  0.006976        0.00000
ATOM      1  N   THR D 321     -67.228 -55.990  -7.326  1.00 34.39           N
ATOM      2  CA  THR D 321     -65.794 -55.577  -7.541  1.00 28.56           C
ATOM      3  CB  THR D 321     -65.154 -56.313  -8.776  1.00 21.71           C
ATOM      4  OG1 THR D 321     -65.621 -55.728 -10.020  1.00 23.33           O
ATOM      5  CG2 THR D 321     -65.359 -57.851  -8.761  1.00 29.98           C
ATOM      6  C   THR D 321     -65.626 -54.020  -7.761  1.00 19.04           C
ATOM      7  O   THR D 321     -64.506 -53.508  -7.689  1.00 17.84           O
ATOM      8  N   SER D 322     -66.714 -53.296  -8.068  1.00 15.19           N
ATOM      9  CA  SER D 322     -66.606 -51.868  -8.513  1.00 15.95           C
ATOM     10  CB  SER D 322     -67.923 -51.336  -9.092  1.00 16.65           C
ATOM     11  OG  SER D 322     -68.149 -51.941 -10.292  1.00 22.67           O
ATOM     12  C   SER D 322     -66.300 -50.931  -7.407  1.00 18.04           C
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ATOM     13  O   SER D 322     -66.973 -50.972  -6.414  1.00 16.58           O
ATOM     14  N   LEU D 323     -65.392 -49.998  -7.644  1.00 11.36           N
ATOM     15  CA  LEU D 323     -65.082 -48.939  -6.703  1.00 14.58           C
ATOM     16  CB  LEU D 323     -63.570 -48.975  -6.316  1.00 10.60           C
ATOM     17  CG  LEU D 323     -63.134 -50.273  -5.588  1.00 14.95           C
ATOM     18  CD1 LEU D 323     -61.628 -50.484  -5.478  1.00 13.48           C
ATOM     19  CD2 LEU D 323     -63.699 -50.250  -4.194  1.00 16.93           C
ATOM     20  C   LEU D 323     -65.440 -47.634  -7.403  1.00 13.90           C
ATOM     21  O   LEU D 323     -64.820 -47.277  -8.398  1.00 11.28           O
ATOM     22  N   CYS D 324     -66.489 -46.978  -6.920  1.00 11.58           N
ATOM     23  CA  CYS D 324     -67.056 -45.788  -7.573  1.00 11.54           C
ATOM     24  CB  CYS D 324     -68.576 -45.946  -7.584  1.00 13.24           C
ATOM     25  SG  CYS D 324     -69.106 -47.222  -8.759  1.00 16.00           S
ATOM     26  C   CYS D 324     -66.713 -44.525  -6.808  1.00 12.36           C
ATOM     27  O   CYS D 324     -66.486 -44.582  -5.571  1.00 11.42           O
ATOM     28  N   CYS D 325     -66.776 -43.382  -7.504  1.00 10.46           N
ATOM     29  CA  CYS D 325     -66.578 -42.076  -6.895  1.00 11.76           C
ATOM     30  CB  CYS D 325     -66.806 -40.983  -7.959  1.00 11.15           C
ATOM     31  SG  CYS D 325     -66.789 -39.334  -7.236  1.00 13.37           S
ATOM     32  C   CYS D 325     -67.662 -41.936  -5.815  1.00 13.27           C
ATOM     33  O   CYS D 325     -68.865 -42.139  -6.090  1.00 12.84           O
ATOM     34  N   LYS D 326     -67.261 -41.646  -4.598  1.00 13.45           N
ATOM     35  CA  LYS D 326     -68.205 -41.572  -3.458  1.00 11.68           C
ATOM     36  CB  LYS D 326     -67.419 -41.408  -2.128  1.00 14.37           C
ATOM     37  CG  LYS D 326     -68.258 -41.217  -0.849  1.00 17.62           C
ATOM     38  CD  LYS D 326     -67.415 -41.302   0.456  1.00 16.62           C
ATOM     39  CE  LYS D 326     -66.623 -40.004   0.786  1.00 32.11           C
ATOM     40  NZ  LYS D 326     -65.750 -40.018   2.070  1.00 22.31           N
ATOM     41  C   LYS D 326     -69.206 -40.414  -3.614  1.00 12.19           C
ATOM     42  O   LYS D 326     -70.404 -40.520  -3.237  1.00 12.26           O
ATOM     43  N   GLN D 327     -68.721 -39.339  -4.184  1.00 11.39           N
ATOM     44  CA  GLN D 327     -69.498 -38.143  -4.369  1.00 13.99           C
ATOM     45  CB  GLN D 327     -68.590 -36.948  -4.774  1.00 14.69           C
ATOM     46  CG  GLN D 327     -69.369 -35.644  -5.044  1.00 14.75           C
ATOM     47  CD  GLN D 327     -70.212 -35.266  -3.836  1.00 19.02           C
ATOM     48  OE1 GLN D 327     -69.704 -35.243  -2.720  1.00 19.40           O
ATOM     49  NE2 GLN D 327     -71.541 -35.040  -4.042  1.00 14.58           N
ATOM     50  C   GLN D 327     -70.634 -38.336  -5.373  1.00 12.45           C
ATOM     51  O   GLN D 327     -71.796 -38.133  -5.006  1.00 14.23           O
ATOM     52  N   CYS D 328     -70.333 -38.586  -6.663  1.00 12.20           N
ATOM     53  CA  CYS D 328     -71.446 -38.674  -7.710  1.00 13.02           C
ATOM     54  CB  CYS D 328     -70.942 -38.252  -9.110  1.00 10.26           C
ATOM     55  SG  CYS D 328     -69.589 -39.316  -9.751  1.00 11.74           S
ATOM     56  C   CYS D 328     -72.062 -40.085  -7.766  1.00 12.49           C
ATOM     57  O   CYS D 328     -73.070 -40.327  -8.444  1.00 11.53           O
ATOM     58  N   GLN D 329     -71.387 -41.021  -7.102  1.00 12.62           N
ATOM     59  CA  GLN D 329     -71.913 -42.368  -6.786  1.00 16.74           C
ATOM     60  CB  GLN D 329     -73.328 -42.277  -6.137  1.00 16.32           C
ATOM     61  CG  GLN D 329     -73.315 -41.478  -4.828  1.00 15.01           C
ATOM     62  CD  GLN D 329     -74.694 -41.340  -4.201  1.00 20.72           C
ATOM     63  OE1 GLN D 329     -75.464 -42.290  -4.192  1.00 20.99           O
ATOM     64  NE2 GLN D 329     -75.042 -40.124  -3.747  1.00 24.15           N
ATOM     65  C   GLN D 329     -71.930 -43.314  -7.955  1.00 18.94           C
ATOM     66  O   GLN D 329     -71.707 -44.512  -7.781  1.00 21.46           O
ATOM     67  N   GLU D 330     -72.168 -42.799  -9.158  1.00 14.80           N
ATOM     68  CA AGLU D 330     -72.496 -43.677 -10.261  0.50 18.10           C
ATOM     69  CA BGLU D 330     -72.501 -43.634 -10.310  0.50 16.38           C
ATOM     70  CB AGLU D 330     -73.682 -43.112 -11.079  0.50 22.68           C
ATOM     71  CB BGLU D 330     -73.547 -42.926 -11.195  0.50 17.07           C
ATOM     72  CG AGLU D 330     -74.877 -42.576 -10.267  0.50 23.78           C
ATOM     73  CG BGLU D 330     -72.942 -41.929 -12.180  0.50 13.97           C
ATOM     74  CD AGLU D 330     -75.530 -43.636  -9.387  0.50 29.20           C
ATOM     75  CD BGLU D 330     -73.963 -41.151 -12.985  0.50 17.67           C
ATOM     76  OE1AGLU D 330     -75.262 -44.831  -9.615  0.50 31.28           O
ATOM     77  OE1BGLU D 330     -75.138 -41.551 -13.041  0.50 14.73           O
ATOM     78  OE2AGLU D 330     -76.322 -43.279  -8.470  0.50 27.78           O
ATOM     79  OE2BGLU D 330     -73.586 -40.117 -13.549  0.50 17.61           O
ATOM     80  C   GLU D 330     -71.267 -43.935 -11.167  1.00 18.98           C
ATOM     81  O   GLU D 330     -71.291 -44.816 -12.043  1.00 15.50           O
ATOM     82  N   THR D 331     -70.198 -43.174 -10.959  1.00 15.79           N
ATOM     83  CA  THR D 331     -69.018 -43.257 -11.827  1.00 13.14           C
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ATOM     84  CB  THR D 331     -68.355 -41.860 -11.996  1.00 14.10           C
ATOM     85  OG1 THR D 331     -69.328 -40.916 -12.486  1.00 16.15           O
ATOM     86  CG2 THR D 331     -67.130 -41.876 -12.976  1.00  9.86           C
ATOM     87  C   THR D 331     -67.997 -44.258 -11.259  1.00 13.51           C
ATOM     88  O   THR D 331     -67.382 -44.038 -10.178  1.00 11.35           O
ATOM     89  N   GLU D 332     -67.731 -45.313 -12.024  1.00 11.11           N
ATOM     90  CA  GLU D 332     -66.712 -46.269 -11.592  1.00 12.74           C
ATOM     91  CB  GLU D 332     -66.878 -47.605 -12.313  1.00 11.85           C
ATOM     92  CG  GLU D 332     -65.921 -48.686 -11.777  1.00 15.26           C
ATOM     93  CD  GLU D 332     -66.108 -49.983 -12.549  1.00 15.98           C
ATOM     94  OE1 GLU D 332     -67.063 -50.728 -12.267  1.00 15.76           O
ATOM     95  OE2 GLU D 332     -65.378 -50.175 -13.504  1.00 14.09           O
ATOM     96  C   GLU D 332     -65.332 -45.716 -11.882  1.00 13.41           C
ATOM     97  O   GLU D 332     -65.076 -45.269 -12.990  1.00  9.76           O
ATOM     98  N   ILE D 333     -64.440 -45.805 -10.886  1.00 11.09           N
ATOM     99  CA  ILE D 333     -63.029 -45.359 -11.037  1.00 10.48           C
ATOM    100  CB  ILE D 333     -62.618 -44.490  -9.809  1.00 11.79           C
ATOM    101  CG1 ILE D 333     -63.653 -43.356  -9.631  1.00 11.10           C
ATOM    102  CD1 ILE D 333     -63.750 -42.417 -10.859  1.00  9.78           C
ATOM    103  CG2 ILE D 333     -61.213 -43.908  -9.974  1.00 10.75           C
ATOM    104  C   ILE D 333     -62.095 -46.546 -11.189  1.00  9.32           C
ATOM    105  O   ILE D 333     -61.179 -46.513 -11.985  1.00 11.67           O
ATOM    106  N   THR D 334     -62.332 -47.619 -10.451  1.00 11.43           N
ATOM    107  CA  THR D 334     -61.461 -48.809 -10.650  1.00 13.43           C
ATOM    108  CB  THR D 334     -60.072 -48.626  -9.953  1.00 13.67           C
ATOM    109  OG1 THR D 334     -59.168 -49.627 -10.417  1.00 12.55           O
ATOM    110  CG2 THR D 334     -60.178 -48.708  -8.394  1.00 13.54           C
ATOM    111  C   THR D 334     -62.224 -50.014 -10.172  1.00 12.78           C
ATOM    112  O   THR D 334     -63.422 -49.891  -9.879  1.00 10.19           O
ATOM    113  N   THR D 335     -61.572 -51.185 -10.140  1.00 11.03           N
ATOM    114  CA  THR D 335     -62.191 -52.389  -9.579  1.00 10.78           C
ATOM    115  CB  THR D 335     -62.618 -53.405 -10.675  1.00 11.10           C
ATOM    116  OG1 THR D 335     -61.469 -54.087 -11.182  1.00 11.10           O
ATOM    117  CG2 THR D 335     -63.369 -52.710 -11.849  1.00 11.42           C
ATOM    118  C   THR D 335     -61.168 -53.075  -8.684  1.00 11.76           C
ATOM    119  O   THR D 335     -59.942 -52.872  -8.849  1.00 11.57           O
ATOM    120  N   LYS D 336     -61.632 -53.892  -7.753  1.00 11.47           N
ATOM    121  CA  LYS D 336     -60.722 -54.607  -6.865  1.00 13.75           C
ATOM    122  CB  LYS D 336     -61.521 -55.503  -5.909  1.00 20.64           C
ATOM    123  CG  LYS D 336     -62.227 -54.735  -4.812  1.00 30.62           C
ATOM    124  CD  LYS D 336     -62.903 -55.698  -3.826  1.00 33.50           C
ATOM    125  CE  LYS D 336     -63.747 -54.950  -2.795  1.00 35.38           C
ATOM    126  NZ  LYS D 336     -64.601 -55.948  -2.077  1.00 39.43           N
ATOM    127  C   LYS D 336     -59.764 -55.475  -7.622  1.00 13.56           C
ATOM    128  O   LYS D 336     -58.722 -55.830  -7.105  1.00 14.30           O
ATOM    129  N   ASN D 337     -60.130 -55.867  -8.848  1.00 11.55           N
ATOM    130  CA  ASN D 337     -59.265 -56.749  -9.637  1.00 12.27           C
ATOM    131  CB  ASN D 337     -59.978 -57.212 -10.931  1.00 12.51           C
ATOM    132  CG  ASN D 337     -61.178 -58.053 -10.643  1.00 19.58           C
ATOM    133  OD1 ASN D 337     -62.313 -57.694 -10.963  1.00 21.91           O
ATOM    134  ND2 ASN D 337     -60.948 -59.159  -9.999  1.00 19.26           N
ATOM    135  C   ASN D 337     -57.984 -56.054 -10.007  1.00 13.06           C
ATOM    136  O   ASN D 337     -57.025 -56.698 -10.335  1.00 12.99           O
ATOM    137  N   GLU D 338     -57.989 -54.716  -9.978  1.00 12.28           N
ATOM    138  CA  GLU D 338     -56.825 -53.923 -10.425  1.00 14.52           C
ATOM    139  CB  GLU D 338     -57.262 -52.638 -11.176  1.00 10.20           C
ATOM    140  CG  GLU D 338     -58.194 -52.913 -12.333  1.00 11.30           C
ATOM    141  CD  GLU D 338     -57.585 -53.853 -13.357  1.00 13.59           C
ATOM    142  OE1 GLU D 338     -56.401 -53.686 -13.714  1.00 13.97           O
ATOM    143  OE2 GLU D 338     -58.299 -54.774 -13.804  1.00 17.16           O
ATOM    144  C   GLU D 338     -55.854 -53.578  -9.316  1.00 13.62           C
ATOM    145  O   GLU D 338     -54.803 -52.977  -9.587  1.00 12.34           O
ATOM    146  N   ILE D 339     -56.146 -54.025  -8.086  1.00 11.79           N
ATOM    147  CA  ILE D 339     -55.329 -53.601  -6.912  1.00 14.46           C
ATOM    148  CB  ILE D 339     -56.104 -53.879  -5.570  1.00 14.63           C
ATOM    149  CG1 ILE D 339     -57.371 -52.992  -5.435  1.00 13.29           C
ATOM    150  CD1 ILE D 339     -58.263 -53.446  -4.282  1.00 17.57           C
ATOM    151  CG2 ILE D 339     -55.196 -53.842  -4.344  1.00 11.80           C
ATOM    152  C   ILE D 339     -54.033 -54.428  -6.963  1.00 12.36           C
ATOM    153  O   ILE D 339     -54.077 -55.613  -7.307  1.00  9.97           O
ATOM    154  N   PHE D 340     -52.893 -53.811  -6.636  1.00  9.98           N
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ATOM    155  CA  PHE D 340     -51.621 -54.530  -6.521  1.00 12.72           C
ATOM    156  CB  PHE D 340     -50.850 -54.600  -7.886  1.00 11.78           C
ATOM    157  CG  PHE D 340     -50.178 -53.300  -8.274  1.00 11.81           C
ATOM    158  CD1 PHE D 340     -48.777 -53.133  -8.123  1.00 12.97           C
ATOM    159  CE1 PHE D 340     -48.182 -51.900  -8.442  1.00 12.13           C
ATOM    160  CZ  PHE D 340     -48.989 -50.824  -8.873  1.00 11.11           C
ATOM    161  CE2 PHE D 340     -50.342 -50.994  -9.071  1.00 11.64           C
ATOM    162  CD2 PHE D 340     -50.949 -52.210  -8.762  1.00 10.10           C
ATOM    163  C   PHE D 340     -50.809 -53.795  -5.449  1.00 16.76           C
ATOM    164  O   PHE D 340     -51.210 -52.719  -5.012  1.00 16.33           O
ATOM    165  N   SER D 341     -49.671 -54.368  -5.058  1.00 18.59           N
ATOM    166  CA  SER D 341     -48.870 -53.838  -3.970  1.00 18.62           C
ATOM    167  CB  SER D 341     -48.740 -54.877  -2.868  1.00 26.20           C
ATOM    168  OG  SER D 341     -48.024 -54.372  -1.746  1.00 34.73           O
ATOM    169  C   SER D 341     -47.522 -53.421  -4.522  1.00 17.47           C
ATOM    170  O   SER D 341     -46.761 -54.248  -4.971  1.00 15.83           O
ATOM    171  N   LEU D 342     -47.247 -52.107  -4.524  1.00 18.98           N
ATOM    172  CA  LEU D 342     -45.927 -51.606  -4.985  1.00 24.10           C
ATOM    173  CB  LEU D 342     -46.033 -50.156  -5.478  1.00 24.70           C
ATOM    174  CG  LEU D 342     -45.454 -49.626  -6.779  1.00 30.75           C
ATOM    175  CD1 LEU D 342     -44.729 -48.330  -6.525  1.00 27.48           C
ATOM    176  CD2 LEU D 342     -44.501 -50.609  -7.434  1.00 34.18           C
ATOM    177  C   LEU D 342     -44.888 -51.734  -3.840  1.00 34.50           C
ATOM    178  O   LEU D 342     -43.752 -52.165  -4.082  1.00 30.45           O
ATOM    179  N   SER D 343     -45.291 -51.417  -2.596  1.00 30.56           N
ATOM    180  CA  SER D 343     -44.440 -51.658  -1.399  1.00 62.05           C
ATOM    181  CB  SER D 343     -45.222 -51.403  -0.088  1.00 55.95           C
ATOM    182  OG  SER D 343     -46.316 -52.295   0.049  1.00 59.16           O
ATOM    183  C   SER D 343     -43.802 -53.066  -1.381  1.00 74.57           C
ATOM    184  O   SER D 343     -43.159 -53.475  -0.406  1.00 80.57           O
ATOM    185  N   GLU D 360     -54.707 -46.012   3.496  1.00 32.78           N
ATOM    186  CA  GLU D 360     -55.229 -44.691   3.067  1.00 41.60           C
ATOM    187  CB  GLU D 360     -54.466 -43.536   3.771  1.00 47.05           C
ATOM    188  CG  GLU D 360     -54.686 -42.127   3.193  1.00 55.26           C
ATOM    189  CD  GLU D 360     -55.669 -41.257   3.987  1.00 65.56           C
ATOM    190  OE1 GLU D 360     -56.577 -40.656   3.369  1.00 70.43           O
ATOM    191  OE2 GLU D 360     -55.521 -41.145   5.219  1.00 43.69           O
ATOM    192  C   GLU D 360     -55.242 -44.524   1.517  1.00 35.47           C
ATOM    193  O   GLU D 360     -56.235 -44.012   0.944  1.00 24.22           O
ATOM    194  N   THR D 361     -54.156 -44.978   0.863  1.00 25.92           N
ATOM    195  CA  THR D 361     -53.985 -44.859  -0.620  1.00 27.67           C
ATOM    196  CB  THR D 361     -52.744 -44.010  -0.996  1.00 30.46           C
ATOM    197  OG1 THR D 361     -52.879 -42.680  -0.453  1.00 35.07           O
ATOM    198  CG2 THR D 361     -52.615 -43.922  -2.509  1.00 26.94           C
ATOM    199  C   THR D 361     -53.896 -46.231  -1.329  1.00 20.63           C
ATOM    200  O   THR D 361     -52.977 -46.991  -1.112  1.00 25.53           O
ATOM    201  N   LEU D 362     -54.871 -46.519  -2.171  1.00 18.65           N
ATOM    202  CA  LEU D 362     -54.986 -47.780  -2.849  1.00 16.05           C
ATOM    203  CB  LEU D 362     -56.474 -48.000  -3.165  1.00 17.05           C
ATOM    204  CG  LEU D 362     -56.921 -49.338  -3.730  1.00 18.27           C
ATOM    205  CD1 LEU D 362     -56.930 -50.361  -2.592  1.00 19.21           C
ATOM    206  CD2 LEU D 362     -58.318 -49.184  -4.304  1.00 23.17           C
ATOM    207  C   LEU D 362     -54.190 -47.676  -4.157  1.00 18.06           C
ATOM    208  O   LEU D 362     -54.278 -46.664  -4.835  1.00 16.54           O
ATOM    209  N   THR D 363     -53.373 -48.675  -4.491  1.00 12.90           N
ATOM    210  CA  THR D 363     -52.659 -48.615  -5.773  1.00 13.43           C
ATOM    211  CB  THR D 363     -51.131 -48.823  -5.599  1.00 16.84           C
ATOM    212  OG1 THR D 363     -50.882 -50.071  -4.902  1.00 15.09           O
ATOM    213  CG2 THR D 363     -50.510 -47.656  -4.790  1.00 18.98           C
ATOM    214  C   THR D 363     -53.272 -49.632  -6.749  1.00 13.28           C
ATOM    215  O   THR D 363     -53.441 -50.809  -6.396  1.00 11.09           O
ATOM    216  N   VAL D 364     -53.619 -49.177  -7.959  1.00 10.26           N
ATOM    217  CA  VAL D 364     -54.248 -50.061  -8.969  1.00  9.75           C
ATOM    218  CB  VAL D 364     -55.775 -49.758  -9.137  1.00  9.30           C
ATOM    219  CG1 VAL D 364     -56.525 -50.033  -7.832  1.00 10.55           C
ATOM    220  CG2 VAL D 364     -56.003 -48.314  -9.566  1.00  9.33           C
ATOM    221  C   VAL D 364     -53.564 -49.913 -10.312  1.00  9.78           C
ATOM    222  O   VAL D 364     -53.021 -48.813 -10.616  1.00  9.01           O
ATOM    223  N   TYR D 365     -53.534 -51.004 -11.124  1.00  8.58           N
ATOM    224  CA  TYR D 365     -52.859 -50.920 -12.419  1.00  9.67           C
ATOM    225  CB  TYR D 365     -52.721 -52.334 -13.056  1.00  9.61           C
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ATOM    226  CG  TYR D 365     -51.674 -53.174 -12.436  1.00 12.91           C
ATOM    227  CD1 TYR D 365     -50.299 -52.807 -12.530  1.00 11.67           C
ATOM    228  CE1 TYR D 365     -49.291 -53.625 -12.013  1.00 10.11           C
ATOM    229  CZ  TYR D 365     -49.642 -54.753 -11.351  1.00 12.37           C
ATOM    230  OH  TYR D 365     -48.657 -55.515 -10.825  1.00 11.48           O
ATOM    231  CE2 TYR D 365     -50.976 -55.178 -11.267  1.00 10.77           C
ATOM    232  CD2 TYR D 365     -52.002 -54.371 -11.781  1.00 11.08           C
ATOM    233  C   TYR D 365     -53.651 -50.074 -13.421  1.00  9.56           C
ATOM    234  O   TYR D 365     -53.083 -49.500 -14.355  1.00 11.17           O
ATOM    235  N   LYS D 366     -54.977 -50.081 -13.265  1.00  9.37           N
ATOM    236  CA  LYS D 366     -55.884 -49.466 -14.253  1.00 11.01           C
ATOM    237  CB  LYS D 366     -56.496 -50.574 -15.118  1.00  9.42           C
ATOM    238  CG  LYS D 366     -55.502 -51.172 -16.109  1.00 11.57           C
ATOM    239  CD  LYS D 366     -55.507 -50.363 -17.402  1.00 11.80           C
ATOM    240  CE  LYS D 366     -54.295 -50.744 -18.254  1.00 17.68           C
ATOM    241  NZ  LYS D 366     -54.182 -49.886 -19.458  1.00 12.69           N
ATOM    242  C   LYS D 366     -57.020 -48.717 -13.540  1.00 10.84           C
ATOM    243  O   LYS D 366     -57.528 -49.177 -12.476  1.00 11.53           O
ATOM    244  N   ALA D 367     -57.452 -47.621 -14.148  1.00  9.83           N
ATOM    245  CA  ALA D 367     -58.578 -46.809 -13.632  1.00 12.18           C
ATOM    246  CB  ALA D 367     -58.052 -45.679 -12.724  1.00 12.33           C
ATOM    247  C   ALA D 367     -59.314 -46.202 -14.813  1.00  9.51           C
ATOM    248  O   ALA D 367     -58.770 -46.157 -15.954  1.00 11.57           O
ATOM    249  N   SER D 368     -60.519 -45.690 -14.554  1.00  9.41           N
ATOM    250  CA  SER D 368     -61.313 -45.117 -15.629  1.00  9.57           C
ATOM    251  CB  SER D 368     -62.385 -46.171 -16.031  1.00  8.79           C
ATOM    252  OG  SER D 368     -63.123 -46.538 -14.882  1.00 11.07           O
ATOM    253  C   SER D 368     -62.043 -43.867 -15.153  1.00  9.50           C
ATOM    254  O   SER D 368     -62.219 -43.659 -13.905  1.00  9.81           O
ATOM    255  N   ASN D 369     -62.495 -43.071 -16.097  1.00  8.82           N
ATOM    256  CA  ASN D 369     -63.364 -41.933 -15.809  1.00 11.14           C
ATOM    257  CB  ASN D 369     -64.677 -42.444 -15.170  1.00 10.35           C
ATOM    258  CG  ASN D 369     -65.455 -43.372 -16.114  1.00 16.33           C
ATOM    259  OD1 ASN D 369     -65.974 -44.410 -15.713  1.00 14.22           O
ATOM    260  ND2 ASN D 369     -65.483 -43.021 -17.355  1.00 12.04           N
ATOM    261  C   ASN D 369     -62.675 -40.879 -14.933  1.00 14.38           C
ATOM    262  O   ASN D 369     -63.326 -40.131 -14.212  1.00 12.97           O
ATOM    263  N   LEU D 370     -61.357 -40.799 -15.028  1.00 10.49           N
ATOM    264  CA  LEU D 370     -60.624 -39.752 -14.319  1.00 12.42           C
ATOM    265  CB  LEU D 370     -59.444 -40.380 -13.567  1.00 10.40           C
ATOM    266  CG  LEU D 370     -59.813 -41.251 -12.353  1.00 11.12           C
ATOM    267  CD1 LEU D 370     -58.565 -41.969 -11.803  1.00 10.26           C
ATOM    268  CD2 LEU D 370     -60.449 -40.356 -11.272  1.00 12.03           C
ATOM    269  C   LEU D 370     -60.083 -38.750 -15.350  1.00 12.72           C
ATOM    270  O   LEU D 370     -59.600 -39.166 -16.434  1.00 13.55           O
ATOM    271  N   ASN D 371     -60.161 -37.470 -15.037  1.00 13.32           N
ATOM    272  CA  ASN D 371     -59.398 -36.416 -15.780  1.00 16.00           C
ATOM    273  CB  ASN D 371     -60.249 -35.146 -15.900  1.00 17.19           C
ATOM    274  CG  ASN D 371     -61.394 -35.304 -16.897  1.00 19.75           C
ATOM    275  OD1 ASN D 371     -61.273 -36.039 -17.886  1.00 22.73           O
ATOM    276  ND2 ASN D 371     -62.507 -34.658 -16.621  1.00 17.09           N
ATOM    277  C   ASN D 371     -58.075 -36.076 -15.103  1.00 16.05           C
ATOM    278  O   ASN D 371     -58.012 -35.898 -13.887  1.00 17.20           O
ATOM    279  N   LEU D 372     -57.039 -35.877 -15.891  1.00 14.64           N
ATOM    280  CA  LEU D 372     -55.723 -35.510 -15.341  1.00 16.60           C
ATOM    281  CB  LEU D 372     -54.587 -36.181 -16.153  1.00 18.56           C
ATOM    282  CG  LEU D 372     -54.554 -37.722 -16.216  1.00 24.16           C
ATOM    283  CD1 LEU D 372     -53.493 -38.171 -17.248  1.00 20.65           C
ATOM    284  CD2 LEU D 372     -54.313 -38.418 -14.860  1.00 19.93           C
ATOM    285  C   LEU D 372     -55.578 -34.009 -15.370  1.00 21.79           C
ATOM    286  O   LEU D 372     -55.874 -33.377 -16.380  1.00 21.71           O
ATOM    287  N   ILE D 373     -55.136 -33.439 -14.255  1.00 20.03           N
ATOM    288  CA  ILE D 373     -54.923 -31.992 -14.150  1.00 23.81           C
ATOM    289  CB  ILE D 373     -55.562 -31.407 -12.875  1.00 20.77           C
ATOM    290  CG1 ILE D 373     -57.059 -31.749 -12.811  1.00 22.49           C
ATOM    291  CD1 ILE D 373     -57.861 -31.134 -13.949  1.00 25.68           C
ATOM    292  CG2 ILE D 373     -55.304 -29.894 -12.792  1.00 21.65           C
ATOM    293  C   ILE D 373     -53.438 -31.669 -14.090  1.00 28.50           C
ATOM    294  O   ILE D 373     -52.736 -32.079 -13.130  1.00 23.54           O
ATOM    295  N   GLY D 374     -52.956 -30.930 -15.088  1.00 26.30           N
ATOM    296  CA  GLY D 374     -51.577 -30.417 -15.055  1.00 26.84           C
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ATOM    297  C   GLY D 374     -50.579 -31.394 -15.627  1.00 27.07           C
ATOM    298  O   GLY D 374     -50.960 -32.312 -16.334  1.00 24.33           O
ATOM    299  N   ARG D 375     -49.302 -31.204 -15.289  1.00 23.42           N
ATOM    300  CA  ARG D 375     -48.184 -32.025 -15.801  1.00 26.07           C
ATOM    301  CB  ARG D 375     -47.092 -31.109 -16.393  1.00 28.25           C
ATOM    302  CG  ARG D 375     -47.624 -30.103 -17.423  1.00 35.44           C
ATOM    303  CD  ARG D 375     -46.785 -28.828 -17.518  1.00 42.70           C
ATOM    304  NE  ARG D 375     -45.343 -29.082 -17.567  1.00 47.46           N
ATOM    305  CZ  ARG D 375     -44.522 -28.970 -16.523  1.00 49.67           C
ATOM    306  NH1 ARG D 375     -44.991 -28.606 -15.337  1.00 50.71           N
ATOM    307  NH2 ARG D 375     -43.230 -29.222 -16.664  1.00 59.40           N
ATOM    308  C   ARG D 375     -47.579 -32.818 -14.647  1.00 20.41           C
ATOM    309  O   ARG D 375     -47.659 -32.383 -13.513  1.00 21.68           O
ATOM    310  N   PRO D 376     -46.929 -33.960 -14.940  1.00 21.94           N
ATOM    311  CA  PRO D 376     -46.292 -34.755 -13.895  1.00 20.77           C
ATOM    312  CB  PRO D 376     -45.560 -35.835 -14.682  1.00 25.05           C
ATOM    313  CG  PRO D 376     -46.333 -35.941 -15.962  1.00 29.14           C
ATOM    314  CD  PRO D 376     -46.654 -34.512 -16.273  1.00 22.40           C
ATOM    315  C   PRO D 376     -45.285 -33.973 -13.068  1.00 21.95           C
ATOM    316  O   PRO D 376     -44.611 -33.105 -13.596  1.00 20.20           O
ATOM    317  N   SER D 377     -45.187 -34.297 -11.779  1.00 18.40           N
ATOM    318  CA  SER D 377     -44.141 -33.726 -10.910  1.00 19.62           C
ATOM    319  CB  SER D 377     -44.740 -32.600 -10.009  1.00 18.99           C
ATOM    320  OG  SER D 377     -43.835 -32.242  -8.957  1.00 22.29           O
ATOM    321  C   SER D 377     -43.560 -34.836 -10.043  1.00 17.21           C
ATOM    322  O   SER D 377     -44.312 -35.720  -9.573  1.00 15.64           O
ATOM    323  N   THR D 378     -42.251 -34.783  -9.796  1.00 13.61           N
ATOM    324  CA  THR D 378     -41.634 -35.693  -8.810  1.00 16.90           C
ATOM    325  CB  THR D 378     -40.196 -36.078  -9.156  1.00 14.97           C
ATOM    326  OG1 THR D 378     -39.428 -34.896  -9.299  1.00 14.71           O
ATOM    327  CG2 THR D 378     -40.133 -36.877 -10.444  1.00 15.92           C
ATOM    328  C   THR D 378     -41.559 -35.078  -7.399  1.00 14.84           C
ATOM    329  O   THR D 378     -41.094 -35.741  -6.482  1.00 15.16           O
ATOM    330  N   VAL D 379     -41.964 -33.813  -7.268  1.00 13.54           N
ATOM    331  CA  VAL D 379     -41.884 -33.050  -6.006  1.00 15.88           C
ATOM    332  CB  VAL D 379     -42.508 -31.650  -6.234  1.00 18.76           C
ATOM    333  CG1 VAL D 379     -42.925 -30.976  -4.947  1.00 23.06           C
ATOM    334  CG2 VAL D 379     -41.537 -30.771  -7.023  1.00 22.47           C
ATOM    335  C   VAL D 379     -42.623 -33.828  -4.876  1.00 16.58           C
ATOM    336  O   VAL D 379     -43.767 -34.147  -5.028  1.00 16.14           O
ATOM    337  N   HIS D 380     -41.921 -34.202  -3.805  1.00 12.95           N
ATOM    338  CA  HIS D 380     -42.518 -34.987  -2.696  1.00 14.86           C
ATOM    339  CB  HIS D 380     -43.564 -34.154  -1.900  1.00 13.67           C
ATOM    340  CG  HIS D 380     -43.044 -32.832  -1.374  1.00 14.41           C
ATOM    341  ND1 HIS D 380     -41.952 -32.739  -0.595  1.00 14.59           N
ATOM    342  CE1 HIS D 380     -41.704 -31.445  -0.330  1.00 13.72           C
ATOM    343  NE2 HIS D 380     -42.687 -30.713  -0.894  1.00 12.95           N
ATOM    344  CD2 HIS D 380     -43.512 -31.527  -1.551  1.00 14.45           C
ATOM    345  C   HIS D 380     -43.172 -36.307  -3.105  1.00 15.09           C
ATOM    346  O   HIS D 380     -44.098 -36.787  -2.399  1.00 18.61           O
ATOM    347  N   SER D 381     -42.760 -36.910  -4.235  1.00 16.93           N
ATOM    348  CA  SER D 381     -43.444 -38.142  -4.706  1.00 16.00           C
ATOM    349  CB  SER D 381     -42.788 -38.721  -5.960  1.00 19.80           C
ATOM    350  OG  SER D 381     -43.404 -39.969  -6.285  1.00 17.26           O
ATOM    351  C   SER D 381     -43.479 -39.235  -3.630  1.00 19.44           C
ATOM    352  O   SER D 381     -42.419 -39.567  -3.027  1.00 14.52           O
ATOM    353  N   TRP D 382     -44.664 -39.805  -3.369  1.00 12.85           N
ATOM    354  CA  TRP D 382     -44.713 -40.957  -2.441  1.00 16.94           C
ATOM    355  CB  TRP D 382     -46.131 -41.281  -1.999  1.00 18.71           C
ATOM    356  CG  TRP D 382     -46.805 -40.122  -1.347  1.00 17.72           C
ATOM    357  CD1 TRP D 382     -46.232 -39.158  -0.479  1.00 22.58           C
ATOM    358  NE1 TRP D 382     -47.178 -38.219  -0.097  1.00 15.78           N
ATOM    359  CE2 TRP D 382     -48.371 -38.494  -0.716  1.00 16.33           C
ATOM    360  CD2 TRP D 382     -48.174 -39.705  -1.539  1.00 16.25           C
ATOM    361  CE3 TRP D 382     -49.244 -40.201  -2.275  1.00 21.53           C
ATOM    362  CZ3 TRP D 382     -50.463 -39.537  -2.217  1.00 15.17           C
ATOM    363  CH2 TRP D 382     -50.642 -38.391  -1.421  1.00 19.34           C
ATOM    364  CZ2 TRP D 382     -49.580 -37.839  -0.666  1.00 17.34           C
ATOM    365  C   TRP D 382     -44.058 -42.218  -2.935  1.00 19.12           C
ATOM    366  O   TRP D 382     -43.856 -43.147  -2.149  1.00 16.44           O
ATOM    367  N   PHE D 383     -43.786 -42.288  -4.245  1.00 18.15           N
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ATOM    368  CA  PHE D 383     -43.213 -43.515  -4.879  1.00 16.37           C
ATOM    369  CB  PHE D 383     -44.294 -44.188  -5.782  1.00 14.45           C
ATOM    370  CG  PHE D 383     -45.514 -44.634  -5.014  1.00 20.08           C
ATOM    371  CD1 PHE D 383     -45.492 -45.811  -4.260  1.00 21.79           C
ATOM    372  CE1 PHE D 383     -46.621 -46.233  -3.562  1.00 26.15           C
ATOM    373  CZ  PHE D 383     -47.778 -45.448  -3.572  1.00 18.25           C
ATOM    374  CE2 PHE D 383     -47.812 -44.276  -4.317  1.00 17.32           C
ATOM    375  CD2 PHE D 383     -46.674 -43.860  -5.009  1.00 14.38           C
ATOM    376  C   PHE D 383     -41.933 -43.159  -5.656  1.00 18.80           C
ATOM    377  O   PHE D 383     -41.985 -42.850  -6.851  1.00 17.18           O
ATOM    378  N   PRO D 384     -40.765 -43.168  -4.972  1.00 19.77           N
ATOM    379  CA  PRO D 384     -39.516 -42.830  -5.731  1.00 20.37           C
ATOM    380  CB  PRO D 384     -38.369 -43.220  -4.759  1.00 21.23           C
ATOM    381  CG  PRO D 384     -39.007 -43.126  -3.401  1.00 24.39           C
ATOM    382  CD  PRO D 384     -40.471 -43.593  -3.588  1.00 16.66           C
ATOM    383  C   PRO D 384     -39.377 -43.489  -7.100  1.00 17.34           C
ATOM    384  O   PRO D 384     -39.722 -44.660  -7.290  1.00 20.17           O
ATOM    385  N   GLY D 385     -38.958 -42.701  -8.082  1.00 14.40           N
ATOM    386  CA  GLY D 385     -38.925 -43.184  -9.454  1.00 17.24           C
ATOM    387  C   GLY D 385     -40.200 -42.918 -10.243  1.00 16.61           C
ATOM    388  O   GLY D 385     -40.267 -43.218 -11.462  1.00 15.88           O
ATOM    389  N   TYR D 386     -41.232 -42.424  -9.553  1.00 13.80           N
ATOM    390  CA  TYR D 386     -42.472 -42.005 -10.233  1.00 16.51           C
ATOM    391  CB  TYR D 386     -43.683 -42.863  -9.768  1.00 13.91           C
ATOM    392  CG  TYR D 386     -43.611 -44.357 -10.112  1.00 14.66           C
ATOM    393  CD1 TYR D 386     -44.196 -44.849 -11.288  1.00 12.37           C
ATOM    394  CE1 TYR D 386     -44.139 -46.200 -11.605  1.00 13.28           C
ATOM    395  CZ  TYR D 386     -43.497 -47.092 -10.741  1.00 13.00           C
ATOM    396  OH  TYR D 386     -43.452 -48.430 -11.098  1.00 11.38           O
ATOM    397  CE2 TYR D 386     -42.920 -46.641  -9.560  1.00 12.98           C
ATOM    398  CD2 TYR D 386     -42.996 -45.285  -9.240  1.00 14.44           C
ATOM    399  C   TYR D 386     -42.780 -40.514  -9.987  1.00 16.12           C
ATOM    400  O   TYR D 386     -42.433 -39.953  -8.966  1.00 12.28           O
ATOM    401  N   ALA D 387     -43.482 -39.911 -10.927  1.00 16.31           N
ATOM    402  CA  ALA D 387     -43.942 -38.564 -10.808  1.00 14.82           C
ATOM    403  CB  ALA D 387     -43.564 -37.771 -12.076  1.00 14.59           C
ATOM    404  C   ALA D 387     -45.449 -38.707 -10.713  1.00 18.68           C
ATOM    405  O   ALA D 387     -46.016 -39.750 -11.110  1.00 15.78           O
ATOM    406  N   TRP D 388     -46.105 -37.673 -10.221  1.00 14.36           N
ATOM    407  CA  TRP D 388     -47.556 -37.721 -10.006  1.00 16.10           C
ATOM    408  CB  TRP D 388     -47.877 -37.612  -8.527  1.00 13.99           C
ATOM    409  CG  TRP D 388     -47.227 -36.455  -7.832  1.00 14.45           C
ATOM    410  CD1 TRP D 388     -46.022 -36.447  -7.136  1.00 14.72           C
ATOM    411  NE1 TRP D 388     -45.768 -35.170  -6.630  1.00 13.85           N
ATOM    412  CE2 TRP D 388     -46.765 -34.311  -6.977  1.00 14.16           C
ATOM    413  CD2 TRP D 388     -47.734 -35.065  -7.760  1.00 12.99           C
ATOM    414  CE3 TRP D 388     -48.885 -34.416  -8.231  1.00 13.59           C
ATOM    415  CZ3 TRP D 388     -49.045 -33.030  -7.951  1.00 22.02           C
ATOM    416  CH2 TRP D 388     -48.091 -32.315  -7.212  1.00 17.37           C
ATOM    417  CZ2 TRP D 388     -46.936 -32.936  -6.695  1.00 17.87           C
ATOM    418  C   TRP D 388     -48.293 -36.667 -10.780  1.00 16.70           C
ATOM    419  O   TRP D 388     -47.760 -35.579 -11.058  1.00 15.47           O
ATOM    420  N   THR D 389     -49.517 -36.994 -11.168  1.00 15.71           N
ATOM    421  CA  THR D 389     -50.413 -36.016 -11.793  1.00 17.50           C
ATOM    422  CB  THR D 389     -50.614 -36.319 -13.315  1.00 17.16           C
ATOM    423  OG1 THR D 389     -49.345 -36.323 -13.949  1.00 17.93           O
ATOM    424  CG2 THR D 389     -51.453 -35.261 -13.992  1.00 14.92           C
ATOM    425  C   THR D 389     -51.747 -36.120 -11.055  1.00 16.97           C
ATOM    426  O   THR D 389     -52.271 -37.225 -10.892  1.00 14.38           O
ATOM    427  N   ILE D 390     -52.313 -34.986 -10.647  1.00 13.44           N
ATOM    428  CA  ILE D 390     -53.672 -35.024  -9.996  1.00 13.01           C
ATOM    429  CB  ILE D 390     -54.094 -33.589  -9.577  1.00 15.37           C
ATOM    430  CG1 ILE D 390     -53.148 -33.081  -8.496  1.00 21.58           C
ATOM    431  CD1 ILE D 390     -53.299 -31.578  -8.181  1.00 28.38           C
ATOM    432  CG2 ILE D 390     -55.555 -33.551  -9.123  1.00 16.44           C
ATOM    433  C   ILE D 390     -54.715 -35.631 -10.917  1.00 12.38           C
ATOM    434  O   ILE D 390     -54.710 -35.330 -12.155  1.00 12.79           O
ATOM    435  N   ALA D 391     -55.601 -36.476 -10.338  1.00 11.93           N
ATOM    436  CA  ALA D 391     -56.627 -37.195 -11.067  1.00 13.20           C
ATOM    437  CB  ALA D 391     -56.324 -38.720 -11.053  1.00 13.08           C
ATOM    438  C   ALA D 391     -57.986 -36.940 -10.425  1.00 14.34           C
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ATOM    439  O   ALA D 391     -58.203 -37.218  -9.229  1.00 13.65           O
ATOM    440  N   GLN D 392     -58.903 -36.405 -11.196  1.00 13.27           N
ATOM    441  CA  GLN D 392     -60.202 -36.125 -10.636  1.00 14.78           C
ATOM    442  CB  GLN D 392     -60.417 -34.603 -10.536  1.00 19.61           C
ATOM    443  CG  GLN D 392     -60.409 -33.910 -11.873  1.00 19.31           C
ATOM    444  CD  GLN D 392     -60.611 -32.399 -11.720  1.00 28.10           C
ATOM    445  OE1 GLN D 392     -59.922 -31.739 -10.936  1.00 22.08           O
ATOM    446  NE2 GLN D 392     -61.533 -31.853 -12.494  1.00 18.99           N
ATOM    447  C   GLN D 392     -61.331 -36.757 -11.443  1.00 13.09           C
ATOM    448  O   GLN D 392     -61.203 -37.004 -12.666  1.00 10.48           O
ATOM    449  N   CYS D 393     -62.439 -37.022 -10.761  1.00 12.28           N
ATOM    450  CA  CYS D 393     -63.614 -37.677 -11.380  1.00 10.15           C
ATOM    451  CB  CYS D 393     -64.750 -37.834 -10.342  1.00 10.86           C
ATOM    452  SG  CYS D 393     -66.264 -38.512 -11.101  1.00 13.50           S
ATOM    453  C   CYS D 393     -64.112 -36.828 -12.553  1.00 11.97           C
ATOM    454  O   CYS D 393     -64.240 -35.579 -12.403  1.00 11.58           O
ATOM    455  N   LYS D 394     -64.314 -37.462 -13.719  1.00 11.31           N
ATOM    456  CA  LYS D 394     -64.747 -36.758 -14.945  1.00 12.98           C
ATOM    457  CB  LYS D 394     -64.691 -37.695 -16.154  1.00 15.77           C
ATOM    458  CG  LYS D 394     -65.781 -38.795 -16.224  1.00 13.41           C
ATOM    459  CD  LYS D 394     -65.790 -39.401 -17.643  1.00 15.91           C
ATOM    460  CE  LYS D 394     -67.089 -40.162 -17.963  1.00 19.30           C
ATOM    461  NZ  LYS D 394     -66.792 -41.211 -19.000  1.00 22.82           N
ATOM    462  C   LYS D 394     -66.148 -36.182 -14.810  1.00 12.21           C
ATOM    463  O   LYS D 394     -66.501 -35.251 -15.512  1.00 10.78           O
ATOM    464  N   ILE D 395     -66.967 -36.770 -13.931  1.00 10.39           N
ATOM    465  CA  ILE D 395     -68.327 -36.251 -13.732  1.00 12.82           C
ATOM    466  CB  ILE D 395     -69.330 -37.377 -13.326  1.00 15.03           C
ATOM    467  CG1 ILE D 395     -69.500 -38.462 -14.442  1.00 12.89           C
ATOM    468  CD1 ILE D 395     -69.999 -37.977 -15.819  1.00 18.63           C
ATOM    469  CG2 ILE D 395     -70.661 -36.774 -12.855  1.00 12.67           C
ATOM    470  C   ILE D 395     -68.430 -35.072 -12.695  1.00 15.23           C
ATOM    471  O   ILE D 395     -69.015 -33.986 -13.011  1.00 14.48           O
ATOM    472  N   CYS D 396     -67.884 -35.266 -11.474  1.00 11.74           N
ATOM    473  CA  CYS D 396     -68.110 -34.286 -10.406  1.00 12.31           C
ATOM    474  CB  CYS D 396     -68.708 -34.950  -9.180  1.00 14.41           C
ATOM    475  SG  CYS D 396     -67.536 -36.079  -8.380  1.00 13.68           S
ATOM    476  C   CYS D 396     -66.887 -33.466 -10.025  1.00 14.18           C
ATOM    477  O   CYS D 396     -66.975 -32.588  -9.143  1.00 14.91           O
ATOM    478  N   ALA D 397     -65.780 -33.744 -10.717  1.00 13.71           N
ATOM    479  CA  ALA D 397     -64.472 -33.122 -10.494  1.00 13.23           C
ATOM    480  CB  ALA D 397     -64.498 -31.612 -10.832  1.00 16.60           C
ATOM    481  C   ALA D 397     -63.880 -33.379  -9.085  1.00 12.71           C
ATOM    482  O   ALA D 397     -62.928 -32.715  -8.714  1.00 13.85           O
ATOM    483  N   SER D 398     -64.412 -34.346  -8.317  1.00 10.48           N
ATOM    484  CA  SER D 398     -63.847 -34.664  -7.006  1.00 12.91           C
ATOM    485  CB  SER D 398     -64.680 -35.706  -6.236  1.00 15.08           C
ATOM    486  OG  SER D 398     -66.017 -35.188  -6.062  1.00 17.86           O
ATOM    487  C   SER D 398     -62.489 -35.201  -7.239  1.00 16.45           C
ATOM    488  O   SER D 398     -62.288 -36.017  -8.163  1.00 15.23           O
ATOM    489  N   HIS D 399     -61.547 -34.791  -6.398  1.00 16.26           N
ATOM    490  CA  HIS D 399     -60.148 -35.277  -6.523  1.00 20.34           C
ATOM    491  CB  HIS D 399     -59.169 -34.342  -5.772  1.00 28.30           C
ATOM    492  CG  HIS D 399     -58.841 -33.039  -6.510  1.00 38.19           C
ATOM    493  ND1 HIS D 399     -59.751 -32.360  -7.256  1.00 45.02           N
ATOM    494  CE1 HIS D 399     -59.171 -31.243  -7.762  1.00 36.88           C
ATOM    495  NE2 HIS D 399     -57.900 -31.193  -7.320  1.00 35.80           N
ATOM    496  CD2 HIS D 399     -57.661 -32.274  -6.545  1.00 37.39           C
ATOM    497  C   HIS D 399     -60.058 -36.672  -5.984  1.00 18.25           C
ATOM    498  O   HIS D 399     -60.261 -36.897  -4.795  1.00 22.04           O
ATOM    499  N   ILE D 400     -59.807 -37.652  -6.844  1.00 18.94           N
ATOM    500  CA  ILE D 400     -59.835 -39.041  -6.370  1.00 14.15           C
ATOM    501  CB  ILE D 400     -60.411 -40.039  -7.429  1.00 14.33           C
ATOM    502  CG1 ILE D 400     -61.800 -39.564  -7.918  1.00 20.52           C
ATOM    503  CD1 ILE D 400     -62.771 -39.184  -6.830  1.00 17.91           C
ATOM    504  CG2 ILE D 400     -60.523 -41.458  -6.822  1.00 13.75           C
ATOM    505  C   ILE D 400     -58.439 -39.507  -5.949  1.00 12.55           C
ATOM    506  O   ILE D 400     -58.318 -40.312  -5.034  1.00 14.22           O
ATOM    507  N   GLY D 401     -57.400 -38.986  -6.612  1.00 11.62           N
ATOM    508  CA  GLY D 401     -56.030 -39.454  -6.402  1.00 11.50           C
ATOM    509  C   GLY D 401     -55.055 -38.874  -7.406  1.00 12.10           C
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ATOM    510  O   GLY D 401     -55.165 -37.688  -7.809  1.00 13.31           O
ATOM    511  N   TRP D 402     -54.118 -39.721  -7.845  1.00 12.21           N
ATOM    512  CA  TRP D 402     -53.027 -39.284  -8.747  1.00 14.33           C
ATOM    513  CB  TRP D 402     -51.753 -38.930  -7.924  1.00 12.12           C
ATOM    514  CG  TRP D 402     -52.026 -37.893  -6.859  1.00 14.51           C
ATOM    515  CD1 TRP D 402     -51.772 -36.518  -6.936  1.00 12.75           C
ATOM    516  NE1 TRP D 402     -52.190 -35.887  -5.783  1.00 16.72           N
ATOM    517  CE2 TRP D 402     -52.682 -36.794  -4.882  1.00 16.89           C
ATOM    518  CD2 TRP D 402     -52.590 -38.114  -5.510  1.00 16.55           C
ATOM    519  CE3 TRP D 402     -53.058 -39.239  -4.804  1.00 14.20           C
ATOM    520  CZ3 TRP D 402     -53.570 -39.052  -3.492  1.00 17.10           C
ATOM    521  CH2 TRP D 402     -53.665 -37.760  -2.904  1.00 17.46           C
ATOM    522  CZ2 TRP D 402     -53.214 -36.613  -3.574  1.00 16.25           C
ATOM    523  C   TRP D 402     -52.688 -40.398  -9.686  1.00 14.30           C
ATOM    524  O   TRP D 402     -52.759 -41.616  -9.317  1.00 13.52           O
ATOM    525  N   LYS D 403     -52.320 -40.026 -10.902  1.00 13.72           N
ATOM    526  CA  LYS D 403     -51.659 -40.951 -11.795  1.00 13.75           C
ATOM    527  CB  LYS D 403     -51.870 -40.567 -13.260  1.00 13.23           C
ATOM    528  CG  LYS D 403     -51.555 -41.728 -14.207  1.00 17.06           C
ATOM    529  CD  LYS D 403     -51.597 -41.281 -15.667  1.00 21.80           C
ATOM    530  CE  LYS D 403     -51.571 -42.491 -16.614  1.00 24.70           C
ATOM    531  NZ  LYS D 403     -51.547 -41.943 -17.977  1.00 32.68           N
ATOM    532  C   LYS D 403     -50.168 -40.918 -11.501  1.00 19.68           C
ATOM    533  O   LYS D 403     -49.583 -39.824 -11.444  1.00 17.80           O
ATOM    534  N   PHE D 404     -49.551 -42.101 -11.339  1.00 12.41           N
ATOM    535  CA  PHE D 404     -48.106 -42.191 -11.158  1.00 12.80           C
ATOM    536  CB  PHE D 404     -47.786 -43.092  -9.972  1.00 10.89           C
ATOM    537  CG  PHE D 404     -48.022 -42.397  -8.646  1.00 14.98           C
ATOM    538  CD1 PHE D 404     -47.022 -41.571  -8.097  1.00 11.97           C
ATOM    539  CE1 PHE D 404     -47.255 -40.840  -6.933  1.00 13.58           C
ATOM    540  CZ  PHE D 404     -48.465 -40.954  -6.274  1.00 12.79           C
ATOM    541  CE2 PHE D 404     -49.477 -41.760  -6.780  1.00 11.25           C
ATOM    542  CD2 PHE D 404     -49.259 -42.493  -7.983  1.00 12.73           C
ATOM    543  C   PHE D 404     -47.448 -42.693 -12.428  1.00 13.53           C
ATOM    544  O   PHE D 404     -47.875 -43.728 -12.981  1.00 11.57           O
ATOM    545  N   THR D 405     -46.451 -41.959 -12.914  1.00 14.12           N
ATOM    546  CA  THR D 405     -45.799 -42.277 -14.227  1.00 13.80           C
ATOM    547  CB  THR D 405     -46.046 -41.130 -15.278  1.00 14.98           C
ATOM    548  OG1 THR D 405     -45.873 -39.869 -14.652  1.00 17.13           O
ATOM    549  CG2 THR D 405     -47.504 -41.145 -15.785  1.00 14.03           C
ATOM    550  C   THR D 405     -44.296 -42.477 -14.002  1.00 15.75           C
ATOM    551  O   THR D 405     -43.697 -41.667 -13.306  1.00 16.13           O
ATOM    552  N   ALA D 406     -43.714 -43.602 -14.489  1.00 14.07           N
ATOM    553  CA  ALA D 406     -42.297 -43.939 -14.220  1.00 17.74           C
ATOM    554  CB  ALA D 406     -41.928 -45.309 -14.809  1.00 16.49           C
ATOM    555  C   ALA D 406     -41.399 -42.891 -14.831  1.00 19.95           C
ATOM    556  O   ALA D 406     -41.658 -42.438 -15.922  1.00 19.78           O
ATOM    557  N   THR D 407     -40.334 -42.519 -14.124  1.00 20.93           N
ATOM    558  CA  THR D 407     -39.333 -41.648 -14.700  1.00 25.90           C
ATOM    559  CB  THR D 407     -38.660 -40.737 -13.651  1.00 23.99           C
ATOM    560  OG1 THR D 407     -38.099 -41.540 -12.591  1.00 29.96           O
ATOM    561  CG2 THR D 407     -39.673 -39.751 -13.083  1.00 28.37           C
ATOM    562  C   THR D 407     -38.260 -42.403 -15.509  1.00 26.09           C
ATOM    563  O   THR D 407     -37.468 -41.774 -16.160  1.00 27.79           O
ATOM    564  N   LYS D 408     -38.242 -43.738 -15.452  1.00 23.82           N
ATOM    565  CA  LYS D 408     -37.262 -44.544 -16.225  1.00 33.72           C
ATOM    566  CB  LYS D 408     -36.107 -45.077 -15.338  1.00 27.05           C
ATOM    567  CG  LYS D 408     -35.019 -44.057 -14.975  1.00 34.91           C
ATOM    568  CD  LYS D 408     -35.351 -43.247 -13.721  1.00 53.00           C
ATOM    569  CE  LYS D 408     -34.497 -41.977 -13.588  1.00 58.35           C
ATOM    570  NZ  LYS D 408     -33.578 -42.012 -12.413  1.00 58.21           N
ATOM    571  C   LYS D 408     -37.949 -45.702 -16.946  1.00 31.36           C
ATOM    572  O   LYS D 408     -38.909 -46.274 -16.437  1.00 18.42           O
ATOM    573  N   LYS D 409     -37.424 -46.074 -18.110  1.00 20.95           N
ATOM    574  CA  LYS D 409     -38.009 -47.119 -18.897  1.00 24.98           C
ATOM    575  CB  LYS D 409     -37.386 -47.158 -20.322  1.00 24.45           C
ATOM    576  CG  LYS D 409     -37.767 -45.989 -21.216  1.00 42.36           C
ATOM    577  CD  LYS D 409     -39.167 -46.137 -21.778  1.00 43.75           C
ATOM    578  CE  LYS D 409     -39.283 -45.378 -23.091  1.00 57.30           C
ATOM    579  NZ  LYS D 409     -40.108 -46.142 -24.066  1.00 69.61           N
ATOM    580  C   LYS D 409     -37.973 -48.531 -18.282  1.00 19.48           C
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ATOM    581  O   LYS D 409     -38.757 -49.382 -18.685  1.00 27.02           O
ATOM    582  N   ASP D 410     -37.043 -48.824 -17.388  1.00 25.16           N
ATOM    583  CA  ASP D 410     -36.886 -50.250 -16.999  1.00 33.61           C
ATOM    584  CB  ASP D 410     -35.421 -50.602 -16.754  1.00 43.22           C
ATOM    585  CG  ASP D 410     -34.850 -49.865 -15.585  1.00 41.26           C
ATOM    586  OD1 ASP D 410     -35.440 -48.837 -15.200  1.00 52.35           O
ATOM    587  OD2 ASP D 410     -33.829 -50.317 -15.028  1.00 55.02           O
ATOM    588  C   ASP D 410     -37.742 -50.647 -15.784  1.00 43.76           C
ATOM    589  O   ASP D 410     -37.664 -51.808 -15.311  1.00 34.74           O
ATOM    590  N   MET D 411     -38.525 -49.675 -15.271  1.00 27.98           N
ATOM    591  CA  MET D 411     -39.476 -49.906 -14.186  1.00 28.95           C
ATOM    592  CB  MET D 411     -39.822 -48.579 -13.502  1.00 19.24           C
ATOM    593  CG  MET D 411     -38.592 -48.060 -12.784  1.00 32.01           C
ATOM    594  SD  MET D 411     -38.948 -46.691 -11.714  1.00 43.30           S
ATOM    595  CE  MET D 411     -38.939 -45.425 -12.935  1.00 25.93           C
ATOM    596  C   MET D 411     -40.772 -50.599 -14.638  1.00 30.56           C
ATOM    597  O   MET D 411     -41.159 -50.510 -15.801  1.00 28.13           O
ATOM    598  N   SER D 412     -41.414 -51.308 -13.702  1.00 23.78           N
ATOM    599  CA  SER D 412     -42.721 -51.934 -13.933  1.00 19.87           C
ATOM    600  CB  SER D 412     -42.600 -53.434 -14.274  1.00 18.60           C
ATOM    601  OG  SER D 412     -41.819 -54.083 -13.274  1.00 25.54           O
ATOM    602  C   SER D 412     -43.535 -51.646 -12.681  1.00 17.08           C
ATOM    603  O   SER D 412     -43.016 -51.863 -11.582  1.00 15.66           O
ATOM    604  N   PRO D 413     -44.861 -51.558 -12.852  1.00 15.88           N
ATOM    605  CA  PRO D 413     -45.453 -50.858 -14.029  1.00 12.57           C
ATOM    606  CB  PRO D 413     -46.926 -50.750 -13.630  1.00 13.13           C
ATOM    607  CG  PRO D 413     -46.844 -50.396 -12.162  1.00  8.99           C
ATOM    608  CD  PRO D 413     -45.659 -51.266 -11.631  1.00 12.57           C
ATOM    609  C   PRO D 413     -44.849 -49.490 -14.460  1.00 12.70           C
ATOM    610  O   PRO D 413     -44.348 -48.745 -13.629  1.00 12.74           O
ATOM    611  N   GLN D 414     -44.905 -49.172 -15.743  1.00 10.28           N
ATOM    612  CA  GLN D 414     -44.562 -47.802 -16.203  1.00 11.82           C
ATOM    613  CB  GLN D 414     -44.552 -47.757 -17.762  1.00 13.32           C
ATOM    614  CG  GLN D 414     -43.277 -48.370 -18.366  1.00 16.28           C
ATOM    615  CD  GLN D 414     -42.056 -47.572 -17.976  1.00 19.40           C
ATOM    616  OE1 GLN D 414     -41.250 -48.002 -17.155  1.00 22.54           O
ATOM    617  NE2 GLN D 414     -41.952 -46.386 -18.501  1.00 13.79           N
ATOM    618  C   GLN D 414     -45.533 -46.726 -15.666  1.00 11.67           C
ATOM    619  O   GLN D 414     -45.207 -45.520 -15.620  1.00 15.09           O
ATOM    620  N   LYS D 415     -46.754 -47.130 -15.364  1.00 10.81           N
ATOM    621  CA  LYS D 415     -47.663 -46.251 -14.656  1.00 14.56           C
ATOM    622  CB  LYS D 415     -48.381 -45.281 -15.649  1.00 15.93           C
ATOM    623  CG  LYS D 415     -49.558 -45.883 -16.417  1.00 18.43           C
ATOM    624  CD  LYS D 415     -49.107 -46.989 -17.348  1.00 26.76           C
ATOM    625  CE  LYS D 415     -49.854 -47.053 -18.695  1.00 22.81           C
ATOM    626  NZ  LYS D 415     -49.364 -48.250 -19.424  1.00 20.62           N
ATOM    627  C   LYS D 415     -48.647 -47.035 -13.794  1.00 11.11           C
ATOM    628  O   LYS D 415     -48.846 -48.258 -13.999  1.00  9.89           O
ATOM    629  N   PHE D 416     -49.249 -46.341 -12.818  1.00  9.25           N
ATOM    630  CA  PHE D 416     -50.319 -46.902 -12.020  1.00  9.48           C
ATOM    631  CB  PHE D 416     -49.781 -47.812 -10.895  1.00 10.39           C
ATOM    632  CG  PHE D 416     -48.910 -47.103  -9.895  1.00  9.70           C
ATOM    633  CD1 PHE D 416     -49.411 -46.683  -8.672  1.00 10.81           C
ATOM    634  CE1 PHE D 416     -48.610 -46.062  -7.727  1.00 12.49           C
ATOM    635  CZ  PHE D 416     -47.272 -45.869  -7.985  1.00 11.76           C
ATOM    636  CE2 PHE D 416     -46.738 -46.297  -9.188  1.00  9.84           C
ATOM    637  CD2 PHE D 416     -47.536 -46.917 -10.148  1.00 11.10           C
ATOM    638  C   PHE D 416     -51.095 -45.738 -11.426  1.00  9.90           C
ATOM    639  O   PHE D 416     -50.799 -44.596 -11.692  1.00 11.81           O
ATOM    640  N   TRP D 417     -52.096 -46.037 -10.622  1.00  8.82           N
ATOM    641  CA  TRP D 417     -52.835 -44.966  -9.969  1.00 10.98           C
ATOM    642  CB  TRP D 417     -54.311 -45.065 -10.401  1.00 11.08           C
ATOM    643  CG  TRP D 417     -54.486 -44.973 -11.903  1.00 11.12           C
ATOM    644  CD1 TRP D 417     -54.392 -45.999 -12.841  1.00 11.61           C
ATOM    645  NE1 TRP D 417     -54.629 -45.508 -14.126  1.00 11.51           N
ATOM    646  CE2 TRP D 417     -54.863 -44.187 -14.086  1.00 12.88           C
ATOM    647  CD2 TRP D 417     -54.789 -43.769 -12.681  1.00 11.63           C
ATOM    648  CE3 TRP D 417     -54.989 -42.423 -12.360  1.00 13.96           C
ATOM    649  CZ3 TRP D 417     -55.227 -41.520 -13.420  1.00 13.17           C
ATOM    650  CH2 TRP D 417     -55.320 -41.968 -14.759  1.00 15.26           C
ATOM    651  CZ2 TRP D 417     -55.142 -43.305 -15.102  1.00 15.07           C
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ATOM    652  C   TRP D 417     -52.765 -45.116  -8.475  1.00  8.85           C
ATOM    653  O   TRP D 417     -52.977 -46.224  -7.963  1.00  8.82           O
ATOM    654  N   GLY D 418     -52.638 -44.012  -7.748  1.00  8.91           N
ATOM    655  CA  GLY D 418     -52.798 -44.115  -6.286  1.00 10.88           C
ATOM    656  C   GLY D 418     -54.085 -43.340  -5.919  1.00 11.70           C
ATOM    657  O   GLY D 418     -54.182 -42.151  -6.214  1.00 12.23           O
ATOM    658  N   LEU D 419     -55.065 -44.020  -5.328  1.00 12.48           N
ATOM    659  CA  LEU D 419     -56.418 -43.452  -5.157  1.00  9.88           C
ATOM    660  CB  LEU D 419     -57.482 -44.334  -5.877  1.00 11.17           C
ATOM    661  CG  LEU D 419     -57.224 -44.649  -7.379  1.00 12.93           C
ATOM    662  CD1 LEU D 419     -58.244 -45.652  -7.962  1.00 15.74           C
ATOM    663  CD2 LEU D 419     -57.242 -43.342  -8.201  1.00 11.98           C
ATOM    664  C   LEU D 419     -56.701 -43.366  -3.656  1.00 10.95           C
ATOM    665  O   LEU D 419     -56.374 -44.288  -2.891  1.00 12.49           O
ATOM    666  N   THR D 420     -57.225 -42.229  -3.227  1.00 12.35           N
ATOM    667  CA  THR D 420     -57.615 -42.012  -1.806  1.00 14.78           C
ATOM    668  CB  THR D 420     -57.917 -40.511  -1.607  1.00 17.24           C
ATOM    669  OG1 THR D 420     -56.748 -39.799  -2.020  1.00 14.00           O
ATOM    670  CG2 THR D 420     -58.311 -40.158  -0.098  1.00 13.66           C
ATOM    671  C   THR D 420     -58.834 -42.877  -1.508  1.00 14.19           C
ATOM    672  O   THR D 420     -59.866 -42.733  -2.161  1.00 13.73           O
ATOM    673  N   ARG D 421     -58.679 -43.852  -0.602  1.00 12.36           N
ATOM    674  CA  ARG D 421     -59.736 -44.849  -0.345  1.00 17.09           C
ATOM    675  CB  ARG D 421     -59.353 -45.826   0.790  1.00 22.23           C
ATOM    676  CG  ARG D 421     -58.414 -46.946   0.426  1.00 30.22           C
ATOM    677  CD  ARG D 421     -57.848 -47.604   1.715  1.00 30.57           C
ATOM    678  NE  ARG D 421     -56.626 -48.369   1.444  1.00 36.36           N
ATOM    679  CZ  ARG D 421     -56.620 -49.592   0.910  1.00 44.87           C
ATOM    680  NH1 ARG D 421     -57.772 -50.188   0.593  1.00 51.21           N
ATOM    681  NH2 ARG D 421     -55.470 -50.222   0.690  1.00 40.12           N
ATOM    682  C   ARG D 421     -61.024 -44.213   0.083  1.00 16.52           C
ATOM    683  O   ARG D 421     -62.096 -44.713  -0.251  1.00 14.73           O
ATOM    684  N   SER D 422     -60.930 -43.143   0.874  1.00 12.14           N
ATOM    685  CA  SER D 422     -62.167 -42.530   1.408  1.00 16.31           C
ATOM    686  CB  SER D 422     -61.834 -41.558   2.561  1.00 20.51           C
ATOM    687  OG  SER D 422     -60.991 -40.527   2.063  1.00 15.45           O
ATOM    688  C   SER D 422     -62.939 -41.789   0.322  1.00 15.91           C
ATOM    689  O   SER D 422     -64.092 -41.374   0.533  1.00 13.62           O
ATOM    690  N   ALA D 423     -62.307 -41.600  -0.841  1.00 13.42           N
ATOM    691  CA  ALA D 423     -62.986 -40.952  -1.978  1.00 13.14           C
ATOM    692  CB  ALA D 423     -61.980 -40.216  -2.838  1.00 12.90           C
ATOM    693  C   ALA D 423     -63.752 -41.963  -2.820  1.00 12.91           C
ATOM    694  O   ALA D 423     -64.359 -41.604  -3.822  1.00 12.81           O
ATOM    695  N   LEU D 424     -63.695 -43.246  -2.440  1.00 14.18           N
ATOM    696  CA  LEU D 424     -64.398 -44.308  -3.186  1.00 11.87           C
ATOM    697  CB  LEU D 424     -63.380 -45.343  -3.697  1.00 12.17           C
ATOM    698  CG  LEU D 424     -62.251 -44.765  -4.601  1.00 14.29           C
ATOM    699  CD1 LEU D 424     -61.072 -45.768  -4.712  1.00 14.19           C
ATOM    700  CD2 LEU D 424     -62.773 -44.377  -5.987  1.00 13.76           C
ATOM    701  C   LEU D 424     -65.467 -45.009  -2.327  1.00 13.48           C
ATOM    702  O   LEU D 424     -65.328 -45.088  -1.126  1.00 13.98           O
ATOM    703  N   LEU D 425     -66.460 -45.617  -2.977  1.00 14.90           N
ATOM    704  CA  LEU D 425     -67.433 -46.462  -2.276  1.00 22.54           C
ATOM    705  CB  LEU D 425     -68.842 -45.890  -2.406  1.00 25.83           C
ATOM    706  CG  LEU D 425     -69.508 -45.054  -1.287  1.00 28.41           C
ATOM    707  CD1 LEU D 425     -70.840 -44.603  -1.848  1.00 25.23           C
ATOM    708  CD2 LEU D 425     -69.736 -45.900  -0.046  1.00 30.31           C
ATOM    709  C   LEU D 425     -67.367 -47.842  -2.919  1.00 25.71           C
ATOM    710  O   LEU D 425     -67.271 -47.894  -4.152  1.00 22.50           O
ATOM    711  N   PRO D 426     -67.775 -48.885  -2.159  1.00 33.18           N
ATOM    712  CA  PRO D 426     -67.053 -50.013  -1.618  1.00 48.92           C
ATOM    713  CB  PRO D 426     -67.388 -51.141  -2.594  1.00 41.81           C
ATOM    714  CG  PRO D 426     -68.695 -50.699  -3.246  1.00 43.68           C
ATOM    715  CD  PRO D 426     -69.083 -49.381  -2.616  1.00 43.50           C
ATOM    716  C   PRO D 426     -65.578 -49.716  -1.515  1.00 49.77           C
ATOM    717  O   PRO D 426     -65.226 -48.678  -0.959  1.00 40.20           O
ATOM    718  N   THR A 321     -54.675 -62.915  -3.216  1.00 36.85           N
ATOM    719  CA  THR A 321     -54.397 -62.908  -4.703  1.00 33.70           C
ATOM    720  CB  THR A 321     -55.257 -61.851  -5.445  1.00 33.79           C
ATOM    721  OG1 THR A 321     -54.707 -60.531  -5.240  1.00 38.82           O
ATOM    722  CG2 THR A 321     -56.731 -61.893  -4.983  1.00 47.72           C
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ATOM    723  C   THR A 321     -52.899 -62.704  -5.079  1.00 27.23           C
ATOM    724  O   THR A 321     -52.533 -62.920  -6.229  1.00 22.14           O
ATOM    725  N   SER A 322     -52.070 -62.241  -4.134  1.00 18.61           N
ATOM    726  CA  SER A 322     -50.683 -61.830  -4.462  1.00 23.51           C
ATOM    727  CB  SER A 322     -50.059 -61.094  -3.272  1.00 24.88           C
ATOM    728  OG  SER A 322     -50.807 -59.930  -3.043  1.00 27.19           O
ATOM    729  C   SER A 322     -49.722 -62.967  -4.879  1.00 22.97           C
ATOM    730  O   SER A 322     -49.666 -64.008  -4.218  1.00 24.02           O
ATOM    731  N   LEU A 323     -48.928 -62.740  -5.932  1.00 15.40           N
ATOM    732  CA  LEU A 323     -47.818 -63.645  -6.258  1.00 13.14           C
ATOM    733  CB  LEU A 323     -47.912 -64.160  -7.706  1.00 14.81           C
ATOM    734  CG  LEU A 323     -49.188 -65.044  -7.954  1.00 15.73           C
ATOM    735  CD1 LEU A 323     -49.508 -65.254  -9.423  1.00 21.00           C
ATOM    736  CD2 LEU A 323     -49.098 -66.394  -7.248  1.00 20.79           C
ATOM    737  C   LEU A 323     -46.528 -62.901  -6.044  1.00 14.34           C
ATOM    738  O   LEU A 323     -46.253 -61.935  -6.750  1.00 13.90           O
ATOM    739  N   CYS A 324     -45.753 -63.356  -5.044  1.00 13.99           N
ATOM    740  CA  CYS A 324     -44.564 -62.669  -4.600  1.00 16.60           C
ATOM    741  CB  CYS A 324     -44.591 -62.550  -3.052  1.00 16.43           C
ATOM    742  SG  CYS A 324     -45.903 -61.421  -2.455  1.00 20.16           S
ATOM    743  C   CYS A 324     -43.303 -63.409  -5.072  1.00 13.72           C
ATOM    744  O   CYS A 324     -43.348 -64.620  -5.320  1.00 13.21           O
ATOM    745  N   CYS A 325     -42.196 -62.669  -5.207  1.00 13.65           N
ATOM    746  CA  CYS A 325     -40.893 -63.235  -5.425  1.00 13.55           C
ATOM    747  CB  CYS A 325     -39.805 -62.154  -5.330  1.00 16.01           C
ATOM    748  SG  CYS A 325     -38.111 -62.791  -5.478  1.00 16.92           S
ATOM    749  C   CYS A 325     -40.624 -64.313  -4.377  1.00 12.56           C
ATOM    750  O   CYS A 325     -40.712 -64.079  -3.191  1.00 13.54           O
ATOM    751  N   LYS A 326     -40.308 -65.501  -4.818  1.00 12.78           N
ATOM    752  CA  LYS A 326     -40.080 -66.574  -3.869  1.00 13.61           C
ATOM    753  CB  LYS A 326     -40.075 -67.933  -4.601  1.00 16.71           C
ATOM    754  CG  LYS A 326     -40.005 -69.119  -3.623  1.00 20.49           C
ATOM    755  CD  LYS A 326     -40.928 -70.266  -4.045  1.00 24.76           C
ATOM    756  CE  LYS A 326     -40.134 -71.373  -4.660  1.00 27.96           C
ATOM    757  NZ  LYS A 326     -40.985 -72.307  -5.455  1.00 36.68           N
ATOM    758  C   LYS A 326     -38.784 -66.389  -3.042  1.00 13.57           C
ATOM    759  O   LYS A 326     -38.703 -66.815  -1.860  1.00 14.01           O
ATOM    760  N   GLN A 327     -37.757 -65.810  -3.676  1.00 14.76           N
ATOM    761  CA  GLN A 327     -36.497 -65.614  -3.027  1.00 17.02           C
ATOM    762  CB  GLN A 327     -35.411 -65.233  -4.034  1.00 17.41           C
ATOM    763  CG  GLN A 327     -34.077 -64.947  -3.352  1.00 15.71           C
ATOM    764  CD  GLN A 327     -32.976 -64.766  -4.348  1.00 21.33           C
ATOM    765  OE1 GLN A 327     -33.053 -65.294  -5.440  1.00 20.60           O
ATOM    766  NE2 GLN A 327     -31.943 -64.019  -3.983  1.00 19.63           N
ATOM    767  C   GLN A 327     -36.585 -64.580  -1.883  1.00 14.71           C
ATOM    768  O   GLN A 327     -36.260 -64.910  -0.742  1.00 12.39           O
ATOM    769  N   CYS A 328     -37.033 -63.346  -2.177  1.00 13.05           N
ATOM    770  CA  CYS A 328     -37.057 -62.319  -1.133  1.00 12.85           C
ATOM    771  CB  CYS A 328     -36.652 -60.933  -1.667  1.00 10.68           C
ATOM    772  SG  CYS A 328     -37.896 -60.256  -2.776  1.00 14.55           S
ATOM    773  C   CYS A 328     -38.430 -62.273  -0.374  1.00 14.31           C
ATOM    774  O   CYS A 328     -38.576 -61.541   0.619  1.00 13.89           O
ATOM    775  N   GLN A 329     -39.426 -63.029  -0.862  1.00 15.72           N
ATOM    776  CA  GLN A 329     -40.730 -63.255  -0.139  1.00 15.02           C
ATOM    777  CB  GLN A 329     -40.515 -63.846   1.270  1.00 14.54           C
ATOM    778  CG  GLN A 329     -39.514 -65.025   1.259  1.00 18.55           C
ATOM    779  CD  GLN A 329     -39.554 -65.872   2.516  1.00 20.90           C
ATOM    780  OE1 GLN A 329     -39.833 -67.056   2.457  1.00 19.96           O
ATOM    781  NE2 GLN A 329     -39.276 -65.264   3.657  1.00 15.75           N
ATOM    782  C   GLN A 329     -41.701 -62.091  -0.045  1.00 19.78           C
ATOM    783  O   GLN A 329     -42.900 -62.278  -0.187  1.00 22.09           O
ATOM    784  N   GLU A 330     -41.186 -60.904   0.206  1.00 16.66           N
ATOM    785  CA  GLU A 330     -41.989 -59.773   0.570  1.00 19.80           C
ATOM    786  CB  GLU A 330     -41.181 -58.860   1.476  1.00 21.82           C
ATOM    787  CG  GLU A 330     -40.763 -59.534   2.772  1.00 30.49           C
ATOM    788  CD  GLU A 330     -41.918 -60.221   3.470  1.00 42.30           C
ATOM    789  OE1 GLU A 330     -41.888 -61.474   3.606  1.00 59.27           O
ATOM    790  OE2 GLU A 330     -42.857 -59.501   3.878  1.00 47.44           O
ATOM    791  C   GLU A 330     -42.464 -58.970  -0.662  1.00 25.10           C
ATOM    792  O   GLU A 330     -43.399 -58.175  -0.554  1.00 19.27           O
ATOM    793  N   THR A 331     -41.808 -59.190  -1.807  1.00 15.88           N
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ATOM    794  CA  THR A 331     -41.965 -58.341  -2.958  1.00 16.40           C
ATOM    795  CB  THR A 331     -40.612 -58.191  -3.701  1.00 16.06           C
ATOM    796  OG1 THR A 331     -39.677 -57.571  -2.812  1.00 16.10           O
ATOM    797  CG2 THR A 331     -40.751 -57.282  -4.997  1.00 15.45           C
ATOM    798  C   THR A 331     -43.023 -58.935  -3.880  1.00 17.58           C
ATOM    799  O   THR A 331     -42.834 -60.040  -4.420  1.00 12.69           O
ATOM    800  N   GLU A 332     -44.138 -58.218  -4.048  1.00 14.65           N
ATOM    801  CA  GLU A 332     -45.223 -58.692  -4.969  1.00 14.25           C
ATOM    802  CB  GLU A 332     -46.583 -57.979  -4.685  1.00 12.96           C
ATOM    803  CG  GLU A 332     -47.698 -58.473  -5.599  1.00 13.58           C
ATOM    804  CD  GLU A 332     -49.044 -57.755  -5.360  1.00 15.93           C
ATOM    805  OE1 GLU A 332     -49.720 -58.044  -4.354  1.00 14.18           O
ATOM    806  OE2 GLU A 332     -49.399 -56.882  -6.170  1.00 16.23           O
ATOM    807  C   GLU A 332     -44.813 -58.519  -6.423  1.00 12.55           C
ATOM    808  O   GLU A 332     -44.369 -57.446  -6.785  1.00 18.26           O
ATOM    809  N   ILE A 333     -44.971 -59.569  -7.248  1.00 11.77           N
ATOM    810  CA  ILE A 333     -44.617 -59.488  -8.682  1.00 12.66           C
ATOM    811  CB  ILE A 333     -43.724 -60.681  -9.143  1.00 12.54           C
ATOM    812  CG1 ILE A 333     -42.439 -60.800  -8.262  1.00 11.27           C
ATOM    813  CD1 ILE A 333     -41.594 -59.510  -8.215  1.00 15.65           C
ATOM    814  CG2 ILE A 333     -43.337 -60.517 -10.620  1.00 10.92           C
ATOM    815  C   ILE A 333     -45.850 -59.349  -9.581  1.00 13.02           C
ATOM    816  O   ILE A 333     -45.856 -58.590 -10.548  1.00 16.03           O
ATOM    817  N   THR A 334     -46.917 -60.043  -9.220  1.00 11.83           N
ATOM    818  CA  THR A 334     -48.164 -59.925  -9.950  1.00 14.76           C
ATOM    819  CB  THR A 334     -48.082 -60.686 -11.310  1.00 14.72           C
ATOM    820  OG1 THR A 334     -49.186 -60.308 -12.136  1.00 14.23           O
ATOM    821  CG2 THR A 334     -48.057 -62.226 -11.112  1.00 15.10           C
ATOM    822  C   THR A 334     -49.328 -60.413  -9.053  1.00 12.35           C
ATOM    823  O   THR A 334     -49.129 -60.640  -7.848  1.00 15.14           O
ATOM    824  N   THR A 335     -50.534 -60.535  -9.621  1.00 12.76           N
ATOM    825  CA  THR A 335     -51.662 -61.054  -8.867  1.00 13.14           C
ATOM    826  CB  THR A 335     -52.692 -59.967  -8.437  1.00 14.35           C
ATOM    827  OG1 THR A 335     -53.497 -59.558  -9.575  1.00 12.57           O
ATOM    828  CG2 THR A 335     -51.994 -58.788  -7.779  1.00 15.81           C
ATOM    829  C   THR A 335     -52.364 -62.035  -9.762  1.00 11.61           C
ATOM    830  O   THR A 335     -52.243 -61.959 -10.963  1.00 13.44           O
ATOM    831  N   LYS A 336     -53.106 -62.947  -9.183  1.00 14.01           N
ATOM    832  CA  LYS A 336     -53.911 -63.897  -9.953  1.00 14.50           C
ATOM    833  CB  LYS A 336     -54.656 -64.854  -9.014  1.00 19.90           C
ATOM    834  CG  LYS A 336     -53.720 -65.873  -8.361  1.00 26.48           C
ATOM    835  CD  LYS A 336     -54.439 -66.632  -7.243  1.00 32.77           C
ATOM    836  CE  LYS A 336     -53.882 -68.024  -7.019  1.00 39.91           C
ATOM    837  NZ  LYS A 336     -54.353 -68.537  -5.695  1.00 36.31           N
ATOM    838  C   LYS A 336     -54.909 -63.230 -10.836  1.00 17.46           C
ATOM    839  O   LYS A 336     -55.318 -63.807 -11.837  1.00 13.79           O
ATOM    840  N   ASN A 337     -55.311 -62.009 -10.488  1.00 13.63           N
ATOM    841  CA  ASN A 337     -56.242 -61.259 -11.353  1.00 13.98           C
ATOM    842  CB  ASN A 337     -56.684 -59.930 -10.701  1.00 16.05           C
ATOM    843  CG  ASN A 337     -57.407 -60.156  -9.362  1.00 20.84           C
ATOM    844  OD1 ASN A 337     -57.010 -59.636  -8.335  1.00 24.54           O
ATOM    845  ND2 ASN A 337     -58.441 -60.958  -9.387  1.00 26.88           N
ATOM    846  C   ASN A 337     -55.651 -60.957 -12.703  1.00 13.05           C
ATOM    847  O   ASN A 337     -56.401 -60.739 -13.667  1.00 13.64           O
ATOM    848  N   GLU A 338     -54.323 -60.936 -12.794  1.00 11.64           N
ATOM    849  CA  GLU A 338     -53.629 -60.552 -14.110  1.00 15.66           C
ATOM    850  CB  GLU A 338     -52.310 -59.784 -13.870  1.00 13.78           C
ATOM    851  CG  GLU A 338     -52.500 -58.495 -13.043  1.00 16.21           C
ATOM    852  CD  GLU A 338     -53.585 -57.598 -13.601  1.00 14.33           C
ATOM    853  OE1 GLU A 338     -53.554 -57.273 -14.787  1.00 15.02           O
ATOM    854  OE2 GLU A 338     -54.471 -57.182 -12.835  1.00 26.40           O
ATOM    855  C   GLU A 338     -53.404 -61.709 -15.088  1.00 12.62           C
ATOM    856  O   GLU A 338     -53.037 -61.510 -16.266  1.00 13.51           O
ATOM    857  N   ILE A 339     -53.714 -62.906 -14.620  1.00 14.65           N
ATOM    858  CA  ILE A 339     -53.491 -64.117 -15.398  1.00 16.57           C
ATOM    859  CB  ILE A 339     -53.714 -65.420 -14.538  1.00 15.59           C
ATOM    860  CG1 ILE A 339     -52.624 -65.560 -13.490  1.00 19.56           C
ATOM    861  CD1 ILE A 339     -53.024 -66.465 -12.337  1.00 22.71           C
ATOM    862  CG2 ILE A 339     -53.696 -66.687 -15.429  1.00 15.60           C
ATOM    863  C   ILE A 339     -54.389 -64.105 -16.635  1.00 15.12           C
ATOM    864  O   ILE A 339     -55.655 -63.807 -16.577  1.00 11.90           O
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ATOM    865  N   PHE A 340     -53.769 -64.397 -17.786  1.00 15.90           N
ATOM    866  CA  PHE A 340     -54.581 -64.653 -18.999  1.00 14.56           C
ATOM    867  CB  PHE A 340     -54.710 -63.384 -19.879  1.00 14.02           C
ATOM    868  CG  PHE A 340     -53.483 -63.084 -20.674  1.00 13.78           C
ATOM    869  CD1 PHE A 340     -53.437 -63.369 -22.033  1.00 15.21           C
ATOM    870  CE1 PHE A 340     -52.284 -63.136 -22.770  1.00 15.91           C
ATOM    871  CZ  PHE A 340     -51.160 -62.574 -22.143  1.00 13.81           C
ATOM    872  CE2 PHE A 340     -51.196 -62.263 -20.783  1.00 13.46           C
ATOM    873  CD2 PHE A 340     -52.346 -62.506 -20.051  1.00 13.30           C
ATOM    874  C   PHE A 340     -53.995 -65.806 -19.810  1.00 20.90           C
ATOM    875  O   PHE A 340     -52.857 -66.238 -19.545  1.00 17.46           O
ATOM    876  N   SER A 341     -54.731 -66.248 -20.849  1.00 18.94           N
ATOM    877  CA  SER A 341     -54.293 -67.399 -21.636  1.00 21.94           C
ATOM    878  CB  SER A 341     -55.365 -68.482 -21.564  1.00 23.78           C
ATOM    879  OG  SER A 341     -54.825 -69.697 -21.998  1.00 38.10           O
ATOM    880  C   SER A 341     -53.938 -67.073 -23.114  1.00 20.34           C
ATOM    881  O   SER A 341     -54.829 -66.768 -23.912  1.00 16.51           O
ATOM    882  N   LEU A 342     -52.648 -67.163 -23.467  1.00 21.10           N
ATOM    883  CA  LEU A 342     -52.153 -66.752 -24.817  1.00 26.95           C
ATOM    884  CB  LEU A 342     -50.691 -66.195 -24.749  1.00 29.01           C
ATOM    885  CG  LEU A 342     -49.887 -65.440 -25.846  1.00 23.73           C
ATOM    886  CD1 LEU A 342     -49.886 -66.097 -27.202  1.00 31.08           C
ATOM    887  CD2 LEU A 342     -50.360 -63.992 -26.000  1.00 36.25           C
ATOM    888  C   LEU A 342     -52.314 -67.921 -25.814  1.00 40.02           C
ATOM    889  O   LEU A 342     -52.954 -67.757 -26.868  1.00 30.34           O
ATOM    890  N   SER A 343     -51.810 -69.117 -25.466  1.00 40.03           N
ATOM    891  CA  SER A 343     -52.131 -70.316 -26.283  1.00 58.91           C
ATOM    892  CB  SER A 343     -51.365 -71.595 -25.836  1.00 71.75           C
ATOM    893  OG  SER A 343     -51.146 -71.659 -24.432  1.00 52.52           O
ATOM    894  C   SER A 343     -53.655 -70.553 -26.438  1.00 57.13           C
ATOM    895  O   SER A 343     -54.284 -71.305 -25.691  1.00 46.48           O
ATOM    896  N   GLU A 360     -45.643 -74.374 -16.390  1.00 32.49           N
ATOM    897  CA  GLU A 360     -44.281 -73.886 -16.134  1.00 44.51           C
ATOM    898  CB  GLU A 360     -43.293 -74.490 -17.143  1.00 49.59           C
ATOM    899  CG  GLU A 360     -41.848 -73.979 -17.027  1.00 63.54           C
ATOM    900  CD  GLU A 360     -40.905 -74.941 -16.300  1.00 83.86           C
ATOM    901  OE1 GLU A 360     -40.491 -74.620 -15.158  1.00 82.15           O
ATOM    902  OE2 GLU A 360     -40.561 -76.006 -16.879  1.00 74.40           O
ATOM    903  C   GLU A 360     -44.179 -72.336 -16.160  1.00 45.72           C
ATOM    904  O   GLU A 360     -43.478 -71.744 -15.300  1.00 27.45           O
ATOM    905  N   THR A 361     -44.841 -71.714 -17.161  1.00 26.30           N
ATOM    906  CA  THR A 361     -44.734 -70.252 -17.442  1.00 23.56           C
ATOM    907  CB  THR A 361     -44.079 -69.944 -18.823  1.00 30.86           C
ATOM    908  OG1 THR A 361     -42.711 -70.375 -18.825  1.00 39.56           O
ATOM    909  CG2 THR A 361     -44.101 -68.468 -19.096  1.00 23.76           C
ATOM    910  C   THR A 361     -46.121 -69.588 -17.351  1.00 20.65           C
ATOM    911  O   THR A 361     -47.022 -69.889 -18.089  1.00 23.89           O
ATOM    912  N   LEU A 362     -46.282 -68.726 -16.385  1.00 19.26           N
ATOM    913  CA  LEU A 362     -47.532 -68.103 -16.127  1.00 17.14           C
ATOM    914  CB  LEU A 362     -47.576 -67.736 -14.619  1.00 18.46           C
ATOM    915  CG  LEU A 362     -48.853 -67.155 -14.042  1.00 25.29           C
ATOM    916  CD1 LEU A 362     -49.979 -68.162 -14.175  1.00 27.14           C
ATOM    917  CD2 LEU A 362     -48.657 -66.729 -12.582  1.00 21.45           C
ATOM    918  C   LEU A 362     -47.503 -66.834 -17.012  1.00 19.54           C
ATOM    919  O   LEU A 362     -46.512 -66.109 -17.011  1.00 19.91           O
ATOM    920  N   THR A 363     -48.573 -66.576 -17.758  1.00 16.23           N
ATOM    921  CA  THR A 363     -48.656 -65.321 -18.553  1.00 12.37           C
ATOM    922  CB  THR A 363     -49.024 -65.598 -20.021  1.00 15.86           C
ATOM    923  OG1 THR A 363     -50.262 -66.335 -20.083  1.00 16.26           O
ATOM    924  CG2 THR A 363     -47.946 -66.412 -20.692  1.00 14.26           C
ATOM    925  C   THR A 363     -49.625 -64.348 -17.890  1.00 13.81           C
ATOM    926  O   THR A 363     -50.767 -64.710 -17.544  1.00 14.48           O
ATOM    927  N   VAL A 364     -49.147 -63.136 -17.608  1.00 13.67           N
ATOM    928  CA  VAL A 364     -49.996 -62.123 -16.965  1.00 11.58           C
ATOM    929  CB  VAL A 364     -49.609 -61.876 -15.481  1.00 10.46           C
ATOM    930  CG1 VAL A 364     -49.882 -63.113 -14.620  1.00 12.05           C
ATOM    931  CG2 VAL A 364     -48.163 -61.360 -15.351  1.00  9.62           C
ATOM    932  C   VAL A 364     -49.922 -60.783 -17.745  1.00 14.58           C
ATOM    933  O   VAL A 364     -48.872 -60.454 -18.397  1.00 14.22           O
ATOM    934  N   TYR A 365     -51.018 -59.996 -17.691  1.00 14.02           N
ATOM    935  CA  TYR A 365     -51.040 -58.742 -18.430  1.00 12.36           C
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ATOM    936  CB  TYR A 365     -52.453 -58.221 -18.480  1.00 10.79           C
ATOM    937  CG  TYR A 365     -53.413 -58.936 -19.425  1.00 12.06           C
ATOM    938  CD1 TYR A 365     -53.169 -58.977 -20.809  1.00  9.91           C
ATOM    939  CE1 TYR A 365     -54.065 -59.550 -21.682  1.00 12.14           C
ATOM    940  CZ  TYR A 365     -55.217 -60.134 -21.172  1.00 14.62           C
ATOM    941  OH  TYR A 365     -56.106 -60.737 -22.053  1.00 18.44           O
ATOM    942  CE2 TYR A 365     -55.485 -60.134 -19.805  1.00 12.56           C
ATOM    943  CD2 TYR A 365     -54.571 -59.536 -18.931  1.00 11.47           C
ATOM    944  C   TYR A 365     -50.155 -57.660 -17.752  1.00 12.68           C
ATOM    945  O   TYR A 365     -49.651 -56.761 -18.401  1.00 13.36           O
ATOM    946  N   LYS A 366     -50.056 -57.718 -16.424  1.00 13.78           N
ATOM    947  CA  LYS A 366     -49.429 -56.657 -15.657  1.00 13.39           C
ATOM    948  CB  LYS A 366     -50.504 -55.745 -14.989  1.00 10.99           C
ATOM    949  CG  LYS A 366     -51.286 -54.841 -15.996  1.00 13.26           C
ATOM    950  CD  LYS A 366     -50.398 -53.644 -16.206  1.00 13.36           C
ATOM    951  CE  LYS A 366     -50.722 -52.698 -17.307  1.00 26.30           C
ATOM    952  NZ  LYS A 366     -49.661 -51.630 -17.091  1.00 18.54           N
ATOM    953  C   LYS A 366     -48.563 -57.305 -14.583  1.00 12.66           C
ATOM    954  O   LYS A 366     -48.929 -58.361 -14.024  1.00 14.23           O
ATOM    955  N   ALA A 367     -47.462 -56.629 -14.242  1.00 12.60           N
ATOM    956  CA  ALA A 367     -46.569 -57.062 -13.141  1.00 13.11           C
ATOM    957  CB  ALA A 367     -45.498 -58.052 -13.657  1.00 11.85           C
ATOM    958  C   ALA A 367     -45.922 -55.850 -12.515  1.00 11.70           C
ATOM    959  O   ALA A 367     -45.972 -54.755 -13.090  1.00 15.34           O
ATOM    960  N   SER A 368     -45.309 -56.038 -11.337  1.00 13.49           N
ATOM    961  CA  SER A 368     -44.741 -54.941 -10.599  1.00 15.33           C
ATOM    962  CB  SER A 368     -45.691 -54.568  -9.461  1.00 12.80           C
ATOM    963  OG  SER A 368     -45.979 -55.712  -8.613  1.00 14.96           O
ATOM    964  C   SER A 368     -43.394 -55.294 -10.028  1.00 17.57           C
ATOM    965  O   SER A 368     -43.087 -56.509  -9.751  1.00 12.24           O
ATOM    966  N   ASN A 369     -42.594 -54.273  -9.752  1.00 14.28           N
ATOM    967  CA  ASN A 369     -41.326 -54.509  -9.008  1.00 16.30           C
ATOM    968  CB  ASN A 369     -41.594 -55.094  -7.607  1.00 14.64           C
ATOM    969  CG  ASN A 369     -42.520 -54.205  -6.756  1.00 22.27           C
ATOM    970  OD1 ASN A 369     -43.479 -54.686  -6.138  1.00 22.99           O
ATOM    971  ND2 ASN A 369     -42.233 -52.924  -6.719  1.00 21.01           N
ATOM    972  C   ASN A 369     -40.286 -55.358  -9.735  1.00 18.98           C
ATOM    973  O   ASN A 369     -39.487 -56.083  -9.110  1.00 14.50           O
ATOM    974  N   LEU A 370     -40.273 -55.239 -11.051  1.00 16.99           N
ATOM    975  CA  LEU A 370     -39.294 -55.949 -11.869  1.00 12.55           C
ATOM    976  CB  LEU A 370     -40.006 -56.834 -12.901  1.00 10.81           C
ATOM    977  CG  LEU A 370     -40.747 -58.106 -12.387  1.00 12.87           C
ATOM    978  CD1 LEU A 370     -41.670 -58.681 -13.421  1.00 12.43           C
ATOM    979  CD2 LEU A 370     -39.766 -59.207 -11.944  1.00 12.43           C
ATOM    980  C   LEU A 370     -38.423 -54.956 -12.610  1.00 16.72           C
ATOM    981  O   LEU A 370     -38.922 -53.905 -13.052  1.00 17.43           O
ATOM    982  N   ASN A 371     -37.139 -55.304 -12.766  1.00 14.26           N
ATOM    983  CA  ASN A 371     -36.161 -54.592 -13.622  1.00 18.25           C
ATOM    984  CB  ASN A 371     -34.777 -54.482 -12.909  1.00 20.24           C
ATOM    985  CG  ASN A 371     -34.777 -53.504 -11.774  1.00 24.61           C
ATOM    986  OD1 ASN A 371     -35.582 -52.586 -11.736  1.00 27.12           O
ATOM    987  ND2 ASN A 371     -33.886 -53.711 -10.825  1.00 22.97           N
ATOM    988  C   ASN A 371     -35.906 -55.405 -14.879  1.00 17.19           C
ATOM    989  O   ASN A 371     -35.697 -56.616 -14.815  1.00 20.36           O
ATOM    990  N   LEU A 372     -35.844 -54.703 -16.003  1.00 19.89           N
ATOM    991  CA  LEU A 372     -35.594 -55.278 -17.302  1.00 22.70           C
ATOM    992  CB  LEU A 372     -36.326 -54.454 -18.371  1.00 23.01           C
ATOM    993  CG  LEU A 372     -37.851 -54.502 -18.211  1.00 28.06           C
ATOM    994  CD1 LEU A 372     -38.586 -53.484 -19.101  1.00 23.53           C
ATOM    995  CD2 LEU A 372     -38.309 -55.944 -18.422  1.00 23.50           C
ATOM    996  C   LEU A 372     -34.110 -55.228 -17.531  1.00 24.23           C
ATOM    997  O   LEU A 372     -33.490 -54.191 -17.322  1.00 23.34           O
ATOM    998  N   ILE A 373     -33.536 -56.368 -17.912  1.00 23.65           N
ATOM    999  CA  ILE A 373     -32.117 -56.473 -18.189  1.00 25.47           C
ATOM   1000  CB  ILE A 373     -31.475 -57.717 -17.493  1.00 25.23           C
ATOM   1001  CG1 ILE A 373     -31.792 -57.742 -15.991  1.00 27.87           C
ATOM   1002  CD1 ILE A 373     -31.115 -56.644 -15.192  1.00 30.17           C
ATOM   1003  CG2 ILE A 373     -29.964 -57.798 -17.774  1.00 20.63           C
ATOM   1004  C   ILE A 373     -31.927 -56.631 -19.694  1.00 30.64           C
ATOM   1005  O   ILE A 373     -32.381 -57.622 -20.281  1.00 25.80           O
ATOM   1006  N   GLY A 374     -31.241 -55.667 -20.310  1.00 40.08           N
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ATOM   1007  CA  GLY A 374     -30.862 -55.750 -21.727  1.00 29.77           C
ATOM   1008  C   GLY A 374     -31.978 -55.364 -22.671  1.00 33.77           C
ATOM   1009  O   GLY A 374     -32.931 -54.638 -22.288  1.00 30.25           O
ATOM   1010  N   ARG A 375     -31.869 -55.871 -23.904  1.00 31.87           N
ATOM   1011  CA  ARG A 375     -32.721 -55.456 -25.024  1.00 35.43           C
ATOM   1012  CB  ARG A 375     -31.873 -54.887 -26.186  1.00 40.72           C
ATOM   1013  CG  ARG A 375     -30.503 -54.349 -25.778  1.00 49.60           C
ATOM   1014  CD  ARG A 375     -29.985 -53.249 -26.710  1.00 56.13           C
ATOM   1015  NE  ARG A 375     -30.302 -53.452 -28.130  1.00 56.53           N
ATOM   1016  CZ  ARG A 375     -29.766 -54.398 -28.908  1.00 66.94           C
ATOM   1017  NH1 ARG A 375     -28.890 -55.272 -28.412  1.00 57.97           N
ATOM   1018  NH2 ARG A 375     -30.125 -54.484 -30.186  1.00 65.01           N
ATOM   1019  C   ARG A 375     -33.524 -56.651 -25.509  1.00 22.72           C
ATOM   1020  O   ARG A 375     -33.083 -57.789 -25.381  1.00 23.47           O
ATOM   1021  N   PRO A 376     -34.712 -56.404 -26.055  1.00 27.17           N
ATOM   1022  CA  PRO A 376     -35.521 -57.566 -26.460  1.00 23.38           C
ATOM   1023  CB  PRO A 376     -36.763 -56.924 -27.084  1.00 26.07           C
ATOM   1024  CG  PRO A 376     -36.740 -55.460 -26.661  1.00 25.82           C
ATOM   1025  CD  PRO A 376     -35.290 -55.127 -26.523  1.00 24.80           C
ATOM   1026  C   PRO A 376     -34.791 -58.473 -27.499  1.00 26.42           C
ATOM   1027  O   PRO A 376     -34.043 -57.976 -28.335  1.00 23.49           O
ATOM   1028  N   SER A 377     -35.023 -59.781 -27.440  1.00 20.17           N
ATOM   1029  CA  SER A 377     -34.551 -60.701 -28.500  1.00 16.85           C
ATOM   1030  CB  SER A 377     -33.404 -61.574 -27.980  1.00 16.67           C
ATOM   1031  OG  SER A 377     -33.128 -62.581 -28.919  1.00 19.77           O
ATOM   1032  C   SER A 377     -35.707 -61.620 -28.924  1.00 19.59           C
ATOM   1033  O   SER A 377     -36.581 -61.943 -28.110  1.00 18.18           O
ATOM   1034  N   THR A 378     -35.698 -62.072 -30.167  1.00 15.70           N
ATOM   1035  CA  THR A 378     -36.683 -63.049 -30.614  1.00 15.97           C
ATOM   1036  CB  THR A 378     -37.269 -62.661 -31.965  1.00 14.40           C
ATOM   1037  OG1 THR A 378     -36.208 -62.595 -32.909  1.00 13.75           O
ATOM   1038  CG2 THR A 378     -37.942 -61.270 -31.897  1.00 12.82           C
ATOM   1039  C   THR A 378     -36.053 -64.472 -30.708  1.00 14.84           C
ATOM   1040  O   THR A 378     -36.718 -65.416 -31.076  1.00 15.16           O
ATOM   1041  N   VAL A 379     -34.799 -64.618 -30.305  1.00 18.35           N
ATOM   1042  CA  VAL A 379     -34.134 -65.921 -30.365  1.00 18.94           C
ATOM   1043  CB  VAL A 379     -32.648 -65.844 -29.923  1.00 24.44           C
ATOM   1044  CG1 VAL A 379     -31.998 -67.211 -30.040  1.00 24.06           C
ATOM   1045  CG2 VAL A 379     -31.874 -64.822 -30.753  1.00 26.63           C
ATOM   1046  C   VAL A 379     -34.871 -66.938 -29.470  1.00 16.61           C
ATOM   1047  O   VAL A 379     -35.082 -66.681 -28.274  1.00 13.91           O
ATOM   1048  N   HIS A 380     -35.278 -68.062 -30.067  1.00 12.50           N
ATOM   1049  CA  HIS A 380     -35.976 -69.131 -29.354  1.00 16.25           C
ATOM   1050  CB  HIS A 380     -35.040 -69.790 -28.313  1.00 16.87           C
ATOM   1051  CG  HIS A 380     -33.830 -70.429 -28.923  1.00 16.97           C
ATOM   1052  ND1 HIS A 380     -33.915 -71.281 -29.960  1.00 18.68           N
ATOM   1053  CE1 HIS A 380     -32.664 -71.662 -30.319  1.00 15.19           C
ATOM   1054  NE2 HIS A 380     -31.796 -71.063 -29.497  1.00 13.72           N
ATOM   1055  CD2 HIS A 380     -32.472 -70.288 -28.632  1.00 15.25           C
ATOM   1056  C   HIS A 380     -37.230 -68.686 -28.654  1.00 14.99           C
ATOM   1057  O   HIS A 380     -37.635 -69.304 -27.656  1.00 14.35           O
ATOM   1058  N   SER A 381     -37.879 -67.626 -29.147  1.00 17.91           N
ATOM   1059  CA  SER A 381     -39.014 -67.082 -28.390  1.00 16.58           C
ATOM   1060  CB  SER A 381     -39.629 -65.870 -29.088  1.00 15.40           C
ATOM   1061  OG  SER A 381     -40.754 -65.415 -28.287  1.00 15.19           O
ATOM   1062  C   SER A 381     -40.105 -68.158 -28.237  1.00 19.84           C
ATOM   1063  O   SER A 381     -40.519 -68.779 -29.231  1.00 18.86           O
ATOM   1064  N   TRP A 382     -40.582 -68.372 -27.014  1.00 14.81           N
ATOM   1065  CA  TRP A 382     -41.701 -69.323 -26.781  1.00 15.49           C
ATOM   1066  CB  TRP A 382     -41.851 -69.648 -25.293  1.00 14.77           C
ATOM   1067  CG  TRP A 382     -40.588 -70.187 -24.692  1.00 14.91           C
ATOM   1068  CD1 TRP A 382     -39.669 -71.066 -25.293  1.00 18.26           C
ATOM   1069  NE1 TRP A 382     -38.594 -71.319 -24.439  1.00 12.13           N
ATOM   1070  CE2 TRP A 382     -38.762 -70.665 -23.270  1.00 17.46           C
ATOM   1071  CD2 TRP A 382     -40.036 -69.915 -23.358  1.00 14.44           C
ATOM   1072  CE3 TRP A 382     -40.423 -69.134 -22.288  1.00 14.70           C
ATOM   1073  CZ3 TRP A 382     -39.606 -69.119 -21.135  1.00 13.89           C
ATOM   1074  CH2 TRP A 382     -38.414 -69.852 -21.063  1.00 20.20           C
ATOM   1075  CZ2 TRP A 382     -37.976 -70.649 -22.131  1.00 19.45           C
ATOM   1076  C   TRP A 382     -42.999 -68.836 -27.308  1.00 18.88           C
ATOM   1077  O   TRP A 382     -43.952 -69.597 -27.394  1.00 18.02           O
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ATOM   1078  N   PHE A 383     -43.070 -67.553 -27.663  1.00 16.56           N
ATOM   1079  CA  PHE A 383     -44.327 -66.979 -28.167  1.00 19.34           C
ATOM   1080  CB  PHE A 383     -44.910 -65.992 -27.108  1.00 17.83           C
ATOM   1081  CG  PHE A 383     -45.151 -66.647 -25.789  1.00 18.66           C
ATOM   1082  CD1 PHE A 383     -46.258 -67.476 -25.602  1.00 20.02           C
ATOM   1083  CE1 PHE A 383     -46.478 -68.076 -24.364  1.00 20.48           C
ATOM   1084  CZ  PHE A 383     -45.582 -67.883 -23.330  1.00 17.66           C
ATOM   1085  CE2 PHE A 383     -44.471 -67.081 -23.520  1.00 19.65           C
ATOM   1086  CD2 PHE A 383     -44.261 -66.464 -24.729  1.00 16.13           C
ATOM   1087  C   PHE A 383     -44.127 -66.331 -29.521  1.00 18.27           C
ATOM   1088  O   PHE A 383     -43.732 -65.158 -29.603  1.00 16.82           O
ATOM   1089  N   PRO A 384     -44.372 -67.091 -30.607  1.00 18.52           N
ATOM   1090  CA  PRO A 384     -44.084 -66.500 -31.928  1.00 19.97           C
ATOM   1091  CB  PRO A 384     -44.671 -67.532 -32.916  1.00 24.72           C
ATOM   1092  CG  PRO A 384     -44.550 -68.839 -32.179  1.00 26.06           C
ATOM   1093  CD  PRO A 384     -44.801 -68.505 -30.712  1.00 23.38           C
ATOM   1094  C   PRO A 384     -44.703 -65.138 -32.118  1.00 19.26           C
ATOM   1095  O   PRO A 384     -45.880 -64.904 -31.764  1.00 21.43           O
ATOM   1096  N   GLY A 385     -43.915 -64.199 -32.611  1.00 17.34           N
ATOM   1097  CA  GLY A 385     -44.446 -62.856 -32.775  1.00 16.74           C
ATOM   1098  C   GLY A 385     -44.047 -61.926 -31.651  1.00 17.50           C
ATOM   1099  O   GLY A 385     -44.235 -60.711 -31.760  1.00 20.19           O
ATOM   1100  N   TYR A 386     -43.470 -62.468 -30.582  1.00 14.44           N
ATOM   1101  CA  TYR A 386     -43.026 -61.630 -29.453  1.00 17.66           C
ATOM   1102  CB  TYR A 386     -43.762 -62.008 -28.135  1.00 14.77           C
ATOM   1103  CG  TYR A 386     -45.239 -61.680 -28.080  1.00 13.34           C
ATOM   1104  CD1 TYR A 386     -45.678 -60.448 -27.549  1.00 16.21           C
ATOM   1105  CE1 TYR A 386     -47.035 -60.132 -27.482  1.00 14.94           C
ATOM   1106  CZ  TYR A 386     -47.966 -61.076 -27.932  1.00 12.65           C
ATOM   1107  OH  TYR A 386     -49.285 -60.725 -27.892  1.00 17.80           O
ATOM   1108  CE2 TYR A 386     -47.569 -62.287 -28.491  1.00 15.41           C
ATOM   1109  CD2 TYR A 386     -46.207 -62.614 -28.517  1.00 14.24           C
ATOM   1110  C   TYR A 386     -41.520 -61.776 -29.219  1.00 17.85           C
ATOM   1111  O   TYR A 386     -40.938 -62.851 -29.484  1.00 13.88           O
ATOM   1112  N   ALA A 387     -40.911 -60.716 -28.692  1.00 14.42           N
ATOM   1113  CA  ALA A 387     -39.511 -60.732 -28.316  1.00 15.38           C
ATOM   1114  CB  ALA A 387     -38.811 -59.468 -28.835  1.00 16.52           C
ATOM   1115  C   ALA A 387     -39.497 -60.766 -26.774  1.00 16.71           C
ATOM   1116  O   ALA A 387     -40.475 -60.395 -26.152  1.00 17.57           O
ATOM   1117  N   TRP A 388     -38.401 -61.225 -26.165  1.00 18.28           N
ATOM   1118  CA  TRP A 388     -38.337 -61.362 -24.689  1.00 17.97           C
ATOM   1119  CB  TRP A 388     -38.132 -62.833 -24.265  1.00 15.76           C
ATOM   1120  CG  TRP A 388     -36.982 -63.504 -24.964  1.00 15.78           C
ATOM   1121  CD1 TRP A 388     -37.037 -64.300 -26.119  1.00 14.89           C
ATOM   1122  NE1 TRP A 388     -35.756 -64.772 -26.447  1.00 15.14           N
ATOM   1123  CE2 TRP A 388     -34.844 -64.310 -25.558  1.00 15.16           C
ATOM   1124  CD2 TRP A 388     -35.572 -63.497 -24.563  1.00 14.26           C
ATOM   1125  CE3 TRP A 388     -34.855 -62.911 -23.521  1.00 19.41           C
ATOM   1126  CZ3 TRP A 388     -33.461 -63.131 -23.444  1.00 17.01           C
ATOM   1127  CH2 TRP A 388     -32.786 -63.917 -24.404  1.00 17.22           C
ATOM   1128  CZ2 TRP A 388     -33.464 -64.509 -25.483  1.00 18.47           C
ATOM   1129  C   TRP A 388     -37.236 -60.505 -24.145  1.00 18.56           C
ATOM   1130  O   TRP A 388     -36.283 -60.232 -24.835  1.00 21.53           O
ATOM   1131  N   THR A 389     -37.418 -60.005 -22.922  1.00 19.67           N
ATOM   1132  CA  THR A 389     -36.392 -59.249 -22.210  1.00 17.49           C
ATOM   1133  CB  THR A 389     -36.783 -57.783 -22.113  1.00 17.05           C
ATOM   1134  OG1 THR A 389     -37.002 -57.255 -23.435  1.00 22.08           O
ATOM   1135  CG2 THR A 389     -35.727 -56.992 -21.409  1.00 20.15           C
ATOM   1136  C   THR A 389     -36.389 -59.844 -20.802  1.00 19.83           C
ATOM   1137  O   THR A 389     -37.456 -60.041 -20.208  1.00 18.79           O
ATOM   1138  N   ILE A 390     -35.208 -60.205 -20.298  1.00 19.22           N
ATOM   1139  CA  ILE A 390     -35.083 -60.760 -18.962  1.00 17.37           C
ATOM   1140  CB  ILE A 390     -33.593 -61.143 -18.664  1.00 19.28           C
ATOM   1141  CG1 ILE A 390     -33.228 -62.410 -19.480  1.00 18.85           C
ATOM   1142  CD1 ILE A 390     -31.828 -62.958 -19.263  1.00 23.45           C
ATOM   1143  CG2 ILE A 390     -33.354 -61.349 -17.174  1.00 14.98           C
ATOM   1144  C   ILE A 390     -35.650 -59.790 -17.945  1.00 13.73           C
ATOM   1145  O   ILE A 390     -35.416 -58.597 -18.031  1.00 14.66           O
ATOM   1146  N   ALA A 391     -36.414 -60.321 -16.997  1.00 15.70           N
ATOM   1147  CA  ALA A 391     -37.033 -59.535 -15.917  1.00 18.19           C
ATOM   1148  CB  ALA A 391     -38.555 -59.566 -16.009  1.00 15.92           C
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ATOM   1149  C   ALA A 391     -36.629 -60.101 -14.575  1.00 17.96           C
ATOM   1150  O   ALA A 391     -36.987 -61.248 -14.243  1.00 15.71           O
ATOM   1151  N   GLN A 392     -36.005 -59.260 -13.758  1.00 14.21           N
ATOM   1152  CA  GLN A 392     -35.609 -59.713 -12.440  1.00 16.77           C
ATOM   1153  CB  GLN A 392     -34.078 -59.727 -12.343  1.00 19.87           C
ATOM   1154  CG  GLN A 392     -33.447 -58.344 -12.426  1.00 19.94           C
ATOM   1155  CD  GLN A 392     -31.910 -58.414 -12.400  1.00 26.36           C
ATOM   1156  OE1 GLN A 392     -31.299 -59.308 -12.998  1.00 19.49           O
ATOM   1157  NE2 GLN A 392     -31.297 -57.483 -11.705  1.00 24.80           N
ATOM   1158  C   GLN A 392     -36.235 -58.883 -11.316  1.00 16.98           C
ATOM   1159  O   GLN A 392     -36.581 -57.674 -11.499  1.00 16.93           O
ATOM   1160  N   CYS A 393     -36.411 -59.508 -10.158  1.00 13.99           N
ATOM   1161  CA  CYS A 393     -37.019 -58.802  -9.012  1.00 14.50           C
ATOM   1162  CB  CYS A 393     -37.076 -59.758  -7.808  1.00 13.21           C
ATOM   1163  SG  CYS A 393     -37.495 -58.995  -6.243  1.00 12.92           S
ATOM   1164  C   CYS A 393     -36.135 -57.580  -8.690  1.00 15.38           C
ATOM   1165  O   CYS A 393     -34.908 -57.687  -8.625  1.00 16.45           O
ATOM   1166  N   LYS A 394     -36.748 -56.411  -8.504  1.00 15.64           N
ATOM   1167  CA  LYS A 394     -35.959 -55.216  -8.263  1.00 19.52           C
ATOM   1168  CB  LYS A 394     -36.811 -53.942  -8.432  1.00 20.04           C
ATOM   1169  CG  LYS A 394     -37.774 -53.659  -7.306  1.00 29.57           C
ATOM   1170  CD  LYS A 394     -38.365 -52.237  -7.449  1.00 41.91           C
ATOM   1171  CE  LYS A 394     -38.830 -51.660  -6.107  1.00 45.12           C
ATOM   1172  NZ  LYS A 394     -40.309 -51.715  -5.894  1.00 38.32           N
ATOM   1173  C   LYS A 394     -35.304 -55.244  -6.856  1.00 17.29           C
ATOM   1174  O   LYS A 394     -34.442 -54.420  -6.569  1.00 14.97           O
ATOM   1175  N   ILE A 395     -35.765 -56.150  -5.980  1.00 13.67           N
ATOM   1176  CA  ILE A 395     -35.288 -56.175  -4.602  1.00 14.65           C
ATOM   1177  CB  ILE A 395     -36.443 -56.463  -3.602  1.00 14.46           C
ATOM   1178  CG1 ILE A 395     -37.460 -55.282  -3.603  1.00 14.67           C
ATOM   1179  CD1 ILE A 395     -36.916 -54.025  -2.915  1.00 23.87           C
ATOM   1180  CG2 ILE A 395     -35.887 -56.718  -2.183  1.00 19.10           C
ATOM   1181  C   ILE A 395     -34.111 -57.137  -4.409  1.00 19.30           C
ATOM   1182  O   ILE A 395     -33.122 -56.774  -3.760  1.00 20.69           O
ATOM   1183  N   CYS A 396     -34.198 -58.343  -4.987  1.00 14.04           N
ATOM   1184  CA  CYS A 396     -33.184 -59.342  -4.762  1.00 13.83           C
ATOM   1185  CB  CYS A 396     -33.764 -60.481  -3.933  1.00 14.67           C
ATOM   1186  SG  CYS A 396     -34.794 -61.550  -4.945  1.00 14.64           S
ATOM   1187  C   CYS A 396     -32.530 -59.830  -6.058  1.00 14.71           C
ATOM   1188  O   CYS A 396     -31.572 -60.584  -6.018  1.00 15.61           O
ATOM   1189  N   ALA A 397     -33.024 -59.336  -7.196  1.00 13.70           N
ATOM   1190  CA  ALA A 397     -32.498 -59.667  -8.532  1.00 12.82           C
ATOM   1191  CB  ALA A 397     -31.031 -59.243  -8.692  1.00 15.74           C
ATOM   1192  C   ALA A 397     -32.715 -61.136  -8.965  1.00 13.16           C
ATOM   1193  O   ALA A 397     -32.079 -61.614  -9.929  1.00 13.19           O
ATOM   1194  N   SER A 398     -33.594 -61.842  -8.271  1.00 12.64           N
ATOM   1195  CA  SER A 398     -33.997 -63.185  -8.715  1.00 16.04           C
ATOM   1196  CB  SER A 398     -35.083 -63.743  -7.758  1.00 17.35           C
ATOM   1197  OG  SER A 398     -35.610 -64.966  -8.243  1.00 18.64           O
ATOM   1198  C   SER A 398     -34.555 -63.098 -10.161  1.00 17.37           C
ATOM   1199  O   SER A 398     -35.362 -62.204 -10.479  1.00 13.68           O
ATOM   1200  N   HIS A 399     -34.158 -64.024 -11.033  1.00 18.11           N
ATOM   1201  CA  HIS A 399     -34.697 -64.049 -12.405  1.00 25.35           C
ATOM   1202  CB  HIS A 399     -33.760 -64.829 -13.353  1.00 32.41           C
ATOM   1203  CG  HIS A 399     -32.486 -64.075 -13.718  1.00 40.12           C
ATOM   1204  ND1 HIS A 399     -31.730 -63.421 -12.799  1.00 49.50           N
ATOM   1205  CE1 HIS A 399     -30.681 -62.830 -13.418  1.00 57.52           C
ATOM   1206  NE2 HIS A 399     -30.762 -63.103 -14.734  1.00 51.93           N
ATOM   1207  CD2 HIS A 399     -31.856 -63.875 -14.954  1.00 46.42           C
ATOM   1208  C   HIS A 399     -36.095 -64.630 -12.367  1.00 21.09           C
ATOM   1209  O   HIS A 399     -36.264 -65.808 -12.223  1.00 21.71           O
ATOM   1210  N   ILE A 400     -37.120 -63.793 -12.470  1.00 18.37           N
ATOM   1211  CA  ILE A 400     -38.482 -64.281 -12.251  1.00 16.01           C
ATOM   1212  CB  ILE A 400     -39.415 -63.176 -11.680  1.00 17.40           C
ATOM   1213  CG1 ILE A 400     -38.760 -62.526 -10.474  1.00 18.29           C
ATOM   1214  CD1 ILE A 400     -38.686 -63.436  -9.288  1.00 18.42           C
ATOM   1215  CG2 ILE A 400     -40.862 -63.726 -11.418  1.00 11.98           C
ATOM   1216  C   ILE A 400     -39.066 -64.762 -13.589  1.00 17.64           C
ATOM   1217  O   ILE A 400     -39.883 -65.705 -13.599  1.00 14.38           O
ATOM   1218  N   GLY A 401     -38.680 -64.078 -14.681  1.00 13.14           N
ATOM   1219  CA  GLY A 401     -39.159 -64.407 -16.055  1.00 12.65           C
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ATOM   1220  C   GLY A 401     -38.731 -63.382 -17.091  1.00 14.46           C
ATOM   1221  O   GLY A 401     -37.570 -62.915 -17.107  1.00 14.36           O
ATOM   1222  N   TRP A 402     -39.669 -63.021 -17.964  1.00 12.19           N
ATOM   1223  CA  TRP A 402     -39.391 -62.188 -19.134  1.00 18.04           C
ATOM   1224  CB  TRP A 402     -39.149 -63.081 -20.384  1.00 14.45           C
ATOM   1225  CG  TRP A 402     -38.043 -64.080 -20.144  1.00 14.71           C
ATOM   1226  CD1 TRP A 402     -36.705 -63.937 -20.460  1.00 16.61           C
ATOM   1227  NE1 TRP A 402     -35.991 -65.033 -20.047  1.00 15.86           N
ATOM   1228  CE2 TRP A 402     -36.802 -65.933 -19.444  1.00 16.72           C
ATOM   1229  CD2 TRP A 402     -38.144 -65.387 -19.478  1.00 16.48           C
ATOM   1230  CE3 TRP A 402     -39.195 -66.127 -18.910  1.00 18.92           C
ATOM   1231  CZ3 TRP A 402     -38.899 -67.370 -18.330  1.00 19.68           C
ATOM   1232  CH2 TRP A 402     -37.589 -67.886 -18.324  1.00 20.14           C
ATOM   1233  CZ2 TRP A 402     -36.519 -67.177 -18.882  1.00 20.08           C
ATOM   1234  C   TRP A 402     -40.562 -61.283 -19.403  1.00 14.88           C
ATOM   1235  O   TRP A 402     -41.718 -61.644 -19.136  1.00 17.92           O
ATOM   1236  N   LYS A 403     -40.266 -60.095 -19.904  1.00 14.10           N
ATOM   1237  CA  LYS A 403     -41.273 -59.239 -20.523  1.00 16.30           C
ATOM   1238  CB  LYS A 403     -40.853 -57.786 -20.400  1.00 17.15           C
ATOM   1239  CG  LYS A 403     -41.971 -56.782 -20.679  1.00 18.91           C
ATOM   1240  CD  LYS A 403     -41.451 -55.357 -20.842  1.00 25.96           C
ATOM   1241  CE  LYS A 403     -42.623 -54.372 -20.750  1.00 30.89           C
ATOM   1242  NZ  LYS A 403     -42.109 -52.984 -20.720  1.00 28.14           N
ATOM   1243  C   LYS A 403     -41.318 -59.646 -21.999  1.00 16.99           C
ATOM   1244  O   LYS A 403     -40.270 -59.725 -22.637  1.00 17.42           O
ATOM   1245  N   PHE A 404     -42.515 -59.932 -22.516  1.00 14.00           N
ATOM   1246  CA  PHE A 404     -42.711 -60.267 -23.910  1.00 13.50           C
ATOM   1247  CB  PHE A 404     -43.584 -61.535 -24.087  1.00 13.33           C
ATOM   1248  CG  PHE A 404     -42.843 -62.812 -23.809  1.00 12.31           C
ATOM   1249  CD1 PHE A 404     -42.048 -63.415 -24.810  1.00 14.09           C
ATOM   1250  CE1 PHE A 404     -41.308 -64.598 -24.524  1.00 16.37           C
ATOM   1251  CZ  PHE A 404     -41.342 -65.165 -23.239  1.00 15.21           C
ATOM   1252  CE2 PHE A 404     -42.092 -64.554 -22.223  1.00 12.03           C
ATOM   1253  CD2 PHE A 404     -42.842 -63.383 -22.498  1.00 12.03           C
ATOM   1254  C   PHE A 404     -43.332 -59.082 -24.623  1.00 16.14           C
ATOM   1255  O   PHE A 404     -44.305 -58.534 -24.150  1.00 16.05           O
ATOM   1256  N   THR A 405     -42.707 -58.640 -25.715  1.00 15.96           N
ATOM   1257  CA  THR A 405     -43.198 -57.466 -26.454  1.00 16.34           C
ATOM   1258  CB  THR A 405     -42.172 -56.330 -26.432  1.00 19.77           C
ATOM   1259  OG1 THR A 405     -40.869 -56.883 -26.644  1.00 22.44           O
ATOM   1260  CG2 THR A 405     -42.181 -55.642 -25.059  1.00 24.07           C
ATOM   1261  C   THR A 405     -43.479 -57.867 -27.910  1.00 19.59           C
ATOM   1262  O   THR A 405     -42.666 -58.542 -28.546  1.00 18.75           O
ATOM   1263  N   ALA A 406     -44.646 -57.470 -28.411  1.00 17.50           N
ATOM   1264  CA  ALA A 406     -45.119 -57.836 -29.734  1.00 17.88           C
ATOM   1265  CB  ALA A 406     -46.565 -57.353 -29.919  1.00 15.89           C
ATOM   1266  C   ALA A 406     -44.229 -57.181 -30.784  1.00 19.22           C
ATOM   1267  O   ALA A 406     -43.913 -56.035 -30.644  1.00 16.64           O
ATOM   1268  N   THR A 407     -43.816 -57.924 -31.821  1.00 18.73           N
ATOM   1269  CA  THR A 407     -43.056 -57.321 -32.919  1.00 18.40           C
ATOM   1270  CB  THR A 407     -42.168 -58.351 -33.638  1.00 22.40           C
ATOM   1271  OG1 THR A 407     -42.999 -59.417 -34.108  1.00 22.23           O
ATOM   1272  CG2 THR A 407     -41.142 -58.893 -32.723  1.00 17.33           C
ATOM   1273  C   THR A 407     -43.937 -56.634 -33.984  1.00 25.13           C
ATOM   1274  O   THR A 407     -43.425 -55.847 -34.781  1.00 27.79           O
ATOM   1275  N   LYS A 408     -45.237 -56.956 -34.027  1.00 23.64           N
ATOM   1276  CA  LYS A 408     -46.195 -56.289 -34.937  1.00 27.76           C
ATOM   1277  CB  LYS A 408     -46.800 -57.289 -35.941  1.00 32.50           C
ATOM   1278  CG  LYS A 408     -45.810 -57.843 -36.965  1.00 39.28           C
ATOM   1279  CD  LYS A 408     -46.185 -59.248 -37.414  1.00 52.03           C
ATOM   1280  CE  LYS A 408     -46.850 -59.275 -38.784  1.00 49.43           C
ATOM   1281  NZ  LYS A 408     -48.242 -58.743 -38.745  1.00 53.48           N
ATOM   1282  C   LYS A 408     -47.322 -55.557 -34.183  1.00 28.58           C
ATOM   1283  O   LYS A 408     -47.872 -56.063 -33.179  1.00 20.88           O
ATOM   1284  N   LYS A 409     -47.708 -54.397 -34.708  1.00 21.40           N
ATOM   1285  CA  LYS A 409     -48.651 -53.535 -34.028  1.00 24.82           C
ATOM   1286  CB  LYS A 409     -48.628 -52.139 -34.646  1.00 29.84           C
ATOM   1287  CG  LYS A 409     -47.344 -51.364 -34.352  1.00 46.09           C
ATOM   1288  CD  LYS A 409     -47.648 -49.919 -33.965  1.00 48.46           C
ATOM   1289  CE  LYS A 409     -46.821 -48.926 -34.776  1.00 62.40           C
ATOM   1290  NZ  LYS A 409     -45.356 -49.065 -34.529  1.00 68.67           N
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ATOM   1291  C   LYS A 409     -50.083 -54.085 -34.001  1.00 20.47           C
ATOM   1292  O   LYS A 409     -50.878 -53.670 -33.175  1.00 22.28           O
ATOM   1293  N   ASP A 410     -50.408 -55.024 -34.883  1.00 19.43           N
ATOM   1294  CA  ASP A 410     -51.781 -55.566 -34.924  1.00 25.03           C
ATOM   1295  CB  ASP A 410     -52.167 -56.011 -36.349  1.00 27.05           C
ATOM   1296  CG  ASP A 410     -51.265 -57.127 -36.894  1.00 37.79           C
ATOM   1297  OD1 ASP A 410     -50.301 -57.535 -36.218  1.00 53.46           O
ATOM   1298  OD2 ASP A 410     -51.524 -57.607 -38.006  1.00 42.24           O
ATOM   1299  C   ASP A 410     -52.043 -56.700 -33.917  1.00 21.12           C
ATOM   1300  O   ASP A 410     -53.138 -57.263 -33.873  1.00 25.62           O
ATOM   1301  N   MET A 411     -51.034 -57.055 -33.127  1.00 21.32           N
ATOM   1302  CA  MET A 411     -51.183 -58.116 -32.116  1.00 23.21           C
ATOM   1303  CB  MET A 411     -49.822 -58.747 -31.851  1.00 18.74           C
ATOM   1304  CG  MET A 411     -49.227 -59.295 -33.124  1.00 23.21           C
ATOM   1305  SD  MET A 411     -47.764 -60.215 -32.684  1.00 27.39           S
ATOM   1306  CE  MET A 411     -46.446 -59.149 -33.164  1.00 23.85           C
ATOM   1307  C   MET A 411     -51.784 -57.607 -30.794  1.00 19.87           C
ATOM   1308  O   MET A 411     -51.713 -56.403 -30.486  1.00 20.22           O
ATOM   1309  N   SER A 412     -52.405 -58.502 -30.024  1.00 16.83           N
ATOM   1310  CA  SER A 412     -52.854 -58.127 -28.666  1.00 19.04           C
ATOM   1311  CB  SER A 412     -54.354 -57.793 -28.612  1.00 19.35           C
ATOM   1312  OG  SER A 412     -55.128 -58.890 -29.067  1.00 19.95           O
ATOM   1313  C   SER A 412     -52.459 -59.266 -27.731  1.00 16.67           C
ATOM   1314  O   SER A 412     -52.666 -60.437 -28.130  1.00 17.24           O
ATOM   1315  N   PRO A 413     -52.336 -58.953 -26.424  1.00 13.18           N
ATOM   1316  CA  PRO A 413     -51.617 -57.729 -25.960  1.00 15.23           C
ATOM   1317  CB  PRO A 413     -51.320 -58.032 -24.481  1.00 14.93           C
ATOM   1318  CG  PRO A 413     -51.089 -59.522 -24.453  1.00 13.07           C
ATOM   1319  CD  PRO A 413     -51.910 -60.138 -25.605  1.00 11.36           C
ATOM   1320  C   PRO A 413     -50.349 -57.333 -26.702  1.00 14.82           C
ATOM   1321  O   PRO A 413     -49.639 -58.188 -27.174  1.00 16.68           O
ATOM   1322  N   GLN A 414     -50.052 -56.032 -26.746  1.00 13.59           N
ATOM   1323  CA  GLN A 414     -48.750 -55.555 -27.217  1.00 17.30           C
ATOM   1324  CB  GLN A 414     -48.769 -54.031 -27.440  1.00 20.46           C
ATOM   1325  CG  GLN A 414     -49.522 -53.599 -28.720  1.00 15.19           C
ATOM   1326  CD  GLN A 414     -48.791 -54.074 -29.979  1.00 17.58           C
ATOM   1327  OE1 GLN A 414     -49.239 -54.981 -30.703  1.00 20.26           O
ATOM   1328  NE2 GLN A 414     -47.647 -53.508 -30.202  1.00 16.26           N
ATOM   1329  C   GLN A 414     -47.576 -55.972 -26.311  1.00 16.74           C
ATOM   1330  O   GLN A 414     -46.423 -56.091 -26.764  1.00 18.40           O
ATOM   1331  N   LYS A 415     -47.859 -56.197 -25.027  1.00 18.31           N
ATOM   1332  CA  LYS A 415     -46.860 -56.743 -24.130  1.00 18.39           C
ATOM   1333  CB  LYS A 415     -45.905 -55.635 -23.559  1.00 22.73           C
ATOM   1334  CG  LYS A 415     -46.502 -54.706 -22.523  1.00 19.40           C
ATOM   1335  CD  LYS A 415     -46.352 -55.249 -21.077  1.00 26.70           C
ATOM   1336  CE  LYS A 415     -47.327 -54.495 -20.148  1.00 22.76           C
ATOM   1337  NZ  LYS A 415     -47.747 -53.243 -20.781  1.00 23.26           N
ATOM   1338  C   LYS A 415     -47.537 -57.573 -23.034  1.00 13.21           C
ATOM   1339  O   LYS A 415     -48.729 -57.408 -22.755  1.00 10.23           O
ATOM   1340  N   PHE A 416     -46.799 -58.523 -22.505  1.00 11.61           N
ATOM   1341  CA  PHE A 416     -47.244 -59.267 -21.333  1.00 12.74           C
ATOM   1342  CB  PHE A 416     -48.214 -60.453 -21.671  1.00 12.29           C
ATOM   1343  CG  PHE A 416     -47.590 -61.535 -22.534  1.00 14.03           C
ATOM   1344  CD1 PHE A 416     -47.044 -62.683 -21.963  1.00 11.00           C
ATOM   1345  CE1 PHE A 416     -46.453 -63.677 -22.750  1.00 13.79           C
ATOM   1346  CZ  PHE A 416     -46.358 -63.526 -24.128  1.00 16.73           C
ATOM   1347  CE2 PHE A 416     -46.881 -62.388 -24.729  1.00 15.15           C
ATOM   1348  CD2 PHE A 416     -47.506 -61.379 -23.930  1.00 14.19           C
ATOM   1349  C   PHE A 416     -45.969 -59.755 -20.607  1.00 14.10           C
ATOM   1350  O   PHE A 416     -44.851 -59.455 -21.025  1.00 14.39           O
ATOM   1351  N   TRP A 417     -46.166 -60.372 -19.450  1.00 14.54           N
ATOM   1352  CA  TRP A 417     -45.080 -60.976 -18.707  1.00 14.28           C
ATOM   1353  CB  TRP A 417     -45.028 -60.431 -17.261  1.00 14.42           C
ATOM   1354  CG  TRP A 417     -44.951 -58.914 -17.226  1.00 13.79           C
ATOM   1355  CD1 TRP A 417     -46.012 -58.004 -17.351  1.00 16.30           C
ATOM   1356  NE1 TRP A 417     -45.540 -56.709 -17.289  1.00 14.75           N
ATOM   1357  CE2 TRP A 417     -44.203 -56.697 -17.104  1.00 15.15           C
ATOM   1358  CD2 TRP A 417     -43.755 -58.088 -17.052  1.00 11.55           C
ATOM   1359  CE3 TRP A 417     -42.394 -58.358 -16.945  1.00 11.45           C
ATOM   1360  CZ3 TRP A 417     -41.513 -57.306 -16.826  1.00 15.81           C
ATOM   1361  CH2 TRP A 417     -41.966 -55.946 -16.837  1.00 14.85           C
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ATOM   1362  CZ2 TRP A 417     -43.308 -55.627 -17.025  1.00 16.31           C
ATOM   1363  C   TRP A 417     -45.232 -62.461 -18.712  1.00 13.11           C
ATOM   1364  O   TRP A 417     -46.285 -62.995 -18.385  1.00 14.99           O
ATOM   1365  N   GLY A 418     -44.166 -63.160 -19.055  1.00 13.45           N
ATOM   1366  CA  GLY A 418     -44.159 -64.603 -18.858  1.00 10.80           C
ATOM   1367  C   GLY A 418     -43.286 -64.954 -17.654  1.00 12.58           C
ATOM   1368  O   GLY A 418     -42.072 -64.723 -17.655  1.00 13.15           O
ATOM   1369  N   LEU A 419     -43.883 -65.551 -16.643  1.00 11.11           N
ATOM   1370  CA  LEU A 419     -43.179 -65.666 -15.360  1.00 12.41           C
ATOM   1371  CB  LEU A 419     -43.931 -64.862 -14.256  1.00 11.30           C
ATOM   1372  CG  LEU A 419     -44.231 -63.346 -14.510  1.00 11.74           C
ATOM   1373  CD1 LEU A 419     -45.115 -62.735 -13.386  1.00 14.81           C
ATOM   1374  CD2 LEU A 419     -42.946 -62.531 -14.571  1.00 13.02           C
ATOM   1375  C   LEU A 419     -42.991 -67.136 -14.975  1.00 13.87           C
ATOM   1376  O   LEU A 419     -43.896 -67.951 -15.119  1.00 15.45           O
ATOM   1377  N   THR A 420     -41.807 -67.490 -14.525  1.00 15.12           N
ATOM   1378  CA  THR A 420     -41.585 -68.881 -14.080  1.00 15.23           C
ATOM   1379  CB  THR A 420     -40.085 -69.120 -13.917  1.00 18.49           C
ATOM   1380  OG1 THR A 420     -39.446 -68.724 -15.142  1.00 15.51           O
ATOM   1381  CG2 THR A 420     -39.818 -70.609 -13.604  1.00 18.00           C
ATOM   1382  C   THR A 420     -42.339 -69.166 -12.777  1.00 17.79           C
ATOM   1383  O   THR A 420     -42.063 -68.507 -11.734  1.00 16.83           O
ATOM   1384  N   ARG A 421     -43.301 -70.117 -12.810  1.00 13.41           N
ATOM   1385  CA  ARG A 421     -44.232 -70.286 -11.664  1.00 17.69           C
ATOM   1386  CB  ARG A 421     -45.220 -71.433 -11.890  1.00 22.23           C
ATOM   1387  CG  ARG A 421     -46.292 -71.179 -12.897  1.00 31.08           C
ATOM   1388  CD  ARG A 421     -47.075 -72.459 -13.197  1.00 41.71           C
ATOM   1389  NE  ARG A 421     -48.203 -72.193 -14.089  1.00 42.91           N
ATOM   1390  CZ  ARG A 421     -49.461 -72.013 -13.684  1.00 51.48           C
ATOM   1391  NH1 ARG A 421     -49.775 -72.099 -12.395  1.00 48.96           N
ATOM   1392  NH2 ARG A 421     -50.411 -71.764 -14.575  1.00 47.16           N
ATOM   1393  C   ARG A 421     -43.452 -70.627 -10.389  1.00 18.11           C
ATOM   1394  O   ARG A 421     -43.872 -70.294  -9.275  1.00 20.48           O
ATOM   1395  N   SER A 422     -42.360 -71.371 -10.549  1.00 17.48           N
ATOM   1396  CA  SER A 422     -41.601 -71.869  -9.384  1.00 19.10           C
ATOM   1397  CB  SER A 422     -40.757 -73.098  -9.778  1.00 18.85           C
ATOM   1398  OG  SER A 422     -39.712 -72.731 -10.659  1.00 29.04           O
ATOM   1399  C   SER A 422     -40.744 -70.761  -8.755  1.00 18.22           C
ATOM   1400  O   SER A 422     -40.231 -70.933  -7.658  1.00 16.37           O
ATOM   1401  N   ALA A 423     -40.645 -69.600  -9.420  1.00 14.40           N
ATOM   1402  CA  ALA A 423     -39.974 -68.412  -8.827  1.00 14.17           C
ATOM   1403  CB  ALA A 423     -39.237 -67.612  -9.920  1.00 16.41           C
ATOM   1404  C   ALA A 423     -40.936 -67.491  -8.063  1.00 13.31           C
ATOM   1405  O   ALA A 423     -40.542 -66.430  -7.595  1.00 13.94           O
ATOM   1406  N   LEU A 424     -42.187 -67.893  -7.940  1.00 12.23           N
ATOM   1407  CA  LEU A 424     -43.195 -67.081  -7.242  1.00 13.18           C
ATOM   1408  CB  LEU A 424     -44.336 -66.728  -8.207  1.00 12.82           C
ATOM   1409  CG  LEU A 424     -43.987 -65.811  -9.380  1.00 14.65           C
ATOM   1410  CD1 LEU A 424     -45.189 -65.723 -10.333  1.00 17.24           C
ATOM   1411  CD2 LEU A 424     -43.713 -64.395  -8.839  1.00 18.67           C
ATOM   1412  C   LEU A 424     -43.752 -67.875  -6.074  1.00 16.98           C
ATOM   1413  O   LEU A 424     -43.751 -69.123  -6.091  1.00 16.48           O
ATOM   1414  N   LEU A 425     -44.216 -67.176  -5.069  1.00 14.07           N
ATOM   1415  CA  LEU A 425     -44.803 -67.809  -3.906  1.00 21.99           C
ATOM   1416  CB  LEU A 425     -44.232 -67.138  -2.665  1.00 21.97           C
ATOM   1417  CG  LEU A 425     -43.608 -67.814  -1.472  1.00 31.87           C
ATOM   1418  CD1 LEU A 425     -43.468 -66.716  -0.422  1.00 20.48           C
ATOM   1419  CD2 LEU A 425     -44.389 -69.033  -0.964  1.00 31.12           C
ATOM   1420  C   LEU A 425     -46.377 -67.652  -4.010  1.00 34.82           C
ATOM   1421  O   LEU A 425     -46.850 -66.703  -4.622  1.00 38.21           O
ATOM   1422  N   PRO A 426     -47.164 -68.496  -3.298  1.00 41.26           N
ATOM   1423  CA  PRO A 426     -48.220 -69.302  -3.850  1.00 44.73           C
ATOM   1424  CB  PRO A 426     -49.415 -68.334  -3.860  1.00 38.18           C
ATOM   1425  CG  PRO A 426     -49.134 -67.404  -2.690  1.00 50.70           C
ATOM   1426  CD  PRO A 426     -47.735 -67.745  -2.166  1.00 63.24           C
ATOM   1427  C   PRO A 426     -47.871 -69.792  -5.238  1.00 54.85           C
ATOM   1428  O   PRO A 426     -46.919 -70.554  -5.368  1.00 49.22           O
ATOM   1429  N   THR B 321     -63.112 -67.864 -14.901  1.00 33.78           N
ATOM   1430  CA  THR B 321     -63.075 -66.430 -15.388  1.00 31.09           C
ATOM   1431  CB  THR B 321     -61.978 -65.597 -14.690  1.00 28.86           C
ATOM   1432  OG1 THR B 321     -60.710 -66.148 -15.012  1.00 30.56           O
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ATOM   1433  CG2 THR B 321     -62.179 -65.466 -13.138  1.00 26.79           C
ATOM   1434  C   THR B 321     -62.843 -66.243 -16.930  1.00 27.83           C
ATOM   1435  O   THR B 321     -62.911 -65.125 -17.415  1.00 28.51           O
ATOM   1436  N   SER B 322     -62.525 -67.294 -17.681  1.00 24.96           N
ATOM   1437  CA  SER B 322     -62.224 -67.092 -19.119  1.00 22.39           C
ATOM   1438  CB  SER B 322     -61.481 -68.277 -19.706  1.00 21.11           C
ATOM   1439  OG  SER B 322     -60.230 -68.354 -19.125  1.00 25.01           O
ATOM   1440  C   SER B 322     -63.437 -66.756 -19.998  1.00 24.86           C
ATOM   1441  O   SER B 322     -64.502 -67.367 -19.877  1.00 22.17           O
ATOM   1442  N   LEU B 323     -63.244 -65.805 -20.908  1.00 21.57           N
ATOM   1443  CA  LEU B 323     -64.214 -65.466 -21.921  1.00 19.66           C
ATOM   1444  CB  LEU B 323     -64.615 -63.993 -21.788  1.00 17.99           C
ATOM   1445  CG  LEU B 323     -65.210 -63.555 -20.442  1.00 18.68           C
ATOM   1446  CD1 LEU B 323     -65.404 -62.051 -20.416  1.00 21.42           C
ATOM   1447  CD2 LEU B 323     -66.561 -64.221 -20.268  1.00 27.45           C
ATOM   1448  C   LEU B 323     -63.599 -65.749 -23.294  1.00 18.51           C
ATOM   1449  O   LEU B 323     -62.585 -65.155 -23.671  1.00 16.79           O
ATOM   1450  N   CYS B 324     -64.180 -66.712 -24.001  1.00 22.68           N
ATOM   1451  CA  CYS B 324     -63.598 -67.231 -25.232  1.00 19.29           C
ATOM   1452  CB  CYS B 324     -63.475 -68.767 -25.167  1.00 20.03           C
ATOM   1453  SG  CYS B 324     -62.230 -69.313 -23.967  1.00 23.16           S
ATOM   1454  C   CYS B 324     -64.400 -66.823 -26.449  1.00 20.35           C
ATOM   1455  O   CYS B 324     -65.613 -66.568 -26.353  1.00 21.65           O
ATOM   1456  N   CYS B 325     -63.726 -66.780 -27.599  1.00 16.20           N
ATOM   1457  CA  CYS B 325     -64.403 -66.646 -28.865  1.00 21.02           C
ATOM   1458  CB  CYS B 325     -63.383 -66.747 -30.006  1.00 16.21           C
ATOM   1459  SG  CYS B 325     -64.155 -66.812 -31.626  1.00 21.06           S
ATOM   1460  C   CYS B 325     -65.497 -67.747 -28.995  1.00 19.82           C
ATOM   1461  O   CYS B 325     -65.228 -68.938 -28.817  1.00 20.13           O
ATOM   1462  N   LYS B 326     -66.723 -67.329 -29.296  1.00 24.90           N
ATOM   1463  CA  LYS B 326     -67.845 -68.259 -29.435  1.00 23.55           C
ATOM   1464  CB  LYS B 326     -69.154 -67.477 -29.564  1.00 26.30           C
ATOM   1465  CG  LYS B 326     -70.423 -68.318 -29.483  1.00 31.03           C
ATOM   1466  CD  LYS B 326     -71.680 -67.456 -29.644  1.00 32.09           C
ATOM   1467  CE  LYS B 326     -71.884 -66.999 -31.093  1.00 39.28           C
ATOM   1468  NZ  LYS B 326     -73.207 -66.332 -31.311  1.00 47.98           N
ATOM   1469  C   LYS B 326     -67.649 -69.199 -30.645  1.00 24.85           C
ATOM   1470  O   LYS B 326     -68.044 -70.380 -30.603  1.00 23.29           O
ATOM   1471  N   GLN B 327     -67.012 -68.689 -31.703  1.00 22.42           N
ATOM   1472  CA  GLN B 327     -66.855 -69.467 -32.956  1.00 19.74           C
ATOM   1473  CB  GLN B 327     -66.511 -68.551 -34.138  1.00 17.78           C
ATOM   1474  CG  GLN B 327     -66.322 -69.254 -35.491  1.00 17.05           C
ATOM   1475  CD  GLN B 327     -67.529 -70.079 -35.918  1.00 21.82           C
ATOM   1476  OE1 GLN B 327     -68.672 -69.634 -35.790  1.00 19.63           O
ATOM   1477  NE2 GLN B 327     -67.277 -71.296 -36.450  1.00 14.70           N
ATOM   1478  C   GLN B 327     -65.844 -70.621 -32.820  1.00 19.32           C
ATOM   1479  O   GLN B 327     -66.217 -71.782 -32.987  1.00 19.00           O
ATOM   1480  N   CYS B 328     -64.579 -70.319 -32.501  1.00 15.97           N
ATOM   1481  CA  CYS B 328     -63.535 -71.365 -32.484  1.00 21.42           C
ATOM   1482  CB  CYS B 328     -62.164 -70.816 -32.947  1.00 17.46           C
ATOM   1483  SG  CYS B 328     -61.540 -69.481 -31.860  1.00 22.43           S
ATOM   1484  C   CYS B 328     -63.448 -71.988 -31.095  1.00 21.34           C
ATOM   1485  O   CYS B 328     -62.766 -73.006 -30.890  1.00 20.25           O
ATOM   1486  N   GLN B 329     -64.162 -71.386 -30.141  1.00 18.79           N
ATOM   1487  CA  GLN B 329     -64.326 -71.976 -28.812  1.00 20.39           C
ATOM   1488  CB  GLN B 329     -65.034 -73.368 -28.888  1.00 23.80           C
ATOM   1489  CG  GLN B 329     -66.229 -73.470 -29.868  1.00 22.53           C
ATOM   1490  CD  GLN B 329     -67.041 -74.761 -29.717  1.00 25.79           C
ATOM   1491  OE1 GLN B 329     -67.162 -75.297 -28.622  1.00 36.92           O
ATOM   1492  NE2 GLN B 329     -67.565 -75.281 -30.829  1.00 22.75           N
ATOM   1493  C   GLN B 329     -63.000 -72.057 -27.980  1.00 22.95           C
ATOM   1494  O   GLN B 329     -63.053 -71.996 -26.761  1.00 31.05           O
ATOM   1495  N   GLU B 330     -61.833 -72.134 -28.640  1.00 26.57           N
ATOM   1496  CA  GLU B 330     -60.514 -72.430 -27.965  1.00 30.50           C
ATOM   1497  CB  GLU B 330     -59.518 -73.062 -28.946  1.00 30.59           C
ATOM   1498  CG  GLU B 330     -59.786 -74.520 -29.335  1.00 50.82           C
ATOM   1499  CD  GLU B 330     -59.003 -75.523 -28.489  1.00 54.24           C
ATOM   1500  OE1 GLU B 330     -59.541 -75.974 -27.453  1.00 64.12           O
ATOM   1501  OE2 GLU B 330     -57.860 -75.880 -28.867  1.00 54.69           O
ATOM   1502  C   GLU B 330     -59.811 -71.182 -27.417  1.00 33.57           C
ATOM   1503  O   GLU B 330     -58.982 -71.250 -26.499  1.00 29.81           O
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ATOM   1504  N   THR B 331     -60.081 -70.067 -28.052  1.00 20.02           N
ATOM   1505  CA  THR B 331     -59.249 -68.918 -27.922  1.00 23.19           C
ATOM   1506  CB  THR B 331     -59.133 -68.233 -29.298  1.00 24.77           C
ATOM   1507  OG1 THR B 331     -58.719 -69.211 -30.263  1.00 20.05           O
ATOM   1508  CG2 THR B 331     -58.163 -67.086 -29.280  1.00 15.31           C
ATOM   1509  C   THR B 331     -59.831 -67.975 -26.886  1.00 19.71           C
ATOM   1510  O   THR B 331     -60.967 -67.444 -27.047  1.00 16.61           O
ATOM   1511  N   GLU B 332     -59.052 -67.752 -25.828  1.00 16.82           N
ATOM   1512  CA  GLU B 332     -59.419 -66.809 -24.796  1.00 17.31           C
ATOM   1513  CB  GLU B 332     -58.542 -66.999 -23.525  1.00 19.58           C
ATOM   1514  CG  GLU B 332     -59.045 -66.164 -22.375  1.00 17.83           C
ATOM   1515  CD  GLU B 332     -58.159 -66.232 -21.163  1.00 20.67           C
ATOM   1516  OE1 GLU B 332     -58.291 -67.201 -20.407  1.00 18.15           O
ATOM   1517  OE2 GLU B 332     -57.330 -65.318 -20.976  1.00 17.34           O
ATOM   1518  C   GLU B 332     -59.298 -65.383 -25.325  1.00 19.08           C
ATOM   1519  O   GLU B 332     -58.251 -65.022 -25.850  1.00 21.14           O
ATOM   1520  N   ILE B 333     -60.349 -64.566 -25.175  1.00 14.52           N
ATOM   1521  CA  ILE B 333     -60.245 -63.162 -25.639  1.00 15.24           C
ATOM   1522  CB  ILE B 333     -61.426 -62.759 -26.536  1.00 13.05           C
ATOM   1523  CG1 ILE B 333     -61.528 -63.737 -27.743  1.00 17.07           C
ATOM   1524  CD1 ILE B 333     -60.466 -63.562 -28.793  1.00 13.55           C
ATOM   1525  CG2 ILE B 333     -61.342 -61.271 -26.927  1.00 12.30           C
ATOM   1526  C   ILE B 333     -60.065 -62.165 -24.489  1.00 17.36           C
ATOM   1527  O   ILE B 333     -59.322 -61.177 -24.616  1.00 17.79           O
ATOM   1528  N   THR B 334     -60.723 -62.436 -23.363  1.00 16.75           N
ATOM   1529  CA  THR B 334     -60.455 -61.642 -22.150  1.00 16.99           C
ATOM   1530  CB  THR B 334     -61.175 -60.282 -22.242  1.00 15.74           C
ATOM   1531  OG1 THR B 334     -60.687 -59.411 -21.224  1.00 23.64           O
ATOM   1532  CG2 THR B 334     -62.657 -60.463 -22.131  1.00 14.47           C
ATOM   1533  C   THR B 334     -60.836 -62.480 -20.909  1.00 15.10           C
ATOM   1534  O   THR B 334     -61.151 -63.674 -21.037  1.00 13.65           O
ATOM   1535  N   THR B 335     -60.770 -61.892 -19.722  1.00 14.71           N
ATOM   1536  CA  THR B 335     -61.224 -62.576 -18.555  1.00 16.76           C
ATOM   1537  CB  THR B 335     -60.026 -62.971 -17.673  1.00 16.28           C
ATOM   1538  OG1 THR B 335     -59.527 -61.792 -17.031  1.00 20.59           O
ATOM   1539  CG2 THR B 335     -58.931 -63.586 -18.513  1.00 17.06           C
ATOM   1540  C   THR B 335     -62.156 -61.674 -17.771  1.00 16.29           C
ATOM   1541  O   THR B 335     -62.139 -60.455 -17.961  1.00 15.47           O
ATOM   1542  N   LYS B 336     -62.968 -62.254 -16.892  1.00 15.80           N
ATOM   1543  CA  LYS B 336     -63.872 -61.446 -16.048  1.00 21.89           C
ATOM   1544  CB  LYS B 336     -64.715 -62.330 -15.141  1.00 20.64           C
ATOM   1545  CG  LYS B 336     -65.813 -63.096 -15.864  1.00 28.57           C
ATOM   1546  CD  LYS B 336     -66.834 -63.608 -14.846  1.00 27.84           C
ATOM   1547  CE  LYS B 336     -68.199 -63.863 -15.483  1.00 40.86           C
ATOM   1548  NZ  LYS B 336     -68.961 -64.844 -14.650  1.00 33.79           N
ATOM   1549  C   LYS B 336     -63.111 -60.439 -15.198  1.00 16.16           C
ATOM   1550  O   LYS B 336     -63.661 -59.410 -14.804  1.00 16.06           O
ATOM   1551  N   ASN B 337     -61.854 -60.759 -14.879  1.00 14.67           N
ATOM   1552  CA  ASN B 337     -61.006 -59.830 -14.097  1.00 17.91           C
ATOM   1553  CB  ASN B 337     -59.654 -60.466 -13.780  1.00 15.75           C
ATOM   1554  CG  ASN B 337     -59.788 -61.754 -13.009  1.00 22.24           C
ATOM   1555  OD1 ASN B 337     -59.355 -62.790 -13.457  1.00 26.50           O
ATOM   1556  ND2 ASN B 337     -60.403 -61.687 -11.851  1.00 34.77           N
ATOM   1557  C   ASN B 337     -60.783 -58.492 -14.796  1.00 15.80           C
ATOM   1558  O   ASN B 337     -60.522 -57.495 -14.146  1.00 15.11           O
ATOM   1559  N   GLU B 338     -60.847 -58.494 -16.135  1.00 16.19           N
ATOM   1560  CA  GLU B 338     -60.552 -57.299 -16.908  1.00 15.10           C
ATOM   1561  CB  GLU B 338     -59.921 -57.632 -18.270  1.00 12.81           C
ATOM   1562  CG  GLU B 338     -58.644 -58.423 -18.153  1.00 15.49           C
ATOM   1563  CD  GLU B 338     -57.668 -57.767 -17.194  1.00 22.76           C
ATOM   1564  OE1 GLU B 338     -57.431 -56.551 -17.299  1.00 18.21           O
ATOM   1565  OE2 GLU B 338     -57.147 -58.472 -16.326  1.00 24.45           O
ATOM   1566  C   GLU B 338     -61.737 -56.372 -17.127  1.00 16.48           C
ATOM   1567  O   GLU B 338     -61.555 -55.267 -17.656  1.00 16.22           O
ATOM   1568  N   ILE B 339     -62.939 -56.811 -16.734  1.00 15.07           N
ATOM   1569  CA  ILE B 339     -64.160 -56.004 -16.969  1.00 17.10           C
ATOM   1570  CB  ILE B 339     -65.456 -56.823 -16.669  1.00 23.04           C
ATOM   1571  CG1 ILE B 339     -65.586 -58.054 -17.617  1.00 23.48           C
ATOM   1572  CD1 ILE B 339     -66.528 -59.156 -17.092  1.00 20.03           C
ATOM   1573  CG2 ILE B 339     -66.711 -55.917 -16.754  1.00 19.16           C
ATOM   1574  C   ILE B 339     -64.150 -54.762 -16.109  1.00 18.73           C
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ATOM   1575  O   ILE B 339     -63.706 -54.811 -14.934  1.00 17.53           O
ATOM   1576  N   PHE B 340     -64.628 -53.645 -16.692  1.00 11.72           N
ATOM   1577  CA  PHE B 340     -64.810 -52.406 -16.010  1.00 16.33           C
ATOM   1578  CB  PHE B 340     -63.548 -51.493 -16.034  1.00 13.18           C
ATOM   1579  CG  PHE B 340     -63.303 -50.823 -17.348  1.00 15.25           C
ATOM   1580  CD1 PHE B 340     -63.510 -49.455 -17.479  1.00 13.45           C
ATOM   1581  CE1 PHE B 340     -63.272 -48.798 -18.694  1.00 12.40           C
ATOM   1582  CZ  PHE B 340     -62.799 -49.516 -19.797  1.00  9.99           C
ATOM   1583  CE2 PHE B 340     -62.533 -50.901 -19.680  1.00 11.53           C
ATOM   1584  CD2 PHE B 340     -62.778 -51.553 -18.468  1.00 12.25           C
ATOM   1585  C   PHE B 340     -65.987 -51.686 -16.673  1.00 16.55           C
ATOM   1586  O   PHE B 340     -66.451 -52.083 -17.781  1.00 15.69           O
ATOM   1587  N   SER B 341     -66.430 -50.627 -16.026  1.00 15.87           N
ATOM   1588  CA  SER B 341     -67.627 -49.896 -16.474  1.00 18.61           C
ATOM   1589  CB  SER B 341     -68.703 -49.887 -15.389  1.00 23.05           C
ATOM   1590  OG  SER B 341     -69.958 -49.458 -15.936  1.00 26.64           O
ATOM   1591  C   SER B 341     -67.295 -48.496 -16.884  1.00 18.03           C
ATOM   1592  O   SER B 341     -67.003 -47.650 -16.051  1.00 21.76           O
ATOM   1593  N   LEU B 342     -67.257 -48.268 -18.200  1.00 25.29           N
ATOM   1594  CA  LEU B 342     -66.943 -46.952 -18.766  1.00 23.64           C
ATOM   1595  CB  LEU B 342     -66.494 -47.069 -20.251  1.00 28.34           C
ATOM   1596  CG  LEU B 342     -65.626 -46.023 -20.981  1.00 28.10           C
ATOM   1597  CD1 LEU B 342     -66.397 -44.772 -21.307  1.00 30.47           C
ATOM   1598  CD2 LEU B 342     -64.405 -45.646 -20.146  1.00 35.50           C
ATOM   1599  C   LEU B 342     -68.126 -46.013 -18.583  1.00 29.99           C
ATOM   1600  O   LEU B 342     -67.967 -44.889 -18.046  1.00 25.51           O
ATOM   1601  N   SER B 343     -69.328 -46.483 -18.945  1.00 28.47           N
ATOM   1602  CA  SER B 343     -70.510 -45.602 -18.994  1.00 39.38           C
ATOM   1603  CB  SER B 343     -71.711 -46.304 -19.676  1.00 43.93           C
ATOM   1604  OG  SER B 343     -71.699 -47.691 -19.422  1.00 40.39           O
ATOM   1605  C   SER B 343     -70.919 -44.900 -17.658  1.00 41.75           C
ATOM   1606  O   SER B 343     -71.705 -45.423 -16.855  1.00 35.22           O
ATOM   1607  N   GLU B 360     -74.896 -55.104 -23.982  1.00 32.15           N
ATOM   1608  CA  GLU B 360     -74.565 -55.568 -25.345  1.00 40.50           C
ATOM   1609  CB  GLU B 360     -75.210 -54.647 -26.398  1.00 42.12           C
ATOM   1610  CG  GLU B 360     -74.822 -54.947 -27.844  1.00 42.69           C
ATOM   1611  CD  GLU B 360     -75.585 -56.117 -28.434  1.00 48.38           C
ATOM   1612  OE1 GLU B 360     -75.164 -56.625 -29.497  1.00 60.27           O
ATOM   1613  OE2 GLU B 360     -76.598 -56.536 -27.839  1.00 61.10           O
ATOM   1614  C   GLU B 360     -73.054 -55.643 -25.598  1.00 39.19           C
ATOM   1615  O   GLU B 360     -72.555 -56.586 -26.271  1.00 26.18           O
ATOM   1616  N   THR B 361     -72.356 -54.607 -25.123  1.00 26.11           N
ATOM   1617  CA  THR B 361     -70.917 -54.413 -25.355  1.00 30.60           C
ATOM   1618  CB  THR B 361     -70.628 -53.059 -26.040  1.00 38.10           C
ATOM   1619  OG1 THR B 361     -71.157 -53.093 -27.370  1.00 55.54           O
ATOM   1620  CG2 THR B 361     -69.125 -52.773 -26.111  1.00 28.78           C
ATOM   1621  C   THR B 361     -70.201 -54.458 -24.013  1.00 24.67           C
ATOM   1622  O   THR B 361     -70.417 -53.620 -23.177  1.00 26.55           O
ATOM   1623  N   LEU B 362     -69.384 -55.470 -23.821  1.00 19.02           N
ATOM   1624  CA  LEU B 362     -68.602 -55.638 -22.612  1.00 16.98           C
ATOM   1625  CB  LEU B 362     -68.219 -57.109 -22.546  1.00 17.61           C
ATOM   1626  CG  LEU B 362     -67.577 -57.688 -21.312  1.00 22.51           C
ATOM   1627  CD1 LEU B 362     -68.528 -57.625 -20.123  1.00 18.25           C
ATOM   1628  CD2 LEU B 362     -67.165 -59.114 -21.647  1.00 21.01           C
ATOM   1629  C   LEU B 362     -67.339 -54.757 -22.750  1.00 16.19           C
ATOM   1630  O   LEU B 362     -66.675 -54.780 -23.788  1.00 17.80           O
ATOM   1631  N   THR B 363     -66.986 -53.989 -21.727  1.00 15.48           N
ATOM   1632  CA  THR B 363     -65.724 -53.230 -21.828  1.00 13.14           C
ATOM   1633  CB  THR B 363     -65.952 -51.711 -21.636  1.00 13.68           C
ATOM   1634  OG1 THR B 363     -66.562 -51.488 -20.359  1.00 15.25           O
ATOM   1635  CG2 THR B 363     -66.880 -51.169 -22.740  1.00 15.60           C
ATOM   1636  C   THR B 363     -64.665 -53.785 -20.889  1.00 15.29           C
ATOM   1637  O   THR B 363     -64.928 -54.019 -19.666  1.00 13.39           O
ATOM   1638  N   VAL B 364     -63.470 -53.985 -21.431  1.00 11.88           N
ATOM   1639  CA  VAL B 364     -62.397 -54.633 -20.669  1.00 12.70           C
ATOM   1640  CB  VAL B 364     -62.222 -56.157 -21.031  1.00 14.95           C
ATOM   1641  CG1 VAL B 364     -63.465 -56.991 -20.646  1.00 14.46           C
ATOM   1642  CG2 VAL B 364     -61.801 -56.385 -22.501  1.00 11.34           C
ATOM   1643  C   VAL B 364     -61.116 -53.868 -20.870  1.00 13.19           C
ATOM   1644  O   VAL B 364     -60.913 -53.230 -21.942  1.00 10.72           O
ATOM   1645  N   TYR B 365     -60.249 -53.875 -19.834  1.00 12.47           N
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ATOM   1646  CA  TYR B 365     -59.029 -53.088 -19.900  1.00 11.95           C
ATOM   1647  CB  TYR B 365     -58.393 -52.934 -18.478  1.00 10.06           C
ATOM   1648  CG  TYR B 365     -59.068 -51.902 -17.566  1.00  9.95           C
ATOM   1649  CD1 TYR B 365     -59.117 -50.551 -17.921  1.00  9.17           C
ATOM   1650  CE1 TYR B 365     -59.706 -49.610 -17.076  1.00 10.71           C
ATOM   1651  CZ  TYR B 365     -60.241 -50.039 -15.861  1.00 12.14           C
ATOM   1652  OH  TYR B 365     -60.815 -49.124 -15.007  1.00 10.17           O
ATOM   1653  CE2 TYR B 365     -60.194 -51.390 -15.499  1.00 10.44           C
ATOM   1654  CD2 TYR B 365     -59.622 -52.297 -16.367  1.00  9.33           C
ATOM   1655  C   TYR B 365     -57.997 -53.745 -20.838  1.00 12.87           C
ATOM   1656  O   TYR B 365     -57.152 -53.062 -21.430  1.00 13.23           O
ATOM   1657  N   LYS B 366     -58.064 -55.076 -20.943  1.00 10.50           N
ATOM   1658  CA  LYS B 366     -57.044 -55.842 -21.588  1.00 12.58           C
ATOM   1659  CB  LYS B 366     -56.060 -56.412 -20.513  1.00 12.47           C
ATOM   1660  CG  LYS B 366     -55.114 -55.400 -19.901  1.00 13.02           C
ATOM   1661  CD  LYS B 366     -53.955 -55.298 -20.920  1.00 17.19           C
ATOM   1662  CE  LYS B 366     -52.989 -54.194 -20.639  1.00 22.40           C
ATOM   1663  NZ  LYS B 366     -52.022 -54.148 -21.770  1.00 11.57           N
ATOM   1664  C   LYS B 366     -57.716 -57.024 -22.293  1.00 11.90           C
ATOM   1665  O   LYS B 366     -58.726 -57.577 -21.808  1.00 14.08           O
ATOM   1666  N   ALA B 367     -57.139 -57.434 -23.404  1.00 11.40           N
ATOM   1667  CA  ALA B 367     -57.693 -58.571 -24.164  1.00 12.16           C
ATOM   1668  CB  ALA B 367     -58.746 -58.076 -25.162  1.00 12.10           C
ATOM   1669  C   ALA B 367     -56.549 -59.250 -24.873  1.00 12.33           C
ATOM   1670  O   ALA B 367     -55.424 -58.709 -24.930  1.00 11.65           O
ATOM   1671  N   SER B 368     -56.812 -60.440 -25.427  1.00 12.83           N
ATOM   1672  CA  SER B 368     -55.744 -61.223 -26.019  1.00 15.64           C
ATOM   1673  CB  SER B 368     -55.277 -62.283 -25.002  1.00 14.92           C
ATOM   1674  OG  SER B 368     -56.375 -63.056 -24.552  1.00 14.79           O
ATOM   1675  C   SER B 368     -56.208 -61.939 -27.289  1.00 16.06           C
ATOM   1676  O   SER B 368     -57.434 -62.190 -27.475  1.00 15.79           O
ATOM   1677  N   ASN B 369     -55.243 -62.283 -28.143  1.00 15.87           N
ATOM   1678  CA  ASN B 369     -55.503 -63.156 -29.288  1.00 19.46           C
ATOM   1679  CB  ASN B 369     -56.080 -64.473 -28.803  1.00 15.83           C
ATOM   1680  CG  ASN B 369     -55.154 -65.200 -27.867  1.00 20.08           C
ATOM   1681  OD1 ASN B 369     -55.593 -65.737 -26.873  1.00 24.87           O
ATOM   1682  ND2 ASN B 369     -53.872 -65.225 -28.184  1.00 15.96           N
ATOM   1683  C   ASN B 369     -56.473 -62.503 -30.284  1.00 20.41           C
ATOM   1684  O   ASN B 369     -57.215 -63.198 -31.016  1.00 20.86           O
ATOM   1685  N   LEU B 370     -56.477 -61.166 -30.280  1.00 17.87           N
ATOM   1686  CA  LEU B 370     -57.196 -60.381 -31.304  1.00 20.24           C
ATOM   1687  CB  LEU B 370     -58.031 -59.259 -30.660  1.00 17.03           C
ATOM   1688  CG  LEU B 370     -59.210 -59.705 -29.784  1.00 19.14           C
ATOM   1689  CD1 LEU B 370     -59.676 -58.552 -28.860  1.00 17.00           C
ATOM   1690  CD2 LEU B 370     -60.370 -60.220 -30.642  1.00 15.59           C
ATOM   1691  C   LEU B 370     -56.226 -59.817 -32.338  1.00 18.63           C
ATOM   1692  O   LEU B 370     -55.111 -59.397 -31.984  1.00 16.57           O
ATOM   1693  N   ASN B 371     -56.637 -59.881 -33.616  1.00 19.09           N
ATOM   1694  CA  ASN B 371     -56.005 -59.098 -34.733  1.00 24.20           C
ATOM   1695  CB  ASN B 371     -56.069 -59.866 -36.081  1.00 26.07           C
ATOM   1696  CG  ASN B 371     -54.844 -60.701 -36.343  1.00 37.87           C
ATOM   1697  OD1 ASN B 371     -54.942 -61.906 -36.610  1.00 40.52           O
ATOM   1698  ND2 ASN B 371     -53.674 -60.068 -36.287  1.00 49.08           N
ATOM   1699  C   ASN B 371     -56.743 -57.793 -34.967  1.00 26.33           C
ATOM   1700  O   ASN B 371     -57.987 -57.800 -35.061  1.00 21.32           O
ATOM   1701  N   LEU B 372     -55.975 -56.714 -35.151  1.00 19.03           N
ATOM   1702  CA  LEU B 372     -56.516 -55.388 -35.479  1.00 21.23           C
ATOM   1703  CB  LEU B 372     -55.669 -54.255 -34.842  1.00 15.54           C
ATOM   1704  CG  LEU B 372     -55.629 -54.317 -33.309  1.00 20.87           C
ATOM   1705  CD1 LEU B 372     -54.508 -53.457 -32.742  1.00 18.28           C
ATOM   1706  CD2 LEU B 372     -56.984 -53.987 -32.686  1.00 20.53           C
ATOM   1707  C   LEU B 372     -56.517 -55.215 -36.963  1.00 21.31           C
ATOM   1708  O   LEU B 372     -55.472 -55.377 -37.603  1.00 21.11           O
ATOM   1709  N   ILE B 373     -57.682 -54.845 -37.499  1.00 21.66           N
ATOM   1710  CA  ILE B 373     -57.879 -54.654 -38.950  1.00 23.75           C
ATOM   1711  CB  ILE B 373     -59.223 -55.238 -39.403  1.00 23.03           C
ATOM   1712  CG1 ILE B 373     -59.311 -56.738 -39.086  1.00 25.33           C
ATOM   1713  CD1 ILE B 373     -58.223 -57.565 -39.748  1.00 32.29           C
ATOM   1714  CG2 ILE B 373     -59.476 -54.951 -40.892  1.00 26.69           C
ATOM   1715  C   ILE B 373     -57.996 -53.164 -39.160  1.00 28.35           C
ATOM   1716  O   ILE B 373     -58.913 -52.544 -38.615  1.00 25.31           O
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ATOM   1717  N   GLY B 374     -57.086 -52.575 -39.929  1.00 27.91           N
ATOM   1718  CA  GLY B 374     -57.239 -51.159 -40.312  1.00 31.00           C
ATOM   1719  C   GLY B 374     -56.656 -50.157 -39.322  1.00 36.32           C
ATOM   1720  O   GLY B 374     -55.905 -50.514 -38.417  1.00 32.64           O
ATOM   1721  N   ARG B 375     -56.987 -48.890 -39.517  1.00 36.50           N
ATOM   1722  CA  ARG B 375     -56.502 -47.829 -38.643  1.00 37.55           C
ATOM   1723  CB  ARG B 375     -55.740 -46.764 -39.454  1.00 43.97           C
ATOM   1724  CG  ARG B 375     -56.126 -46.700 -40.929  1.00 54.49           C
ATOM   1725  CD  ARG B 375     -54.992 -46.194 -41.805  1.00 57.39           C
ATOM   1726  NE  ARG B 375     -54.383 -44.969 -41.279  1.00 76.97           N
ATOM   1727  CZ  ARG B 375     -54.863 -43.738 -41.462  1.00 75.86           C
ATOM   1728  NH1 ARG B 375     -55.980 -43.541 -42.160  1.00 82.58           N
ATOM   1729  NH2 ARG B 375     -54.222 -42.701 -40.942  1.00 58.97           N
ATOM   1730  C   ARG B 375     -57.668 -47.224 -37.843  1.00 27.00           C
ATOM   1731  O   ARG B 375     -58.827 -47.398 -38.209  1.00 30.03           O
ATOM   1732  N   PRO B 376     -57.368 -46.558 -36.727  1.00 29.10           N
ATOM   1733  CA  PRO B 376     -58.428 -45.966 -35.869  1.00 26.59           C
ATOM   1734  CB  PRO B 376     -57.623 -45.149 -34.861  1.00 25.76           C
ATOM   1735  CG  PRO B 376     -56.320 -45.906 -34.736  1.00 29.31           C
ATOM   1736  CD  PRO B 376     -56.034 -46.483 -36.101  1.00 28.59           C
ATOM   1737  C   PRO B 376     -59.425 -45.045 -36.619  1.00 24.43           C
ATOM   1738  O   PRO B 376     -59.012 -44.338 -37.517  1.00 27.57           O
ATOM   1739  N   SER B 377     -60.713 -45.065 -36.262  1.00 18.50           N
ATOM   1740  CA  SER B 377     -61.681 -44.033 -36.774  1.00 18.67           C
ATOM   1741  CB  SER B 377     -62.628 -44.612 -37.862  1.00 18.16           C
ATOM   1742  OG  SER B 377     -63.670 -43.675 -38.178  1.00 19.72           O
ATOM   1743  C   SER B 377     -62.528 -43.491 -35.637  1.00 16.08           C
ATOM   1744  O   SER B 377     -62.887 -44.219 -34.730  1.00 16.76           O
ATOM   1745  N   THR B 378     -62.925 -42.244 -35.711  1.00 12.90           N
ATOM   1746  CA  THR B 378     -63.819 -41.745 -34.698  1.00 13.73           C
ATOM   1747  CB  THR B 378     -63.420 -40.332 -34.265  1.00 14.94           C
ATOM   1748  OG1 THR B 378     -63.411 -39.537 -35.415  1.00 15.24           O
ATOM   1749  CG2 THR B 378     -61.966 -40.317 -33.644  1.00 12.79           C
ATOM   1750  C   THR B 378     -65.280 -41.722 -35.171  1.00 18.42           C
ATOM   1751  O   THR B 378     -66.167 -41.337 -34.412  1.00 16.86           O
ATOM   1752  N   VAL B 379     -65.522 -42.103 -36.421  1.00 17.21           N
ATOM   1753  CA  VAL B 379     -66.856 -41.915 -37.018  1.00 20.80           C
ATOM   1754  CB  VAL B 379     -66.828 -42.179 -38.535  1.00 22.27           C
ATOM   1755  CG1 VAL B 379     -68.188 -41.849 -39.168  1.00 18.88           C
ATOM   1756  CG2 VAL B 379     -65.733 -41.310 -39.179  1.00 27.51           C
ATOM   1757  C   VAL B 379     -67.845 -42.838 -36.325  1.00 16.02           C
ATOM   1758  O   VAL B 379     -67.561 -44.013 -36.149  1.00 15.55           O
ATOM   1759  N   HIS B 380     -68.963 -42.283 -35.861  1.00 15.24           N
ATOM   1760  CA  HIS B 380     -69.986 -43.064 -35.127  1.00 15.62           C
ATOM   1761  CB  HIS B 380     -70.677 -44.067 -36.058  1.00 15.16           C
ATOM   1762  CG  HIS B 380     -71.195 -43.423 -37.332  1.00 17.94           C
ATOM   1763  ND1 HIS B 380     -71.902 -42.258 -37.320  1.00 16.30           N
ATOM   1764  CE1 HIS B 380     -72.175 -41.905 -38.586  1.00 19.92           C
ATOM   1765  NE2 HIS B 380     -71.630 -42.824 -39.402  1.00 15.57           N
ATOM   1766  CD2 HIS B 380     -71.006 -43.757 -38.661  1.00 15.75           C
ATOM   1767  C   HIS B 380     -69.443 -43.777 -33.906  1.00 18.74           C
ATOM   1768  O   HIS B 380     -70.040 -44.764 -33.444  1.00 18.02           O
ATOM   1769  N   SER B 381     -68.350 -43.266 -33.319  1.00 16.32           N
ATOM   1770  CA  SER B 381     -67.821 -43.931 -32.107  1.00 17.67           C
ATOM   1771  CB  SER B 381     -66.573 -43.227 -31.567  1.00 19.31           C
ATOM   1772  OG  SER B 381     -66.156 -43.939 -30.400  1.00 20.33           O
ATOM   1773  C   SER B 381     -68.900 -44.026 -30.984  1.00 15.41           C
ATOM   1774  O   SER B 381     -69.533 -43.040 -30.648  1.00 17.37           O
ATOM   1775  N   TRP B 382     -69.086 -45.202 -30.406  1.00 13.57           N
ATOM   1776  CA  TRP B 382     -70.024 -45.347 -29.290  1.00 16.72           C
ATOM   1777  CB  TRP B 382     -70.325 -46.822 -29.042  1.00 18.77           C
ATOM   1778  CG  TRP B 382     -70.944 -47.508 -30.247  1.00 18.00           C
ATOM   1779  CD1 TRP B 382     -71.869 -46.953 -31.167  1.00 20.24           C
ATOM   1780  NE1 TRP B 382     -72.219 -47.879 -32.123  1.00 20.52           N
ATOM   1781  CE2 TRP B 382     -71.572 -49.056 -31.889  1.00 18.52           C
ATOM   1782  CD2 TRP B 382     -70.747 -48.872 -30.675  1.00 17.19           C
ATOM   1783  CE3 TRP B 382     -69.977 -49.945 -30.212  1.00 16.96           C
ATOM   1784  CZ3 TRP B 382     -70.050 -51.162 -30.908  1.00 16.35           C
ATOM   1785  CH2 TRP B 382     -70.841 -51.313 -32.073  1.00 19.62           C
ATOM   1786  CZ2 TRP B 382     -71.624 -50.260 -32.570  1.00 21.06           C
ATOM   1787  C   TRP B 382     -69.505 -44.726 -28.014  1.00 18.47           C
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ATOM   1788  O   TRP B 382     -70.272 -44.519 -27.060  1.00 20.72           O
ATOM   1789  N   PHE B 383     -68.215 -44.399 -27.979  1.00 15.41           N
ATOM   1790  CA  PHE B 383     -67.601 -43.842 -26.728  1.00 16.33           C
ATOM   1791  CB  PHE B 383     -66.632 -44.840 -26.112  1.00 14.32           C
ATOM   1792  CG  PHE B 383     -67.259 -46.178 -25.795  1.00 14.32           C
ATOM   1793  CD1 PHE B 383     -67.936 -46.377 -24.588  1.00 18.40           C
ATOM   1794  CE1 PHE B 383     -68.513 -47.605 -24.291  1.00 17.95           C
ATOM   1795  CZ  PHE B 383     -68.377 -48.666 -25.198  1.00 20.05           C
ATOM   1796  CE2 PHE B 383     -67.659 -48.479 -26.388  1.00 17.26           C
ATOM   1797  CD2 PHE B 383     -67.112 -47.242 -26.668  1.00 15.03           C
ATOM   1798  C   PHE B 383     -66.904 -42.530 -27.061  1.00 19.09           C
ATOM   1799  O   PHE B 383     -65.771 -42.534 -27.517  1.00 17.94           O
ATOM   1800  N   PRO B 384     -67.631 -41.400 -26.924  1.00 23.97           N
ATOM   1801  CA  PRO B 384     -67.092 -40.129 -27.341  1.00 22.32           C
ATOM   1802  CB  PRO B 384     -68.148 -39.120 -26.826  1.00 29.25           C
ATOM   1803  CG  PRO B 384     -69.435 -39.893 -26.888  1.00 27.44           C
ATOM   1804  CD  PRO B 384     -69.038 -41.282 -26.462  1.00 26.09           C
ATOM   1805  C   PRO B 384     -65.732 -39.884 -26.690  1.00 20.88           C
ATOM   1806  O   PRO B 384     -65.531 -40.205 -25.500  1.00 18.24           O
ATOM   1807  N   GLY B 385     -64.806 -39.351 -27.483  1.00 18.55           N
ATOM   1808  CA  GLY B 385     -63.431 -39.156 -27.072  1.00 16.13           C
ATOM   1809  C   GLY B 385     -62.544 -40.331 -27.435  1.00 18.13           C
ATOM   1810  O   GLY B 385     -61.323 -40.247 -27.247  1.00 17.52           O
ATOM   1811  N   TYR B 386     -63.122 -41.425 -28.001  1.00 13.55           N
ATOM   1812  CA  TYR B 386     -62.306 -42.590 -28.380  1.00 15.15           C
ATOM   1813  CB  TYR B 386     -62.639 -43.848 -27.532  1.00 14.09           C
ATOM   1814  CG  TYR B 386     -62.267 -43.775 -26.049  1.00 13.52           C
ATOM   1815  CD1 TYR B 386     -61.013 -44.211 -25.602  1.00 13.02           C
ATOM   1816  CE1 TYR B 386     -60.673 -44.146 -24.259  1.00 11.97           C
ATOM   1817  CZ  TYR B 386     -61.584 -43.648 -23.355  1.00 13.23           C
ATOM   1818  OH  TYR B 386     -61.222 -43.608 -22.033  1.00 15.62           O
ATOM   1819  CE2 TYR B 386     -62.843 -43.222 -23.750  1.00 13.31           C
ATOM   1820  CD2 TYR B 386     -63.176 -43.275 -25.099  1.00 14.59           C
ATOM   1821  C   TYR B 386     -62.480 -42.916 -29.867  1.00 18.68           C
ATOM   1822  O   TYR B 386     -63.568 -42.710 -30.420  1.00 15.92           O
ATOM   1823  N   ALA B 387     -61.401 -43.395 -30.502  1.00 18.13           N
ATOM   1824  CA  ALA B 387     -61.457 -43.939 -31.871  1.00 18.94           C
ATOM   1825  CB  ALA B 387     -60.231 -43.490 -32.657  1.00 17.27           C
ATOM   1826  C   ALA B 387     -61.534 -45.467 -31.793  1.00 19.79           C
ATOM   1827  O   ALA B 387     -61.060 -46.026 -30.836  1.00 19.52           O
ATOM   1828  N   TRP B 388     -62.148 -46.137 -32.780  1.00 16.53           N
ATOM   1829  CA  TRP B 388     -62.231 -47.606 -32.786  1.00 17.90           C
ATOM   1830  CB  TRP B 388     -63.683 -48.084 -32.921  1.00 15.82           C
ATOM   1831  CG  TRP B 388     -64.431 -47.437 -34.090  1.00 15.10           C
ATOM   1832  CD1 TRP B 388     -65.223 -46.310 -34.049  1.00 17.19           C
ATOM   1833  NE1 TRP B 388     -65.741 -46.024 -35.309  1.00 17.72           N
ATOM   1834  CE2 TRP B 388     -65.306 -46.921 -36.216  1.00 18.04           C
ATOM   1835  CD2 TRP B 388     -64.465 -47.875 -35.507  1.00 16.49           C
ATOM   1836  CE3 TRP B 388     -63.907 -48.951 -36.225  1.00 19.33           C
ATOM   1837  CZ3 TRP B 388     -64.181 -49.047 -37.620  1.00 22.48           C
ATOM   1838  CH2 TRP B 388     -64.990 -48.101 -38.272  1.00 19.40           C
ATOM   1839  CZ2 TRP B 388     -65.584 -47.039 -37.588  1.00 18.40           C
ATOM   1840  C   TRP B 388     -61.430 -48.194 -33.918  1.00 16.80           C
ATOM   1841  O   TRP B 388     -61.216 -47.544 -34.934  1.00 17.91           O
ATOM   1842  N   THR B 389     -60.972 -49.428 -33.719  1.00 15.59           N
ATOM   1843  CA  THR B 389     -60.308 -50.259 -34.740  1.00 17.23           C
ATOM   1844  CB  THR B 389     -58.800 -50.393 -34.425  1.00 17.76           C
ATOM   1845  OG1 THR B 389     -58.200 -49.079 -34.352  1.00 16.72           O
ATOM   1846  CG2 THR B 389     -58.067 -51.286 -35.465  1.00 22.12           C
ATOM   1847  C   THR B 389     -60.935 -51.659 -34.609  1.00 18.46           C
ATOM   1848  O   THR B 389     -61.019 -52.181 -33.509  1.00 15.15           O
ATOM   1849  N   ILE B 390     -61.427 -52.236 -35.716  1.00 15.53           N
ATOM   1850  CA  ILE B 390     -62.040 -53.567 -35.690  1.00 16.52           C
ATOM   1851  CB  ILE B 390     -62.497 -54.034 -37.113  1.00 18.17           C
ATOM   1852  CG1 ILE B 390     -63.598 -53.100 -37.657  1.00 17.97           C
ATOM   1853  CD1 ILE B 390     -63.883 -53.294 -39.166  1.00 19.51           C
ATOM   1854  CG2 ILE B 390     -63.022 -55.452 -37.055  1.00 18.30           C
ATOM   1855  C   ILE B 390     -61.080 -54.603 -35.120  1.00 14.85           C
ATOM   1856  O   ILE B 390     -59.880 -54.589 -35.450  1.00 15.32           O
ATOM   1857  N   ALA B 391     -61.591 -55.490 -34.255  1.00 12.98           N
ATOM   1858  CA  ALA B 391     -60.735 -56.512 -33.630  1.00 15.31           C
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ATOM   1859  CB  ALA B 391     -60.539 -56.241 -32.109  1.00 12.99           C
ATOM   1860  C   ALA B 391     -61.385 -57.882 -33.874  1.00 15.53           C
ATOM   1861  O   ALA B 391     -62.569 -58.124 -33.516  1.00 17.70           O
ATOM   1862  N   GLN B 392     -60.623 -58.763 -34.501  1.00 18.76           N
ATOM   1863  CA  GLN B 392     -61.102 -60.112 -34.828  1.00 20.41           C
ATOM   1864  CB  GLN B 392     -61.094 -60.315 -36.361  1.00 19.67           C
ATOM   1865  CG  GLN B 392     -59.702 -60.157 -36.978  1.00 19.70           C
ATOM   1866  CD  GLN B 392     -59.663 -60.426 -38.484  1.00 29.11           C
ATOM   1867  OE1 GLN B 392     -60.694 -60.503 -39.147  1.00 31.58           O
ATOM   1868  NE2 GLN B 392     -58.468 -60.557 -39.019  1.00 29.79           N
ATOM   1869  C   GLN B 392     -60.256 -61.223 -34.155  1.00 20.19           C
ATOM   1870  O   GLN B 392     -59.051 -61.089 -33.995  1.00 22.80           O
ATOM   1871  N   CYS B 393     -60.890 -62.356 -33.853  1.00 19.02           N
ATOM   1872  CA  CYS B 393     -60.165 -63.510 -33.354  1.00 19.57           C
ATOM   1873  CB  CYS B 393     -61.126 -64.683 -33.180  1.00 21.00           C
ATOM   1874  SG  CYS B 393     -60.330 -66.166 -32.549  1.00 22.30           S
ATOM   1875  C   CYS B 393     -59.034 -63.884 -34.325  1.00 20.02           C
ATOM   1876  O   CYS B 393     -59.289 -64.083 -35.515  1.00 24.83           O
ATOM   1877  N   LYS B 394     -57.807 -63.967 -33.813  1.00 20.06           N
ATOM   1878  CA  LYS B 394     -56.634 -64.377 -34.592  1.00 19.72           C
ATOM   1879  CB  LYS B 394     -55.341 -64.216 -33.777  1.00 18.32           C
ATOM   1880  CG  LYS B 394     -55.039 -65.385 -32.838  1.00 16.36           C
ATOM   1881  CD  LYS B 394     -53.772 -65.188 -32.028  1.00 18.08           C
ATOM   1882  CE  LYS B 394     -53.405 -66.457 -31.278  1.00 16.92           C
ATOM   1883  NZ  LYS B 394     -52.266 -66.110 -30.408  1.00 21.47           N
ATOM   1884  C   LYS B 394     -56.724 -65.822 -35.157  1.00 18.13           C
ATOM   1885  O   LYS B 394     -56.075 -66.123 -36.167  1.00 12.90           O
ATOM   1886  N   ILE B 395     -57.511 -66.688 -34.517  1.00 15.63           N
ATOM   1887  CA  ILE B 395     -57.695 -68.077 -35.011  1.00 21.55           C
ATOM   1888  CB  ILE B 395     -58.005 -69.099 -33.857  1.00 19.97           C
ATOM   1889  CG1 ILE B 395     -56.825 -69.232 -32.856  1.00 20.90           C
ATOM   1890  CD1 ILE B 395     -55.541 -69.833 -33.405  1.00 23.87           C
ATOM   1891  CG2 ILE B 395     -58.464 -70.460 -34.410  1.00 22.20           C
ATOM   1892  C   ILE B 395     -58.775 -68.219 -36.137  1.00 19.25           C
ATOM   1893  O   ILE B 395     -58.557 -68.868 -37.148  1.00 21.59           O
ATOM   1894  N   CYS B 396     -59.944 -67.651 -35.928  1.00 21.06           N
ATOM   1895  CA  CYS B 396     -61.058 -67.925 -36.827  1.00 18.45           C
ATOM   1896  CB  CYS B 396     -62.204 -68.608 -36.062  1.00 19.51           C
ATOM   1897  SG  CYS B 396     -63.158 -67.498 -34.999  1.00 15.41           S
ATOM   1898  C   CYS B 396     -61.547 -66.684 -37.538  1.00 15.72           C
ATOM   1899  O   CYS B 396     -62.482 -66.756 -38.345  1.00 18.77           O
ATOM   1900  N   ALA B 397     -60.888 -65.556 -37.274  1.00 18.08           N
ATOM   1901  CA  ALA B 397     -61.233 -64.227 -37.861  1.00 17.44           C
ATOM   1902  CB  ALA B 397     -60.887 -64.160 -39.352  1.00 20.70           C
ATOM   1903  C   ALA B 397     -62.661 -63.729 -37.597  1.00 21.08           C
ATOM   1904  O   ALA B 397     -63.096 -62.741 -38.199  1.00 23.11           O
ATOM   1905  N   SER B 398     -63.367 -64.374 -36.661  1.00 19.81           N
ATOM   1906  CA  SER B 398     -64.669 -63.889 -36.218  1.00 20.23           C
ATOM   1907  CB  SER B 398     -65.286 -64.872 -35.216  1.00 23.35           C
ATOM   1908  OG  SER B 398     -66.388 -64.306 -34.505  1.00 32.78           O
ATOM   1909  C   SER B 398     -64.523 -62.476 -35.612  1.00 21.34           C
ATOM   1910  O   SER B 398     -63.582 -62.213 -34.848  1.00 16.15           O
ATOM   1911  N   HIS B 399     -65.405 -61.552 -36.007  1.00 20.25           N
ATOM   1912  CA  HIS B 399     -65.327 -60.141 -35.525  1.00 20.47           C
ATOM   1913  CB  HIS B 399     -66.172 -59.200 -36.401  1.00 24.87           C
ATOM   1914  CG  HIS B 399     -65.501 -58.780 -37.735  1.00 28.78           C
ATOM   1915  ND1 HIS B 399     -64.658 -59.592 -38.440  1.00 32.93           N
ATOM   1916  CE1 HIS B 399     -64.248 -58.952 -39.564  1.00 25.71           C
ATOM   1917  NE2 HIS B 399     -64.842 -57.744 -39.603  1.00 32.33           N
ATOM   1918  CD2 HIS B 399     -65.622 -57.598 -38.496  1.00 28.84           C
ATOM   1919  C   HIS B 399     -65.784 -60.083 -34.091  1.00 20.30           C
ATOM   1920  O   HIS B 399     -66.959 -60.271 -33.792  1.00 22.11           O
ATOM   1921  N   ILE B 400     -64.863 -59.852 -33.163  1.00 19.61           N
ATOM   1922  CA  ILE B 400     -65.266 -59.899 -31.759  1.00 21.86           C
ATOM   1923  CB  ILE B 400     -64.165 -60.512 -30.849  1.00 22.15           C
ATOM   1924  CG1 ILE B 400     -63.665 -61.850 -31.422  1.00 26.77           C
ATOM   1925  CD1 ILE B 400     -64.653 -63.002 -31.362  1.00 26.26           C
ATOM   1926  CG2 ILE B 400     -64.662 -60.632 -29.408  1.00 20.54           C
ATOM   1927  C   ILE B 400     -65.686 -58.535 -31.241  1.00 16.33           C
ATOM   1928  O   ILE B 400     -66.556 -58.423 -30.380  1.00 19.94           O
ATOM   1929  N   GLY B 401     -65.034 -57.500 -31.735  1.00 16.07           N
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ATOM   1930  CA  GLY B 401     -65.278 -56.180 -31.212  1.00 17.87           C
ATOM   1931  C   GLY B 401     -64.356 -55.146 -31.790  1.00 16.14           C
ATOM   1932  O   GLY B 401     -64.092 -55.137 -32.989  1.00 14.44           O
ATOM   1933  N   TRP B 402     -63.893 -54.250 -30.922  1.00 12.81           N
ATOM   1934  CA  TRP B 402     -63.101 -53.115 -31.323  1.00 14.87           C
ATOM   1935  CB  TRP B 402     -63.997 -51.863 -31.616  1.00 14.12           C
ATOM   1936  CG  TRP B 402     -65.021 -52.110 -32.658  1.00 17.28           C
ATOM   1937  CD1 TRP B 402     -64.908 -51.878 -34.035  1.00 14.79           C
ATOM   1938  NE1 TRP B 402     -66.031 -52.309 -34.686  1.00 19.82           N
ATOM   1939  CE2 TRP B 402     -66.914 -52.852 -33.798  1.00 20.82           C
ATOM   1940  CD2 TRP B 402     -66.309 -52.755 -32.474  1.00 20.27           C
ATOM   1941  CE3 TRP B 402     -67.005 -53.253 -31.369  1.00 20.96           C
ATOM   1942  CZ3 TRP B 402     -68.260 -53.808 -31.583  1.00 19.60           C
ATOM   1943  CH2 TRP B 402     -68.823 -53.883 -32.863  1.00 21.29           C
ATOM   1944  CZ2 TRP B 402     -68.163 -53.404 -33.993  1.00 21.16           C
ATOM   1945  C   TRP B 402     -62.137 -52.763 -30.206  1.00 13.18           C
ATOM   1946  O   TRP B 402     -62.463 -52.896 -28.999  1.00 15.35           O
ATOM   1947  N   LYS B 403     -60.974 -52.288 -30.611  1.00 12.95           N
ATOM   1948  CA  LYS B 403     -60.040 -51.619 -29.720  1.00 13.69           C
ATOM   1949  CB  LYS B 403     -58.637 -51.810 -30.221  1.00 16.76           C
ATOM   1950  CG  LYS B 403     -57.611 -51.355 -29.225  1.00 17.41           C
ATOM   1951  CD  LYS B 403     -56.218 -51.457 -29.815  1.00 21.23           C
ATOM   1952  CE  LYS B 403     -55.179 -51.201 -28.718  1.00 30.54           C
ATOM   1953  NZ  LYS B 403     -53.800 -51.226 -29.288  1.00 28.03           N
ATOM   1954  C   LYS B 403     -60.348 -50.141 -29.757  1.00 14.38           C
ATOM   1955  O   LYS B 403     -60.469 -49.547 -30.865  1.00 14.57           O
ATOM   1956  N   PHE B 404     -60.558 -49.553 -28.574  1.00 13.76           N
ATOM   1957  CA  PHE B 404     -60.849 -48.112 -28.477  1.00 11.64           C
ATOM   1958  CB  PHE B 404     -62.092 -47.858 -27.593  1.00 10.58           C
ATOM   1959  CG  PHE B 404     -63.408 -48.223 -28.255  1.00  9.84           C
ATOM   1960  CD1 PHE B 404     -64.081 -47.295 -29.068  1.00 12.16           C
ATOM   1961  CE1 PHE B 404     -65.307 -47.621 -29.687  1.00 14.45           C
ATOM   1962  CZ  PHE B 404     -65.868 -48.887 -29.515  1.00 16.97           C
ATOM   1963  CE2 PHE B 404     -65.223 -49.826 -28.701  1.00 10.79           C
ATOM   1964  CD2 PHE B 404     -64.003 -49.491 -28.050  1.00 10.33           C
ATOM   1965  C   PHE B 404     -59.609 -47.394 -27.934  1.00 13.86           C
ATOM   1966  O   PHE B 404     -59.067 -47.780 -26.881  1.00 13.54           O
ATOM   1967  N   THR B 405     -59.168 -46.365 -28.651  1.00 14.47           N
ATOM   1968  CA  THR B 405     -58.007 -45.563 -28.282  1.00 14.84           C
ATOM   1969  CB  THR B 405     -56.930 -45.655 -29.382  1.00 18.43           C
ATOM   1970  OG1 THR B 405     -57.570 -45.517 -30.635  1.00 16.61           O
ATOM   1971  CG2 THR B 405     -56.290 -47.077 -29.365  1.00 21.24           C
ATOM   1972  C   THR B 405     -58.405 -44.102 -28.075  1.00 14.32           C
ATOM   1973  O   THR B 405     -59.160 -43.520 -28.857  1.00 15.36           O
ATOM   1974  N   ALA B 406     -57.870 -43.504 -27.035  1.00 15.35           N
ATOM   1975  CA  ALA B 406     -58.290 -42.180 -26.599  1.00 16.76           C
ATOM   1976  CB  ALA B 406     -57.716 -41.899 -25.201  1.00 16.59           C
ATOM   1977  C   ALA B 406     -57.757 -41.169 -27.616  1.00 17.96           C
ATOM   1978  O   ALA B 406     -56.626 -41.300 -28.084  1.00 18.28           O
ATOM   1979  N   THR B 407     -58.569 -40.172 -27.968  1.00 20.39           N
ATOM   1980  CA  THR B 407     -58.090 -39.097 -28.884  1.00 24.31           C
ATOM   1981  CB  THR B 407     -59.224 -38.512 -29.773  1.00 24.51           C
ATOM   1982  OG1 THR B 407     -60.266 -38.018 -28.929  1.00 26.36           O
ATOM   1983  CG2 THR B 407     -59.793 -39.589 -30.659  1.00 26.30           C
ATOM   1984  C   THR B 407     -57.363 -37.959 -28.141  1.00 29.72           C
ATOM   1985  O   THR B 407     -56.695 -37.166 -28.785  1.00 31.71           O
ATOM   1986  N   LYS B 408     -57.492 -37.894 -26.804  1.00 26.17           N
ATOM   1987  CA  LYS B 408     -56.868 -36.817 -25.952  1.00 29.08           C
ATOM   1988  CB  LYS B 408     -57.945 -35.921 -25.301  1.00 28.98           C
ATOM   1989  CG  LYS B 408     -58.539 -34.802 -26.139  1.00 41.20           C
ATOM   1990  CD  LYS B 408     -59.972 -34.533 -25.677  1.00 45.11           C
ATOM   1991  CE  LYS B 408     -60.332 -33.056 -25.611  1.00 45.63           C
ATOM   1992  NZ  LYS B 408     -59.736 -32.379 -24.414  1.00 43.58           N
ATOM   1993  C   LYS B 408     -56.037 -37.470 -24.819  1.00 29.18           C
ATOM   1994  O   LYS B 408     -56.420 -38.509 -24.297  1.00 19.21           O
ATOM   1995  N   LYS B 409     -54.944 -36.836 -24.397  1.00 20.60           N
ATOM   1996  CA  LYS B 409     -54.025 -37.479 -23.439  1.00 24.77           C
ATOM   1997  CB  LYS B 409     -52.662 -36.745 -23.389  1.00 31.30           C
ATOM   1998  CG  LYS B 409     -51.836 -36.782 -24.681  1.00 46.02           C
ATOM   1999  CD  LYS B 409     -51.176 -38.139 -24.923  1.00 49.56           C
ATOM   2000  CE  LYS B 409     -49.847 -37.975 -25.646  1.00 51.63           C
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ATOM   2001  NZ  LYS B 409     -48.832 -38.962 -25.185  1.00 62.60           N
ATOM   2002  C   LYS B 409     -54.590 -37.511 -22.023  1.00 21.47           C
ATOM   2003  O   LYS B 409     -54.129 -38.279 -21.202  1.00 21.08           O
ATOM   2004  N   ASP B 410     -55.547 -36.640 -21.719  1.00 25.31           N
ATOM   2005  CA  ASP B 410     -55.948 -36.455 -20.299  1.00 29.10           C
ATOM   2006  CB  ASP B 410     -56.297 -34.978 -20.028  1.00 33.62           C
ATOM   2007  CG  ASP B 410     -57.653 -34.577 -20.585  1.00 40.02           C
ATOM   2008  OD1 ASP B 410     -58.155 -35.236 -21.536  1.00 47.35           O
ATOM   2009  OD2 ASP B 410     -58.233 -33.616 -20.045  1.00 49.30           O
ATOM   2010  C   ASP B 410     -57.067 -37.442 -19.809  1.00 34.82           C
ATOM   2011  O   ASP B 410     -57.489 -37.421 -18.626  1.00 35.70           O
ATOM   2012  N   MET B 411     -57.530 -38.286 -20.739  1.00 26.70           N
ATOM   2013  CA  MET B 411     -58.584 -39.274 -20.510  1.00 24.05           C
ATOM   2014  CB  MET B 411     -59.237 -39.654 -21.855  1.00 17.20           C
ATOM   2015  CG  MET B 411     -60.070 -38.504 -22.378  1.00 34.35           C
ATOM   2016  SD  MET B 411     -60.976 -38.897 -23.854  1.00 41.84           S
ATOM   2017  CE  MET B 411     -59.753 -38.728 -25.116  1.00 35.00           C
ATOM   2018  C   MET B 411     -58.039 -40.535 -19.855  1.00 17.85           C
ATOM   2019  O   MET B 411     -56.845 -40.853 -19.997  1.00 15.52           O
ATOM   2020  N   SER B 412     -58.912 -41.278 -19.157  1.00 15.11           N
ATOM   2021  CA  SER B 412     -58.504 -42.594 -18.652  1.00 15.31           C
ATOM   2022  CB  SER B 412     -58.084 -42.521 -17.179  1.00 16.71           C
ATOM   2023  OG  SER B 412     -59.151 -41.959 -16.435  1.00 23.31           O
ATOM   2024  C   SER B 412     -59.655 -43.563 -18.973  1.00 13.44           C
ATOM   2025  O   SER B 412     -60.817 -43.204 -18.697  1.00 17.40           O
ATOM   2026  N   PRO B 413     -59.332 -44.847 -19.117  1.00 10.84           N
ATOM   2027  CA  PRO B 413     -58.133 -45.357 -19.761  1.00 11.77           C
ATOM   2028  CB  PRO B 413     -58.413 -46.872 -19.866  1.00 13.65           C
ATOM   2029  CG  PRO B 413     -59.905 -46.914 -20.137  1.00 12.35           C
ATOM   2030  CD  PRO B 413     -60.464 -45.793 -19.272  1.00 12.44           C
ATOM   2031  C   PRO B 413     -57.774 -44.740 -21.092  1.00 12.24           C
ATOM   2032  O   PRO B 413     -58.648 -44.246 -21.812  1.00 14.30           O
ATOM   2033  N   GLN B 414     -56.506 -44.747 -21.420  1.00 11.17           N
ATOM   2034  CA  GLN B 414     -56.120 -44.301 -22.767  1.00 13.27           C
ATOM   2035  CB  GLN B 414     -54.614 -44.069 -22.841  1.00 15.40           C
ATOM   2036  CG  GLN B 414     -54.160 -42.747 -22.221  1.00 14.10           C
ATOM   2037  CD  GLN B 414     -54.693 -41.558 -22.994  1.00 18.35           C
ATOM   2038  OE1 GLN B 414     -55.586 -40.819 -22.546  1.00 20.00           O
ATOM   2039  NE2 GLN B 414     -54.195 -41.398 -24.161  1.00 12.41           N
ATOM   2040  C   GLN B 414     -56.527 -45.323 -23.848  1.00 14.48           C
ATOM   2041  O   GLN B 414     -56.590 -44.995 -25.024  1.00 14.59           O
ATOM   2042  N   LYS B 415     -56.738 -46.580 -23.460  1.00 14.53           N
ATOM   2043  CA  LYS B 415     -57.175 -47.611 -24.412  1.00 17.31           C
ATOM   2044  CB  LYS B 415     -55.987 -48.330 -25.110  1.00 23.52           C
ATOM   2045  CG  LYS B 415     -55.256 -49.356 -24.243  1.00 40.74           C
ATOM   2046  CD  LYS B 415     -53.820 -49.626 -24.737  1.00 39.00           C
ATOM   2047  CE  LYS B 415     -52.897 -50.020 -23.594  1.00 32.11           C
ATOM   2048  NZ  LYS B 415     -52.701 -48.939 -22.525  1.00 26.56           N
ATOM   2049  C   LYS B 415     -58.003 -48.599 -23.689  1.00 13.15           C
ATOM   2050  O   LYS B 415     -57.815 -48.779 -22.501  1.00 10.43           O
ATOM   2051  N   PHE B 416     -58.932 -49.234 -24.406  1.00 10.99           N
ATOM   2052  CA  PHE B 416     -59.677 -50.352 -23.876  1.00 10.40           C
ATOM   2053  CB  PHE B 416     -60.753 -49.882 -22.812  1.00  9.75           C
ATOM   2054  CG  PHE B 416     -61.895 -49.088 -23.401  1.00  9.21           C
ATOM   2055  CD1 PHE B 416     -63.093 -49.739 -23.831  1.00 10.57           C
ATOM   2056  CE1 PHE B 416     -64.128 -49.031 -24.430  1.00 10.35           C
ATOM   2057  CZ  PHE B 416     -64.045 -47.625 -24.564  1.00 12.50           C
ATOM   2058  CE2 PHE B 416     -62.885 -46.954 -24.155  1.00  8.92           C
ATOM   2059  CD2 PHE B 416     -61.807 -47.683 -23.549  1.00 10.68           C
ATOM   2060  C   PHE B 416     -60.318 -51.160 -25.050  1.00 12.88           C
ATOM   2061  O   PHE B 416     -60.111 -50.846 -26.219  1.00 13.90           O
ATOM   2062  N   TRP B 417     -60.987 -52.261 -24.705  1.00 13.08           N
ATOM   2063  CA  TRP B 417     -61.687 -53.112 -25.666  1.00 13.85           C
ATOM   2064  CB  TRP B 417     -61.141 -54.552 -25.639  1.00 13.48           C
ATOM   2065  CG  TRP B 417     -59.620 -54.608 -25.784  1.00 14.05           C
ATOM   2066  CD1 TRP B 417     -58.672 -54.422 -24.788  1.00 13.47           C
ATOM   2067  NE1 TRP B 417     -57.423 -54.499 -25.293  1.00 14.55           N
ATOM   2068  CE2 TRP B 417     -57.470 -54.750 -26.636  1.00 13.61           C
ATOM   2069  CD2 TRP B 417     -58.858 -54.797 -27.012  1.00 12.44           C
ATOM   2070  CE3 TRP B 417     -59.206 -55.068 -28.362  1.00 13.69           C
ATOM   2071  CZ3 TRP B 417     -58.182 -55.257 -29.273  1.00 19.69           C
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ATOM	2072	CH2	TRP	B	417	-56.832	-55.254	-28.861	1.00	14.18	C
ATOM	2073	CZ2	TRP	B	417	-56.459	-54.986	-27.532	1.00	12.37	C
ATOM	2074	C	TRP	B	417	-63.180	-53.092	-25.441	1.00	14.18	C
ATOM	2075	O	TRP	B	417	-63.659	-53.217	-24.304	1.00	16.51	O
ATOM	2076	N	GLY	B	418	-63.937	-52.910	-26.523	1.00	16.17	N
ATOM	2077	CA	GLY	B	418	-65.396	-53.083	-26.452	1.00	16.33	C
ATOM	2078	C	GLY	B	418	-65.728	-54.368	-27.187	1.00	20.32	C
ATOM	2079	O	GLY	B	418	-65.492	-54.466	-28.411	1.00	17.26	O
ATOM	2080	N	LEU	B	419	-66.219	-55.366	-26.450	1.00	17.26	N
ATOM	2081	CA	LEU	B	419	-66.427	-56.708	-27.019	1.00	14.96	C
ATOM	2082	CB	LEU	B	419	-65.711	-57.785	-26.140	1.00	14.51	C
ATOM	2083	CG	LEU	B	419	-64.180	-57.669	-25.998	1.00	18.66	C
ATOM	2084	CD1	LEU	B	419	-63.556	-58.787	-25.169	1.00	18.93	C
ATOM	2085	CD2	LEU	B	419	-63.451	-57.518	-27.339	1.00	15.37	C
ATOM	2086	C	LEU	B	419	-67.916	-57.024	-27.108	1.00	17.49	C
ATOM	2087	O	LEU	B	419	-68.699	-56.758	-26.168	1.00	21.46	O
ATOM	2088	N	THR	B	420	-68.338	-57.542	-28.254	1.00	17.17	N
ATOM	2089	CA	THR	B	420	-69.732	-58.020	-28.398	1.00	18.52	C
ATOM	2090	CB	THR	B	420	-70.032	-58.310	-29.854	1.00	20.38	C
ATOM	2091	OG1	THR	B	420	-69.730	-57.117	-30.606	1.00	18.00	O
ATOM	2092	CG2	THR	B	420	-71.538	-58.737	-30.036	1.00	19.04	C
ATOM	2093	C	THR	B	420	-69.993	-59.249	-27.529	1.00	16.35	C
ATOM	2094	O	THR	B	420	-69.338	-60.271	-27.697	1.00	19.67	O
ATOM	2095	N	ARG	B	421	-70.899	-59.120	-26.548	1.00	16.93	N
ATOM	2096	CA	ARG	B	421	-71.164	-60.206	-25.577	1.00	18.81	C
ATOM	2097	CB	ARG	B	421	-72.268	-59.826	-24.577	1.00	24.60	C
ATOM	2098	CG	ARG	B	421	-71.821	-58.931	-23.437	1.00	30.60	C
ATOM	2099	CD	ARG	B	421	-73.021	-58.413	-22.643	1.00	44.49	C
ATOM	2100	NE	ARG	B	421	-72.679	-57.216	-21.870	1.00	47.25	N
ATOM	2101	CZ	ARG	B	421	-72.379	-57.215	-20.575	1.00	46.85	C
ATOM	2102	NH1	ARG	B	421	-72.392	-58.349	-19.885	1.00	44.56	N
ATOM	2103	NH2	ARG	B	421	-72.061	-56.077	-19.972	1.00	47.36	N
ATOM	2104	C	ARG	B	421	-71.609	-61.463	-26.299	1.00	16.85	C
ATOM	2105	O	ARG	B	421	-71.316	-62.546	-25.852	1.00	16.59	O
ATOM	2106	N	SER	B	422	-72.334	-61.299	-27.403	1.00	18.31	N
ATOM	2107	CA	SER	B	422	-72.869	-62.464	-28.121	1.00	18.55	C
ATOM	2108	CB	SER	B	422	-74.081	-62.105	-28.987	1.00	20.38	C
ATOM	2109	OG	SER	B	422	-73.737	-61.243	-30.075	1.00	23.74	O
ATOM	2110	C	SER	B	422	-71.798	-63.189	-28.927	1.00	19.31	C
ATOM	2111	O	SER	B	422	-72.034	-64.284	-29.382	1.00	23.34	O
ATOM	2112	N	ALA	B	423	-70.608	-62.589	-29.060	1.00	16.02	N
ATOM	2113	CA	ALA	B	423	-69.474	-63.220	-29.779	1.00	19.92	C
ATOM	2114	CB	ALA	B	423	-68.702	-62.171	-30.574	1.00	18.55	C
ATOM	2115	C	ALA	B	423	-68.524	-63.995	-28.836	1.00	19.44	C
ATOM	2116	O	ALA	B	423	-67.477	-64.478	-29.266	1.00	17.26	O
ATOM	2117	N	LEU	B	424	-68.909	-64.095	-27.554	1.00	22.12	N
ATOM	2118	CA	LEU	B	424	-68.095	-64.754	-26.491	1.00	23.35	C
ATOM	2119	CB	LEU	B	424	-67.556	-63.704	-25.505	1.00	17.68	C
ATOM	2120	CG	LEU	B	424	-66.679	-62.549	-26.041	1.00	24.01	C
ATOM	2121	CD1	LEU	B	424	-66.498	-61.410	-25.012	1.00	17.33	C
ATOM	2122	CD2	LEU	B	424	-65.329	-63.073	-26.519	1.00	23.03	C
ATOM	2123	C	LEU	B	424	-68.896	-65.833	-25.703	1.00	23.59	C
ATOM	2124	O	LEU	B	424	-70.105	-65.704	-25.530	1.00	21.33	O
ATOM	2125	N	LEU	B	425	-68.201	-66.844	-25.186	1.00	25.46	N
ATOM	2126	CA	LEU	B	425	-68.837	-67.906	-24.386	1.00	40.40	C
ATOM	2127	CB	LEU	B	425	-68.614	-69.305	-24.981	1.00	33.88	C
ATOM	2128	CG	LEU	B	425	-69.588	-69.714	-26.127	1.00	37.90	C
ATOM	2129	CD1	LEU	B	425	-69.444	-71.187	-26.510	1.00	32.69	C
ATOM	2130	CD2	LEU	B	425	-71.058	-69.369	-25.851	1.00	33.19	C
ATOM	2131	C	LEU	B	425	-68.376	-67.856	-22.942	1.00	41.07	C
ATOM	2132	O	LEU	B	425	-67.202	-67.560	-22.694	1.00	30.97	O
ATOM	2133	N	PRO	B	426	-69.215	-68.395	-22.026	1.00	51.06	N
ATOM	2134	CA	PRO	B	426	-69.893	-67.749	-20.943	1.00	56.21	C
ATOM	2135	CB	PRO	B	426	-68.813	-67.724	-19.855	1.00	55.03	C
ATOM	2136	CG	PRO	B	426	-68.159	-69.089	-20.054	1.00	54.92	C
ATOM	2137	CD	PRO	B	426	-68.569	-69.589	-21.459	1.00	66.24	C
ATOM	2138	C	PRO	B	426	-70.592	-66.396	-21.222	1.00	71.60	C
ATOM	2139	O	PRO	B	426	-70.422	-65.785	-22.294	1.00	54.58	O
ATOM	2140	N	THR	B	427	-71.397	-65.973	-20.242	1.00	89.60	N
ATOM	2141	CA	THR	B	427	-72.420	-64.935	-20.401	1.00	77.65	C
ATOM	2142	CB	THR	B	427	-73.814	-65.586	-20.589	1.00	69.12	C

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ATOM   2143  OG1 THR B 427     -73.809 -66.395 -21.776  1.00 60.00           O
ATOM   2144  CG2 THR B 427     -74.933 -64.530 -20.683  1.00 65.95           C
ATOM   2145  C   THR B 427     -72.441 -64.012 -19.172  1.00 81.95           C
ATOM   2146  O   THR B 427     -72.431 -62.783 -19.294  1.00 65.36           O
ATOM   2147  N   THR C 321     -81.163 -67.769 -55.070  1.00 46.98           N
ATOM   2148  CA  THR C 321     -80.836 -66.347 -54.733  1.00 42.28           C
ATOM   2149  CB  THR C 321     -81.543 -65.351 -55.684  1.00 37.36           C
ATOM   2150  OG1 THR C 321     -82.953 -65.596 -55.664  1.00 42.28           O
ATOM   2151  CG2 THR C 321     -80.998 -65.434 -57.126  1.00 42.25           C
ATOM   2152  C   THR C 321     -81.211 -65.956 -53.292  1.00 33.29           C
ATOM   2153  O   THR C 321     -81.079 -64.783 -52.923  1.00 29.40           O
ATOM   2154  N   SER C 322     -81.683 -66.930 -52.503  1.00 29.39           N
ATOM   2155  CA  SER C 322     -82.173 -66.709 -51.142  1.00 23.65           C
ATOM   2156  CB  SER C 322     -82.999 -67.894 -50.681  1.00 25.25           C
ATOM   2157  OG  SER C 322     -84.127 -68.022 -51.510  1.00 33.84           O
ATOM   2158  C   SER C 322     -81.080 -66.471 -50.125  1.00 29.14           C
ATOM   2159  O   SER C 322     -80.048 -67.114 -50.172  1.00 25.03           O
ATOM   2160  N   LEU C 323     -81.322 -65.544 -49.195  1.00 26.40           N
ATOM   2161  CA  LEU C 323     -80.403 -65.309 -48.065  1.00 22.98           C
ATOM   2162  CB  LEU C 323     -79.781 -63.884 -48.103  1.00 18.13           C
ATOM   2163  CG  LEU C 323     -78.945 -63.489 -49.361  1.00 23.01           C
ATOM   2164  CD1 LEU C 323     -78.737 -61.981 -49.492  1.00 17.98           C
ATOM   2165  CD2 LEU C 323     -77.588 -64.171 -49.407  1.00 20.81           C
ATOM   2166  C   LEU C 323     -81.193 -65.563 -46.797  1.00 23.86           C
ATOM   2167  O   LEU C 323     -82.283 -64.990 -46.595  1.00 18.07           O
ATOM   2168  N   CYS C 324     -80.666 -66.483 -45.980  1.00 21.54           N
ATOM   2169  CA  CYS C 324     -81.371 -67.085 -44.862  1.00 20.05           C
ATOM   2170  CB  CYS C 324     -81.509 -68.631 -45.051  1.00 20.12           C
ATOM   2171  SG  CYS C 324     -82.543 -69.144 -46.460  1.00 27.33           S
ATOM   2172  C   CYS C 324     -80.590 -66.791 -43.589  1.00 23.55           C
ATOM   2173  O   CYS C 324     -79.366 -66.586 -43.617  1.00 18.04           O
ATOM   2174  N   CYS C 325     -81.310 -66.761 -42.479  1.00 17.94           N
ATOM   2175  CA  CYS C 325     -80.722 -66.617 -41.151  1.00 20.92           C
ATOM   2176  CB  CYS C 325     -81.855 -66.707 -40.105  1.00 19.55           C
ATOM   2177  SG  CYS C 325     -81.339 -66.979 -38.396  1.00 18.34           S
ATOM   2178  C   CYS C 325     -79.653 -67.721 -40.907  1.00 24.37           C
ATOM   2179  O   CYS C 325     -79.906 -68.924 -41.117  1.00 19.12           O
ATOM   2180  N   LYS C 326     -78.443 -67.312 -40.558  1.00 24.15           N
ATOM   2181  CA  LYS C 326     -77.371 -68.297 -40.405  1.00 26.10           C
ATOM   2182  CB  LYS C 326     -75.973 -67.662 -40.433  1.00 24.93           C
ATOM   2183  CG  LYS C 326     -74.836 -68.701 -40.469  1.00 24.58           C
ATOM   2184  CD  LYS C 326     -73.473 -68.047 -40.514  1.00 26.62           C
ATOM   2185  CE  LYS C 326     -72.941 -67.813 -39.104  1.00 38.73           C
ATOM   2186  NZ  LYS C 326     -71.982 -66.675 -39.005  1.00 40.49           N
ATOM   2187  C   LYS C 326     -77.555 -69.137 -39.123  1.00 29.54           C
ATOM   2188  O   LYS C 326     -77.177 -70.308 -39.089  1.00 21.61           O
ATOM   2189  N   GLN C 327     -78.124 -68.519 -38.084  1.00 25.41           N
ATOM   2190  CA  GLN C 327     -78.401 -69.211 -36.848  1.00 22.49           C
ATOM   2191  CB  GLN C 327     -78.957 -68.265 -35.806  1.00 24.53           C
ATOM   2192  CG  GLN C 327     -79.069 -68.951 -34.431  1.00 22.84           C
ATOM   2193  CD  GLN C 327     -78.801 -68.012 -33.289  1.00 22.97           C
ATOM   2194  OE1 GLN C 327     -77.658 -67.811 -32.914  1.00 35.53           O
ATOM   2195  NE2 GLN C 327     -79.851 -67.427 -32.732  1.00 16.95           N
ATOM   2196  C   GLN C 327     -79.329 -70.419 -37.002  1.00 21.89           C
ATOM   2197  O   GLN C 327     -78.950 -71.540 -36.605  1.00 16.38           O
ATOM   2198  N   CYS C 328     -80.540 -70.201 -37.549  1.00 14.98           N
ATOM   2199  CA  CYS C 328     -81.527 -71.273 -37.644  1.00 19.22           C
ATOM   2200  CB  CYS C 328     -82.887 -70.835 -37.066  1.00 25.65           C
ATOM   2201  SG  CYS C 328     -83.827 -69.631 -38.049  1.00 21.74           S
ATOM   2202  C   CYS C 328     -81.715 -71.936 -39.019  1.00 21.58           C
ATOM   2203  O   CYS C 328     -82.304 -73.017 -39.089  1.00 22.23           O
ATOM   2204  N   GLN C 329     -81.256 -71.288 -40.096  1.00 20.04           N
ATOM   2205  CA  GLN C 329     -81.562 -71.723 -41.516  1.00 21.99           C
ATOM   2206  CB  GLN C 329     -80.689 -72.917 -41.948  1.00 25.27           C
ATOM   2207  CG  GLN C 329     -79.180 -72.689 -41.918  1.00 30.77           C
ATOM   2208  CD  GLN C 329     -78.394 -73.954 -42.272  1.00 33.68           C
ATOM   2209  OE1 GLN C 329     -78.519 -74.495 -43.375  1.00 30.38           O
ATOM   2210  NE2 GLN C 329     -77.592 -74.423 -41.342  1.00 33.48           N
ATOM   2211  C   GLN C 329     -83.040 -72.023 -41.887  1.00 25.06           C
ATOM   2212  O   GLN C 329     -83.308 -72.631 -42.910  1.00 27.35           O
ATOM   2213  N   GLU C 330     -83.990 -71.636 -41.056  1.00 26.36           N
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ATOM   2214  CA  GLU C 330     -85.396 -71.863 -41.359  1.00 24.07           C
ATOM   2215  CB  GLU C 330     -86.243 -71.703 -40.104  1.00 27.75           C
ATOM   2216  CG  GLU C 330     -86.080 -72.794 -39.080  1.00 31.44           C
ATOM   2217  CD  GLU C 330     -87.357 -73.576 -38.881  1.00 45.20           C
ATOM   2218  OE1 GLU C 330     -87.653 -74.442 -39.729  1.00 60.72           O
ATOM   2219  OE2 GLU C 330     -88.058 -73.332 -37.874  1.00 44.35           O
ATOM   2220  C   GLU C 330     -85.858 -70.785 -42.291  1.00 26.46           C
ATOM   2221  O   GLU C 330     -86.682 -71.019 -43.162  1.00 22.85           O
ATOM   2222  N   THR C 331     -85.350 -69.586 -42.061  1.00 22.12           N
ATOM   2223  CA  THR C 331     -86.007 -68.375 -42.536  1.00 27.33           C
ATOM   2224  CB  THR C 331     -86.116 -67.374 -41.382  1.00 27.69           C
ATOM   2225  OG1 THR C 331     -85.152 -67.723 -40.378  1.00 46.96           O
ATOM   2226  CG2 THR C 331     -87.506 -67.428 -40.774  1.00 28.75           C
ATOM   2227  C   THR C 331     -85.263 -67.697 -43.666  1.00 21.21           C
ATOM   2228  O   THR C 331     -84.121 -67.316 -43.491  1.00 25.87           O
ATOM   2229  N   GLU C 332     -85.922 -67.503 -44.810  1.00 23.34           N
ATOM   2230  CA  GLU C 332     -85.435 -66.548 -45.818  1.00 21.62           C
ATOM   2231  CB  GLU C 332     -86.175 -66.705 -47.149  1.00 29.24           C
ATOM   2232  CG  GLU C 332     -85.475 -66.033 -48.320  1.00 22.09           C
ATOM   2233  CD  GLU C 332     -86.297 -66.037 -49.572  1.00 24.57           C
ATOM   2234  OE1 GLU C 332     -86.188 -66.985 -50.373  1.00 20.93           O
ATOM   2235  OE2 GLU C 332     -87.081 -65.085 -49.757  1.00 22.95           O
ATOM   2236  C   GLU C 332     -85.610 -65.106 -45.287  1.00 20.74           C
ATOM   2237  O   GLU C 332     -86.700 -64.744 -44.845  1.00 19.53           O
ATOM   2238  N   ILE C 333     -84.529 -64.322 -45.297  1.00 17.32           N
ATOM   2239  CA  ILE C 333     -84.564 -62.924 -44.780  1.00 19.51           C
ATOM   2240  CB  ILE C 333     -83.338 -62.623 -43.841  1.00 16.82           C
ATOM   2241  CG1 ILE C 333     -83.321 -63.521 -42.593  1.00 19.39           C
ATOM   2242  CD1 ILE C 333     -84.625 -63.569 -41.794  1.00 15.23           C
ATOM   2243  CG2 ILE C 333     -83.303 -61.181 -43.364  1.00 15.68           C
ATOM   2244  C   ILE C 333     -84.641 -61.931 -45.960  1.00 19.54           C
ATOM   2245  O   ILE C 333     -85.355 -60.913 -45.907  1.00 21.47           O
ATOM   2246  N   THR C 334     -83.940 -62.252 -47.039  1.00 17.14           N
ATOM   2247  CA  THR C 334     -83.993 -61.440 -48.237  1.00 23.08           C
ATOM   2248  CB  THR C 334     -83.208 -60.117 -48.052  1.00 22.90           C
ATOM   2249  OG1 THR C 334     -83.578 -59.189 -49.103  1.00 21.85           O
ATOM   2250  CG2 THR C 334     -81.722 -60.385 -48.052  1.00 16.89           C
ATOM   2251  C   THR C 334     -83.513 -62.257 -49.462  1.00 26.72           C
ATOM   2252  O   THR C 334     -83.274 -63.456 -49.348  1.00 23.46           O
ATOM   2253  N   THR C 335     -83.436 -61.627 -50.632  1.00 20.32           N
ATOM   2254  CA  THR C 335     -82.870 -62.287 -51.805  1.00 22.95           C
ATOM   2255  CB  THR C 335     -83.965 -62.677 -52.828  1.00 17.83           C
ATOM   2256  OG1 THR C 335     -84.351 -61.523 -53.575  1.00 18.96           O
ATOM   2257  CG2 THR C 335     -85.189 -63.250 -52.125  1.00 22.92           C
ATOM   2258  C   THR C 335     -81.861 -61.351 -52.478  1.00 20.83           C
ATOM   2259  O   THR C 335     -81.930 -60.142 -52.293  1.00 25.75           O
ATOM   2260  N   LYS C 336     -80.951 -61.896 -53.272  1.00 21.32           N
ATOM   2261  CA  LYS C 336     -79.993 -61.067 -54.003  1.00 20.05           C
ATOM   2262  CB  LYS C 336     -79.017 -61.916 -54.830  1.00 20.79           C
ATOM   2263  CG  LYS C 336     -78.329 -63.030 -54.057  1.00 32.46           C
ATOM   2264  CD  LYS C 336     -77.133 -63.556 -54.839  1.00 29.11           C
ATOM   2265  CE  LYS C 336     -76.706 -64.932 -54.347  1.00 36.46           C
ATOM   2266  NZ  LYS C 336     -75.465 -65.353 -55.056  1.00 30.66           N
ATOM   2267  C   LYS C 336     -80.661 -60.048 -54.918  1.00 21.28           C
ATOM   2268  O   LYS C 336     -80.046 -59.062 -55.261  1.00 21.73           O
ATOM   2269  N   ASN C 337     -81.916 -60.295 -55.321  1.00 21.93           N
ATOM   2270  CA  ASN C 337     -82.666 -59.342 -56.141  1.00 21.42           C
ATOM   2271  CB  ASN C 337     -83.996 -59.956 -56.574  1.00 22.86           C
ATOM   2272  CG  ASN C 337     -83.798 -61.137 -57.482  1.00 32.77           C
ATOM   2273  OD1 ASN C 337     -84.306 -62.233 -57.230  1.00 32.91           O
ATOM   2274  ND2 ASN C 337     -83.010 -60.933 -58.528  1.00 28.14           N
ATOM   2275  C   ASN C 337     -82.921 -58.012 -55.468  1.00 20.11           C
ATOM   2276  O   ASN C 337     -83.025 -56.991 -56.118  1.00 25.16           O
ATOM   2277  N   GLU C 338     -82.996 -58.032 -54.151  1.00 23.05           N
ATOM   2278  CA  GLU C 338     -83.342 -56.850 -53.383  1.00 20.08           C
ATOM   2279  CB  GLU C 338     -84.132 -57.246 -52.126  1.00 19.55           C
ATOM   2280  CG  GLU C 338     -85.419 -58.008 -52.395  1.00 21.56           C
ATOM   2281  CD  GLU C 338     -86.372 -57.270 -53.317  1.00 20.95           C
ATOM   2282  OE1 GLU C 338     -86.465 -56.039 -53.249  1.00 21.12           O
ATOM   2283  OE2 GLU C 338     -87.036 -57.929 -54.121  1.00 33.16           O
ATOM   2284  C   GLU C 338     -82.148 -55.956 -53.053  1.00 21.96           C
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ATOM   2285  O   GLU C 338     -82.324 -54.841 -52.549  1.00 18.35           O
ATOM   2286  N   ILE C 339     -80.935 -56.437 -53.348  1.00 20.77           N
ATOM   2287  CA  ILE C 339     -79.720 -55.693 -53.020  1.00 22.43           C
ATOM   2288  CB  ILE C 339     -78.451 -56.537 -53.343  1.00 24.21           C
ATOM   2289  CG1 ILE C 339     -78.423 -57.817 -52.492  1.00 19.19           C
ATOM   2290  CD1 ILE C 339     -77.307 -58.792 -52.904  1.00 23.39           C
ATOM   2291  CG2 ILE C 339     -77.180 -55.693 -53.208  1.00 22.16           C
ATOM   2292  C   ILE C 339     -79.645 -54.411 -53.806  1.00 17.81           C
ATOM   2293  O   ILE C 339     -79.860 -54.399 -55.028  1.00 18.79           O
ATOM   2294  N   PHE C 340     -79.341 -53.320 -53.118  1.00 16.84           N
ATOM   2295  CA  PHE C 340     -78.978 -52.075 -53.797  1.00 16.78           C
ATOM   2296  CB  PHE C 340     -80.213 -51.114 -53.964  1.00 18.21           C
ATOM   2297  CG  PHE C 340     -80.638 -50.460 -52.676  1.00 14.94           C
ATOM   2298  CD1 PHE C 340     -80.350 -49.117 -52.437  1.00 13.68           C
ATOM   2299  CE1 PHE C 340     -80.678 -48.532 -51.219  1.00 14.56           C
ATOM   2300  CZ  PHE C 340     -81.254 -49.299 -50.210  1.00 10.73           C
ATOM   2301  CE2 PHE C 340     -81.535 -50.617 -50.437  1.00 17.87           C
ATOM   2302  CD2 PHE C 340     -81.196 -51.210 -51.665  1.00 16.15           C
ATOM   2303  C   PHE C 340     -77.861 -51.435 -52.979  1.00 19.88           C
ATOM   2304  O   PHE C 340     -77.474 -51.947 -51.907  1.00 21.42           O
ATOM   2305  N   SER C 341     -77.309 -50.346 -53.479  1.00 22.94           N
ATOM   2306  CA  SER C 341     -76.117 -49.775 -52.854  1.00 24.27           C
ATOM   2307  CB  SER C 341     -74.885 -49.980 -53.741  1.00 30.70           C
ATOM   2308  OG  SER C 341     -73.724 -49.384 -53.163  1.00 29.81           O
ATOM   2309  C   SER C 341     -76.339 -48.299 -52.632  1.00 21.45           C
ATOM   2310  O   SER C 341     -76.660 -47.582 -53.578  1.00 20.90           O
ATOM   2311  N   LEU C 342     -76.218 -47.876 -51.370  1.00 20.39           N
ATOM   2312  CA  LEU C 342     -76.174 -46.450 -50.978  1.00 23.25           C
ATOM   2313  CB  LEU C 342     -76.891 -46.225 -49.640  1.00 20.02           C
ATOM   2314  CG  LEU C 342     -78.415 -46.143 -49.587  1.00 22.57           C
ATOM   2315  CD1 LEU C 342     -78.901 -45.641 -48.231  1.00 28.56           C
ATOM   2316  CD2 LEU C 342     -78.911 -45.217 -50.711  1.00 23.97           C
ATOM   2317  C   LEU C 342     -74.739 -45.834 -50.905  1.00 22.83           C
ATOM   2318  O   LEU C 342     -74.587 -44.691 -50.491  1.00 23.02           O
ATOM   2319  N   SER C 343     -73.706 -46.574 -51.299  1.00 24.57           N
ATOM   2320  CA  SER C 343     -72.330 -46.033 -51.163  1.00 32.35           C
ATOM   2321  CB  SER C 343     -71.375 -47.099 -50.636  1.00 30.10           C
ATOM   2322  OG  SER C 343     -71.230 -48.126 -51.571  1.00 30.70           O
ATOM   2323  C   SER C 343     -71.773 -45.365 -52.440  1.00 33.73           C
ATOM   2324  O   SER C 343     -72.296 -45.571 -53.547  1.00 27.11           O
ATOM   2325  N   GLU C 360     -69.602 -55.743 -45.543  1.00 52.55           N
ATOM   2326  CA  GLU C 360     -69.920 -55.803 -44.113  1.00 54.23           C
ATOM   2327  CB  GLU C 360     -69.177 -54.686 -43.358  1.00 54.41           C
ATOM   2328  CG  GLU C 360     -69.204 -54.811 -41.839  1.00 65.60           C
ATOM   2329  CD  GLU C 360     -68.200 -55.822 -41.307  1.00 77.62           C
ATOM   2330  OE1 GLU C 360     -68.633 -56.918 -40.884  1.00 91.65           O
ATOM   2331  OE2 GLU C 360     -66.981 -55.526 -41.312  1.00 73.51           O
ATOM   2332  C   GLU C 360     -71.438 -55.701 -43.877  1.00 51.43           C
ATOM   2333  O   GLU C 360     -72.052 -56.602 -43.228  1.00 31.76           O
ATOM   2334  N   THR C 361     -72.014 -54.598 -44.389  1.00 35.39           N
ATOM   2335  CA  THR C 361     -73.442 -54.297 -44.272  1.00 38.84           C
ATOM   2336  CB  THR C 361     -73.726 -52.967 -43.519  1.00 40.66           C
ATOM   2337  OG1 THR C 361     -73.217 -53.056 -42.188  1.00 42.81           O
ATOM   2338  CG2 THR C 361     -75.243 -52.698 -43.429  1.00 34.48           C
ATOM   2339  C   THR C 361     -74.103 -54.290 -45.648  1.00 30.09           C
ATOM   2340  O   THR C 361     -73.856 -53.444 -46.473  1.00 32.36           O
ATOM   2341  N   LEU C 362     -74.936 -55.289 -45.853  1.00 25.52           N
ATOM   2342  CA  LEU C 362     -75.671 -55.498 -47.044  1.00 22.31           C
ATOM   2343  CB  LEU C 362     -76.041 -56.965 -47.088  1.00 18.41           C
ATOM   2344  CG  LEU C 362     -76.738 -57.429 -48.347  1.00 24.88           C
ATOM   2345  CD1 LEU C 362     -75.722 -57.567 -49.465  1.00 23.94           C
ATOM   2346  CD2 LEU C 362     -77.410 -58.755 -48.068  1.00 26.77           C
ATOM   2347  C   LEU C 362     -76.946 -54.638 -46.974  1.00 23.71           C
ATOM   2348  O   LEU C 362     -77.624 -54.621 -45.960  1.00 20.35           O
ATOM   2349  N   THR C 363     -77.244 -53.893 -48.022  1.00 22.76           N
ATOM   2350  CA  THR C 363     -78.470 -53.075 -47.999  1.00 21.61           C
ATOM   2351  CB  THR C 363     -78.211 -51.560 -48.165  1.00 19.73           C
ATOM   2352  OG1 THR C 363     -77.405 -51.336 -49.320  1.00 19.98           O
ATOM   2353  CG2 THR C 363     -77.502 -50.979 -46.955  1.00 23.36           C
ATOM   2354  C   THR C 363     -79.465 -53.564 -49.043  1.00 20.00           C
ATOM   2355  O   THR C 363     -79.127 -53.722 -50.232  1.00 20.90           O
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ATOM   2356  N   VAL C 364     -80.677 -53.836 -48.579  1.00 17.53           N
ATOM   2357  CA  VAL C 364     -81.724 -54.363 -49.431  1.00 14.26           C
ATOM   2358  CB  VAL C 364     -82.019 -55.877 -49.167  1.00 15.57           C
ATOM   2359  CG1 VAL C 364     -80.830 -56.741 -49.572  1.00 13.04           C
ATOM   2360  CG2 VAL C 364     -82.479 -56.132 -47.725  1.00 13.21           C
ATOM   2361  C   VAL C 364     -83.029 -53.560 -49.307  1.00 15.93           C
ATOM   2362  O   VAL C 364     -83.374 -53.021 -48.222  1.00 13.02           O
ATOM   2363  N   TYR C 365     -83.780 -53.496 -50.422  1.00 14.42           N
ATOM   2364  CA  TYR C 365     -85.057 -52.749 -50.434  1.00 13.84           C
ATOM   2365  CB  TYR C 365     -85.570 -52.636 -51.891  1.00 13.70           C
ATOM   2366  CG  TYR C 365     -84.847 -51.572 -52.738  1.00 13.42           C
ATOM   2367  CD1 TYR C 365     -84.859 -50.240 -52.343  1.00 13.91           C
ATOM   2368  CE1 TYR C 365     -84.253 -49.252 -53.104  1.00 16.10           C
ATOM   2369  CZ  TYR C 365     -83.591 -49.599 -54.254  1.00 17.40           C
ATOM   2370  OH  TYR C 365     -83.001 -48.595 -54.952  1.00 19.12           O
ATOM   2371  CE2 TYR C 365     -83.569 -50.915 -54.704  1.00 17.41           C
ATOM   2372  CD2 TYR C 365     -84.187 -51.904 -53.932  1.00 15.14           C
ATOM   2373  C   TYR C 365     -86.144 -53.414 -49.577  1.00 15.35           C
ATOM   2374  O   TYR C 365     -87.091 -52.748 -49.088  1.00 13.64           O
ATOM   2375  N   LYS C 366     -86.073 -54.745 -49.541  1.00 14.25           N
ATOM   2376  CA  LYS C 366     -87.127 -55.597 -49.043  1.00 14.23           C
ATOM   2377  CB  LYS C 366     -87.974 -56.154 -50.210  1.00 12.69           C
ATOM   2378  CG  LYS C 366     -88.869 -55.089 -50.842  1.00 16.11           C
ATOM   2379  CD  LYS C 366     -90.141 -54.986 -50.014  1.00 19.06           C
ATOM   2380  CE  LYS C 366     -90.783 -53.645 -50.166  1.00 21.60           C
ATOM   2381  NZ  LYS C 366     -92.145 -53.618 -49.494  1.00 18.72           N
ATOM   2382  C   LYS C 366     -86.517 -56.747 -48.278  1.00 14.08           C
ATOM   2383  O   LYS C 366     -85.521 -57.306 -48.704  1.00 16.75           O
ATOM   2384  N   ALA C 367     -87.166 -57.118 -47.174  1.00 14.13           N
ATOM   2385  CA  ALA C 367     -86.789 -58.295 -46.373  1.00 19.06           C
ATOM   2386  CB  ALA C 367     -85.816 -57.902 -45.270  1.00 23.22           C
ATOM   2387  C   ALA C 367     -88.052 -58.931 -45.782  1.00 15.78           C
ATOM   2388  O   ALA C 367     -89.171 -58.371 -45.893  1.00 16.35           O
ATOM   2389  N   SER C 368     -87.883 -60.082 -45.139  1.00 25.21           N
ATOM   2390  CA  SER C 368     -89.003 -60.861 -44.644  1.00 16.87           C
ATOM   2391  CB  SER C 368     -89.459 -61.801 -45.748  1.00 20.22           C
ATOM   2392  OG  SER C 368     -88.378 -62.647 -46.127  1.00 21.26           O
ATOM   2393  C   SER C 368     -88.627 -61.659 -43.412  1.00 18.86           C
ATOM   2394  O   SER C 368     -87.450 -61.900 -43.159  1.00 17.15           O
ATOM   2395  N   ASN C 369     -89.628 -62.071 -42.632  1.00 20.30           N
ATOM   2396  CA  ASN C 369     -89.397 -62.937 -41.486  1.00 18.43           C
ATOM   2397  CB  ASN C 369     -88.708 -64.237 -41.918  1.00 16.49           C
ATOM   2398  CG  ASN C 369     -89.627 -65.182 -42.652  1.00 23.70           C
ATOM   2399  OD1 ASN C 369     -89.246 -65.762 -43.671  1.00 31.98           O
ATOM   2400  ND2 ASN C 369     -90.816 -65.372 -42.136  1.00 20.80           N
ATOM   2401  C   ASN C 369     -88.515 -62.242 -40.421  1.00 25.29           C
ATOM   2402  O   ASN C 369     -87.869 -62.905 -39.616  1.00 23.47           O
ATOM   2403  N   LEU C 370     -88.496 -60.919 -40.417  1.00 23.30           N
ATOM   2404  CA  LEU C 370     -87.835 -60.186 -39.339  1.00 20.41           C
ATOM   2405  CB  LEU C 370     -86.930 -59.096 -39.922  1.00 20.05           C
ATOM   2406  CG  LEU C 370     -85.600 -59.478 -40.564  1.00 21.32           C
ATOM   2407  CD1 LEU C 370     -84.956 -58.253 -41.231  1.00 21.83           C
ATOM   2408  CD2 LEU C 370     -84.703 -59.997 -39.469  1.00 19.90           C
ATOM   2409  C   LEU C 370     -88.866 -59.545 -38.414  1.00 19.73           C
ATOM   2410  O   LEU C 370     -89.894 -59.044 -38.859  1.00 16.55           O
ATOM   2411  N   ASN C 371     -88.578 -59.587 -37.111  1.00 21.86           N
ATOM   2412  CA  ASN C 371     -89.297 -58.817 -36.085  1.00 20.75           C
ATOM   2413  CB  ASN C 371     -89.453 -59.650 -34.786  1.00 27.32           C
ATOM   2414  CG  ASN C 371     -90.630 -60.615 -34.835  1.00 27.97           C
ATOM   2415  OD1 ASN C 371     -90.525 -61.755 -34.385  1.00 33.05           O
ATOM   2416  ND2 ASN C 371     -91.743 -60.168 -35.380  1.00 30.46           N
ATOM   2417  C   ASN C 371     -88.532 -57.563 -35.704  1.00 22.41           C
ATOM   2418  O   ASN C 371     -87.308 -57.611 -35.490  1.00 20.00           O
ATOM   2419  N   LEU C 372     -89.270 -56.479 -35.536  1.00 22.71           N
ATOM   2420  CA  LEU C 372     -88.691 -55.189 -35.185  1.00 22.26           C
ATOM   2421  CB  LEU C 372     -89.479 -54.047 -35.861  1.00 22.35           C
ATOM   2422  CG  LEU C 372     -89.420 -54.049 -37.410  1.00 26.74           C
ATOM   2423  CD1 LEU C 372     -90.387 -53.036 -38.002  1.00 27.24           C
ATOM   2424  CD2 LEU C 372     -87.984 -53.851 -37.940  1.00 21.45           C
ATOM   2425  C   LEU C 372     -88.709 -55.053 -33.678  1.00 25.61           C
ATOM   2426  O   LEU C 372     -89.715 -55.368 -33.041  1.00 26.85           O
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ATOM   2427  N   ILE C 373     -87.588 -54.599 -33.108  1.00 27.10           N
ATOM   2428  CA  ILE C 373     -87.426 -54.479 -31.651  1.00 32.55           C
ATOM   2429  CB  ILE C 373     -86.147 -55.223 -31.152  1.00 29.41           C
ATOM   2430  CG1 ILE C 373     -86.133 -56.670 -31.639  1.00 32.76           C
ATOM   2431  CD1 ILE C 373     -87.284 -57.505 -31.127  1.00 35.55           C
ATOM   2432  CG2 ILE C 373     -86.042 -55.185 -29.628  1.00 27.88           C
ATOM   2433  C   ILE C 373     -87.293 -53.020 -31.255  1.00 33.85           C
ATOM   2434  O   ILE C 373     -86.313 -52.386 -31.615  1.00 35.67           O
ATOM   2435  N   GLY C 374     -88.255 -52.504 -30.490  1.00 30.51           N
ATOM   2436  CA  GLY C 374     -88.189 -51.127 -29.994  1.00 27.83           C
ATOM   2437  C   GLY C 374     -88.641 -50.100 -31.028  1.00 36.00           C
ATOM   2438  O   GLY C 374     -89.362 -50.430 -32.003  1.00 33.60           O
ATOM   2439  N   ARG C 375     -88.222 -48.855 -30.828  1.00 29.88           N
ATOM   2440  CA  ARG C 375     -88.601 -47.757 -31.729  1.00 41.32           C
ATOM   2441  CB  ARG C 375     -89.312 -46.624 -30.957  1.00 47.07           C
ATOM   2442  CG  ARG C 375     -90.166 -47.051 -29.762  1.00 56.68           C
ATOM   2443  CD  ARG C 375     -90.523 -45.851 -28.878  1.00 64.81           C
ATOM   2444  NE  ARG C 375     -89.341 -45.063 -28.502  1.00 67.63           N
ATOM   2445  CZ  ARG C 375     -88.776 -45.061 -27.296  1.00 64.13           C
ATOM   2446  NH1 ARG C 375     -89.289 -45.791 -26.312  1.00 69.74           N
ATOM   2447  NH2 ARG C 375     -87.699 -44.316 -27.069  1.00 57.83           N
ATOM   2448  C   ARG C 375     -87.364 -47.180 -32.445  1.00 34.00           C
ATOM   2449  O   ARG C 375     -86.248 -47.274 -31.928  1.00 33.86           O
ATOM   2450  N   PRO C 376     -87.575 -46.543 -33.611  1.00 32.65           N
ATOM   2451  CA  PRO C 376     -86.536 -45.888 -34.385  1.00 27.25           C
ATOM   2452  CB  PRO C 376     -87.331 -45.036 -35.348  1.00 26.79           C
ATOM   2453  CG  PRO C 376     -88.530 -45.865 -35.632  1.00 27.98           C
ATOM   2454  CD  PRO C 376     -88.852 -46.576 -34.352  1.00 29.06           C
ATOM   2455  C   PRO C 376     -85.641 -44.993 -33.567  1.00 24.98           C
ATOM   2456  O   PRO C 376     -86.117 -44.268 -32.698  1.00 24.04           O
ATOM   2457  N   SER C 377     -84.346 -45.034 -33.867  1.00 20.29           N
ATOM   2458  CA  SER C 377     -83.385 -44.058 -33.324  1.00 17.43           C
ATOM   2459  CB  SER C 377     -82.593 -44.726 -32.188  1.00 19.24           C
ATOM   2460  OG  SER C 377     -81.515 -43.906 -31.790  1.00 20.33           O
ATOM   2461  C   SER C 377     -82.400 -43.579 -34.426  1.00 16.89           C
ATOM   2462  O   SER C 377     -82.010 -44.365 -35.287  1.00 17.47           O
ATOM   2463  N   THR C 378     -81.986 -42.314 -34.370  1.00 13.71           N
ATOM   2464  CA  THR C 378     -80.940 -41.763 -35.234  1.00 14.26           C
ATOM   2465  CB  THR C 378     -81.258 -40.312 -35.651  1.00 15.80           C
ATOM   2466  OG1 THR C 378     -81.414 -39.538 -34.469  1.00 16.41           O
ATOM   2467  CG2 THR C 378     -82.560 -40.244 -36.431  1.00 15.94           C
ATOM   2468  C   THR C 378     -79.568 -41.750 -34.508  1.00 16.21           C
ATOM   2469  O   THR C 378     -78.565 -41.337 -35.082  1.00 14.59           O
ATOM   2470  N   VAL C 379     -79.514 -42.267 -33.273  1.00 17.42           N
ATOM   2471  CA  VAL C 379     -78.262 -42.231 -32.513  1.00 17.78           C
ATOM   2472  CB  VAL C 379     -78.462 -42.728 -31.058  1.00 21.09           C
ATOM   2473  CG1 VAL C 379     -77.131 -43.110 -30.429  1.00 22.33           C
ATOM   2474  CG2 VAL C 379     -79.161 -41.659 -30.203  1.00 22.27           C
ATOM   2475  C   VAL C 379     -77.197 -43.073 -33.242  1.00 17.74           C
ATOM   2476  O   VAL C 379     -77.437 -44.244 -33.558  1.00 20.55           O
ATOM   2477  N   HIS C 380     -76.074 -42.444 -33.580  1.00 15.18           N
ATOM   2478  CA  HIS C 380     -74.972 -43.091 -34.313  1.00 16.42           C
ATOM   2479  CB  HIS C 380     -74.261 -44.132 -33.439  1.00 14.16           C
ATOM   2480  CG  HIS C 380     -73.736 -43.572 -32.141  1.00 14.82           C
ATOM   2481  ND1 HIS C 380     -72.964 -42.466 -32.091  1.00 15.11           N
ATOM   2482  CE1 HIS C 380     -72.646 -42.207 -30.825  1.00 14.35           C
ATOM   2483  NE2 HIS C 380     -73.224 -43.142 -30.052  1.00 14.28           N
ATOM   2484  CD2 HIS C 380     -73.893 -44.000 -30.832  1.00 13.71           C
ATOM   2485  C   HIS C 380     -75.375 -43.713 -35.640  1.00 16.83           C
ATOM   2486  O   HIS C 380     -74.740 -44.647 -36.111  1.00 16.57           O
ATOM   2487  N   SER C 381     -76.419 -43.195 -36.269  1.00 18.32           N
ATOM   2488  CA  SER C 381     -76.891 -43.794 -37.495  1.00 16.78           C
ATOM   2489  CB  SER C 381     -78.035 -42.978 -38.085  1.00 18.69           C
ATOM   2490  OG  SER C 381     -78.510 -43.648 -39.237  1.00 18.08           O
ATOM   2491  C   SER C 381     -75.783 -43.953 -38.565  1.00 15.20           C
ATOM   2492  O   SER C 381     -75.097 -42.971 -38.932  1.00 15.38           O
ATOM   2493  N   TRP C 382     -75.651 -45.168 -39.099  1.00 12.21           N
ATOM   2494  CA  TRP C 382     -74.695 -45.412 -40.183  1.00 15.15           C
ATOM   2495  CB  TRP C 382     -74.434 -46.905 -40.339  1.00 16.24           C
ATOM   2496  CG  TRP C 382     -73.870 -47.552 -39.118  1.00 17.49           C
ATOM   2497  CD1 TRP C 382     -73.011 -46.985 -38.162  1.00 19.24           C
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ATOM   2498  NE1 TRP C 382     -72.714 -47.892 -37.196  1.00 20.42           N
ATOM   2499  CE2 TRP C 382     -73.332 -49.067 -37.431  1.00 21.54           C
ATOM   2500  CD2 TRP C 382     -74.068 -48.926 -38.676  1.00 19.62           C
ATOM   2501  CE3 TRP C 382     -74.809 -50.009 -39.151  1.00 22.96           C
ATOM   2502  CZ3 TRP C 382     -74.783 -51.204 -38.417  1.00 22.86           C
ATOM   2503  CH2 TRP C 382     -74.027 -51.329 -37.241  1.00 29.27           C
ATOM   2504  CZ2 TRP C 382     -73.296 -50.264 -36.723  1.00 23.34           C
ATOM   2505  C   TRP C 382     -75.121 -44.800 -41.523  1.00 17.69           C
ATOM   2506  O   TRP C 382     -74.291 -44.653 -42.439  1.00 21.22           O
ATOM   2507  N   PHE C 383     -76.388 -44.406 -41.642  1.00 15.13           N
ATOM   2508  CA  PHE C 383     -76.892 -43.767 -42.891  1.00 17.40           C
ATOM   2509  CB  PHE C 383     -77.830 -44.722 -43.645  1.00 15.15           C
ATOM   2510  CG  PHE C 383     -77.191 -46.004 -44.044  1.00 15.57           C
ATOM   2511  CD1 PHE C 383     -76.392 -46.065 -45.194  1.00 17.30           C
ATOM   2512  CE1 PHE C 383     -75.772 -47.244 -45.554  1.00 18.74           C
ATOM   2513  CZ  PHE C 383     -75.935 -48.373 -44.768  1.00 22.69           C
ATOM   2514  CE2 PHE C 383     -76.713 -48.322 -43.612  1.00 16.16           C
ATOM   2515  CD2 PHE C 383     -77.320 -47.140 -43.245  1.00 14.21           C
ATOM   2516  C   PHE C 383     -77.584 -42.437 -42.593  1.00 16.90           C
ATOM   2517  O   PHE C 383     -78.775 -42.409 -42.226  1.00 19.70           O
ATOM   2518  N   PRO C 384     -76.833 -41.323 -42.694  1.00 19.16           N
ATOM   2519  CA  PRO C 384     -77.364 -40.000 -42.343  1.00 21.35           C
ATOM   2520  CB  PRO C 384     -76.280 -39.043 -42.863  1.00 25.42           C
ATOM   2521  CG  PRO C 384     -75.025 -39.831 -42.729  1.00 24.79           C
ATOM   2522  CD  PRO C 384     -75.386 -41.279 -42.975  1.00 19.81           C
ATOM   2523  C   PRO C 384     -78.704 -39.724 -43.020  1.00 24.37           C
ATOM   2524  O   PRO C 384     -78.862 -40.020 -44.209  1.00 27.93           O
ATOM   2525  N   GLY C 385     -79.669 -39.215 -42.246  1.00 22.67           N
ATOM   2526  CA  GLY C 385     -81.032 -39.029 -42.713  1.00 24.78           C
ATOM   2527  C   GLY C 385     -81.988 -40.192 -42.400  1.00 21.92           C
ATOM   2528  O   GLY C 385     -83.167 -40.063 -42.584  1.00 24.00           O
ATOM   2529  N   TYR C 386     -81.471 -41.323 -41.927  1.00 16.94           N
ATOM   2530  CA  TYR C 386     -82.298 -42.461 -41.564  1.00 16.82           C
ATOM   2531  CB  TYR C 386     -81.820 -43.717 -42.327  1.00 14.65           C
ATOM   2532  CG  TYR C 386     -82.097 -43.646 -43.829  1.00 16.35           C
ATOM   2533  CD1 TYR C 386     -83.316 -44.111 -44.353  1.00 17.04           C
ATOM   2534  CE1 TYR C 386     -83.604 -44.008 -45.731  1.00 16.61           C
ATOM   2535  CZ  TYR C 386     -82.650 -43.497 -46.590  1.00 16.13           C
ATOM   2536  OH  TYR C 386     -82.933 -43.447 -47.940  1.00 19.45           O
ATOM   2537  CE2 TYR C 386     -81.432 -43.014 -46.095  1.00 16.85           C
ATOM   2538  CD2 TYR C 386     -81.153 -43.106 -44.721  1.00 15.17           C
ATOM   2539  C   TYR C 386     -82.193 -42.743 -40.068  1.00 19.03           C
ATOM   2540  O   TYR C 386     -81.150 -42.510 -39.478  1.00 15.89           O
ATOM   2541  N   ALA C 387     -83.276 -43.269 -39.484  1.00 17.66           N
ATOM   2542  CA  ALA C 387     -83.258 -43.803 -38.134  1.00 18.44           C
ATOM   2543  CB  ALA C 387     -84.507 -43.353 -37.400  1.00 19.84           C
ATOM   2544  C   ALA C 387     -83.185 -45.341 -38.208  1.00 17.79           C
ATOM   2545  O   ALA C 387     -83.553 -45.907 -39.210  1.00 20.57           O
ATOM   2546  N   TRP C 388     -82.703 -46.017 -37.161  1.00 14.28           N
ATOM   2547  CA  TRP C 388     -82.644 -47.497 -37.185  1.00 17.54           C
ATOM   2548  CB  TRP C 388     -81.205 -47.982 -37.011  1.00 17.30           C
ATOM   2549  CG  TRP C 388     -80.515 -47.438 -35.790  1.00 17.52           C
ATOM   2550  CD1 TRP C 388     -79.680 -46.319 -35.714  1.00 17.47           C
ATOM   2551  NE1 TRP C 388     -79.220 -46.146 -34.423  1.00 20.00           N
ATOM   2552  CE2 TRP C 388     -79.725 -47.096 -33.598  1.00 21.83           C
ATOM   2553  CD2 TRP C 388     -80.566 -47.976 -34.419  1.00 19.49           C
ATOM   2554  CE3 TRP C 388     -81.214 -49.052 -33.811  1.00 20.29           C
ATOM   2555  CZ3 TRP C 388     -81.002 -49.274 -32.420  1.00 22.79           C
ATOM   2556  CH2 TRP C 388     -80.204 -48.405 -31.651  1.00 23.47           C
ATOM   2557  CZ2 TRP C 388     -79.531 -47.317 -32.228  1.00 21.03           C
ATOM   2558  C   TRP C 388     -83.534 -48.170 -36.155  1.00 20.00           C
ATOM   2559  O   TRP C 388     -83.771 -47.624 -35.097  1.00 21.86           O
ATOM   2560  N   THR C 389     -84.023 -49.370 -36.478  1.00 22.70           N
ATOM   2561  CA  THR C 389     -84.696 -50.244 -35.510  1.00 17.72           C
ATOM   2562  CB  THR C 389     -86.216 -50.337 -35.823  1.00 21.51           C
ATOM   2563  OG1 THR C 389     -86.741 -49.025 -35.994  1.00 21.64           O
ATOM   2564  CG2 THR C 389     -86.978 -51.002 -34.645  1.00 21.45           C
ATOM   2565  C   THR C 389     -84.111 -51.648 -35.617  1.00 21.06           C
ATOM   2566  O   THR C 389     -84.000 -52.175 -36.712  1.00 21.49           O
ATOM   2567  N   ILE C 390     -83.702 -52.245 -34.480  1.00 17.91           N
ATOM   2568  CA  ILE C 390     -83.173 -53.598 -34.486  1.00 15.81           C
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ATOM   2569  CB  ILE C 390     -82.809 -54.079 -33.075  1.00 16.95           C
ATOM   2570  CG1 ILE C 390     -81.583 -53.312 -32.571  1.00 18.71           C
ATOM   2571  CD1 ILE C 390     -81.213 -53.618 -31.126  1.00 22.31           C
ATOM   2572  CG2 ILE C 390     -82.523 -55.583 -33.082  1.00 21.05           C
ATOM   2573  C   ILE C 390     -84.182 -54.543 -35.104  1.00 18.48           C
ATOM   2574  O   ILE C 390     -85.401 -54.465 -34.802  1.00 16.48           O
ATOM   2575  N   ALA C 391     -83.672 -55.401 -35.992  1.00 17.19           N
ATOM   2576  CA  ALA C 391     -84.461 -56.421 -36.674  1.00 18.85           C
ATOM   2577  CB  ALA C 391     -84.469 -56.153 -38.165  1.00 16.11           C
ATOM   2578  C   ALA C 391     -83.831 -57.803 -36.382  1.00 24.01           C
ATOM   2579  O   ALA C 391     -82.645 -58.040 -36.695  1.00 20.74           O
ATOM   2580  N   GLN C 392     -84.610 -58.707 -35.786  1.00 22.43           N
ATOM   2581  CA  GLN C 392     -84.100 -60.077 -35.492  1.00 19.30           C
ATOM   2582  CB  GLN C 392     -84.066 -60.285 -33.985  1.00 20.48           C
ATOM   2583  CG  GLN C 392     -85.361 -59.855 -33.340  1.00 30.13           C
ATOM   2584  CD  GLN C 392     -85.460 -60.267 -31.909  1.00 32.28           C
ATOM   2585  OE1 GLN C 392     -84.658 -59.843 -31.088  1.00 31.46           O
ATOM   2586  NE2 GLN C 392     -86.471 -61.088 -31.588  1.00 30.56           N
ATOM   2587  C   GLN C 392     -84.953 -61.159 -36.181  1.00 20.20           C
ATOM   2588  O   GLN C 392     -86.156 -60.937 -36.460  1.00 22.04           O
ATOM   2589  N   CYS C 393     -84.355 -62.312 -36.459  1.00 20.74           N
ATOM   2590  CA  CYS C 393     -85.120 -63.426 -37.033  1.00 21.19           C
ATOM   2591  CB  CYS C 393     -84.230 -64.638 -37.288  1.00 15.44           C
ATOM   2592  SG  CYS C 393     -85.130 -66.142 -37.709  1.00 20.71           S
ATOM   2593  C   CYS C 393     -86.349 -63.803 -36.160  1.00 22.32           C
ATOM   2594  O   CYS C 393     -86.258 -63.875 -34.924  1.00 22.98           O
ATOM   2595  N   LYS C 394     -87.496 -63.997 -36.813  1.00 17.78           N
ATOM   2596  CA  LYS C 394     -88.732 -64.185 -36.098  1.00 20.23           C
ATOM   2597  CB  LYS C 394     -89.934 -63.980 -37.012  1.00 22.55           C
ATOM   2598  CG  LYS C 394     -90.334 -65.216 -37.796  1.00 22.60           C
ATOM   2599  CD  LYS C 394     -91.494 -64.901 -38.719  1.00 29.41           C
ATOM   2600  CE  LYS C 394     -92.236 -66.164 -39.109  1.00 28.29           C
ATOM   2601  NZ  LYS C 394     -93.010 -65.901 -40.356  1.00 35.11           N
ATOM   2602  C   LYS C 394     -88.784 -65.562 -35.450  1.00 20.60           C
ATOM   2603  O   LYS C 394     -89.586 -65.768 -34.549  1.00 19.59           O
ATOM   2604  N   ILE C 395     -87.938 -66.495 -35.920  1.00 19.55           N
ATOM   2605  CA  ILE C 395     -87.909 -67.865 -35.391  1.00 20.31           C
ATOM   2606  CB  ILE C 395     -87.597 -68.930 -36.497  1.00 19.34           C
ATOM   2607  CG1 ILE C 395     -88.668 -68.937 -37.605  1.00 19.02           C
ATOM   2608  CD1 ILE C 395     -90.075 -69.306 -37.152  1.00 18.51           C
ATOM   2609  CG2 ILE C 395     -87.432 -70.319 -35.882  1.00 21.79           C
ATOM   2610  C   ILE C 395     -86.936 -68.027 -34.215  1.00 23.66           C
ATOM   2611  O   ILE C 395     -87.311 -68.538 -33.176  1.00 22.28           O
ATOM   2612  N   CYS C 396     -85.681 -67.611 -34.391  1.00 23.48           N
ATOM   2613  CA  CYS C 396     -84.651 -67.877 -33.396  1.00 19.94           C
ATOM   2614  CB  CYS C 396     -83.462 -68.539 -34.073  1.00 21.17           C
ATOM   2615  SG  CYS C 396     -82.484 -67.368 -35.033  1.00 24.74           S
ATOM   2616  C   CYS C 396     -84.192 -66.595 -32.672  1.00 20.15           C
ATOM   2617  O   CYS C 396     -83.437 -66.669 -31.738  1.00 20.54           O
ATOM   2618  N   ALA C 397     -84.644 -65.416 -33.138  1.00 23.65           N
ATOM   2619  CA  ALA C 397     -84.264 -64.113 -32.546  1.00 17.06           C
ATOM   2620  CB  ALA C 397     -84.537 -64.076 -31.035  1.00 17.73           C
ATOM   2621  C   ALA C 397     -82.826 -63.674 -32.837  1.00 18.41           C
ATOM   2622  O   ALA C 397     -82.342 -62.742 -32.204  1.00 17.41           O
ATOM   2623  N   SER C 398     -82.135 -64.337 -33.778  1.00 18.48           N
ATOM   2624  CA  SER C 398     -80.791 -63.894 -34.175  1.00 20.01           C
ATOM   2625  CB  SER C 398     -80.247 -64.776 -35.292  1.00 22.26           C
ATOM   2626  OG  SER C 398     -79.016 -64.291 -35.796  1.00 24.14           O
ATOM   2627  C   SER C 398     -80.872 -62.442 -34.657  1.00 21.26           C
ATOM   2628  O   SER C 398     -81.728 -62.110 -35.477  1.00 20.78           O
ATOM   2629  N   HIS C 399     -80.012 -61.581 -34.118  1.00 21.72           N
ATOM   2630  CA  HIS C 399     -79.884 -60.189 -34.580  1.00 28.14           C
ATOM   2631  CB  HIS C 399     -78.938 -59.420 -33.665  1.00 28.20           C
ATOM   2632  CG  HIS C 399     -79.591 -58.841 -32.424  1.00 40.47           C
ATOM   2633  ND1 HIS C 399     -80.492 -59.521 -31.681  1.00 44.65           N
ATOM   2634  CE1 HIS C 399     -80.881 -58.760 -30.636  1.00 39.75           C
ATOM   2635  NE2 HIS C 399     -80.223 -57.591 -30.702  1.00 51.18           N
ATOM   2636  CD2 HIS C 399     -79.414 -57.606 -31.788  1.00 41.14           C
ATOM   2637  C   HIS C 399     -79.337 -60.168 -35.999  1.00 27.46           C
ATOM   2638  O   HIS C 399     -78.131 -60.292 -36.206  1.00 24.27           O
ATOM   2639  N   ILE C 400     -80.203 -60.036 -36.992  1.00 22.61           N
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ATOM   2640  CA  ILE C 400     -79.754 -60.068 -38.394  1.00 22.27           C
ATOM   2641  CB  ILE C 400     -80.842 -60.666 -39.334  1.00 19.99           C
ATOM   2642  CG1 ILE C 400     -81.257 -62.082 -38.869  1.00 17.08           C
ATOM   2643  CD1 ILE C 400     -80.203 -63.115 -39.062  1.00 23.14           C
ATOM   2644  CG2 ILE C 400     -80.386 -60.666 -40.807  1.00 16.43           C
ATOM   2645  C   ILE C 400     -79.325 -58.669 -38.878  1.00 23.99           C
ATOM   2646  O   ILE C 400     -78.390 -58.542 -39.683  1.00 21.37           O
ATOM   2647  N   GLY C 401     -80.008 -57.623 -38.401  1.00 19.95           N
ATOM   2648  CA  GLY C 401     -79.636 -56.263 -38.802  1.00 18.21           C
ATOM   2649  C   GLY C 401     -80.531 -55.174 -38.281  1.00 18.71           C
ATOM   2650  O   GLY C 401     -80.907 -55.191 -37.122  1.00 19.32           O
ATOM   2651  N   TRP C 402     -80.888 -54.225 -39.164  1.00 17.44           N
ATOM   2652  CA  TRP C 402     -81.726 -53.078 -38.800  1.00 19.31           C
ATOM   2653  CB  TRP C 402     -80.865 -51.862 -38.399  1.00 20.18           C
ATOM   2654  CG  TRP C 402     -79.877 -52.174 -37.289  1.00 22.67           C
ATOM   2655  CD1 TRP C 402     -80.022 -51.940 -35.933  1.00 22.20           C
ATOM   2656  NE1 TRP C 402     -78.907 -52.382 -35.236  1.00 20.05           N
ATOM   2657  CE2 TRP C 402     -78.004 -52.923 -36.074  1.00 18.73           C
ATOM   2658  CD2 TRP C 402     -78.560 -52.815 -37.432  1.00 24.01           C
ATOM   2659  CE3 TRP C 402     -77.817 -53.316 -38.520  1.00 22.95           C
ATOM   2660  CZ3 TRP C 402     -76.550 -53.909 -38.248  1.00 25.71           C
ATOM   2661  CH2 TRP C 402     -76.044 -53.994 -36.930  1.00 22.33           C
ATOM   2662  CZ2 TRP C 402     -76.756 -53.491 -35.824  1.00 22.36           C
ATOM   2663  C   TRP C 402     -82.674 -52.660 -39.920  1.00 16.44           C
ATOM   2664  O   TRP C 402     -82.382 -52.831 -41.096  1.00 16.58           O
ATOM   2665  N   LYS C 403     -83.809 -52.106 -39.544  1.00 15.91           N
ATOM   2666  CA  LYS C 403     -84.644 -51.400 -40.496  1.00 15.23           C
ATOM   2667  CB  LYS C 403     -86.111 -51.534 -40.149  1.00 14.73           C
ATOM   2668  CG  LYS C 403     -87.053 -51.126 -41.296  1.00 17.67           C
ATOM   2669  CD  LYS C 403     -88.510 -51.063 -40.785  1.00 19.67           C
ATOM   2670  CE  LYS C 403     -89.540 -51.066 -41.936  1.00 26.44           C
ATOM   2671  NZ  LYS C 403     -90.902 -50.808 -41.380  1.00 25.88           N
ATOM   2672  C   LYS C 403     -84.240 -49.961 -40.385  1.00 15.48           C
ATOM   2673  O   LYS C 403     -84.160 -49.427 -39.264  1.00 16.39           O
ATOM   2674  N   PHE C 404     -83.992 -49.334 -41.537  1.00 14.03           N
ATOM   2675  CA  PHE C 404     -83.636 -47.911 -41.590  1.00 14.56           C
ATOM   2676  CB  PHE C 404     -82.363 -47.709 -42.431  1.00 15.79           C
ATOM   2677  CG  PHE C 404     -81.085 -48.126 -41.697  1.00 14.77           C
ATOM   2678  CD1 PHE C 404     -80.438 -47.220 -40.848  1.00 11.92           C
ATOM   2679  CE1 PHE C 404     -79.269 -47.597 -40.134  1.00 16.30           C
ATOM   2680  CZ  PHE C 404     -78.740 -48.862 -40.289  1.00 14.09           C
ATOM   2681  CE2 PHE C 404     -79.356 -49.804 -41.147  1.00 11.55           C
ATOM   2682  CD2 PHE C 404     -80.535 -49.433 -41.855  1.00 15.05           C
ATOM   2683  C   PHE C 404     -84.803 -47.142 -42.168  1.00 16.74           C
ATOM   2684  O   PHE C 404     -85.342 -47.531 -43.202  1.00 17.23           O
ATOM   2685  N   THR C 405     -85.234 -46.085 -41.479  1.00 16.28           N
ATOM   2686  CA  THR C 405     -86.417 -45.367 -41.928  1.00 15.17           C
ATOM   2687  CB  THR C 405     -87.571 -45.555 -40.914  1.00 19.34           C
ATOM   2688  OG1 THR C 405     -87.073 -45.359 -39.590  1.00 18.94           O
ATOM   2689  CG2 THR C 405     -88.141 -46.980 -41.007  1.00 20.52           C
ATOM   2690  C   THR C 405     -86.064 -43.904 -42.078  1.00 17.51           C
ATOM   2691  O   THR C 405     -85.376 -43.345 -41.220  1.00 14.48           O
ATOM   2692  N   ALA C 406     -86.519 -43.285 -43.174  1.00 15.65           N
ATOM   2693  CA  ALA C 406     -86.117 -41.919 -43.531  1.00 18.73           C
ATOM   2694  CB  ALA C 406     -86.602 -41.565 -44.952  1.00 15.25           C
ATOM   2695  C   ALA C 406     -86.665 -40.923 -42.534  1.00 19.11           C
ATOM   2696  O   ALA C 406     -87.776 -41.069 -42.088  1.00 18.20           O
ATOM   2697  N   THR C 407     -85.861 -39.919 -42.167  1.00 23.17           N
ATOM   2698  CA  THR C 407     -86.357 -38.856 -41.288  1.00 24.24           C
ATOM   2699  CB  THR C 407     -85.270 -38.259 -40.353  1.00 21.03           C
ATOM   2700  OG1 THR C 407     -84.222 -37.724 -41.147  1.00 22.96           O
ATOM   2701  CG2 THR C 407     -84.685 -39.308 -39.404  1.00 23.12           C
ATOM   2702  C   THR C 407     -87.075 -37.728 -42.051  1.00 28.02           C
ATOM   2703  O   THR C 407     -87.787 -36.963 -41.435  1.00 30.92           O
ATOM   2704  N   LYS C 408     -86.889 -37.659 -43.379  1.00 28.82           N
ATOM   2705  CA  LYS C 408     -87.485 -36.616 -44.269  1.00 34.36           C
ATOM   2706  CB  LYS C 408     -86.393 -35.691 -44.847  1.00 37.71           C
ATOM   2707  CG  LYS C 408     -85.845 -34.627 -43.887  1.00 44.88           C
ATOM   2708  CD  LYS C 408     -84.372 -34.285 -44.146  1.00 48.56           C
ATOM   2709  CE  LYS C 408     -84.177 -33.276 -45.276  1.00 58.37           C
ATOM   2710  NZ  LYS C 408     -84.135 -33.931 -46.621  1.00 59.71           N
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ATOM   2711  C   LYS C 408     -88.262 -37.265 -45.434  1.00 34.70           C
ATOM   2712  O   LYS C 408     -87.899 -38.337 -45.917  1.00 27.93           O
ATOM   2713  N   LYS C 409     -89.323 -36.615 -45.904  1.00 31.77           N
ATOM   2714  CA  LYS C 409     -90.167 -37.249 -46.893  1.00 29.16           C
ATOM   2715  CB  LYS C 409     -91.583 -36.634 -46.907  1.00 41.65           C
ATOM   2716  CG  LYS C 409     -92.459 -37.029 -45.720  1.00 52.57           C
ATOM   2717  CD  LYS C 409     -92.489 -38.541 -45.486  1.00 58.96           C
ATOM   2718  CE  LYS C 409     -93.518 -38.926 -44.430  1.00 61.73           C
ATOM   2719  NZ  LYS C 409     -94.888 -38.473 -44.820  1.00 70.37           N
ATOM   2720  C   LYS C 409     -89.558 -37.227 -48.297  1.00 26.22           C
ATOM   2721  O   LYS C 409     -89.974 -37.990 -49.147  1.00 23.12           O
ATOM   2722  N   ASP C 410     -88.587 -36.355 -48.536  1.00 26.03           N
ATOM   2723  CA  ASP C 410     -88.039 -36.173 -49.901  1.00 32.66           C
ATOM   2724  CB  ASP C 410     -87.531 -34.726 -50.112  1.00 36.81           C
ATOM   2725  CG  ASP C 410     -86.335 -34.358 -49.191  1.00 48.97           C
ATOM   2726  OD1 ASP C 410     -85.842 -35.210 -48.402  1.00 40.68           O
ATOM   2727  OD2 ASP C 410     -85.881 -33.197 -49.279  1.00 48.67           O
ATOM   2728  C   ASP C 410     -86.947 -37.197 -50.306  1.00 36.36           C
ATOM   2729  O   ASP C 410     -86.488 -37.191 -51.464  1.00 30.60           O
ATOM   2730  N   MET C 411     -86.533 -38.038 -49.343  1.00 27.26           N
ATOM   2731  CA  MET C 411     -85.516 -39.093 -49.552  1.00 27.50           C
ATOM   2732  CB  MET C 411     -84.897 -39.517 -48.192  1.00 20.14           C
ATOM   2733  CG  MET C 411     -84.070 -38.385 -47.589  1.00 34.07           C
ATOM   2734  SD  MET C 411     -83.332 -38.664 -45.967  1.00 39.57           S
ATOM   2735  CE  MET C 411     -84.751 -38.700 -44.911  1.00 26.88           C
ATOM   2736  C   MET C 411     -86.083 -40.333 -50.276  1.00 27.01           C
ATOM   2737  O   MET C 411     -87.274 -40.627 -50.198  1.00 20.36           O
ATOM   2738  N   SER C 412     -85.216 -41.058 -50.973  1.00 22.03           N
ATOM   2739  CA  SER C 412     -85.595 -42.349 -51.537  1.00 19.59           C
ATOM   2740  CB  SER C 412     -85.782 -42.280 -53.032  1.00 19.83           C
ATOM   2741  OG  SER C 412     -84.763 -41.465 -53.592  1.00 25.16           O
ATOM   2742  C   SER C 412     -84.461 -43.256 -51.120  1.00 20.43           C
ATOM   2743  O   SER C 412     -83.290 -42.830 -51.270  1.00 16.79           O
ATOM   2744  N   PRO C 413     -84.758 -44.564 -51.045  1.00 15.16           N
ATOM   2745  CA  PRO C 413     -85.936 -45.093 -50.394  1.00 16.63           C
ATOM   2746  CB  PRO C 413     -85.644 -46.608 -50.301  1.00 13.23           C
ATOM   2747  CG  PRO C 413     -84.187 -46.660 -50.082  1.00 14.85           C
ATOM   2748  CD  PRO C 413     -83.592 -45.437 -50.799  1.00 12.35           C
ATOM   2749  C   PRO C 413     -86.361 -44.491 -49.091  1.00 17.58           C
ATOM   2750  O   PRO C 413     -85.520 -44.078 -48.306  1.00 18.78           O
ATOM   2751  N   GLN C 414     -87.669 -44.465 -48.841  1.00 14.24           N
ATOM   2752  CA  GLN C 414     -88.154 -44.057 -47.528  1.00 14.72           C
ATOM   2753  CB  GLN C 414     -89.675 -43.831 -47.575  1.00 21.18           C
ATOM   2754  CG  GLN C 414     -90.067 -42.483 -48.210  1.00 16.33           C
ATOM   2755  CD  GLN C 414     -89.579 -41.324 -47.348  1.00 21.34           C
ATOM   2756  OE1 GLN C 414     -88.690 -40.568 -47.741  1.00 25.26           O
ATOM   2757  NE2 GLN C 414     -90.121 -41.214 -46.149  1.00 16.87           N
ATOM   2758  C   GLN C 414     -87.762 -45.052 -46.424  1.00 13.47           C
ATOM   2759  O   GLN C 414     -87.766 -44.713 -45.251  1.00 13.39           O
ATOM   2760  N   LYS C 415     -87.425 -46.281 -46.818  1.00 12.81           N
ATOM   2761  CA  LYS C 415     -87.047 -47.316 -45.887  1.00 17.27           C
ATOM   2762  CB  LYS C 415     -88.289 -47.969 -45.200  1.00 27.39           C
ATOM   2763  CG  LYS C 415     -88.907 -49.132 -45.918  1.00 31.26           C
ATOM   2764  CD  LYS C 415     -90.397 -49.203 -45.631  1.00 40.02           C
ATOM   2765  CE  LYS C 415     -91.174 -49.680 -46.845  1.00 31.36           C
ATOM   2766  NZ  LYS C 415     -91.738 -48.555 -47.698  1.00 26.51           N
ATOM   2767  C   LYS C 415     -86.202 -48.348 -46.638  1.00 15.30           C
ATOM   2768  O   LYS C 415     -86.316 -48.482 -47.880  1.00 14.31           O
ATOM   2769  N   PHE C 416     -85.323 -49.018 -45.897  1.00 13.65           N
ATOM   2770  CA  PHE C 416     -84.531 -50.141 -46.413  1.00 15.39           C
ATOM   2771  CB  PHE C 416     -83.387 -49.656 -47.344  1.00 15.59           C
ATOM   2772  CG  PHE C 416     -82.271 -48.919 -46.628  1.00 16.24           C
ATOM   2773  CD1 PHE C 416     -81.099 -49.595 -46.218  1.00 14.04           C
ATOM   2774  CE1 PHE C 416     -80.082 -48.917 -45.561  1.00 14.00           C
ATOM   2775  CZ  PHE C 416     -80.209 -47.575 -45.293  1.00 13.70           C
ATOM   2776  CE2 PHE C 416     -81.336 -46.880 -45.694  1.00 11.81           C
ATOM   2777  CD2 PHE C 416     -82.372 -47.547 -46.361  1.00 15.66           C
ATOM   2778  C   PHE C 416     -84.005 -50.943 -45.223  1.00 14.79           C
ATOM   2779  O   PHE C 416     -84.293 -50.597 -44.063  1.00 18.25           O
ATOM   2780  N   TRP C 417     -83.346 -52.057 -45.513  1.00 12.82           N
ATOM   2781  CA  TRP C 417     -82.753 -52.922 -44.501  1.00 16.09           C
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ATOM   2782  CB  TRP C 417     -83.332 -54.370 -44.545  1.00 15.43           C
ATOM   2783  CG  TRP C 417     -84.842 -54.390 -44.515  1.00 13.85           C
ATOM   2784  CD1 TRP C 417     -85.704 -54.208 -45.579  1.00 16.56           C
ATOM   2785  NE1 TRP C 417     -87.009 -54.284 -45.164  1.00 20.24           N
ATOM   2786  CE2 TRP C 417     -87.068 -54.521 -43.830  1.00 19.94           C
ATOM   2787  CD2 TRP C 417     -85.701 -54.595 -43.350  1.00 16.94           C
ATOM   2788  CE3 TRP C 417     -85.471 -54.829 -42.004  1.00 17.63           C
ATOM   2789  CZ3 TRP C 417     -86.563 -54.992 -41.150  1.00 16.62           C
ATOM   2790  CH2 TRP C 417     -87.878 -54.912 -41.621  1.00 18.24           C
ATOM   2791  CZ2 TRP C 417     -88.163 -54.666 -42.975  1.00 20.48           C
ATOM   2792  C   TRP C 417     -81.265 -52.953 -44.638  1.00 18.16           C
ATOM   2793  O   TRP C 417     -80.720 -53.149 -45.731  1.00 20.68           O
ATOM   2794  N   GLY C 418     -80.588 -52.768 -43.514  1.00 15.54           N
ATOM   2795  CA  GLY C 418     -79.139 -52.996 -43.460  1.00 19.03           C
ATOM   2796  C   GLY C 418     -78.935 -54.289 -42.693  1.00 15.90           C
ATOM   2797  O   GLY C 418     -79.321 -54.390 -41.516  1.00 14.11           O
ATOM   2798  N   LEU C 419     -78.413 -55.291 -43.391  1.00 17.31           N
ATOM   2799  CA  LEU C 419     -78.292 -56.641 -42.840  1.00 19.06           C
ATOM   2800  CB  LEU C 419     -79.000 -57.661 -43.777  1.00 17.16           C
ATOM   2801  CG  LEU C 419     -80.480 -57.343 -44.085  1.00 18.47           C
ATOM   2802  CD1 LEU C 419     -81.105 -58.334 -45.062  1.00 20.53           C
ATOM   2803  CD2 LEU C 419     -81.304 -57.258 -42.793  1.00 18.86           C
ATOM   2804  C   LEU C 419     -76.781 -57.013 -42.598  1.00 20.83           C
ATOM   2805  O   LEU C 419     -75.894 -56.709 -43.412  1.00 21.07           O
ATOM   2806  N   THR C 420     -76.502 -57.662 -41.474  1.00 22.24           N
ATOM   2807  CA  THR C 420     -75.119 -58.099 -41.172  1.00 21.28           C
ATOM   2808  CB  THR C 420     -74.935 -58.384 -39.665  1.00 22.15           C
ATOM   2809  OG1 THR C 420     -75.288 -57.206 -38.933  1.00 21.18           O
ATOM   2810  CG2 THR C 420     -73.468 -58.760 -39.315  1.00 25.70           C
ATOM   2811  C   THR C 420     -74.863 -59.312 -42.006  1.00 17.49           C
ATOM   2812  O   THR C 420     -75.555 -60.293 -41.864  1.00 19.47           O
ATOM   2813  N   ARG C 421     -73.902 -59.221 -42.929  1.00 16.40           N
ATOM   2814  CA  ARG C 421     -73.645 -60.311 -43.884  1.00 22.27           C
ATOM   2815  CB  ARG C 421     -72.481 -59.993 -44.803  1.00 22.53           C
ATOM   2816  CG  ARG C 421     -72.879 -59.341 -46.098  1.00 29.03           C
ATOM   2817  CD  ARG C 421     -71.623 -58.991 -46.899  1.00 38.94           C
ATOM   2818  NE  ARG C 421     -71.919 -58.145 -48.051  1.00 44.04           N
ATOM   2819  CZ  ARG C 421     -71.983 -58.581 -49.306  1.00 44.92           C
ATOM   2820  NH1 ARG C 421     -71.752 -59.863 -49.594  1.00 50.35           N
ATOM   2821  NH2 ARG C 421     -72.266 -57.728 -50.276  1.00 45.31           N
ATOM   2822  C   ARG C 421     -73.312 -61.617 -43.188  1.00 20.53           C
ATOM   2823  O   ARG C 421     -73.675 -62.682 -43.684  1.00 19.34           O
ATOM   2824  N   SER C 422     -72.615 -61.532 -42.052  1.00 19.89           N
ATOM   2825  CA  SER C 422     -72.101 -62.726 -41.412  1.00 21.25           C
ATOM   2826  CB  SER C 422     -70.952 -62.397 -40.441  1.00 22.28           C
ATOM   2827  OG  SER C 422     -71.392 -61.587 -39.355  1.00 23.24           O
ATOM   2828  C   SER C 422     -73.265 -63.425 -40.709  1.00 26.68           C
ATOM   2829  O   SER C 422     -73.121 -64.557 -40.217  1.00 26.13           O
ATOM   2830  N   ALA C 423     -74.427 -62.754 -40.680  1.00 20.09           N
ATOM   2831  CA  ALA C 423     -75.600 -63.319 -40.034  1.00 22.85           C
ATOM   2832  CB  ALA C 423     -76.373 -62.248 -39.254  1.00 20.19           C
ATOM   2833  C   ALA C 423     -76.503 -64.027 -41.026  1.00 20.26           C
ATOM   2834  O   ALA C 423     -77.602 -64.437 -40.678  1.00 19.34           O
ATOM   2835  N   LEU C 424     -76.030 -64.196 -42.256  1.00 18.13           N
ATOM   2836  CA  LEU C 424     -76.859 -64.803 -43.308  1.00 19.56           C
ATOM   2837  CB  LEU C 424     -77.266 -63.740 -44.343  1.00 20.60           C
ATOM   2838  CG  LEU C 424     -78.143 -62.550 -43.936  1.00 20.34           C
ATOM   2839  CD1 LEU C 424     -78.203 -61.482 -45.054  1.00 19.36           C
ATOM   2840  CD2 LEU C 424     -79.530 -63.018 -43.543  1.00 21.80           C
ATOM   2841  C   LEU C 424     -76.084 -65.917 -44.011  1.00 24.43           C
ATOM   2842  O   LEU C 424     -74.866 -65.827 -44.109  1.00 23.18           O
ATOM   2843  N   LEU C 425     -76.785 -66.943 -44.510  1.00 25.17           N
ATOM   2844  CA  LEU C 425     -76.167 -68.016 -45.339  1.00 33.88           C
ATOM   2845  CB  LEU C 425     -76.579 -69.428 -44.864  1.00 30.99           C
ATOM   2846  CG  LEU C 425     -75.602 -70.309 -44.053  1.00 36.36           C
ATOM   2847  CD1 LEU C 425     -76.026 -71.768 -44.169  1.00 32.35           C
ATOM   2848  CD2 LEU C 425     -74.142 -70.153 -44.465  1.00 26.75           C
ATOM   2849  C   LEU C 425     -76.429 -67.841 -46.861  1.00 43.24           C
ATOM   2850  O   LEU C 425     -77.442 -67.256 -47.238  1.00 44.94           O
ATOM   2851  N   PRO C 426     -75.647 -68.566 -47.708  1.00 63.22           N
ATOM   2852  CA  PRO C 426     -74.702 -68.070 -48.683  1.00 54.32           C
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ATOM   2853  CB  PRO C 426     -75.608 -67.764 -49.874  1.00 49.23           C
ATOM   2854  CG  PRO C 426     -76.642 -68.885 -49.793  1.00 54.01           C
ATOM   2855  CD  PRO C 426     -76.513 -69.528 -48.407  1.00 62.25           C
ATOM   2856  C   PRO C 426     -73.830 -66.886 -48.210  1.00 63.22           C
ATOM   2857  O   PRO C 426     -73.786 -66.592 -47.020  1.00 56.35           O
ATOM   2858  N   THR C 427     -73.099 -66.262 -49.133  1.00 84.63           N
ATOM   2859  CA  THR C 427     -72.073 -65.264 -48.780  1.00 77.10           C
ATOM   2860  CB  THR C 427     -70.645 -65.857 -48.915  1.00 67.64           C
ATOM   2861  OG1 THR C 427     -70.595 -67.137 -48.272  1.00 65.52           O
ATOM   2862  CG2 THR C 427     -69.586 -64.936 -48.284  1.00 57.97           C
ATOM   2863  C   THR C 427     -72.200 -64.004 -49.643  1.00 79.60           C
ATOM   2864  O   THR C 427     -71.996 -62.882 -49.169  1.00 75.88           O
ATOM   2865  O4  SO4 E   1     -54.723 -44.990 -18.711  1.00 34.87           O
ATOM   2866  S   SO4 E   1     -53.926 -46.019 -19.445  1.00 30.33           S
ATOM   2867  O1  SO4 E   1     -52.667 -45.226 -19.497  1.00 40.69           O
ATOM   2868  O2  SO4 E   1     -54.494 -46.521 -20.711  1.00 37.83           O
ATOM   2869  O3  SO4 E   1     -53.762 -47.313 -18.685  1.00 27.49           O
ATOM   2870  O4  SO4 E   2     -51.527 -50.153 -19.351  1.00 28.72           O
ATOM   2871  S   SO4 E   2     -51.025 -50.912 -20.507  1.00 28.44           S
ATOM   2872  O1  SO4 E   2     -50.193 -50.041 -21.305  1.00 31.03           O
ATOM   2873  O2  SO4 E   2     -52.120 -51.432 -21.333  1.00 26.16           O
ATOM   2874  O3  SO4 E   2     -50.189 -52.060 -20.032  1.00 36.16           O
ATOM   2875  O4  SO4 E   3     -45.929 -50.344 -17.864  1.00 36.74           O
ATOM   2876  S   SO4 E   3     -45.906 -51.755 -18.032  1.00 37.79           S
ATOM   2877  O1  SO4 E   3     -45.165 -52.128 -19.289  1.00 36.69           O
ATOM   2878  O2  SO4 E   3     -47.343 -52.087 -18.010  1.00 36.35           O
ATOM   2879  O3  SO4 E   3     -45.071 -52.414 -17.008  1.00 32.89           O
ATOM   2880  O4  SO4 E   4     -53.189 -53.605 -24.266  1.00 25.07           O
ATOM   2881  S   SO4 E   4     -52.543 -53.562 -25.609  1.00 29.75           S
ATOM   2882  O1  SO4 E   4     -52.690 -52.307 -26.353  1.00 31.43           O
ATOM   2883  O2  SO4 E   4     -53.119 -54.654 -26.453  1.00 30.96           O
ATOM   2884  O3  SO4 E   4     -51.141 -53.819 -25.399  1.00 35.91           O
ATOM   2885  O4  SO4 E   5     -89.973 -45.891 -49.829  1.00 49.41           O
ATOM   2886  S   SO4 E   5     -90.034 -45.443 -51.227  1.00 37.09           S
ATOM   2887  O1  SO4 E   5     -88.890 -44.623 -51.635  1.00 38.19           O
ATOM   2888  O2  SO4 E   5     -91.168 -44.526 -51.511  1.00 32.01           O
ATOM   2889  O3  SO4 E   5     -90.041 -46.709 -52.003  1.00 29.16           O
ATOM   2890  O4  SO4 E   6     -93.866 -50.074 -49.055  0.33 20.68           O
ATOM   2891  S   SO4 E   6     -92.762 -50.233 -50.044  0.33 21.45           S
ATOM   2892  O1  SO4 E   6     -92.281 -48.910 -50.439  0.50 34.02           O
ATOM   2893  O2  SO4 E   6     -93.220 -50.982 -51.213  0.50 23.08           O
ATOM   2894  O3  SO4 E   6     -91.592 -50.923 -49.480  0.50 23.75           O
ATOM   2895  O4  SO4 E   7     -38.497 -35.089   1.178  1.00 71.25           O
ATOM   2896  S   SO4 E   7     -39.233 -35.117  -0.107  1.00 66.22           S
ATOM   2897  O1  SO4 E   7     -38.459 -34.457  -1.177  1.00 57.19           O
ATOM   2898  O2  SO4 E   7     -40.518 -34.397   0.034  1.00 56.79           O
ATOM   2899  O3  SO4 E   7     -39.496 -36.525  -0.455  1.00 58.08           O
ATOM   2900  O4  SO4 E   8     -72.907 -38.605 -33.750  1.00 59.22           O
ATOM   2901  S   SO4 E   8     -72.391 -39.680 -34.641  1.00 69.73           S
ATOM   2902  O1  SO4 E   8     -71.128 -39.280 -35.293  1.00 71.09           O
ATOM   2903  O2  SO4 E   8     -73.339 -39.990 -35.730  1.00 71.11           O
ATOM   2904  O3  SO4 E   8     -72.188 -40.888 -33.811  1.00 57.92           O
ATOM   2905 ZN   ZN F   1     -37.031 -60.796  -4.821  1.00 21.11          ZN
ATOM   2906 ZN   ZN F   2     -62.197 -67.575 -32.859  1.00 34.85          ZN
ATOM   2907 ZN   ZN F   3     -83.278 -67.696 -37.358  1.00 39.65          ZN
ATOM   2908 ZN   ZN F   4     -67.622 -38.280  -9.187  1.00 18.91          ZN
ATOM   2909  O2  MOL G   1     -34.200 -69.411 -20.877  1.00 27.56           O
ATOM   2910  C3  MOL G   1     -33.576 -69.176 -21.908  1.00 36.52           C
ATOM   2911  C7  MOL G   1     -32.221 -69.428 -22.134  1.00 33.94           C
ATOM   2912  C10 MOL G   1     -31.201 -69.975 -21.356  1.00 43.15           C
ATOM   2913  N3  MOL G   1     -31.457 -70.383 -20.108  1.00 38.82           N
ATOM   2914  C13 MOL G   1     -29.917 -70.097 -21.889  1.00 35.85           C
ATOM   2915  C12 MOL G   1     -29.660 -69.675 -23.196  1.00 38.37           C
ATOM   2916  C9  MOL G   1     -30.685 -69.125 -23.972  1.00 40.85           C
ATOM   2917  C6  MOL G   1     -31.966 -69.007 -23.435  1.00 35.10           C
ATOM   2918  C2  MOL G   1     -33.183 -68.522 -23.928  1.00 36.53           C
ATOM   2919  O1  MOL G   1     -33.362 -68.060 -25.052  1.00 35.98           O
ATOM   2920  N1  MOL G   1     -34.116 -68.632 -22.985  1.00 36.13           N
ATOM   2921  C1  MOL G   1     -35.541 -68.279 -23.090  1.00 33.12           C
ATOM   2922  C5  MOL G   1     -35.820 -66.773 -23.072  1.00 27.50           C
ATOM   2923  C8  MOL G   1     -37.351 -66.569 -23.137  1.00 26.34           C
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ATOM   2924  C11 MOL G   1     -37.942 -67.284 -24.368  1.00 34.06           C
ATOM   2925  O4  MOL G   1     -38.958 -66.857 -24.914  1.00 24.63           O
ATOM   2926  N2  MOL G   1     -37.303 -68.411 -24.913  1.00 24.70           N
ATOM   2927  C4  MOL G   1     -36.149 -68.941 -24.337  1.00 34.50           C
ATOM   2928  O3  MOL G   1     -35.632 -69.951 -24.829  1.00 28.91           O
ATOM   2929  O2  MOL H   1     -70.412 -51.591 -36.451  1.00 34.85           O
ATOM   2930  C3  MOL H   1     -70.148 -50.572 -37.091  1.00 33.52           C
ATOM   2931  C7  MOL H   1     -70.413 -50.373 -38.445  1.00 44.01           C
ATOM   2932  C10 MOL H   1     -70.987 -51.161 -39.437  1.00 44.10           C
ATOM   2933  N3  MOL H   1     -71.413 -52.388 -39.153  1.00 49.44           N
ATOM   2934  C13 MOL H   1     -71.109 -50.657 -40.730  1.00 42.96           C
ATOM   2935  C12 MOL H   1     -70.660 -49.370 -41.023  1.00 48.49           C
ATOM   2936  C9  MOL H   1     -70.089 -48.581 -40.027  1.00 40.03           C
ATOM   2937  C6  MOL H   1     -69.967 -49.088 -38.740  1.00 39.17           C
ATOM   2938  C2  MOL H   1     -69.454 -48.571 -37.553  1.00 37.80           C
ATOM   2939  O1  MOL H   1     -68.974 -47.448 -37.429  1.00 39.09           O
ATOM   2940  N1  MOL H   1     -69.573 -49.482 -36.587  1.00 32.80           N
ATOM   2941  C1  MOL H   1     -69.184 -49.332 -35.177  1.00 26.39           C
ATOM   2942  C5  MOL H   1     -67.676 -49.236 -34.973  1.00 27.10           C
ATOM   2943  C8  MOL H   1     -67.386 -49.108 -33.468  1.00 26.29           C
ATOM   2944  C11 MOL H   1     -68.167 -47.913 -32.865  1.00 34.99           C
ATOM   2945  O4  MOL H   1     -67.742 -47.318 -31.879  1.00 24.22           O
ATOM   2946  N2  MOL H   1     -69.361 -47.473 -33.450  1.00 27.76           N
ATOM   2947  C4  MOL H   1     -69.893 -48.117 -34.567  1.00 32.09           C
ATOM   2948  O3  MOL H   1     -70.950 -47.709 -35.049  1.00 34.63           O
ATOM   2949  O2  MOL I   1     -76.040 -47.643 -32.032  1.00 37.97           O
ATOM   2950  C3  MOL I   1     -75.540 -48.769 -31.955  1.00 44.24           C
ATOM   2951  C7  MOL I   1     -75.026 -49.356 -30.798  1.00 40.46           C
ATOM   2952  C10 MOL I   1     -74.907 -48.934 -29.478  1.00 46.25           C
ATOM   2953  N3  MOL I   1     -75.341 -47.730 -29.121  1.00 49.70           N
ATOM   2954  C13 MOL I   1     -74.328 -49.781 -28.532  1.00 49.75           C
ATOM   2955  C12 MOL I   1     -73.867 -51.046 -28.909  1.00 43.94           C
ATOM   2956  C9  MOL I   1     -73.986 -51.474 -30.230  1.00 37.98           C
ATOM   2957  C6  MOL I   1     -74.570 -50.621 -31.170  1.00 50.63           C
ATOM   2958  C2  MOL I   1     -74.831 -50.734 -32.530  1.00 31.69           C
ATOM   2959  O1  MOL I   1     -74.567 -51.710 -33.226  1.00 37.63           O
ATOM   2960  N1  MOL I   1     -75.426 -49.629 -32.962  1.00 38.07           N
ATOM   2961  C1  MOL I   1     -75.793 -49.383 -34.361  1.00 32.47           C
ATOM   2962  C5  MOL I   1     -77.282 -49.343 -34.659  1.00 32.69           C
ATOM   2963  C8  MOL I   1     -77.459 -49.145 -36.182  1.00 24.85           C
ATOM   2964  C11 MOL I   1     -76.729 -47.885 -36.648  1.00 32.62           C
ATOM   2965  O4  MOL I   1     -77.127 -47.254 -37.626  1.00 31.31           O
ATOM   2966  N2  MOL I   1     -75.611 -47.417 -35.947  1.00 35.82           N
ATOM   2967  C4  MOL I   1     -75.124 -48.101 -34.830  1.00 36.64           C
ATOM   2968  O3  MOL I   1     -74.144 -47.667 -34.226  1.00 37.07           O
ATOM   2969  O2  MOL J   1     -51.166 -33.977  -1.714  1.00 26.79           O
ATOM   2970  C3  MOL J   1     -50.182 -33.313  -2.043  1.00 35.16           C
ATOM   2971  C7  MOL J   1     -50.003 -31.940  -1.839  1.00 34.70           C
ATOM   2972  C10 MOL J   1     -50.775 -30.930  -1.260  1.00 47.54           C
ATOM   2973  N3  MOL J   1     -51.973 -31.201  -0.748  1.00 44.74           N
ATOM   2974  C13 MOL J   1     -50.285 -29.627  -1.215  1.00 43.00           C
ATOM   2975  C12 MOL J   1     -49.030 -29.327  -1.748  1.00 46.18           C
ATOM   2976  C9  MOL J   1     -48.259 -30.334  -2.326  1.00 43.91           C
ATOM   2977  C6  MOL J   1     -48.750 -31.637  -2.363  1.00 38.39           C
ATOM   2978  C2  MOL J   1     -48.239 -32.834  -2.860  1.00 38.93           C
ATOM   2979  O1  MOL J   1     -47.149 -32.962  -3.403  1.00 33.84           O
ATOM   2980  N1  MOL J   1     -49.116 -33.811  -2.665  1.00 33.72           N
ATOM   2981  C1  MOL J   1     -48.931 -35.230  -3.014  1.00 30.72           C
ATOM   2982  C5  MOL J   1     -48.985 -35.480  -4.524  1.00 30.17           C
ATOM   2983  C8  MOL J   1     -48.785 -36.983  -4.775  1.00 26.35           C
ATOM   2984  C11 MOL J   1     -47.442 -37.432  -4.172  1.00 25.72           C
ATOM   2985  O4  MOL J   1     -46.806 -38.375  -4.643  1.00 25.05           O
ATOM   2986  N2  MOL J   1     -46.914 -36.775  -3.064  1.00 25.10           N
ATOM   2987  C4  MOL J   1     -47.589 -35.729  -2.449  1.00 32.42           C
ATOM   2988  O3  MOL J   1     -47.067 -35.184  -1.474  1.00 28.67           O
ATOM   2989  O   HOH L   1     -55.998 -46.780 -16.632  1.00 16.83           O
ATOM   2990  O   HOH L   2     -56.662 -50.434 -20.736  1.00 22.13           O
ATOM   2991  O   HOH L   3     -57.457 -62.815 -22.052  1.00 22.58           O
ATOM   2992  O   HOH L   4     -50.618 -49.881 -15.145  1.00 17.57           O
ATOM   2993  O   HOH L   5     -62.861 -49.113 -13.580  1.00 14.78           O
ATOM   2994  O   HOH L   6     -87.525 -50.331 -49.601  1.00 26.21           O
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ATOM   2995  O   HOH L   7     -50.314 -56.170 -20.940  1.00 19.17           O
ATOM   2996  O   HOH L   8     -80.691 -48.641 -56.456  1.00 26.94           O
ATOM   2997  O   HOH L   9     -87.823 -46.397 -53.706  1.00 25.56           O
ATOM   2998  O   HOH L  10     -46.766 -54.212 -15.948  1.00 19.85           O
ATOM   2999  O   HOH L  11     -54.689 -56.062 -24.289  1.00 23.71           O
ATOM   3000  O   HOH L  12     -52.966 -46.978 -15.788  1.00 38.48           O
ATOM   3001  O   HOH L  13     -70.006 -44.488 -54.878  1.00 37.18           O
ATOM   3002  O   HOH L  14     -86.569 -56.779 -56.779  0.33 28.69           O
ATOM   3003  O   HOH L  15     -48.350 -56.993  -8.676  1.00 17.51           O
ATOM   3004  O   HOH L  16     -68.984 -42.767 -19.765  1.00 32.38           O
ATOM   3005  O   HOH L  17     -68.766 -45.836 -14.618  1.00 21.41           O
ATOM   3006  O   HOH L  18     -65.146 -38.900  -4.467  1.00 18.16           O
ATOM   3007  O   HOH L  19     -68.794 -50.045 -19.943  1.00 19.10           O
ATOM   3008  O   HOH L  20     -41.638 -50.487  -9.646  1.00 33.30           O
ATOM   3009  O   HOH L  21     -55.593 -52.942 -23.585  1.00 32.75           O
ATOM   3010  O   HOH L  22     -68.516 -37.192  -1.213  1.00 22.05           O
ATOM   3011  O   HOH L  23     -66.402 -41.857 -23.656  1.00 30.19           O
ATOM   3012  O   HOH L  24     -48.949 -50.259  -3.117  1.00 20.76           O
ATOM   3013  O   HOH L  25     -59.009 -39.873   3.409  1.00 42.32           O
ATOM   3014  O   HOH L  26     -45.918 -30.169  -4.736  1.00 46.91           O
ATOM   3015  O   HOH L  27     -53.478 -54.143 -29.145  1.00 31.57           O
ATOM   3016  O   HOH L  28     -45.909 -43.969 -18.007  1.00 32.99           O
ATOM   3017  O   HOH L  29     -51.066 -32.431 -11.268  1.00 24.78           O
ATOM   3018  O   HOH L  30     -42.216 -73.166 -12.977  1.00 37.86           O
ATOM   3019  O   HOH L  31     -72.079 -41.347  -1.326  1.00 22.25           O
ATOM   3020  O   HOH L  32     -54.117 -56.765  -9.916  1.00 22.66           O
ATOM   3021  O   HOH L  33     -66.620 -39.520 -32.360  1.00 32.68           O
ATOM   3022  O   HOH L  34     -70.408 -47.023 -16.690  1.00 39.78           O
ATOM   3023  O   HOH L  35     -50.740 -68.469 -21.748  1.00 23.44           O
ATOM   3024  O   HOH L  36     -51.584 -68.740 -28.925  1.00 39.50           O
ATOM   3025  O   HOH L  38     -48.263 -36.102 -27.104  1.00 57.58           O
ATOM   3026  O   HOH L  39     -58.423 -42.724   2.518  1.00 29.07           O
ATOM   3027  O   HOH L  40     -53.892 -50.012 -31.849  1.00 41.54           O
ATOM   3028  O   HOH L  41     -47.670 -65.760 -29.776  1.00 31.59           O
ATOM   3029  O   HOH L  42     -49.846 -54.290 -23.795  1.00 28.15           O
ATOM   3030  O   HOH L  43     -47.985 -49.554 -17.319  1.00 25.72           O
ATOM   3031  O   HOH L  44     -61.111 -54.780 -13.858  1.00 24.25           O
ATOM   3032  O   HOH L  45     -48.006 -38.612 -13.475  1.00 27.50           O
ATOM   3033  O   HOH L  46     -56.939 -67.279 -18.170  1.00 26.47           O
ATOM   3034  O   HOH L  47     -54.216 -65.125  -3.060  1.00 44.65           O
ATOM   3035  O   HOH L  48     -41.288 -46.688  -5.936  1.00 29.34           O
ATOM   3036  O   HOH L  49     -54.648 -41.941 -18.547  1.00 34.86           O
ATOM   3037  O   HOH L  51     -54.304 -45.291 -26.731  1.00 32.28           O
ATOM   3038  O   HOH L  52     -31.964 -45.046 -12.913  1.00 50.59           O
ATOM   3039  O   HOH L  53     -39.705 -51.924 -10.982  1.00 29.79           O
ATOM   3040  O   HOH L  54     -51.979 -56.736  -3.857  1.00 27.27           O
ATOM   3041  O   HOH L  55     -73.920 -44.260 -45.398  1.00 48.40           O
ATOM   3042  O   HOH L  56     -73.014 -46.304 -14.894  1.00 49.60           O
ATOM   3043  O   HOH L  57     -40.895 -63.873 -32.083  1.00 26.43           O
ATOM   3044  O   HOH L  58     -79.228 -56.277 -35.237  1.00 32.93           O
ATOM   3045  O   HOH L  59     -58.554 -47.824 -31.954  1.00 23.44           O
ATOM   3046  O   HOH L  61     -48.750 -55.157 -37.860  1.00 44.89           O
ATOM   3047  O   HOH L  62     -66.361 -56.331 -34.426  1.00 31.05           O
ATOM   3048  O   HOH L  63     -41.194 -31.862 -11.284  1.00 43.11           O
ATOM   3049  O   HOH L  64     -39.461 -57.916 -24.583  1.00 29.48           O
ATOM   3050  O   HOH L  65     -73.595 -37.914  -3.101  1.00 32.42           O
ATOM   3051  O   HOH L  66     -67.508 -62.007 -37.869  1.00 37.16           O
ATOM   3052  O   HOH L  67     -57.878 -57.181  -5.043  1.00 26.23           O
ATOM   3053  O   HOH L  68     -72.613 -47.621 -11.983  1.00 48.77           O
ATOM   3054  O   HOH L  69     -30.921 -56.088  -6.315  1.00 41.67           O
ATOM   3055  O   HOH L  70     -54.655 -52.405  -1.180  1.00 36.06           O
ATOM   3056  O   HOH L  71     -58.796 -48.586 -41.581  1.00 44.72           O
ATOM   3057  O   HOH L  72     -65.399 -67.585 -16.007  1.00 49.35           O
ATOM   3058  O   HOH L  74     -41.681 -50.450  -3.778  1.00 40.39           O
ATOM   3059  O   HOH L  75     -82.168 -54.170 -56.506  1.00 35.36           O
ATOM   3060  O   HOH L  76     -71.740 -53.589 -35.005  1.00 41.35           O
ATOM   3061  O   HOH L  77     -73.389 -60.629 -20.406  1.00 65.00           O
ATOM   3062  O   HOH L  78     -47.960 -43.267 -18.897  1.00 37.35           O
ATOM   3063  O   HOH L  79     -39.379 -66.297 -32.756  1.00 30.34           O
ATOM   3064  O   HOH L  80     -78.068 -55.318 -33.205  1.00 40.39           O
ATOM   3065  O   HOH L  81     -57.063 -57.327 -13.895  1.00 21.99           O
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ATOM   3066  O   HOH L  82     -55.365 -55.336 -15.755  1.00 20.36           O
ATOM   3067  O   HOH L  83     -67.023 -65.067 -31.961  1.00 33.22           O
ATOM   3068  O   HOH L  85     -35.520 -64.612 -16.134  1.00 34.96           O
ATOM   3069  O   HOH L  86     -68.461 -57.366 -33.035  1.00 35.10           O
ATOM   3070  O   HOH L  87     -73.400 -55.363 -38.890  1.00 44.25           O
ATOM   3071  O   HOH L  88     -66.947 -52.024 -37.561  1.00 38.14           O
ATOM   3072  O   HOH L  90     -61.619 -40.178 -18.597  1.00 29.35           O
ATOM   3073  O   HOH L  91     -51.419 -62.600 -29.502  1.00 33.22           O
ATOM   3074  O   HOH L  92     -37.856 -39.688 -10.228  1.00 40.42           O
ATOM   3075  O   HOH L  93     -86.112 -47.545 -37.999  1.00 29.15           O
ATOM   3076  O   HOH L  94     -62.880 -41.964 -20.114  1.00 33.78           O
ATOM   3077  O   HOH L  95     -65.313 -40.867 -21.154  1.00 35.39           O
ATOM   3078  O   HOH L  96     -69.416 -54.581  -8.419  1.00 32.62           O
ATOM   3079  O   HOH L  97     -75.300 -59.197 -30.841  1.00 54.15           O
ATOM   3080  O   HOH L  98     -65.831 -58.654 -13.239  1.00 31.44           O
ATOM   3081  O   HOH L 100     -70.424 -33.186 -15.560  1.00 33.39           O
ATOM   3082  O   HOH L 101     -44.643 -55.547  -3.013  1.00 28.01           O
ATOM   3083  O   HOH L 102     -46.432 -53.101 -37.062  1.00 42.42           O
ATOM   3084  O   HOH L 103     -70.364 -54.480 -10.693  1.00 39.13           O
ATOM   3085  O   HOH L 104     -31.478 -67.848 -26.883  1.00 48.60           O
ATOM   3086  O   HOH L 105     -40.414 -70.438 -17.098  1.00 35.54           O
ATOM   3087  O   HOH L 107     -63.118 -62.722 -12.135  1.00 40.48           O
ATOM   3088  O   HOH L 108     -50.731 -39.550 -18.176  1.00 50.25           O
ATOM   3089  O   HOH L 109     -37.743 -65.752  -7.100  1.00 26.28           O
ATOM   3090  O   HOH L 111     -54.285 -72.272 -28.250  1.00 47.18           O
ATOM   3091  O   HOH L 112     -39.326 -74.029 -13.072  1.00 47.17           O
ATOM   3092  O   HOH L 113     -54.743 -40.472  -0.259  1.00 30.05           O
ATOM   3093  O   HOH L 114     -86.348 -75.737 -43.976  1.00 54.17           O
ATOM   3094  O   HOH L 115     -67.070 -48.290   0.624  1.00 52.78           O
ATOM   3095  O   HOH L 116     -41.314 -62.221 -34.289  1.00 42.38           O
ATOM   3096  O   HOH L 117     -47.339 -69.859 -27.729  1.00 50.42           O
ATOM   3097  O   HOH L 118     -55.943 -64.679  -1.086  1.00 51.95           O
ATOM   3098  O   HOH L 119     -36.936 -68.180  -6.143  1.00 26.78           O
ATOM   3099  O   HOH L 120     -39.365 -60.321 -35.436  1.00 47.69           O
ATOM   3100  O   HOH L 121     -56.768 -62.719   0.272  1.00 38.13           O
ATOM   3101  O   HOH L 122     -51.787 -33.032  -5.129  1.00 36.07           O
ATOM   3102  O   HOH L 123     -56.231 -35.993  -5.765  1.00 30.83           O
ATOM   3103  O   HOH L 124     -40.242 -68.209  -0.005  1.00 30.45           O
ATOM   3104  O   HOH L 125     -57.016 -37.559  -3.217  1.00 27.01           O
ATOM   3105  O   HOH L 126     -56.879 -61.381 -16.376  1.00 24.94           O
ATOM   3106  O   HOH L 127     -56.342 -35.508  -1.199  1.00 43.91           O
ATOM   3107  O   HOH L 128     -68.368 -53.928 -18.982  1.00 31.58           O
ATOM   3108  O   HOH L 129     -62.786 -47.406  -0.550  1.00 28.32           O
ATOM   3109  O   HOH L 130     -69.999 -55.296 -17.499  1.00 38.41           O
ATOM   3110  O   HOH L 131     -75.671 -53.931 -50.478  1.00 37.36           O
ATOM   3111  O   HOH L 132     -46.115 -56.050  -0.755  1.00 42.66           O
ATOM   3112  O   HOH L 133     -50.828 -68.384 -17.490  1.00 39.60           O
ATOM   3113  O   HOH L 134     -74.987 -45.384 -54.535  1.00 29.72           O
ATOM   3114  O   HOH L 135     -64.661 -45.243   1.729  1.00 39.44           O
ATOM   3115  O   HOH L 136     -81.295 -41.740 -49.705  1.00 30.27           O
ATOM   3116  O   HOH L 137     -55.673 -58.104  -7.014  1.00 32.53           O
ATOM   3117  O   HOH L 138     -63.905 -56.458 -12.710  1.00 30.10           O
ATOM   3118  O   HOH L 139     -31.190 -57.977 -28.665  1.00 43.45           O
ATOM   3119  O   HOH L 140     -39.876 -39.749  -8.199  1.00 27.49           O
ATOM   3120  O   HOH L 141     -56.589 -68.929 -25.262  1.00 37.89           O
ATOM   3121  O   HOH L 142     -42.270 -52.387 -17.773  1.00 32.52           O
ATOM   3122  O   HOH L 143     -69.361 -40.450 -31.496  1.00 32.62           O
ATOM   3123  O   HOH L 144     -52.911 -62.032  -1.169  1.00 39.62           O
ATOM   3124  O   HOH L 145     -64.485 -40.022 -30.570  1.00 30.56           O
ATOM   3125  O   HOH L 146     -40.173 -55.926  -0.786  1.00 29.73           O
ATOM   3126  O   HOH L 147     -91.725 -39.677 -50.031  1.00 42.43           O
ATOM   3127  O   HOH L 148     -83.022 -40.758 -31.882  1.00 39.88           O
ATOM   3128  O   HOH L 149     -29.384 -71.387 -29.309  1.00 46.26           O
ATOM   3129  O   HOH L 150     -33.094 -65.936 -20.202  1.00 45.04           O
ATOM   3130  O   HOH L 151     -70.060 -72.294 -29.785  1.00 32.81           O
ATOM   3131  O   HOH L 152     -49.652 -36.909 -16.537  1.00 42.75           O
ATOM   3132  O   HOH L 153     -37.015 -67.403 -14.818  1.00 32.50           O
ATOM   3133  O   HOH L 154     -32.607 -52.859 -14.840  1.00 38.65           O
ATOM   3134  O   HOH L 155     -74.055 -63.198 -46.721  1.00 46.56           O
ATOM   3135  O   HOH L 156     -70.883 -58.870 -41.837  1.00 48.30           O
ATOM   3136  O   HOH L 157     -48.307 -32.834 -11.109  1.00 31.32           O
```

```
ATOM   3137  O   HOH L 158     -46.437 -69.854  -8.165  1.00 38.79           O
ATOM   3138  O   HOH L 159     -32.484 -66.271 -10.245  1.00 30.51           O
ATOM   3139  O   HOH L 160     -73.974 -58.768 -27.568  1.00 43.88           O
ATOM   3140  O   HOH L 161     -75.864 -60.065 -25.979  1.00 47.84           O
ATOM   3141  O   HOH L 162     -67.335 -53.177 -13.731  1.00 32.22           O
ATOM   3142  O   HOH L 163     -62.473 -38.200 -30.448  1.00 35.09           O
ATOM   3143  O   HOH L 164     -65.673 -32.093 -14.729  1.00 41.89           O
ATOM   3144  O   HOH L 165     -62.402 -32.999  -4.269  1.00 26.95           O
ATOM   3145  O   HOH L 166     -73.108 -38.320  -0.555  1.00 29.99           O
ATOM   3146  O   HOH L 167     -65.889 -37.667  -2.033  1.00 30.57           O
ATOM   3147  O   HOH L 168     -67.916 -32.091  -2.460  1.00 39.98           O
ATOM   3148  O   HOH L 169     -69.724 -33.316  -0.530  1.00 38.04           O
ATOM   3149  O   HOH L 170     -55.430 -49.098 -33.848  1.00 44.42           O
ATOM   3150  O   HOH L 171     -61.069 -51.087 -38.110  1.00 36.65           O
ATOM   3151  O   HOH L 172     -75.354 -49.720 -49.526  1.00 33.61           O
ATOM   3152  O   HOH L 173     -78.168 -52.308 -31.917  1.00 47.08           O
ATOM   3153  O   HOH L 174     -67.475 -55.441 -36.645  1.00 40.30           O
ATOM   3154  O   HOH L 175     -62.020 -42.247 -40.422  1.00 42.03           O
ATOM   3155  O   HOH L 176     -52.158 -62.111 -33.880  1.00 34.20           O
ATOM   3156  O   HOH L 177     -78.108 -65.351 -37.979  1.00 31.57           O
ATOM   3157  O   HOH L 178     -87.311 -66.886 -52.634  1.00 36.20           O
```

TABLE 5. Atomic coordinates for CRBN(TBD):Thalidomide (Murine protein)

```
HEADER    ----                                      XX-XXX-9-   xxxx
COMPND    ---
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM     : REFMAC 5.6.0117
REMARK   3   AUTHORS     :
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   1.88
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  50.00
REMARK   3   DATA CUTOFF            (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.94
REMARK   3   NUMBER OF REFLECTIONS             :   37584
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD          : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION  : RANDOM
REMARK   3   R VALUE     (WORKING + TEST SET) : 0.18197
REMARK   3   R VALUE           (WORKING SET) :  0.17955
REMARK   3   FREE R VALUE                     :  0.22867
REMARK   3   FREE R VALUE TEST SET SIZE   (%) :  5.0
REMARK   3   FREE R VALUE TEST SET COUNT      :  1983
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED           :      20
REMARK   3   BIN RESOLUTION RANGE HIGH           :    1.882
REMARK   3   BIN RESOLUTION RANGE LOW            :    1.931
REMARK   3   REFLECTION IN BIN     (WORKING SET) :     2673
REMARK   3   BIN COMPLETENESS (WORKING+TEST) (%) :    99.96
REMARK   3   BIN R VALUE           (WORKING SET) :    0.272
REMARK   3   BIN FREE R VALUE SET COUNT          :      137
REMARK   3   BIN FREE R VALUE                    :    0.368
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   ALL ATOMS                :     3576
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT           (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  29.871
REMARK   3   OVERALL ANISOTROPIC B VALUE.
```

```
REMARK   3    B11 (A**2) : NULL
REMARK   3    B22 (A**2) : NULL
REMARK   3    B33 (A**2) : NULL
REMARK   3    B12 (A**2) : NULL
REMARK   3    B13 (A**2) : NULL
REMARK   3    B23 (A**2) : NULL
REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                            (A):   0.135
REMARK   3   ESU BASED ON FREE R VALUE                       (A):   0.135
REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                 (A):   0.091
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):   3.062
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.963
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.940
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES        COUNT    RMS    WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS        (A):  3289 ; 0.014 ; 0.020
REMARK   3   BOND ANGLES REFINED ATOMS   (DEGREES):  4483 ; 1.676 ; 1.974
REMARK   3   TORSION ANGLES, PERIOD 1    (DEGREES):   389 ;17.405 ; 5.000
REMARK   3   TORSION ANGLES, PERIOD 2    (DEGREES):   112 ;39.373 ;23.661
REMARK   3   TORSION ANGLES, PERIOD 3    (DEGREES):   544 ;15.190 ;15.000
REMARK   3   TORSION ANGLES, PERIOD 4    (DEGREES):     8 ;19.411 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS       (A**3):   504 ; 0.097 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS      (A):  2372 ; 0.018 ; 0.021
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.     COUNT   RMS    WEIGHT
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3  TWIN DETAILS
REMARK   3   NUMBER OF TWIN DOMAINS  : NULL
REMARK   3
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :    4
REMARK   3   ATOM RECORD CONTAINS RESIDUAL B FACTORS ONLY
REMARK   3
REMARK   3   TLS GROUP :     1
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A     1        A   112
REMARK   3    ORIGIN FOR THE GROUP (A):   0.0000   0.0000   0.0000
REMARK   3    T TENSOR
REMARK   3      T11:   0.0000 T22:   0.0000
REMARK   3      T33:   0.0000 T12:   0.0000
REMARK   3      T13:   0.0000 T23:   0.0000
REMARK   3    L TENSOR
REMARK   3      L11:   0.0000 L22:   0.0000
REMARK   3      L33:   0.0000 L12:   0.0000
REMARK   3      L13:   0.0000 L23:   0.0000
REMARK   3    S TENSOR
REMARK   3      S11:   0.0000 S12:   0.0000 S13:   0.0000
REMARK   3      S21:   0.0000 S22:   0.0000 S23:   0.0000
REMARK   3      S31:   0.0000 S32:   0.0000 S33:   0.0000
REMARK   3
REMARK   3   TLS GROUP :     2
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   B     1        B   112
REMARK   3    ORIGIN FOR THE GROUP (A):   0.0000   0.0000   0.0000
REMARK   3    T TENSOR
REMARK   3      T11:   0.0000 T22:   0.0000
REMARK   3      T33:   0.0000 T12:   0.0000
REMARK   3      T13:   0.0000 T23:   0.0000
REMARK   3    L TENSOR
REMARK   3      L11:   0.0000 L22:   0.0000
REMARK   3      L33:   0.0000 L12:   0.0000
REMARK   3      L13:   0.0000 L23:   0.0000
```

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REMARK   3    S TENSOR
REMARK   3      S11:   0.0000 S12:   0.0000 S13:   0.0000
REMARK   3      S21:   0.0000 S22:   0.0000 S23:   0.0000
REMARK   3      S31:   0.0000 S32:   0.0000 S33:   0.0000
REMARK   3
REMARK   3   TLS GROUP :     3
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   C     1        C   112
REMARK   3    ORIGIN FOR THE GROUP (A):   0.0000   0.0000   0.0000
REMARK   3    T TENSOR
REMARK   3      T11:   0.0000 T22:   0.0000
REMARK   3      T33:   0.0000 T12:   0.0000
REMARK   3      T13:   0.0000 T23:   0.0000
REMARK   3    L TENSOR
REMARK   3      L11:   0.0000 L22:   0.0000
REMARK   3      L33:   0.0000 L12:   0.0000
REMARK   3      L13:   0.0000 L23:   0.0000
REMARK   3    S TENSOR
REMARK   3      S11:   0.0000 S12:   0.0000 S13:   0.0000
REMARK   3      S21:   0.0000 S22:   0.0000 S23:   0.0000
REMARK   3      S31:   0.0000 S32:   0.0000 S33:   0.0000
REMARK   3
REMARK   3   TLS GROUP :     4
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   D     1        D   112
REMARK   3    ORIGIN FOR THE GROUP (A):   0.0000   0.0000   0.0000
REMARK   3    T TENSOR
REMARK   3      T11:   0.0000 T22:   0.0000
REMARK   3      T33:   0.0000 T12:   0.0000
REMARK   3      T13:   0.0000 T23:   0.0000
REMARK   3    L TENSOR
REMARK   3      L11:   0.0000 L22:   0.0000
REMARK   3      L33:   0.0000 L12:   0.0000
REMARK   3      L13:   0.0000 L23:   0.0000
REMARK   3    S TENSOR
REMARK   3      S11:   0.0000 S12:   0.0000 S13:   0.0000
REMARK   3      S21:   0.0000 S22:   0.0000 S23:   0.0000
REMARK   3      S31:   0.0000 S32:   0.0000 S33:   0.0000
REMARK   3
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED :  MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.20
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS:
REMARK   3  HYDROGENS HAVE BEEN USED IF PRESENT IN THE INPUT
REMARK   3  U VALUES      : REFINED INDIVIDUALLY
REMARK   3
LINKR           SER C 341                    VAL C 356                gap
LINKR           LEU A 342                    GLU A 358                gap
LINKR           MET B 346                    GLY B 354                gap
LINKR           MET B 346                    VAL B 356                gap
CRYST1  143.146  143.146  143.146  90.00  90.00  90.00 I 2 3
SCALE1      0.006986  0.000000  0.000000        0.00000
SCALE2      0.000000  0.006986  0.000000        0.00000
SCALE3      0.000000  0.000000  0.006986        0.00000
ATOM      1  N   SER C 320      17.597  -9.098 -70.900  1.00 54.44           N
ATOM      2  CA  SER C 320      17.270  -7.667 -70.570  1.00 61.42           C
ATOM      3  CB  SER C 320      15.980  -7.215 -71.268  1.00 54.67           C
ATOM      4  OG  SER C 320      14.906  -8.081 -70.964  1.00 67.19           O
ATOM      5  C   SER C 320      17.182  -7.407 -69.061  1.00 46.80           C
ATOM      6  O   SER C 320      17.150  -6.249 -68.624  1.00 51.56           O
ATOM      7  N   THR C 321      17.132  -8.479 -68.270  1.00 48.55           N
ATOM      8  CA  THR C 321      17.339  -8.355 -66.824  1.00 38.24           C
ATOM      9  CB  THR C 321      16.324  -9.180 -66.022  1.00 44.93           C
ATOM     10  OG1 THR C 321      16.562 -10.576 -66.240  1.00 37.55           O
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ATOM     11  CG2 THR C 321      14.887  -8.822 -66.433  1.00 51.06           C
ATOM     12  C   THR C 321      18.766  -8.777 -66.447  1.00 31.37           C
ATOM     13  O   THR C 321      19.137  -8.744 -65.271  1.00 27.93           O
ATOM     14  N   SER C 322      19.568  -9.143 -67.451  1.00 24.52           N
ATOM     15  CA  SER C 322      20.959  -9.608 -67.210  1.00 24.43           C
ATOM     16  CB  SER C 322      21.514 -10.301 -68.451  1.00 31.13           C
ATOM     17  OG  SER C 322      21.087 -11.642 -68.509  1.00 43.36           O
ATOM     18  C   SER C 322      21.900  -8.475 -66.799  1.00 27.14           C
ATOM     19  O   SER C 322      21.917  -7.418 -67.421  1.00 25.75           O
ATOM     20  N   LEU C 323      22.672  -8.691 -65.736  1.00 20.00           N
ATOM     21  CA  LEU C 323      23.754  -7.764 -65.388  1.00 17.36           C
ATOM     22  CB  LEU C 323      23.652  -7.351 -63.909  1.00 21.16           C
ATOM     23  CG  LEU C 323      22.389  -6.507 -63.611  1.00 24.94           C
ATOM     24  CD1 LEU C 323      22.153  -6.341 -62.123  1.00 28.25           C
ATOM     25  CD2 LEU C 323      22.527  -5.149 -64.258  1.00 31.31           C
ATOM     26  C   LEU C 323      25.045  -8.490 -65.626  1.00 18.00           C
ATOM     27  O   LEU C 323      25.357  -9.433 -64.909  1.00 17.30           O
ATOM     28  N   CYS C 324      25.792  -8.081 -66.650  1.00 19.62           N
ATOM     29  CA  CYS C 324      27.017  -8.804 -67.029  1.00 20.33           C
ATOM     30  CB  CYS C 324      27.055  -9.000 -68.563  1.00 23.96           C
ATOM     31  SG  CYS C 324      25.715 -10.038 -69.191  1.00 28.05           S
ATOM     32  C   CYS C 324      28.301  -8.100 -66.561  1.00 18.86           C
ATOM     33  O   CYS C 324      28.301  -6.917 -66.268  1.00 20.71           O
ATOM     34  N   CYS C 325      29.398  -8.860 -66.504  1.00 18.63           N
ATOM     35  CA  CYS C 325      30.723  -8.304 -66.242  1.00 18.73           C
ATOM     36  CB  CYS C 325      31.774  -9.415 -66.340  1.00 17.56           C
ATOM     37  SG  CYS C 325      33.479  -8.819 -66.186  1.00 18.80           S
ATOM     38  C   CYS C 325      31.004  -7.219 -67.280  1.00 19.89           C
ATOM     39  O   CYS C 325      30.831  -7.432 -68.486  1.00 19.77           O
ATOM     40  N   LYS C 326      31.399  -6.047 -66.828  1.00 18.98           N
ATOM     41  CA  LYS C 326      31.578  -4.935 -67.749  1.00 22.19           C
ATOM     42  CB  LYS C 326      31.645  -3.624 -66.986  1.00 21.31           C
ATOM     43  CG  LYS C 326      32.193  -2.468 -67.810  1.00 33.23           C
ATOM     44  CD  LYS C 326      31.073  -1.555 -68.226  1.00 40.67           C
ATOM     45  CE  LYS C 326      30.631  -0.711 -67.062  1.00 35.42           C
ATOM     46  NZ  LYS C 326      31.773   0.079 -66.530  1.00 55.41           N
ATOM     47  C   LYS C 326      32.862  -5.112 -68.594  1.00 20.48           C
ATOM     48  O   LYS C 326      32.924  -4.704 -69.777  1.00 22.64           O
ATOM     49  N   GLN C 327      33.847  -5.728 -67.996  1.00 18.81           N
ATOM     50  CA  GLN C 327      35.125  -5.942 -68.643  1.00 18.22           C
ATOM     51  CB  GLN C 327      36.186  -6.383 -67.628  1.00 19.20           C
ATOM     52  CG  GLN C 327      37.539  -6.701 -68.266  1.00 22.08           C
ATOM     53  CD  GLN C 327      38.656  -6.854 -67.265  1.00 23.05           C
ATOM     54  OE1 GLN C 327      39.629  -7.564 -67.511  1.00 26.41           O
ATOM     55  NE2 GLN C 327      38.525  -6.208 -66.140  1.00 19.54           N
ATOM     56  C   GLN C 327      34.991  -6.956 -69.792  1.00 19.41           C
ATOM     57  O   GLN C 327      35.380  -6.656 -70.911  1.00 19.39           O
ATOM     58  N   CYS C 328      34.452  -8.154 -69.511  1.00 18.40           N
ATOM     59  CA  CYS C 328      34.422  -9.186 -70.546  1.00 19.45           C
ATOM     60  CB  CYS C 328      34.836 -10.566 -70.005  1.00 20.93           C
ATOM     61  SG  CYS C 328      33.592 -11.299 -68.890  1.00 21.47           S
ATOM     62  C   CYS C 328      33.102  -9.223 -71.267  1.00 18.26           C
ATOM     63  O   CYS C 328      32.943  -9.979 -72.236  1.00 20.79           O
ATOM     64  N   GLN C 329      32.143  -8.388 -70.815  1.00 19.25           N
ATOM     65  CA  GLN C 329      30.858  -8.167 -71.519  1.00 23.13           C
ATOM     66  CB  GLN C 329      31.082  -7.600 -72.927  1.00 23.28           C
ATOM     67  CG  GLN C 329      32.155  -6.509 -72.959  1.00 25.65           C
ATOM     68  CD  GLN C 329      32.065  -5.642 -74.179  1.00 30.51           C
ATOM     69  OE1 GLN C 329      31.866  -4.445 -74.069  1.00 28.81           O
ATOM     70  NE2 GLN C 329      32.215  -6.245 -75.366  1.00 25.71           N
ATOM     71  C   GLN C 329      29.874  -9.345 -71.606  1.00 26.68           C
ATOM     72  O   GLN C 329      28.663  -9.143 -71.460  1.00 27.94           O
ATOM     73  N   GLU C 330      30.376 -10.544 -71.900  1.00 24.20           N
ATOM     74  CA  GLU C 330      29.505 -11.670 -72.247  1.00 26.72           C
ATOM     75  CB  GLU C 330      30.189 -12.594 -73.249  1.00 27.74           C
ATOM     76  CG  GLU C 330      30.699 -11.899 -74.513  1.00 34.59           C
ATOM     77  CD  GLU C 330      29.593 -11.220 -75.293  1.00 45.62           C
ATOM     78  OE1 GLU C 330      28.599 -11.894 -75.604  1.00 49.20           O
ATOM     79  OE2 GLU C 330      29.720 -10.005 -75.600  1.00 62.00           O
ATOM     80  C   GLU C 330      29.095 -12.496 -71.007  1.00 32.53           C
ATOM     81  O   GLU C 330      28.172 -13.296 -71.073  1.00 26.39           O
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ATOM     82  N   THR C 331      29.807 -12.308 -69.894  1.00 22.19           N
ATOM     83  CA  THR C 331      29.644 -13.175 -68.743  1.00 21.66           C
ATOM     84  CB  THR C 331      30.979 -13.320 -67.995  1.00 20.37           C
ATOM     85  OG1 THR C 331      31.978 -13.822 -68.895  1.00 21.34           O
ATOM     86  CG2 THR C 331      30.846 -14.283 -66.759  1.00 20.48           C
ATOM     87  C   THR C 331      28.570 -12.579 -67.802  1.00 21.67           C
ATOM     88  O   THR C 331      28.771 -11.510 -67.234  1.00 20.43           O
ATOM     89  N   GLU C 332      27.444 -13.288 -67.620  1.00 20.52           N
ATOM     90  CA  GLU C 332      26.369 -12.778 -66.724  1.00 20.77           C
ATOM     91  CB  GLU C 332      25.017 -13.480 -66.977  1.00 20.27           C
ATOM     92  CG  GLU C 332      23.882 -12.937 -66.124  1.00 19.05           C
ATOM     93  CD  GLU C 332      22.596 -13.725 -66.305  1.00 20.91           C
ATOM     94  OE1 GLU C 332      21.899 -13.477 -67.285  1.00 23.36           O
ATOM     95  OE2 GLU C 332      22.317 -14.608 -65.483  1.00 26.39           O
ATOM     96  C   GLU C 332      26.792 -13.004 -65.276  1.00 18.32           C
ATOM     97  O   GLU C 332      27.275 -14.091 -64.925  1.00 21.92           O
ATOM     98  N   ILE C 333      26.635 -11.980 -64.448  1.00 16.21           N
ATOM     99  CA  ILE C 333      27.008 -12.108 -63.025  1.00 15.97           C
ATOM    100  CB  ILE C 333      27.890 -10.936 -62.553  1.00 16.96           C
ATOM    101  CG1 ILE C 333      29.195 -10.858 -63.404  1.00 17.65           C
ATOM    102  CD1 ILE C 333      30.082 -12.105 -63.306  1.00 20.60           C
ATOM    103  CG2 ILE C 333      28.207 -11.071 -61.046  1.00 16.94           C
ATOM    104  C   ILE C 333      25.758 -12.235 -62.118  1.00 16.60           C
ATOM    105  O   ILE C 333      25.751 -12.999 -61.159  1.00 17.83           O
ATOM    106  N   THR C 334      24.737 -11.468 -62.420  1.00 16.91           N
ATOM    107  CA  THR C 334      23.470 -11.584 -61.701  1.00 19.13           C
ATOM    108  CB  THR C 334      23.504 -10.825 -60.327  1.00 22.14           C
ATOM    109  OG1 THR C 334      22.406 -11.259 -59.500  1.00 18.82           O
ATOM    110  CG2 THR C 334      23.436  -9.298 -60.521  1.00 17.18           C
ATOM    111  C   THR C 334      22.333 -11.118 -62.609  1.00 20.17           C
ATOM    112  O   THR C 334      22.562 -10.830 -63.794  1.00 19.33           O
ATOM    113  N   THR C 335      21.104 -11.106 -62.090  1.00 17.83           N
ATOM    114  CA  THR C 335      19.993 -10.526 -62.812  1.00 17.87           C
ATOM    115  CB  THR C 335      18.938 -11.589 -63.235  1.00 19.93           C
ATOM    116  OG1 THR C 335      18.197 -12.018 -62.079  1.00 21.12           O
ATOM    117  CG2 THR C 335      19.607 -12.791 -63.907  1.00 19.48           C
ATOM    118  C   THR C 335      19.309  -9.526 -61.932  1.00 16.53           C
ATOM    119  O   THR C 335      19.430  -9.567 -60.705  1.00 17.74           O
ATOM    120  N   LYS C 336      18.515  -8.670 -62.545  1.00 19.33           N
ATOM    121  CA  LYS C 336      17.754  -7.693 -61.794  1.00 20.73           C
ATOM    122  CB  LYS C 336      17.016  -6.767 -62.746  1.00 26.49           C
ATOM    123  CG  LYS C 336      17.923  -5.803 -63.493  1.00 38.49           C
ATOM    124  CD  LYS C 336      17.092  -4.813 -64.303  1.00 40.78           C
ATOM    125  CE  LYS C 336      17.974  -3.943 -65.188  1.00 52.95           C
ATOM    126  NZ  LYS C 336      17.150  -3.107 -66.113  1.00 44.22           N
ATOM    127  C   LYS C 336      16.748  -8.362 -60.884  1.00 22.29           C
ATOM    128  O   LYS C 336      16.337  -7.776 -59.892  1.00 18.74           O
ATOM    129  N   ASN C 337      16.311  -9.572 -61.246  1.00 18.70           N
ATOM    130  CA  ASN C 337      15.382 -10.329 -60.372  1.00 20.84           C
ATOM    131  CB  ASN C 337      14.928 -11.661 -61.030  1.00 19.37           C
ATOM    132  CG  ASN C 337      14.181 -11.439 -62.324  1.00 28.00           C
ATOM    133  OD1 ASN C 337      14.574 -11.945 -63.371  1.00 28.85           O
ATOM    134  ND2 ASN C 337      13.139 -10.631 -62.272  1.00 36.13           N
ATOM    135  C   ASN C 337      15.945 -10.629 -59.001  1.00 19.79           C
ATOM    136  O   ASN C 337      15.183 -10.888 -58.074  1.00 20.01           O
ATOM    137  N   GLU C 338      17.275 -10.604 -58.860  1.00 16.75           N
ATOM    138  CA  GLU C 338      17.931 -11.039 -57.580  1.00 17.47           C
ATOM    139  CB  GLU C 338      19.243 -11.808 -57.841  1.00 17.88           C
ATOM    140  CG  GLU C 338      19.078 -13.098 -58.632  1.00 21.61           C
ATOM    141  CD  GLU C 338      18.037 -14.040 -58.027  1.00 22.61           C
ATOM    142  OE1 GLU C 338      18.033 -14.253 -56.784  1.00 22.22           O
ATOM    143  OE2 GLU C 338      17.225 -14.574 -58.808  1.00 32.25           O
ATOM    144  C   GLU C 338      18.184  -9.879 -56.592  1.00 15.17           C
ATOM    145  O   GLU C 338      18.589 -10.095 -55.433  1.00 16.49           O
ATOM    146  N   ILE C 339      17.889  -8.669 -57.041  1.00 16.22           N
ATOM    147  CA  ILE C 339      18.150  -7.464 -56.253  1.00 16.63           C
ATOM    148  CB  ILE C 339      17.934  -6.180 -57.111  1.00 17.56           C
ATOM    149  CG1 ILE C 339      18.984  -6.123 -58.230  1.00 21.04           C
ATOM    150  CD1 ILE C 339      18.666  -5.066 -59.289  1.00 21.66           C
ATOM    151  CG2 ILE C 339      17.980  -4.921 -56.237  1.00 20.81           C
ATOM    152  C   ILE C 339      17.249  -7.414 -55.015  1.00 20.59           C
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ATOM    153  O   ILE C 339      16.028  -7.720 -55.082  1.00 18.80           O
ATOM    154  N   PHE C 340      17.842  -7.039 -53.890  1.00 19.91           N
ATOM    155  CA  PHE C 340      17.051  -6.776 -52.697  1.00 20.71           C
ATOM    156  CB  PHE C 340      16.912  -8.057 -51.844  1.00 16.57           C
ATOM    157  CG  PHE C 340      18.137  -8.399 -51.056  1.00 17.66           C
ATOM    158  CD2 PHE C 340      18.183  -8.159 -49.688  1.00 16.76           C
ATOM    159  CE2 PHE C 340      19.317  -8.437 -48.951  1.00 18.55           C
ATOM    160  CZ  PHE C 340      20.425  -9.028 -49.565  1.00 18.92           C
ATOM    161  CE1 PHE C 340      20.392  -9.302 -50.932  1.00 16.51           C
ATOM    162  CD1 PHE C 340      19.260  -9.006 -51.677  1.00 15.31           C
ATOM    163  C   PHE C 340      17.658  -5.664 -51.870  1.00 22.75           C
ATOM    164  O   PHE C 340      18.821  -5.284 -52.070  1.00 19.45           O
ATOM    165  N   SER C 341      16.896  -5.210 -50.879  1.00 22.32           N
ATOM    166  CA  SER C 341      17.342  -4.112 -50.030  1.00 28.31           C
ATOM    167  CB  SER C 341      16.282  -3.011 -49.993  1.00 30.08           C
ATOM    168  OG  SER C 341      16.663  -2.008 -49.060  1.00 42.42           O
ATOM    169  C   SER C 341      17.686  -4.575 -48.617  1.00 24.33           C
ATOM    170  O   SER C 341      16.802  -4.956 -47.836  1.00 25.15           O
ATOM    171  N   LEU C 342      18.965  -4.528 -48.271  1.00 25.48           N
ATOM    172  CA  LEU C 342      19.360  -4.873 -46.909  1.00 29.14           C
ATOM    173  CB  LEU C 342      20.764  -5.472 -46.873  1.00 32.26           C
ATOM    174  CG  LEU C 342      21.197  -6.085 -45.533  1.00 35.08           C
ATOM    175  CD1 LEU C 342      20.476  -7.401 -45.263  1.00 38.20           C
ATOM    176  CD2 LEU C 342      22.691  -6.314 -45.519  1.00 37.13           C
ATOM    177  C   LEU C 342      19.233  -3.674 -45.954  1.00 37.44           C
ATOM    178  O   LEU C 342      19.712  -2.569 -46.247  1.00 36.54           O
ATOM    179  N   SER C 343      18.544  -3.906 -44.836  1.00 29.22           N
ATOM    180  CA  SER C 343      18.332  -2.918 -43.753  1.00 42.84           C
ATOM    181  CB  SER C 343      19.636  -2.274 -43.297  1.00 39.94           C
ATOM    182  OG  SER C 343      20.300  -3.169 -42.452  1.00 45.11           O
ATOM    183  C   SER C 343      17.270  -1.885 -44.047  1.00 53.89           C
ATOM    184  O   SER C 343      16.134  -2.030 -43.595  1.00 46.67           O
ATOM    185  N   VAL C 358      25.784   3.683 -50.724  1.00 86.16           N
ATOM    186  CA  VAL C 358      25.429   2.329 -51.159  1.00 91.37           C
ATOM    187  CB  VAL C 358      24.913   1.439 -49.993  1.00 90.88           C
ATOM    188  CG1 VAL C 358      25.871   0.281 -49.740  1.00 77.39           C
ATOM    189  CG2 VAL C 358      24.695   2.258 -48.726  1.00 88.00           C
ATOM    190  C   VAL C 358      24.430   2.322 -52.323  1.00 92.23           C
ATOM    191  O   VAL C 358      23.639   1.391 -52.473  1.00 95.73           O
ATOM    192  N   HIS C 359      24.462   3.384 -53.123  1.00 89.82           N
ATOM    193  CA  HIS C 359      24.024   3.324 -54.512  1.00 79.39           C
ATOM    194  CB  HIS C 359      23.828   4.738 -55.047  1.00 91.89           C
ATOM    195  CG  HIS C 359      22.714   4.866 -56.059  1.00100.08           C
ATOM    196  ND1 HIS C 359      21.653   5.680 -55.870  1.00109.22           N
ATOM    197  CE1 HIS C 359      20.831   5.598 -56.933  1.00105.11           C
ATOM    198  NE2 HIS C 359      21.367   4.735 -57.810  1.00106.55           N
ATOM    199  CD2 HIS C 359      22.530   4.267 -57.306  1.00 99.77           C
ATOM    200  C   HIS C 359      25.134   2.643 -55.267  1.00 69.78           C
ATOM    201  O   HIS C 359      24.899   1.850 -56.185  1.00 72.62           O
ATOM    202  N   GLU C 360      26.361   2.947 -54.844  1.00 68.81           N
ATOM    203  CA  GLU C 360      27.590   2.275 -55.284  1.00 62.20           C
ATOM    204  CB  GLU C 360      28.717   2.551 -54.273  1.00 69.01           C
ATOM    205  CG  GLU C 360      29.032   4.018 -54.034  1.00102.39           C
ATOM    206  CD  GLU C 360      30.397   4.406 -54.560  1.00110.02           C
ATOM    207  OE1 GLU C 360      31.240   4.851 -53.750  1.00115.50           O
ATOM    208  OE2 GLU C 360      30.635   4.245 -55.778  1.00108.55           O
ATOM    209  C   GLU C 360      27.448   0.758 -55.410  1.00 56.41           C
ATOM    210  O   GLU C 360      28.046   0.139 -56.305  1.00 33.37           O
ATOM    211  N   THR C 361      26.726   0.159 -54.462  1.00 43.79           N
ATOM    212  CA  THR C 361      26.789  -1.289 -54.248  1.00 36.57           C
ATOM    213  CB  THR C 361      27.462  -1.640 -52.898  1.00 43.48           C
ATOM    214  OG1 THR C 361      28.765  -1.043 -52.847  1.00 55.08           O
ATOM    215  CG2 THR C 361      27.618  -3.165 -52.747  1.00 34.71           C
ATOM    216  C   THR C 361      25.399  -1.933 -54.364  1.00 31.72           C
ATOM    217  O   THR C 361      24.476  -1.584 -53.642  1.00 34.30           O
ATOM    218  N   LEU C 362      25.265  -2.841 -55.323  1.00 28.72           N
ATOM    219  CA  LEU C 362      24.049  -3.581 -55.523  1.00 24.86           C
ATOM    220  CB  LEU C 362      23.982  -4.026 -56.977  1.00 24.76           C
ATOM    221  CG  LEU C 362      22.644  -4.428 -57.549  1.00 32.95           C
ATOM    222  CD1 LEU C 362      21.670  -3.242 -57.520  1.00 33.14           C
ATOM    223  CD2 LEU C 362      22.865  -4.898 -58.973  1.00 32.38           C
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ATOM    224  C   LEU C 362      24.098  -4.811 -54.623  1.00 26.07           C
ATOM    225  O   LEU C 362      25.104  -5.510 -54.592  1.00 24.45           O
ATOM    226  N   THR C 363      23.012  -5.101 -53.918  1.00 18.38           N
ATOM    227  CA  THR C 363      22.984  -6.329 -53.107  1.00 16.32           C
ATOM    228  CB  THR C 363      22.617  -6.056 -51.638  1.00 21.09           C
ATOM    229  OG1 THR C 363      21.375  -5.358 -51.571  1.00 20.47           O
ATOM    230  CG2 THR C 363      23.731  -5.225 -50.935  1.00 20.12           C
ATOM    231  C   THR C 363      21.989  -7.273 -53.742  1.00 18.41           C
ATOM    232  O   THR C 363      20.849  -6.887 -54.023  1.00 18.88           O
ATOM    233  N   VAL C 364      22.440  -8.489 -54.035  1.00 14.94           N
ATOM    234  CA  VAL C 364      21.594  -9.473 -54.727  1.00 13.40           C
ATOM    235  CB  VAL C 364      22.039  -9.701 -56.200  1.00 12.25           C
ATOM    236  CG1 VAL C 364      21.771  -8.460 -57.071  1.00 17.35           C
ATOM    237  CG2 VAL C 364      23.527 -10.107 -56.248  1.00 15.31           C
ATOM    238  C   VAL C 364      21.667 -10.818 -53.966  1.00 13.21           C
ATOM    239  O   VAL C 364      22.674 -11.136 -53.326  1.00 13.05           O
ATOM    240  N   TYR C 365      20.569 -11.587 -53.992  1.00 17.09           N
ATOM    241  CA  TYR C 365      20.549 -12.854 -53.259  1.00 15.55           C
ATOM    242  CB  TYR C 365      19.133 -13.392 -53.241  1.00 16.73           C
ATOM    243  CG  TYR C 365      18.200 -12.661 -52.307  1.00 15.97           C
ATOM    244  CD1 TYR C 365      18.424 -12.659 -50.927  1.00 15.06           C
ATOM    245  CE1 TYR C 365      17.539 -12.050 -50.061  1.00 15.79           C
ATOM    246  CZ  TYR C 365      16.403 -11.438 -50.557  1.00 17.61           C
ATOM    247  OH  TYR C 365      15.513 -10.830 -49.665  1.00 18.59           O
ATOM    248  CE2 TYR C 365      16.137 -11.429 -51.929  1.00 17.31           C
ATOM    249  CD2 TYR C 365      17.027 -12.059 -52.796  1.00 16.54           C
ATOM    250  C   TYR C 365      21.453 -13.919 -53.918  1.00 16.38           C
ATOM    251  O   TYR C 365      21.998 -14.797 -53.245  1.00 15.40           O
ATOM    252  N   LYS C 366      21.556 -13.849 -55.243  1.00 14.22           N
ATOM    253  CA  LYS C 366      22.203 -14.903 -56.022  1.00 14.39           C
ATOM    254  CB  LYS C 366      21.146 -15.801 -56.695  1.00 15.32           C
ATOM    255  CG  LYS C 366      20.304 -16.680 -55.738  1.00 18.29           C
ATOM    256  CD  LYS C 366      21.231 -17.638 -55.023  1.00 21.75           C
ATOM    257  CE  LYS C 366      20.706 -19.036 -54.851  1.00 32.92           C
ATOM    258  NZ  LYS C 366      21.855 -19.979 -54.530  1.00 22.76           N
ATOM    259  C   LYS C 366      23.059 -14.264 -57.109  1.00 15.89           C
ATOM    260  O   LYS C 366      22.677 -13.232 -57.686  1.00 17.96           O
ATOM    261  N   ALA C 367      24.133 -14.953 -57.468  1.00 15.52           N
ATOM    262  CA  ALA C 367      25.041 -14.500 -58.553  1.00 17.29           C
ATOM    263  CB  ALA C 367      26.087 -13.531 -58.005  1.00 17.16           C
ATOM    264  C   ALA C 367      25.711 -15.734 -59.164  1.00 16.23           C
ATOM    265  O   ALA C 367      25.606 -16.850 -58.615  1.00 18.42           O
ATOM    266  N   SER C 368      26.327 -15.550 -60.322  1.00 18.54           N
ATOM    267  CA  SER C 368      26.842 -16.652 -61.125  1.00 18.67           C
ATOM    268  CB  SER C 368      25.883 -16.938 -62.301  1.00 16.89           C
ATOM    269  OG  SER C 368      25.588 -15.770 -63.080  1.00 24.00           O
ATOM    270  C   SER C 368      28.198 -16.282 -61.677  1.00 18.19           C
ATOM    271  O   SER C 368      28.477 -15.087 -61.908  1.00 14.64           O
ATOM    272  N   ASN C 369      29.026 -17.292 -61.941  1.00 16.45           N
ATOM    273  CA  ASN C 369      30.264 -17.077 -62.739  1.00 18.06           C
ATOM    274  CB  ASN C 369      29.941 -16.415 -64.128  1.00 17.86           C
ATOM    275  CG  ASN C 369      28.926 -17.219 -64.958  1.00 21.13           C
ATOM    276  OD1 ASN C 369      27.973 -16.655 -65.522  1.00 24.07           O
ATOM    277  ND2 ASN C 369      29.090 -18.518 -64.986  1.00 20.73           N
ATOM    278  C   ASN C 369      31.285 -16.224 -61.979  1.00 20.08           C
ATOM    279  O   ASN C 369      32.055 -15.496 -62.589  1.00 20.43           O
ATOM    280  N   LEU C 370      31.249 -16.294 -60.640  1.00 19.32           N
ATOM    281  CA  LEU C 370      32.252 -15.649 -59.789  1.00 16.66           C
ATOM    282  CB  LEU C 370      31.567 -14.766 -58.707  1.00 15.97           C
ATOM    283  CG  LEU C 370      30.788 -13.562 -59.246  1.00 17.67           C
ATOM    284  CD1 LEU C 370      29.921 -12.945 -58.139  1.00 17.82           C
ATOM    285  CD2 LEU C 370      31.765 -12.493 -59.774  1.00 17.13           C
ATOM    286  C   LEU C 370      33.134 -16.684 -59.124  1.00 22.04           C
ATOM    287  O   LEU C 370      32.664 -17.765 -58.750  1.00 27.66           O
ATOM    288  N   ASN C 371      34.425 -16.359 -59.011  1.00 19.95           N
ATOM    289  CA  ASN C 371      35.391 -17.098 -58.191  1.00 22.48           C
ATOM    290  CB  ASN C 371      36.744 -17.219 -58.942  1.00 23.38           C
ATOM    291  CG  ASN C 371      36.716 -18.257 -60.034  1.00 34.72           C
ATOM    292  OD1 ASN C 371      35.928 -19.200 -59.992  1.00 40.19           O
ATOM    293  ND2 ASN C 371      37.580 -18.090 -61.027  1.00 29.69           N
ATOM    294  C   ASN C 371      35.646 -16.343 -56.871  1.00 21.29           C
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ATOM    295  O   ASN C 371      35.836 -15.137 -56.872  1.00 24.39           O
ATOM    296  N   LEU C 372      35.690 -17.079 -55.765  1.00 24.84           N
ATOM    297  CA  LEU C 372      35.943 -16.502 -54.464  1.00 25.98           C
ATOM    298  CB  LEU C 372      35.178 -17.273 -53.371  1.00 28.82           C
ATOM    299  CG  LEU C 372      33.653 -17.377 -53.543  1.00 29.97           C
ATOM    300  CD1 LEU C 372      33.015 -18.146 -52.385  1.00 28.60           C
ATOM    301  CD2 LEU C 372      33.042 -15.996 -53.667  1.00 22.27           C
ATOM    302  C   LEU C 372      37.432 -16.552 -54.183  1.00 31.79           C
ATOM    303  O   LEU C 372      38.061 -17.570 -54.391  1.00 29.23           O
ATOM    304  N   ILE C 373      37.977 -15.430 -53.714  1.00 28.88           N
ATOM    305  CA  ILE C 373      39.404 -15.305 -53.392  1.00 28.43           C
ATOM    306  CB  ILE C 373      39.999 -14.023 -54.008  1.00 30.57           C
ATOM    307  CG1 ILE C 373      39.787 -13.997 -55.519  1.00 34.72           C
ATOM    308  CD1 ILE C 373      40.451 -15.155 -56.247  1.00 35.61           C
ATOM    309  CG2 ILE C 373      41.483 -13.878 -53.643  1.00 35.44           C
ATOM    310  C   ILE C 373      39.549 -15.196 -51.891  1.00 32.83           C
ATOM    311  O   ILE C 373      38.996 -14.273 -51.282  1.00 26.95           O
ATOM    312  N   GLY C 374      40.282 -16.128 -51.285  1.00 38.01           N
ATOM    313  CA  GLY C 374      40.625 -16.018 -49.858  1.00 37.48           C
ATOM    314  C   GLY C 374      39.531 -16.492 -48.926  1.00 43.62           C
ATOM    315  O   GLY C 374      38.617 -17.227 -49.338  1.00 39.66           O
ATOM    316  N   ARG C 375      39.619 -16.053 -47.668  1.00 39.28           N
ATOM    317  CA  ARG C 375      38.692 -16.453 -46.607  1.00 40.63           C
ATOM    318  CB  ARG C 375      39.469 -17.059 -45.436  1.00 47.66           C
ATOM    319  CG  ARG C 375      40.051 -18.435 -45.710  1.00 60.28           C
ATOM    320  CD  ARG C 375      41.210 -18.749 -44.766  1.00 70.29           C
ATOM    321  NE  ARG C 375      40.897 -18.438 -43.368  1.00 91.51           N
ATOM    322  CZ  ARG C 375      41.534 -17.523 -42.633  1.00 89.00           C
ATOM    323  NH1 ARG C 375      42.540 -16.826 -43.148  1.00 90.40           N
ATOM    324  NH2 ARG C 375      41.168 -17.313 -41.376  1.00 89.65           N
ATOM    325  C   ARG C 375      37.904 -15.232 -46.123  1.00 26.99           C
ATOM    326  O   ARG C 375      38.380 -14.111 -46.263  1.00 34.28           O
ATOM    327  N   PRO C 376      36.697 -15.443 -45.538  1.00 29.33           N
ATOM    328  CA  PRO C 376      35.893 -14.276 -45.127  1.00 28.39           C
ATOM    329  CB  PRO C 376      34.609 -14.908 -44.560  1.00 28.84           C
ATOM    330  CG  PRO C 376      34.587 -16.316 -45.096  1.00 34.04           C
ATOM    331  CD  PRO C 376      36.028 -16.712 -45.195  1.00 30.00           C
ATOM    332  C   PRO C 376      36.588 -13.448 -44.039  1.00 39.15           C
ATOM    333  O   PRO C 376      37.254 -14.015 -43.153  1.00 35.18           O
ATOM    334  N   SER C 377      36.392 -12.132 -44.085  1.00 27.68           N
ATOM    335  CA  SER C 377      36.922 -11.223 -43.075  1.00 26.47           C
ATOM    336  CB  SER C 377      38.149 -10.498 -43.632  1.00 31.82           C
ATOM    337  OG  SER C 377      38.432  -9.324 -42.893  1.00 29.34           O
ATOM    338  C   SER C 377      35.846 -10.217 -42.671  1.00 27.05           C
ATOM    339  O   SER C 377      35.015  -9.838 -43.481  1.00 23.93           O
ATOM    340  N   THR C 378      35.838  -9.794 -41.413  1.00 21.03           N
ATOM    341  CA  THR C 378      34.877  -8.768 -40.993  1.00 19.97           C
ATOM    342  CB  THR C 378      34.255  -9.084 -39.619  1.00 24.98           C
ATOM    343  OG1 THR C 378      35.301  -9.216 -38.657  1.00 25.97           O
ATOM    344  CG2 THR C 378      33.455 -10.394 -39.664  1.00 26.12           C
ATOM    345  C   THR C 378      35.522  -7.347 -40.947  1.00 20.90           C
ATOM    346  O   THR C 378      34.844  -6.346 -40.646  1.00 23.19           O
ATOM    347  N   VAL C 379      36.802  -7.268 -41.292  1.00 29.55           N
ATOM    348  CA  VAL C 379      37.517  -5.988 -41.266  1.00 27.57           C
ATOM    349  CB  VAL C 379      39.010  -6.147 -41.685  1.00 32.26           C
ATOM    350  CG1 VAL C 379      39.740  -4.814 -41.552  1.00 37.63           C
ATOM    351  CG2 VAL C 379      39.706  -7.210 -40.844  1.00 35.13           C
ATOM    352  C   VAL C 379      36.824  -4.956 -42.155  1.00 27.11           C
ATOM    353  O   VAL C 379      36.672  -5.165 -43.368  1.00 23.80           O
ATOM    354  N   HIS C 380      36.368  -3.856 -41.539  1.00 19.68           N
ATOM    355  CA  HIS C 380      35.716  -2.773 -42.249  1.00 22.71           C
ATOM    356  CB  HIS C 380      36.652  -2.168 -43.325  1.00 29.21           C
ATOM    357  CG  HIS C 380      37.922  -1.579 -42.772  1.00 30.06           C
ATOM    358  ND1 HIS C 380      37.925  -0.644 -41.798  1.00 33.02           N
ATOM    359  CE1 HIS C 380      39.192  -0.300 -41.520  1.00 28.04           C
ATOM    360  NE2 HIS C 380      39.997  -0.992 -42.334  1.00 36.34           N
ATOM    361  CD2 HIS C 380      39.243  -1.766 -43.141  1.00 30.10           C
ATOM    362  C   HIS C 380      34.429  -3.177 -42.933  1.00 25.03           C
ATOM    363  O   HIS C 380      33.987  -2.498 -43.851  1.00 19.83           O
ATOM    364  N   SER C 381      33.798  -4.256 -42.493  1.00 23.92           N
ATOM    365  CA  SER C 381      32.653  -4.749 -43.248  1.00 22.02           C
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ATOM    366  CB  SER C 381      32.065  -5.998 -42.606  1.00 22.11           C
ATOM    367  OG  SER C 381      30.857  -6.314 -43.291  1.00 22.36           O
ATOM    368  C   SER C 381      31.584  -3.685 -43.347  1.00 22.58           C
ATOM    369  O   SER C 381      31.201  -3.081 -42.334  1.00 23.86           O
ATOM    370  N   TRP C 382      31.083  -3.449 -44.559  1.00 18.69           N
ATOM    371  CA  TRP C 382      30.009  -2.480 -44.769  1.00 19.17           C
ATOM    372  CB  TRP C 382      29.876  -2.136 -46.253  1.00 23.55           C
ATOM    373  CG  TRP C 382      31.160  -1.629 -46.861  1.00 25.91           C
ATOM    374  CD1 TRP C 382      32.104  -0.768 -46.268  1.00 28.49           C
ATOM    375  NE1 TRP C 382      33.156  -0.510 -47.148  1.00 20.57           N
ATOM    376  CE2 TRP C 382      32.935  -1.147 -48.347  1.00 23.75           C
ATOM    377  CD2 TRP C 382      31.658  -1.874 -48.229  1.00 22.75           C
ATOM    378  CE3 TRP C 382      31.214  -2.641 -49.311  1.00 21.62           C
ATOM    379  CZ3 TRP C 382      31.991  -2.647 -50.503  1.00 23.46           C
ATOM    380  CH2 TRP C 382      33.210  -1.940 -50.592  1.00 24.17           C
ATOM    381  CZ2 TRP C 382      33.699  -1.167 -49.523  1.00 23.73           C
ATOM    382  C   TRP C 382      28.674  -2.913 -44.243  1.00 22.73           C
ATOM    383  O   TRP C 382      27.775  -2.108 -44.108  1.00 22.47           O
ATOM    384  N   PHE C 383      28.513  -4.203 -43.991  1.00 21.47           N
ATOM    385  CA  PHE C 383      27.224  -4.722 -43.511  1.00 21.44           C
ATOM    386  CB  PHE C 383      26.616  -5.670 -44.561  1.00 21.53           C
ATOM    387  CG  PHE C 383      26.430  -5.024 -45.903  1.00 20.41           C
ATOM    388  CD1 PHE C 383      25.357  -4.169 -46.138  1.00 24.94           C
ATOM    389  CE1 PHE C 383      25.181  -3.573 -47.384  1.00 25.58           C
ATOM    390  CZ  PHE C 383      26.100  -3.811 -48.407  1.00 20.60           C
ATOM    391  CE2 PHE C 383      27.182  -4.657 -48.181  1.00 20.71           C
ATOM    392  CD2 PHE C 383      27.346  -5.254 -46.935  1.00 19.68           C
ATOM    393  C   PHE C 383      27.450  -5.425 -42.208  1.00 21.12           C
ATOM    394  O   PHE C 383      27.885  -6.565 -42.187  1.00 19.43           O
ATOM    395  N   PRO C 384      27.242  -4.707 -41.095  1.00 25.20           N
ATOM    396  CA  PRO C 384      27.595  -5.237 -39.769  1.00 28.08           C
ATOM    397  CB  PRO C 384      26.990  -4.197 -38.809  1.00 35.10           C
ATOM    398  CG  PRO C 384      26.923  -2.935 -39.614  1.00 41.19           C
ATOM    399  CD  PRO C 384      26.607  -3.376 -41.018  1.00 30.91           C
ATOM    400  C   PRO C 384      26.944  -6.607 -39.545  1.00 23.83           C
ATOM    401  O   PRO C 384      25.768  -6.785 -39.883  1.00 23.90           O
ATOM    402  N   GLY C 385      27.713  -7.570 -39.040  1.00 22.22           N
ATOM    403  CA  GLY C 385      27.192  -8.907 -38.812  1.00 22.64           C
ATOM    404  C   GLY C 385      27.518  -9.836 -39.961  1.00 23.19           C
ATOM    405  O   GLY C 385      27.335 -11.049 -39.859  1.00 26.77           O
ATOM    406  N   TYR C 386      28.014  -9.275 -41.065  1.00 22.07           N
ATOM    407  CA  TYR C 386      28.491 -10.109 -42.188  1.00 19.16           C
ATOM    408  CB  TYR C 386      27.788  -9.715 -43.503  1.00 19.95           C
ATOM    409  CG  TYR C 386      26.316 -10.026 -43.551  1.00 18.86           C
ATOM    410  CD1 TYR C 386      25.849 -11.262 -44.073  1.00 21.60           C
ATOM    411  CE1 TYR C 386      24.483 -11.557 -44.116  1.00 18.03           C
ATOM    412  CZ  TYR C 386      23.562 -10.591 -43.669  1.00 18.64           C
ATOM    413  OH  TYR C 386      22.189 -10.834 -43.729  1.00 20.48           O
ATOM    414  CE2 TYR C 386      24.008  -9.363 -43.186  1.00 22.90           C
ATOM    415  CD2 TYR C 386      25.384  -9.087 -43.148  1.00 18.77           C
ATOM    416  C   TYR C 386      29.987  -9.937 -42.376  1.00 22.75           C
ATOM    417  O   TYR C 386      30.534  -8.832 -42.120  1.00 20.44           O
ATOM    418  N   ALA C 387      30.631 -11.018 -42.826  1.00 20.30           N
ATOM    419  CA  ALA C 387      32.013 -11.008 -43.301  1.00 22.78           C
ATOM    420  CB  ALA C 387      32.757 -12.240 -42.796  1.00 25.12           C
ATOM    421  C   ALA C 387      31.996 -11.010 -44.815  1.00 29.58           C
ATOM    422  O   ALA C 387      31.002 -11.440 -45.425  1.00 23.99           O
ATOM    423  N   TRP C 388      33.090 -10.539 -45.423  1.00 23.42           N
ATOM    424  CA  TRP C 388      33.192 -10.455 -46.895  1.00 22.06           C
ATOM    425  CB  TRP C 388      33.402  -9.008 -47.348  1.00 22.97           C
ATOM    426  CG  TRP C 388      34.554  -8.327 -46.667  1.00 23.36           C
ATOM    427  CD1 TRP C 388      34.505  -7.526 -45.536  1.00 23.59           C
ATOM    428  NE1 TRP C 388      35.762  -7.056 -45.222  1.00 23.73           N
ATOM    429  CE2 TRP C 388      36.685  -7.570 -46.067  1.00 25.57           C
ATOM    430  CD2 TRP C 388      35.966  -8.374 -47.050  1.00 19.60           C
ATOM    431  CE3 TRP C 388      36.676  -8.986 -48.064  1.00 24.93           C
ATOM    432  CZ3 TRP C 388      38.067  -8.805 -48.117  1.00 31.33           C
ATOM    433  CH2 TRP C 388      38.740  -8.008 -47.167  1.00 25.05           C
ATOM    434  CZ2 TRP C 388      38.058  -7.388 -46.126  1.00 24.37           C
ATOM    435  C   TRP C 388      34.292 -11.325 -47.431  1.00 23.80           C
ATOM    436  O   TRP C 388      35.247 -11.622 -46.739  1.00 22.67           O
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ATOM    437  N   THR C 389      34.131 -11.761 -48.674  1.00 22.64           N
ATOM    438  CA  THR C 389      35.137 -12.527 -49.390  1.00 23.15           C
ATOM    439  CB  THR C 389      34.732 -14.019 -49.489  1.00 28.55           C
ATOM    440  OG1 THR C 389      34.575 -14.589 -48.166  1.00 25.21           O
ATOM    441  CG2 THR C 389      35.759 -14.822 -50.287  1.00 23.81           C
ATOM    442  C   THR C 389      35.160 -11.927 -50.797  1.00 23.75           C
ATOM    443  O   THR C 389      34.104 -11.714 -51.398  1.00 22.93           O
ATOM    444  N   ILE C 390      36.348 -11.611 -51.310  1.00 22.61           N
ATOM    445  CA  ILE C 390      36.446 -11.025 -52.649  1.00 20.60           C
ATOM    446  CB  ILE C 390      37.918 -10.671 -53.009  1.00 23.72           C
ATOM    447  CG1 ILE C 390      38.433  -9.540 -52.085  1.00 25.88           C
ATOM    448  CD1 ILE C 390      39.952  -9.430 -52.036  1.00 30.43           C
ATOM    449  CG2 ILE C 390      38.018 -10.266 -54.482  1.00 23.92           C
ATOM    450  C   ILE C 390      35.880 -11.956 -53.703  1.00 17.74           C
ATOM    451  O   ILE C 390      36.131 -13.151 -53.661  1.00 19.14           O
ATOM    452  N   ALA C 391      35.110 -11.401 -54.643  1.00 19.74           N
ATOM    453  CA  ALA C 391      34.482 -12.190 -55.733  1.00 21.05           C
ATOM    454  CB  ALA C 391      32.972 -12.198 -55.600  1.00 19.87           C
ATOM    455  C   ALA C 391      34.863 -11.593 -57.066  1.00 21.71           C
ATOM    456  O   ALA C 391      34.534 -10.431 -57.357  1.00 19.97           O
ATOM    457  N   GLN C 392      35.506 -12.405 -57.903  1.00 19.87           N
ATOM    458  CA  GLN C 392      35.940 -11.920 -59.197  1.00 20.86           C
ATOM    459  CB  GLN C 392      37.464 -11.885 -59.260  1.00 23.28           C
ATOM    460  CG  GLN C 392      38.133 -13.225 -59.075  1.00 25.86           C
ATOM    461  CD  GLN C 392      39.660 -13.128 -59.140  1.00 32.26           C
ATOM    462  OE1 GLN C 392      40.282 -12.260 -58.490  1.00 26.90           O
ATOM    463  NE2 GLN C 392      40.272 -14.030 -59.894  1.00 27.93           N
ATOM    464  C   GLN C 392      35.352 -12.737 -60.348  1.00 17.85           C
ATOM    465  O   GLN C 392      34.990 -13.910 -60.181  1.00 16.88           O
ATOM    466  N   CYS C 393      35.240 -12.118 -61.513  1.00 19.45           N
ATOM    467  CA  CYS C 393      34.659 -12.797 -62.658  1.00 19.09           C
ATOM    468  CB  CYS C 393      34.573 -11.821 -63.866  1.00 18.54           C
ATOM    469  SG  CYS C 393      34.104 -12.614 -65.405  1.00 19.35           S
ATOM    470  C   CYS C 393      35.477 -14.044 -62.998  1.00 20.04           C
ATOM    471  O   CYS C 393      36.710 -14.014 -63.015  1.00 18.58           O
ATOM    472  N   LYS C 394      34.787 -15.157 -63.253  1.00 17.98           N
ATOM    473  CA  LYS C 394      35.438 -16.424 -63.541  1.00 23.56           C
ATOM    474  CB  LYS C 394      34.364 -17.532 -63.548  1.00 27.76           C
ATOM    475  CG  LYS C 394      34.845 -18.958 -63.613  1.00 41.83           C
ATOM    476  CD  LYS C 394      33.660 -19.891 -63.908  1.00 47.55           C
ATOM    477  CE  LYS C 394      32.862 -19.442 -65.137  1.00 41.86           C
ATOM    478  NZ  LYS C 394      31.606 -20.233 -65.363  1.00 43.14           N
ATOM    479  C   LYS C 394      36.180 -16.400 -64.892  1.00 22.67           C
ATOM    480  O   LYS C 394      37.080 -17.202 -65.116  1.00 21.73           O
ATOM    481  N   ILE C 395      35.790 -15.478 -65.769  1.00 17.90           N
ATOM    482  CA  ILE C 395      36.266 -15.458 -67.157  1.00 20.16           C
ATOM    483  CB  ILE C 395      35.092 -15.143 -68.126  1.00 22.32           C
ATOM    484  CG1 ILE C 395      34.020 -16.257 -68.058  1.00 24.88           C
ATOM    485  CD1 ILE C 395      34.525 -17.646 -68.359  1.00 33.56           C
ATOM    486  CG2 ILE C 395      35.570 -14.943 -69.572  1.00 27.19           C
ATOM    487  C   ILE C 395      37.442 -14.482 -67.372  1.00 21.30           C
ATOM    488  O   ILE C 395      38.374 -14.792 -68.120  1.00 24.85           O
ATOM    489  N   CYS C 396      37.406 -13.319 -66.710  1.00 20.00           N
ATOM    490  CA  CYS C 396      38.417 -12.260 -66.938  1.00 20.82           C
ATOM    491  CB  CYS C 396      37.798 -11.084 -67.726  1.00 19.94           C
ATOM    492  SG  CYS C 396      36.779  -9.967 -66.712  1.00 20.32           S
ATOM    493  C   CYS C 396      39.088 -11.762 -65.643  1.00 22.88           C
ATOM    494  O   CYS C 396      39.968 -10.914 -65.684  1.00 19.43           O
ATOM    495  N   ALA C 397      38.662 -12.306 -64.510  1.00 19.88           N
ATOM    496  CA  ALA C 397      39.176 -11.925 -63.172  1.00 21.30           C
ATOM    497  CB  ALA C 397      40.659 -12.315 -62.996  1.00 22.89           C
ATOM    498  C   ALA C 397      38.927 -10.466 -62.728  1.00 19.34           C
ATOM    499  O   ALA C 397      39.516 -10.023 -61.741  1.00 21.70           O
ATOM    500  N   SER C 398      38.025  -9.757 -63.400  1.00 18.04           N
ATOM    501  CA  SER C 398      37.579  -8.438 -62.920  1.00 23.45           C
ATOM    502  CB  SER C 398      36.543  -7.840 -63.857  1.00 21.51           C
ATOM    503  OG  SER C 398      36.076  -6.608 -63.341  1.00 23.91           O
ATOM    504  C   SER C 398      36.999  -8.544 -61.487  1.00 24.26           C
ATOM    505  O   SER C 398      36.226  -9.429 -61.204  1.00 19.04           O
ATOM    506  N   HIS C 399      37.407  -7.647 -60.599  1.00 21.06           N
ATOM    507  CA  HIS C 399      36.880  -7.621 -59.230  1.00 25.19           C
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ATOM    508  CB  HIS C 399      37.830  -6.845 -58.303  1.00 29.97           C
ATOM    509  CG  HIS C 399      39.092  -7.597 -57.962  1.00 41.61           C
ATOM    510  ND1 HIS C 399      39.824  -8.266 -58.897  1.00 52.11           N
ATOM    511  CE1 HIS C 399      40.886  -8.848 -58.300  1.00 50.81           C
ATOM    512  NE2 HIS C 399      40.839  -8.557 -56.984  1.00 55.23           N
ATOM    513  CD2 HIS C 399      39.750  -7.784 -56.742  1.00 45.49           C
ATOM    514  C   HIS C 399      35.516  -7.011 -59.235  1.00 22.54           C
ATOM    515  O   HIS C 399      35.367  -5.810 -59.369  1.00 27.75           O
ATOM    516  N   ILE C 400      34.484  -7.842 -59.166  1.00 19.81           N
ATOM    517  CA  ILE C 400      33.158  -7.334 -59.359  1.00 18.67           C
ATOM    518  CB  ILE C 400      32.291  -8.317 -60.151  1.00 24.31           C
ATOM    519  CG1 ILE C 400      32.836  -8.386 -61.594  1.00 26.52           C
ATOM    520  CD1 ILE C 400      32.688  -9.737 -62.197  1.00 36.38           C
ATOM    521  CG2 ILE C 400      30.843  -7.847 -60.194  1.00 23.19           C
ATOM    522  C   ILE C 400      32.518  -6.936 -58.025  1.00 19.05           C
ATOM    523  O   ILE C 400      31.734  -6.001 -57.982  1.00 20.48           O
ATOM    524  N   GLY C 401      32.897  -7.619 -56.955  1.00 19.04           N
ATOM    525  CA  GLY C 401      32.429  -7.264 -55.592  1.00 17.46           C
ATOM    526  C   GLY C 401      32.840  -8.296 -54.568  1.00 20.64           C
ATOM    527  O   GLY C 401      33.973  -8.783 -54.588  1.00 18.56           O
ATOM    528  N   TRP C 402      31.890  -8.661 -53.680  1.00 16.67           N
ATOM    529  CA  TRP C 402      32.162  -9.552 -52.547  1.00 18.77           C
ATOM    530  CB  TRP C 402      32.456  -8.725 -51.273  1.00 17.10           C
ATOM    531  CG  TRP C 402      33.579  -7.724 -51.486  1.00 18.87           C
ATOM    532  CD1 TRP C 402      34.927  -7.887 -51.170  1.00 19.24           C
ATOM    533  NE1 TRP C 402      35.653  -6.796 -51.582  1.00 21.70           N
ATOM    534  CE2 TRP C 402      34.836  -5.873 -52.154  1.00 20.62           C
ATOM    535  CD2 TRP C 402      33.487  -6.414 -52.123  1.00 17.20           C
ATOM    536  CE3 TRP C 402      32.439  -5.661 -52.680  1.00 19.43           C
ATOM    537  CZ3 TRP C 402      32.744  -4.408 -53.245  1.00 21.99           C
ATOM    538  CH2 TRP C 402      34.052  -3.897 -53.225  1.00 21.39           C
ATOM    539  CZ2 TRP C 402      35.122  -4.628 -52.702  1.00 20.52           C
ATOM    540  C   TRP C 402      31.000 -10.459 -52.270  1.00 17.94           C
ATOM    541  O   TRP C 402      29.849 -10.077 -52.475  1.00 18.07           O
ATOM    542  N   LYS C 403      31.286 -11.641 -51.739  1.00 18.13           N
ATOM    543  CA  LYS C 403      30.236 -12.459 -51.130  1.00 16.95           C
ATOM    544  CB  LYS C 403      30.569 -13.920 -51.273  1.00 18.86           C
ATOM    545  CG  LYS C 403      29.489 -14.897 -50.782  1.00 22.97           C
ATOM    546  CD  LYS C 403      29.997 -16.361 -50.914  1.00 23.46           C
ATOM    547  CE  LYS C 403      28.848 -17.393 -50.801  1.00 28.58           C
ATOM    548  NZ  LYS C 403      29.373 -18.801 -50.910  1.00 29.32           N
ATOM    549  C   LYS C 403      30.205 -12.083 -49.655  1.00 18.92           C
ATOM    550  O   LYS C 403      31.241 -12.073 -49.003  1.00 20.66           O
ATOM    551  N   PHE C 404      29.025 -11.762 -49.150  1.00 16.91           N
ATOM    552  CA  PHE C 404      28.840 -11.459 -47.751  1.00 16.49           C
ATOM    553  CB  PHE C 404      27.987 -10.196 -47.598  1.00 16.81           C
ATOM    554  CG  PHE C 404      28.759  -8.930 -47.859  1.00 19.51           C
ATOM    555  CD1 PHE C 404      29.562  -8.366 -46.848  1.00 20.30           C
ATOM    556  CE1 PHE C 404      30.311  -7.195 -47.094  1.00 18.87           C
ATOM    557  CZ  PHE C 404      30.286  -6.616 -48.353  1.00 18.27           C
ATOM    558  CE2 PHE C 404      29.505  -7.192 -49.378  1.00 18.70           C
ATOM    559  CD2 PHE C 404      28.752  -8.336 -49.130  1.00 18.09           C
ATOM    560  C   PHE C 404      28.179 -12.619 -47.053  1.00 21.35           C
ATOM    561  O   PHE C 404      27.173 -13.108 -47.525  1.00 19.54           O
ATOM    562  N   THR C 405      28.790 -13.100 -45.966  1.00 17.15           N
ATOM    563  CA  THR C 405      28.253 -14.252 -45.217  1.00 19.24           C
ATOM    564  CB  THR C 405      29.225 -15.467 -45.263  1.00 23.03           C
ATOM    565  OG1 THR C 405      30.565 -15.033 -44.985  1.00 24.85           O
ATOM    566  CG2 THR C 405      29.185 -16.138 -46.643  1.00 24.42           C
ATOM    567  C   THR C 405      27.989 -13.886 -43.753  1.00 26.02           C
ATOM    568  O   THR C 405      28.837 -13.247 -43.115  1.00 20.95           O
ATOM    569  N   ALA C 406      26.822 -14.301 -43.228  1.00 22.39           N
ATOM    570  CA  ALA C 406      26.368 -13.939 -41.867  1.00 21.73           C
ATOM    571  CB  ALA C 406      24.938 -14.456 -41.645  1.00 19.03           C
ATOM    572  C   ALA C 406      27.296 -14.572 -40.840  1.00 24.62           C
ATOM    573  O   ALA C 406      27.635 -15.733 -40.968  1.00 22.12           O
ATOM    574  N   THR C 407      27.689 -13.808 -39.813  1.00 23.76           N
ATOM    575  CA  THR C 407      28.450 -14.369 -38.700  1.00 26.36           C
ATOM    576  CB  THR C 407      29.275 -13.287 -37.981  1.00 25.54           C
ATOM    577  OG1 THR C 407      28.393 -12.261 -37.548  1.00 24.00           O
ATOM    578  CG2 THR C 407      30.320 -12.688 -38.921  1.00 26.73           C
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ATOM    579  C   THR C 407      27.565 -15.069 -37.646  1.00 28.21           C
ATOM    580  O   THR C 407      28.080 -15.804 -36.813  1.00 31.23           O
ATOM    581  N   LYS C 408      26.249 -14.819 -37.677  1.00 29.81           N
ATOM    582  CA  LYS C 408      25.294 -15.479 -36.740  1.00 30.93           C
ATOM    583  CB  LYS C 408      24.672 -14.460 -35.776  1.00 30.17           C
ATOM    584  CG  LYS C 408      25.642 -13.846 -34.750  1.00 40.43           C
ATOM    585  CD  LYS C 408      26.527 -14.894 -34.057  1.00 49.28           C
ATOM    586  CE  LYS C 408      25.775 -15.671 -32.974  1.00 61.81           C
ATOM    587  NZ  LYS C 408      26.354 -15.481 -31.613  1.00 73.95           N
ATOM    588  C   LYS C 408      24.180 -16.212 -37.479  1.00 31.23           C
ATOM    589  O   LYS C 408      23.667 -15.723 -38.489  1.00 24.35           O
ATOM    590  N   LYS C 409      23.775 -17.357 -36.944  1.00 29.82           N
ATOM    591  CA  LYS C 409      22.792 -18.221 -37.602  1.00 30.44           C
ATOM    592  CB  LYS C 409      22.754 -19.590 -36.923  1.00 41.17           C
ATOM    593  CG  LYS C 409      24.120 -20.235 -36.715  1.00 52.84           C
ATOM    594  CD  LYS C 409      24.343 -21.420 -37.634  1.00 51.99           C
ATOM    595  CE  LYS C 409      24.663 -20.968 -39.044  1.00 49.47           C
ATOM    596  NZ  LYS C 409      24.404 -22.062 -40.012  1.00 64.48           N
ATOM    597  C   LYS C 409      21.396 -17.640 -37.643  1.00 26.60           C
ATOM    598  O   LYS C 409      20.559 -18.083 -38.440  1.00 29.24           O
ATOM    599  N   ASP C 410      21.111 -16.663 -36.786  1.00 24.16           N
ATOM    600  CA  ASP C 410      19.737 -16.101 -36.726  1.00 28.97           C
ATOM    601  CB  ASP C 410      19.386 -15.652 -35.291  1.00 36.10           C
ATOM    602  CG  ASP C 410      20.260 -14.478 -34.803  1.00 50.41           C
ATOM    603  OD1 ASP C 410      21.246 -14.118 -35.494  1.00 52.57           O
ATOM    604  OD2 ASP C 410      19.953 -13.914 -33.731  1.00 59.08           O
ATOM    605  C   ASP C 410      19.447 -14.974 -37.755  1.00 29.67           C
ATOM    606  O   ASP C 410      18.320 -14.463 -37.825  1.00 30.30           O
ATOM    607  N   MET C 411      20.459 -14.590 -38.546  1.00 22.42           N
ATOM    608  CA  MET C 411      20.297 -13.530 -39.565  1.00 24.51           C
ATOM    609  CB  MET C 411      21.646 -12.864 -39.835  1.00 25.24           C
ATOM    610  CG  MET C 411      22.235 -12.210 -38.578  1.00 28.71           C
ATOM    611  SD  MET C 411      23.976 -11.852 -38.825  1.00 27.69           S
ATOM    612  CE  MET C 411      23.819 -10.572 -40.083  1.00 28.09           C
ATOM    613  C   MET C 411      19.691 -14.032 -40.910  1.00 19.94           C
ATOM    614  O   MET C 411      19.848 -15.198 -41.275  1.00 22.66           O
ATOM    615  N   SER C 412      19.002 -13.146 -41.616  1.00 19.30           N
ATOM    616  CA  SER C 412      18.581 -13.434 -42.985  1.00 21.53           C
ATOM    617  CB  SER C 412      17.070 -13.755 -43.090  1.00 23.43           C
ATOM    618  OG  SER C 412      16.266 -12.675 -42.707  1.00 25.81           O
ATOM    619  C   SER C 412      19.037 -12.343 -43.933  1.00 22.36           C
ATOM    620  O   SER C 412      18.874 -11.164 -43.600  1.00 19.15           O
ATOM    621  N   PRO C 413      19.174 -12.700 -45.220  1.00 19.34           N
ATOM    622  CA  PRO C 413      19.897 -13.867 -45.702  1.00 18.19           C
ATOM    623  CB  PRO C 413      20.169 -13.524 -47.170  1.00 20.62           C
ATOM    624  CG  PRO C 413      20.428 -12.049 -47.133  1.00 20.02           C
ATOM    625  CD  PRO C 413      19.526 -11.496 -46.018  1.00 19.00           C
ATOM    626  C   PRO C 413      21.161 -14.229 -44.980  1.00 19.66           C
ATOM    627  O   PRO C 413      21.871 -13.343 -44.477  1.00 18.72           O
ATOM    628  N   GLN C 414      21.460 -15.530 -44.952  1.00 17.84           N
ATOM    629  CA  GLN C 414      22.714 -16.019 -44.415  1.00 18.92           C
ATOM    630  CB  GLN C 414      22.674 -17.559 -44.251  1.00 22.91           C
ATOM    631  CG  GLN C 414      21.942 -18.013 -42.971  1.00 22.25           C
ATOM    632  CD  GLN C 414      22.702 -17.596 -41.718  1.00 21.57           C
ATOM    633  OE1 GLN C 414      22.292 -16.687 -40.978  1.00 24.32           O
ATOM    634  NE2 GLN C 414      23.807 -18.207 -41.514  1.00 17.55           N
ATOM    635  C   GLN C 414      23.880 -15.617 -45.325  1.00 20.42           C
ATOM    636  O   GLN C 414      25.029 -15.627 -44.907  1.00 19.54           O
ATOM    637  N   LYS C 415      23.580 -15.330 -46.587  1.00 17.15           N
ATOM    638  CA  LYS C 415      24.607 -14.837 -47.502  1.00 20.13           C
ATOM    639  CB  LYS C 415      25.524 -15.968 -48.033  1.00 28.49           C
ATOM    640  CG  LYS C 415      24.997 -16.768 -49.202  1.00 29.92           C
ATOM    641  CD  LYS C 415      25.210 -16.048 -50.534  1.00 23.94           C
ATOM    642  CE  LYS C 415      24.598 -16.837 -51.667  1.00 32.53           C
ATOM    643  NZ  LYS C 415      23.775 -17.966 -51.145  1.00 24.42           N
ATOM    644  C   LYS C 415      23.982 -14.040 -48.614  1.00 17.08           C
ATOM    645  O   LYS C 415      22.807 -14.210 -48.934  1.00 15.14           O
ATOM    646  N   PHE C 416      24.757 -13.120 -49.173  1.00 15.09           N
ATOM    647  CA  PHE C 416      24.302 -12.371 -50.332  1.00 14.01           C
ATOM    648  CB  PHE C 416      23.323 -11.233 -49.936  1.00 14.25           C
ATOM    649  CG  PHE C 416      23.941 -10.160 -49.092  1.00 17.62           C
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ATOM    650  CD2 PHE C 416      24.520  -9.016 -49.690  1.00 16.75           C
ATOM    651  CE2 PHE C 416      25.121  -8.038 -48.898  1.00 15.95           C
ATOM    652  CZ  PHE C 416      25.155  -8.166 -47.506  1.00 17.92           C
ATOM    653  CE1 PHE C 416      24.598  -9.276 -46.901  1.00 19.40           C
ATOM    654  CD1 PHE C 416      24.004 -10.289 -47.696  1.00 18.32           C
ATOM    655  C   PHE C 416      25.565 -11.854 -51.039  1.00 14.42           C
ATOM    656  O   PHE C 416      26.688 -12.146 -50.604  1.00 16.22           O
ATOM    657  N   TRP C 417      25.378 -11.209 -52.161  1.00 15.71           N
ATOM    658  CA  TRP C 417      26.493 -10.641 -52.897  1.00 15.70           C
ATOM    659  CB  TRP C 417      26.488 -11.186 -54.339  1.00 17.05           C
ATOM    660  CG  TRP C 417      26.539 -12.704 -54.391  1.00 15.37           C
ATOM    661  CD1 TRP C 417      25.463 -13.599 -54.295  1.00 16.48           C
ATOM    662  NE1 TRP C 417      25.910 -14.902 -54.342  1.00 17.26           N
ATOM    663  CE2 TRP C 417      27.263 -14.930 -54.492  1.00 17.73           C
ATOM    664  CD2 TRP C 417      27.729 -13.544 -54.511  1.00 14.96           C
ATOM    665  CE3 TRP C 417      29.090 -13.292 -54.645  1.00 15.98           C
ATOM    666  CZ3 TRP C 417      29.956 -14.360 -54.752  1.00 17.30           C
ATOM    667  CH2 TRP C 417      29.482 -15.700 -54.739  1.00 18.29           C
ATOM    668  CZ2 TRP C 417      28.129 -15.994 -54.590  1.00 17.76           C
ATOM    669  C   TRP C 417      26.376  -9.153 -52.902  1.00 16.99           C
ATOM    670  O   TRP C 417      25.328  -8.621 -53.214  1.00 17.97           O
ATOM    671  N   GLY C 418      27.458  -8.461 -52.557  1.00 18.07           N
ATOM    672  CA  GLY C 418      27.504  -7.005 -52.736  1.00 15.90           C
ATOM    673  C   GLY C 418      28.404  -6.681 -53.930  1.00 17.29           C
ATOM    674  O   GLY C 418      29.602  -6.999 -53.927  1.00 18.19           O
ATOM    675  N   LEU C 419      27.814  -6.126 -54.964  1.00 16.90           N
ATOM    676  CA  LEU C 419      28.512  -5.984 -56.235  1.00 18.19           C
ATOM    677  CB  LEU C 419      27.727  -6.670 -57.360  1.00 18.51           C
ATOM    678  CG  LEU C 419      27.373  -8.152 -57.100  1.00 15.00           C
ATOM    679  CD1 LEU C 419      26.518  -8.685 -58.276  1.00 22.36           C
ATOM    680  CD2 LEU C 419      28.638  -8.998 -56.948  1.00 18.73           C
ATOM    681  C   LEU C 419      28.693  -4.513 -56.547  1.00 19.38           C
ATOM    682  O   LEU C 419      27.799  -3.700 -56.322  1.00 20.12           O
ATOM    683  N   THR C 420      29.860  -4.184 -57.079  1.00 20.93           N
ATOM    684  CA  THR C 420      30.126  -2.798 -57.508  1.00 21.16           C
ATOM    685  CB  THR C 420      31.626  -2.601 -57.689  1.00 20.72           C
ATOM    686  OG1 THR C 420      32.267  -2.919 -56.460  1.00 21.86           O
ATOM    687  CG2 THR C 420      31.941  -1.142 -58.061  1.00 25.37           C
ATOM    688  C   THR C 420      29.384  -2.496 -58.792  1.00 18.26           C
ATOM    689  O   THR C 420      29.657  -3.118 -59.827  1.00 20.69           O
ATOM    690  N   ARG C 421      28.425  -1.562 -58.734  1.00 18.70           N
ATOM    691  CA  ARG C 421      27.495  -1.329 -59.842  1.00 24.01           C
ATOM    692  CB  ARG C 421      26.450  -0.272 -59.453  1.00 24.40           C
ATOM    693  CG  ARG C 421      25.344  -0.063 -60.487  1.00 29.73           C
ATOM    694  CD  ARG C 421      24.643  -1.373 -60.859  1.00 40.72           C
ATOM    695  NE  ARG C 421      23.762  -1.234 -62.020  1.00 43.02           N
ATOM    696  CZ  ARG C 421      24.160  -1.331 -63.288  1.00 44.26           C
ATOM    697  NH1 ARG C 421      23.282  -1.182 -64.267  1.00 51.63           N
ATOM    698  NH2 ARG C 421      25.435  -1.571 -63.578  1.00 37.17           N
ATOM    699  C   ARG C 421      28.224  -0.927 -61.142  1.00 23.35           C
ATOM    700  O   ARG C 421      27.842  -1.322 -62.246  1.00 21.27           O
ATOM    701  N   SER C 422      29.294  -0.169 -60.998  1.00 25.80           N
ATOM    702  CA  SER C 422      30.024   0.303 -62.169  1.00 25.90           C
ATOM    703  CB  SER C 422      30.898   1.501 -61.785  1.00 26.05           C
ATOM    704  OG  SER C 422      31.809   1.122 -60.780  1.00 27.22           O
ATOM    705  C   SER C 422      30.877  -0.814 -62.793  1.00 24.71           C
ATOM    706  O   SER C 422      31.435  -0.629 -63.873  1.00 24.39           O
ATOM    707  N   ALA C 423      31.003  -1.955 -62.103  1.00 19.01           N
ATOM    708  CA  ALA C 423      31.690  -3.120 -62.679  1.00 22.75           C
ATOM    709  CB  ALA C 423      32.421  -3.930 -61.583  1.00 22.48           C
ATOM    710  C   ALA C 423      30.735  -4.009 -63.505  1.00 22.65           C
ATOM    711  O   ALA C 423      31.144  -5.036 -64.076  1.00 22.56           O
ATOM    712  N   LEU C 424      29.470  -3.609 -63.584  1.00 19.91           N
ATOM    713  CA  LEU C 424      28.470  -4.380 -64.309  1.00 20.15           C
ATOM    714  CB  LEU C 424      27.345  -4.849 -63.365  1.00 20.70           C
ATOM    715  CG  LEU C 424      27.798  -5.765 -62.210  1.00 21.77           C
ATOM    716  CD1 LEU C 424      26.661  -5.860 -61.188  1.00 22.15           C
ATOM    717  CD2 LEU C 424      28.145  -7.152 -62.719  1.00 20.26           C
ATOM    718  C   LEU C 424      27.866  -3.624 -65.455  1.00 24.37           C
ATOM    719  O   LEU C 424      27.809  -2.387 -65.443  1.00 23.14           O
ATOM    720  N   LEU C 425      27.317  -4.386 -66.389  1.00 24.58           N
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ATOM    721  CA  LEU C 425      26.871  -3.873 -67.650  1.00 28.23           C
ATOM    722  CB  LEU C 425      27.747  -4.461 -68.760  1.00 33.87           C
ATOM    723  CG  LEU C 425      27.622  -3.891 -70.155  1.00 43.65           C
ATOM    724  CD1 LEU C 425      28.279  -2.516 -70.204  1.00 36.35           C
ATOM    725  CD2 LEU C 425      28.254  -4.868 -71.148  1.00 30.51           C
ATOM    726  C   LEU C 425      25.385  -4.138 -67.976  1.00 46.90           C
ATOM    727  O   LEU C 425      25.026  -5.251 -68.379  1.00 57.13           O
ATOM    728  N   PRO C 426      24.515  -3.188 -67.612  1.00 36.98           N
ATOM    729  CA  PRO C 426      24.072  -2.174 -68.552  1.00 49.43           C
ATOM    730  CB  PRO C 426      22.532  -2.216 -68.434  1.00 43.05           C
ATOM    731  CG  PRO C 426      22.234  -3.445 -67.638  1.00 47.02           C
ATOM    732  CD  PRO C 426      23.413  -3.577 -66.731  1.00 61.94           C
ATOM    733  C   PRO C 426      24.632  -0.823 -68.063  1.00 67.43           C
ATOM    734  O   PRO C 426      25.051  -0.715 -66.893  1.00 58.16           O
ATOM    735  N   THR C 427      24.659   0.174 -68.952  1.00 78.64           N
ATOM    736  CA  THR C 427      25.321   1.477 -68.704  1.00 73.20           C
ATOM    737  CB  THR C 427      24.547   2.648 -69.376  1.00 83.46           C
ATOM    738  OG1 THR C 427      24.019   2.219 -70.641  1.00 82.68           O
ATOM    739  CG2 THR C 427      25.465   3.859 -69.596  1.00 75.73           C
ATOM    740  C   THR C 427      25.573   1.783 -67.219  1.00 69.85           C
ATOM    741  O   THR C 427      24.930   2.651 -66.625  1.00 72.74           O
ATOM    742  N   THR A 321       4.551 -15.893 -65.318  1.00 40.43           N
ATOM    743  CA  THR A 321       5.957 -16.283 -64.916  1.00 35.08           C
ATOM    744  CB  THR A 321       6.662 -15.217 -64.026  1.00 40.21           C
ATOM    745  OG1 THR A 321       6.151 -15.287 -62.681  1.00 36.05           O
ATOM    746  CG2 THR A 321       6.511 -13.784 -64.607  1.00 45.57           C
ATOM    747  C   THR A 321       6.086 -17.660 -64.202  1.00 26.92           C
ATOM    748  O   THR A 321       7.182 -18.122 -64.015  1.00 21.10           O
ATOM    749  N   SER A 322       4.966 -18.271 -63.787  1.00 22.22           N
ATOM    750  CA ASER A 322       4.980 -19.619 -63.228  0.50 20.83           C
ATOM    751  CA BSER A 322       4.979 -19.642 -63.240  0.50 20.81           C
ATOM    752  CB ASER A 322       3.603 -19.944 -62.624  0.50 23.57           C
ATOM    753  CB BSER A 322       3.606 -20.013 -62.662  0.50 23.10           C
ATOM    754  OG ASER A 322       3.576 -21.241 -62.093  0.50 20.43           O
ATOM    755  OG BSER A 322       3.461 -19.505 -61.365  0.50 20.90           O
ATOM    756  C   SER A 322       5.337 -20.661 -64.298  1.00 22.53           C
ATOM    757  O   SER A 322       4.727 -20.695 -65.374  1.00 24.80           O
ATOM    758  N   LEU A 323       6.296 -21.522 -63.999  1.00 16.02           N
ATOM    759  CA  LEU A 323       6.610 -22.635 -64.897  1.00 18.17           C
ATOM    760  CB  LEU A 323       8.082 -22.610 -65.355  1.00 19.53           C
ATOM    761  CG  LEU A 323       8.522 -21.321 -66.100  1.00 21.51           C
ATOM    762  CD1 LEU A 323      10.038 -21.185 -66.165  1.00 22.36           C
ATOM    763  CD2 LEU A 323       7.972 -21.344 -67.487  1.00 24.81           C
ATOM    764  C   LEU A 323       6.239 -23.963 -64.241  1.00 18.39           C
ATOM    765  O   LEU A 323       6.885 -24.396 -63.264  1.00 16.27           O
ATOM    766  N   CYS A 324       5.183 -24.593 -64.761  1.00 16.53           N
ATOM    767  CA  CYS A 324       4.579 -25.796 -64.126  1.00 17.38           C
ATOM    768  CB  CYS A 324       3.057 -25.648 -64.099  1.00 21.85           C
ATOM    769  SG  CYS A 324       2.560 -24.369 -62.948  1.00 24.08           S
ATOM    770  C   CYS A 324       4.934 -27.063 -64.877  1.00 18.86           C
ATOM    771  O   CYS A 324       5.230 -27.015 -66.074  1.00 17.93           O
ATOM    772  N   CYS A 325       4.936 -28.190 -64.164  1.00 14.36           N
ATOM    773  CA  CYS A 325       5.081 -29.506 -64.786  1.00 17.37           C
ATOM    774  CB  CYS A 325       4.883 -30.614 -63.735  1.00 15.30           C
ATOM    775  SG  CYS A 325       4.948 -32.271 -64.439  1.00 17.23           S
ATOM    776  C   CYS A 325       4.002 -29.629 -65.879  1.00 18.91           C
ATOM    777  O   CYS A 325       2.796 -29.473 -65.605  1.00 15.89           O
ATOM    778  N   LYS A 326       4.424 -29.942 -67.092  1.00 17.65           N
ATOM    779  CA  LYS A 326       3.494 -30.047 -68.241  1.00 19.82           C
ATOM    780  CB  LYS A 326       4.308 -30.252 -69.552  1.00 21.78           C
ATOM    781  CG  LYS A 326       3.455 -30.439 -70.820  1.00 27.83           C
ATOM    782  CD  LYS A 326       4.306 -30.420 -72.113  1.00 21.59           C
ATOM    783  CE  LYS A 326       5.133 -31.707 -72.261  1.00 33.76           C
ATOM    784  NZ  LYS A 326       5.957 -31.770 -73.533  1.00 26.41           N
ATOM    785  C   LYS A 326       2.482 -31.224 -68.056  1.00 21.44           C
ATOM    786  O   LYS A 326       1.307 -31.137 -68.469  1.00 20.61           O
ATOM    787  N   GLN A 327       2.957 -32.290 -67.431  1.00 17.27           N
ATOM    788  CA  GLN A 327       2.209 -33.507 -67.259  1.00 20.63           C
ATOM    789  CB  GLN A 327       3.140 -34.661 -66.835  1.00 19.02           C
ATOM    790  CG  GLN A 327       2.402 -35.976 -66.562  1.00 19.78           C
ATOM    791  CD  GLN A 327       1.568 -36.397 -67.748  1.00 24.09           C
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ATOM    792  OE1 GLN A 327       2.065 -36.435 -68.865  1.00 23.94           O
ATOM    793  NE2 GLN A 327       0.290 -36.713 -67.514  1.00 22.24           N
ATOM    794  C   GLN A 327       1.073 -33.350 -66.263  1.00 22.86           C
ATOM    795  O   GLN A 327      -0.083 -33.491 -66.629  1.00 19.94           O
ATOM    796  N   CYS A 328       1.391 -33.075 -64.994  1.00 18.52           N
ATOM    797  CA  CYS A 328       0.302 -32.929 -63.962  1.00 20.13           C
ATOM    798  CB  CYS A 328       0.795 -33.348 -62.562  1.00 17.71           C
ATOM    799  SG  CYS A 328       2.103 -32.303 -61.880  1.00 18.05           S
ATOM    800  C   CYS A 328      -0.317 -31.535 -63.932  1.00 21.52           C
ATOM    801  O   CYS A 328      -1.331 -31.313 -63.267  1.00 18.91           O
ATOM    802  N   GLN A 329       0.311 -30.594 -64.652  1.00 17.87           N
ATOM    803  CA  GLN A 329      -0.242 -29.243 -64.918  1.00 21.29           C
ATOM    804  CB  GLN A 329      -1.667 -29.332 -65.562  1.00 21.81           C
ATOM    805  CG  GLN A 329      -1.680 -30.200 -66.809  1.00 20.31           C
ATOM    806  CD  GLN A 329      -3.074 -30.352 -67.423  1.00 24.94           C
ATOM    807  OE1 GLN A 329      -3.462 -31.435 -67.849  1.00 31.31           O
ATOM    808  NE2 GLN A 329      -3.826 -29.283 -67.429  1.00 27.47           N
ATOM    809  C   GLN A 329      -0.242 -28.276 -63.727  1.00 23.05           C
ATOM    810  O   GLN A 329       0.013 -27.081 -63.897  1.00 27.20           O
ATOM    811  N   GLU A 330      -0.492 -28.792 -62.526  1.00 22.09           N
ATOM    812  CA  GLU A 330      -0.784 -27.957 -61.354  1.00 23.02           C
ATOM    813  CB  GLU A 330      -1.774 -28.703 -60.422  1.00 25.71           C
ATOM    814  CG  GLU A 330      -1.185 -29.996 -59.814  1.00 29.94           C
ATOM    815  CD  GLU A 330      -2.152 -30.756 -58.900  1.00 43.29           C
ATOM    816  OE1 GLU A 330      -1.780 -31.868 -58.409  1.00 38.45           O
ATOM    817  OE2 GLU A 330      -3.280 -30.263 -58.682  1.00 47.09           O
ATOM    818  C   GLU A 330       0.481 -27.630 -60.530  1.00 24.14           C
ATOM    819  O   GLU A 330       0.473 -26.737 -59.691  1.00 26.86           O
ATOM    820  N   THR A 331       1.531 -28.406 -60.723  1.00 20.99           N
ATOM    821  CA  THR A 331       2.680 -28.355 -59.816  1.00 16.99           C
ATOM    822  CB  THR A 331       3.328 -29.763 -59.685  1.00 20.62           C
ATOM    823  OG1 THR A 331       2.320 -30.714 -59.261  1.00 22.37           O
ATOM    824  CG2 THR A 331       4.459 -29.760 -58.679  1.00 18.91           C
ATOM    825  C   THR A 331       3.702 -27.368 -60.383  1.00 19.75           C
ATOM    826  O   THR A 331       4.257 -27.593 -61.461  1.00 16.32           O
ATOM    827  N   GLU A 332       3.964 -26.294 -59.655  1.00 16.74           N
ATOM    828  CA  GLU A 332       4.926 -25.315 -60.131  1.00 15.89           C
ATOM    829  CB  GLU A 332       4.728 -23.977 -59.441  1.00 20.69           C
ATOM    830  CG  GLU A 332       5.675 -22.891 -59.976  1.00 20.54           C
ATOM    831  CD  GLU A 332       5.504 -21.578 -59.238  1.00 21.74           C
ATOM    832  OE1 GLU A 332       4.552 -20.819 -59.570  1.00 22.95           O
ATOM    833  OE2 GLU A 332       6.296 -21.334 -58.305  1.00 21.04           O
ATOM    834  C   GLU A 332       6.324 -25.832 -59.842  1.00 17.94           C
ATOM    835  O   GLU A 332       6.620 -26.316 -58.714  1.00 13.91           O
ATOM    836  N   ILE A 333       7.192 -25.729 -60.828  1.00 13.85           N
ATOM    837  CA  ILE A 333       8.535 -26.218 -60.644  1.00 14.17           C
ATOM    838  CB  ILE A 333       8.973 -27.127 -61.824  1.00 13.98           C
ATOM    839  CG1 ILE A 333       8.042 -28.366 -61.958  1.00 16.52           C
ATOM    840  CD1 ILE A 333       8.007 -29.258 -60.701  1.00 16.65           C
ATOM    841  CG2 ILE A 333      10.398 -27.580 -61.618  1.00 14.79           C
ATOM    842  C   ILE A 333       9.512 -25.052 -60.493  1.00 16.43           C
ATOM    843  O   ILE A 333      10.466 -25.137 -59.754  1.00 16.72           O
ATOM    844  N   THR A 334       9.299 -23.985 -61.236  1.00 18.04           N
ATOM    845  CA  THR A 334      10.163 -22.794 -61.057  1.00 18.02           C
ATOM    846  CB  THR A 334      11.560 -22.975 -61.759  1.00 19.08           C
ATOM    847  OG1 THR A 334      12.452 -21.942 -61.322  1.00 17.19           O
ATOM    848  CG2 THR A 334      11.424 -22.890 -63.282  1.00 17.72           C
ATOM    849  C   THR A 334       9.411 -21.574 -61.560  1.00 17.69           C
ATOM    850  O   THR A 334       8.191 -21.661 -61.874  1.00 15.70           O
ATOM    851  N   THR A 335      10.077 -20.418 -61.552  1.00 18.19           N
ATOM    852  CA  THR A 335       9.504 -19.215 -62.107  1.00 17.81           C
ATOM    853  CB  THR A 335       9.118 -18.184 -61.001  1.00 19.86           C
ATOM    854  OG1 THR A 335      10.299 -17.548 -60.507  1.00 20.96           O
ATOM    855  CG2 THR A 335       8.364 -18.859 -59.842  1.00 18.72           C
ATOM    856  C   THR A 335      10.507 -18.558 -63.056  1.00 18.93           C
ATOM    857  O   THR A 335      11.718 -18.769 -62.955  1.00 17.73           O
ATOM    858  N   LYS A 336      10.000 -17.749 -63.969  1.00 17.52           N
ATOM    859  CA  LYS A 336      10.877 -17.054 -64.887  1.00 20.23           C
ATOM    860  CB  LYS A 336      10.056 -16.251 -65.886  1.00 24.57           C
ATOM    861  CG  LYS A 336       9.315 -17.096 -66.900  1.00 34.21           C
ATOM    862  CD  LYS A 336       8.522 -16.200 -67.851  1.00 39.66           C
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ATOM    863  CE  LYS A 336       8.113 -16.955 -69.112  1.00 39.73           C
ATOM    864  NZ  LYS A 336       7.286 -16.092 -69.994  1.00 50.40           N
ATOM    865  C   LYS A 336      11.860 -16.132 -64.152  1.00 19.64           C
ATOM    866  O   LYS A 336      12.921 -15.776 -64.690  1.00 18.58           O
ATOM    867  N   ASN A 337      11.507 -15.734 -62.929  1.00 18.00           N
ATOM    868  CA  ASN A 337      12.379 -14.870 -62.136  1.00 16.43           C
ATOM    869  CB  ASN A 337      11.670 -14.398 -60.849  1.00 20.21           C
ATOM    870  CG  ASN A 337      10.456 -13.587 -61.137  1.00 27.33           C
ATOM    871  OD1 ASN A 337       9.341 -13.995 -60.840  1.00 34.10           O
ATOM    872  ND2 ASN A 337      10.651 -12.458 -61.750  1.00 30.05           N
ATOM    873  C   ASN A 337      13.654 -15.541 -61.751  1.00 16.44           C
ATOM    874  O   ASN A 337      14.613 -14.872 -61.402  1.00 18.69           O
ATOM    875  N   GLU A 338      13.670 -16.882 -61.774  1.00 14.36           N
ATOM    876  CA  GLU A 338      14.827 -17.616 -61.313  1.00 14.66           C
ATOM    877  CB  GLU A 338      14.412 -18.905 -60.583  1.00 15.42           C
ATOM    878  CG  GLU A 338      13.512 -18.667 -59.386  1.00 16.28           C
ATOM    879  CD  GLU A 338      14.143 -17.734 -58.364  1.00 24.39           C
ATOM    880  OE1 GLU A 338      15.359 -17.876 -58.072  1.00 21.18           O
ATOM    881  OE2 GLU A 338      13.435 -16.829 -57.872  1.00 28.39           O
ATOM    882  C   GLU A 338      15.815 -17.953 -62.434  1.00 15.18           C
ATOM    883  O   GLU A 338      16.868 -18.560 -62.170  1.00 14.91           O
ATOM    884  N   ILE A 339      15.497 -17.550 -63.665  1.00 14.51           N
ATOM    885  CA  ILE A 339      16.351 -17.929 -64.828  1.00 15.89           C
ATOM    886  CB  ILE A 339      15.611 -17.655 -66.171  1.00 18.62           C
ATOM    887  CG1 ILE A 339      14.398 -18.598 -66.317  1.00 17.98           C
ATOM    888  CD1 ILE A 339      13.378 -18.137 -67.361  1.00 21.22           C
ATOM    889  CG2 ILE A 339      16.573 -17.768 -67.371  1.00 16.54           C
ATOM    890  C   ILE A 339      17.665 -17.145 -64.771  1.00 17.67           C
ATOM    891  O   ILE A 339      17.655 -15.956 -64.495  1.00 16.43           O
ATOM    892  N   PHE A 340      18.788 -17.805 -65.058  1.00 16.24           N
ATOM    893  CA  PHE A 340      20.076 -17.092 -65.178  1.00 17.14           C
ATOM    894  CB  PHE A 340      20.831 -17.067 -63.829  1.00 14.44           C
ATOM    895  CG  PHE A 340      21.468 -18.362 -63.470  1.00 17.90           C
ATOM    896  CD2 PHE A 340      22.848 -18.543 -63.613  1.00 17.59           C
ATOM    897  CE2 PHE A 340      23.442 -19.772 -63.316  1.00 15.90           C
ATOM    898  CZ  PHE A 340      22.657 -20.840 -62.840  1.00 17.74           C
ATOM    899  CE1 PHE A 340      21.281 -20.664 -62.680  1.00 15.22           C
ATOM    900  CD1 PHE A 340      20.691 -19.442 -62.977  1.00 17.65           C
ATOM    901  C   PHE A 340      20.906 -17.797 -66.238  1.00 21.57           C
ATOM    902  O   PHE A 340      20.539 -18.867 -66.694  1.00 18.80           O
ATOM    903  N   SER A 341      22.025 -17.193 -66.609  1.00 20.31           N
ATOM    904  CA  SER A 341      22.884 -17.736 -67.662  1.00 23.83           C
ATOM    905  CB  SER A 341      23.020 -16.719 -68.802  1.00 32.15           C
ATOM    906  OG  SER A 341      23.983 -17.134 -69.770  1.00 40.08           O
ATOM    907  C   SER A 341      24.245 -18.128 -67.090  1.00 25.00           C
ATOM    908  O   SER A 341      25.009 -17.273 -66.634  1.00 24.73           O
ATOM    909  N   LEU A 342      24.520 -19.439 -67.058  1.00 23.54           N
ATOM    910  CA  LEU A 342      25.846 -19.936 -66.661  1.00 28.00           C
ATOM    911  CB  LEU A 342      25.760 -21.407 -66.224  1.00 25.89           C
ATOM    912  CG  LEU A 342      26.376 -21.963 -64.932  1.00 38.88           C
ATOM    913  CD1 LEU A 342      26.759 -23.424 -65.109  1.00 33.04           C
ATOM    914  CD2 LEU A 342      27.577 -21.187 -64.452  1.00 37.66           C
ATOM    915  C   LEU A 342      26.790 -19.797 -67.876  1.00 32.97           C
ATOM    916  O   LEU A 342      26.406 -20.106 -69.018  1.00 33.19           O
ATOM    917  N   SER A 343      28.000 -19.303 -67.654  1.00 33.59           N
ATOM    918  CA  SER A 343      28.960 -19.184 -68.768  1.00 36.09           C
ATOM    919  CB  SER A 343      30.112 -18.237 -68.418  1.00 47.49           C
ATOM    920  OG  SER A 343      30.925 -17.990 -69.561  1.00 47.59           O
ATOM    921  C   SER A 343      29.477 -20.582 -69.124  1.00 39.94           C
ATOM    922  O   SER A 343      29.945 -21.327 -68.241  1.00 39.31           O
ATOM    923  N   LEU A 344      29.343 -20.943 -70.402  1.00 41.77           N
ATOM    924  CA  LEU A 344      29.561 -22.321 -70.869  1.00 60.36           C
ATOM    925  CB  LEU A 344      28.345 -22.829 -71.675  1.00 63.72           C
ATOM    926  CG  LEU A 344      27.198 -23.540 -70.926  1.00 63.73           C
ATOM    927  CD1 LEU A 344      26.115 -22.561 -70.503  1.00 57.76           C
ATOM    928  CD2 LEU A 344      26.594 -24.653 -71.777  1.00 59.87           C
ATOM    929  C   LEU A 344      30.825 -22.426 -71.709  1.00 60.83           C
ATOM    930  O   LEU A 344      31.926 -22.220 -71.209  1.00 58.36           O
ATOM    931  N   GLU A 360      15.572 -26.816 -75.530  1.00 54.54           N
ATOM    932  CA  GLU A 360      16.834 -26.886 -74.818  1.00 40.63           C
ATOM    933  CB  GLU A 360      17.692 -25.669 -75.147  1.00 38.50           C
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ATOM    934  CG  GLU A 360      16.953 -24.347 -75.030  1.00 44.38           C
ATOM    935  CD  GLU A 360      17.629 -23.222 -75.799  1.00 59.24           C
ATOM    936  OE1 GLU A 360      16.906 -22.327 -76.290  1.00 61.79           O
ATOM    937  OE2 GLU A 360      18.878 -23.228 -75.912  1.00 58.29           O
ATOM    938  C   GLU A 360      16.655 -27.007 -73.283  1.00 38.18           C
ATOM    939  O   GLU A 360      15.652 -27.604 -72.783  1.00 26.68           O
ATOM    940  N   THR A 361      17.625 -26.441 -72.556  1.00 27.62           N
ATOM    941  CA  THR A 361      17.752 -26.621 -71.076  1.00 32.19           C
ATOM    942  CB  THR A 361      19.050 -27.375 -70.711  1.00 34.38           C
ATOM    943  OG1 THR A 361      19.014 -28.701 -71.259  1.00 41.61           O
ATOM    944  CG2 THR A 361      19.243 -27.458 -69.166  1.00 29.62           C
ATOM    945  C   THR A 361      17.736 -25.254 -70.354  1.00 28.82           C
ATOM    946  O   THR A 361      18.591 -24.396 -70.588  1.00 32.86           O
ATOM    947  N   LEU A 362      16.754 -25.058 -69.490  1.00 19.76           N
ATOM    948  CA  LEU A 362      16.607 -23.793 -68.784  1.00 21.13           C
ATOM    949  CB  LEU A 362      15.131 -23.617 -68.431  1.00 23.70           C
ATOM    950  CG  LEU A 362      14.687 -22.281 -67.883  1.00 27.97           C
ATOM    951  CD1 LEU A 362      14.705 -21.241 -68.991  1.00 25.88           C
ATOM    952  CD2 LEU A 362      13.276 -22.445 -67.337  1.00 33.42           C
ATOM    953  C   LEU A 362      17.424 -23.892 -67.499  1.00 23.41           C
ATOM    954  O   LEU A 362      17.295 -24.874 -66.801  1.00 20.60           O
ATOM    955  N   THR A 363      18.265 -22.889 -67.176  1.00 17.96           N
ATOM    956  CA  THR A 363      19.014 -22.961 -65.901  1.00 15.19           C
ATOM    957  CB  THR A 363      20.538 -22.726 -66.072  1.00 18.99           C
ATOM    958  OG1 THR A 363      20.756 -21.498 -66.799  1.00 18.79           O
ATOM    959  CG2 THR A 363      21.197 -23.931 -66.850  1.00 23.58           C
ATOM    960  C   THR A 363      18.447 -21.918 -64.954  1.00 15.28           C
ATOM    961  O   THR A 363      18.296 -20.751 -65.342  1.00 15.07           O
ATOM    962  N   VAL A 364      18.061 -22.370 -63.754  1.00 16.66           N
ATOM    963  CA  VAL A 364      17.416 -21.511 -62.740  1.00 15.74           C
ATOM    964  CB  VAL A 364      15.881 -21.816 -62.556  1.00 13.40           C
ATOM    965  CG1 VAL A 364      15.082 -21.387 -63.766  1.00 16.27           C
ATOM    966  CG2 VAL A 364      15.612 -23.285 -62.214  1.00 13.58           C
ATOM    967  C   VAL A 364      18.105 -21.689 -61.392  1.00 12.50           C
ATOM    968  O   VAL A 364      18.622 -22.788 -61.064  1.00 13.58           O
ATOM    969  N   TYR A 365      18.091 -20.625 -60.589  1.00 12.72           N
ATOM    970  CA  TYR A 365      18.767 -20.633 -59.306  1.00 14.10           C
ATOM    971  CB  TYR A 365      18.817 -19.212 -58.737  1.00 14.22           C
ATOM    972  CG  TYR A 365      19.899 -18.354 -59.313  1.00 17.51           C
ATOM    973  CD1 TYR A 365      21.257 -18.730 -59.208  1.00 15.39           C
ATOM    974  CE1 TYR A 365      22.267 -17.910 -59.714  1.00 16.21           C
ATOM    975  CZ  TYR A 365      21.927 -16.726 -60.321  1.00 18.33           C
ATOM    976  OH  TYR A 365      22.920 -15.924 -60.831  1.00 19.92           O
ATOM    977  CE2 TYR A 365      20.613 -16.319 -60.408  1.00 17.25           C
ATOM    978  CD2 TYR A 365      19.590 -17.152 -59.928  1.00 15.49           C
ATOM    979  C   TYR A 365      18.027 -21.514 -58.298  1.00 13.68           C
ATOM    980  O   TYR A 365      18.636 -22.096 -57.390  1.00 14.00           O
ATOM    981  N   LYS A 366      16.701 -21.540 -58.442  1.00 14.64           N
ATOM    982  CA  LYS A 366      15.813 -22.158 -57.461  1.00 15.00           C
ATOM    983  CB  LYS A 366      15.182 -21.070 -56.571  1.00 15.61           C
ATOM    984  CG  LYS A 366      16.174 -20.386 -55.621  1.00 17.78           C
ATOM    985  CD  LYS A 366      16.349 -21.258 -54.390  1.00 17.98           C
ATOM    986  CE  LYS A 366      17.312 -20.672 -53.386  1.00 22.69           C
ATOM    987  NZ  LYS A 366      17.399 -21.604 -52.240  1.00 18.28           N
ATOM    988  C   LYS A 366      14.693 -22.903 -58.174  1.00 12.15           C
ATOM    989  O   LYS A 366      14.206 -22.458 -59.235  1.00 14.98           O
ATOM    990  N   ALA A 367      14.220 -23.977 -57.548  1.00 13.21           N
ATOM    991  CA  ALA A 367      13.081 -24.755 -58.057  1.00 14.40           C
ATOM    992  CB  ALA A 367      13.559 -25.833 -59.049  1.00 14.70           C
ATOM    993  C   ALA A 367      12.373 -25.419 -56.886  1.00 12.95           C
ATOM    994  O   ALA A 367      12.929 -25.503 -55.758  1.00 17.70           O
ATOM    995  N   SER A 368      11.180 -25.919 -57.145  1.00 14.33           N
ATOM    996  CA  SER A 368      10.317 -26.439 -56.067  1.00 15.19           C
ATOM    997  CB  SER A 368       9.220 -25.394 -55.730  1.00 14.05           C
ATOM    998  OG  SER A 368       8.512 -25.019 -56.909  1.00 19.52           O
ATOM    999  C   SER A 368       9.637 -27.722 -56.558  1.00 14.51           C
ATOM   1000  O   SER A 368       9.480 -27.925 -57.785  1.00 13.03           O
ATOM   1001  N   ASN A 369       9.200 -28.550 -55.610  1.00 14.24           N
ATOM   1002  CA  ASN A 369       8.319 -29.679 -55.909  1.00 15.26           C
ATOM   1003  CB  ASN A 369       7.018 -29.180 -56.549  1.00 13.90           C
ATOM   1004  CG  ASN A 369       6.245 -28.226 -55.622  1.00 19.57           C
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ATOM   1005  OD1 ASN A 369       5.741 -27.178 -56.047  1.00 21.87           O
ATOM   1006  ND2 ASN A 369       6.207 -28.563 -54.347  1.00 17.45           N
ATOM   1007  C   ASN A 369       9.000 -30.743 -56.767  1.00 18.36           C
ATOM   1008  O   ASN A 369       8.337 -31.496 -57.505  1.00 18.33           O
ATOM   1009  N   LEU A 370      10.309 -30.851 -56.608  1.00 15.47           N
ATOM   1010  CA  LEU A 370      11.077 -31.893 -57.259  1.00 17.84           C
ATOM   1011  CB  LEU A 370      12.217 -31.280 -58.085  1.00 15.67           C
ATOM   1012  CG  LEU A 370      11.822 -30.431 -59.300  1.00 16.95           C
ATOM   1013  CD1 LEU A 370      13.039 -29.687 -59.845  1.00 18.12           C
ATOM   1014  CD2 LEU A 370      11.231 -31.288 -60.408  1.00 16.77           C
ATOM   1015  C   LEU A 370      11.645 -32.827 -56.220  1.00 21.02           C
ATOM   1016  O   LEU A 370      12.073 -32.391 -55.140  1.00 21.26           O
ATOM   1017  N   ASN A 371      11.650 -34.106 -56.554  1.00 18.65           N
ATOM   1018  CA  ASN A 371      12.345 -35.124 -55.786  1.00 19.11           C
ATOM   1019  CB  ASN A 371      11.456 -36.378 -55.660  1.00 20.40           C
ATOM   1020  CG  ASN A 371      10.301 -36.176 -54.702  1.00 25.22           C
ATOM   1021  OD1 ASN A 371      10.409 -35.415 -53.724  1.00 32.27           O
ATOM   1022  ND2 ASN A 371       9.184 -36.841 -54.973  1.00 27.28           N
ATOM   1023  C   ASN A 371      13.608 -35.504 -56.480  1.00 19.60           C
ATOM   1024  O   ASN A 371      13.627 -35.676 -57.692  1.00 20.13           O
ATOM   1025  N   LEU A 372      14.671 -35.670 -55.711  1.00 19.95           N
ATOM   1026  CA  LEU A 372      15.972 -36.041 -56.266  1.00 20.70           C
ATOM   1027  CB  LEU A 372      17.095 -35.384 -55.469  1.00 26.05           C
ATOM   1028  CG  LEU A 372      17.112 -33.836 -55.401  1.00 28.71           C
ATOM   1029  CD1 LEU A 372      18.169 -33.369 -54.398  1.00 37.57           C
ATOM   1030  CD2 LEU A 372      17.371 -33.203 -56.763  1.00 28.90           C
ATOM   1031  C   LEU A 372      16.127 -37.540 -56.218  1.00 27.21           C
ATOM   1032  O   LEU A 372      15.786 -38.172 -55.207  1.00 22.80           O
ATOM   1033  N   ILE A 373      16.661 -38.105 -57.298  1.00 23.66           N
ATOM   1034  CA  ILE A 373      16.835 -39.539 -57.410  1.00 26.08           C
ATOM   1035  CB  ILE A 373      16.175 -40.081 -58.693  1.00 29.06           C
ATOM   1036  CG1 ILE A 373      14.693 -39.687 -58.754  1.00 26.65           C
ATOM   1037  CD1 ILE A 373      13.858 -40.236 -57.606  1.00 25.01           C
ATOM   1038  CG2 ILE A 373      16.323 -41.608 -58.781  1.00 31.87           C
ATOM   1039  C   ILE A 373      18.327 -39.863 -57.465  1.00 29.50           C
ATOM   1040  O   ILE A 373      19.039 -39.386 -58.361  1.00 27.45           O
ATOM   1041  N   GLY A 374      18.798 -40.662 -56.507  1.00 33.07           N
ATOM   1042  CA  GLY A 374      20.178 -41.136 -56.533  1.00 33.62           C
ATOM   1043  C   GLY A 374      21.157 -40.100 -56.033  1.00 35.52           C
ATOM   1044  O   GLY A 374      20.773 -39.168 -55.316  1.00 34.59           O
ATOM   1045  N   ARG A 375      22.429 -40.247 -56.435  1.00 31.82           N
ATOM   1046  CA  ARG A 375      23.540 -39.471 -55.859  1.00 32.45           C
ATOM   1047  CB  ARG A 375      24.585 -40.405 -55.217  1.00 37.47           C
ATOM   1048  CG  ARG A 375      24.003 -41.494 -54.300  1.00 47.10           C
ATOM   1049  CD  ARG A 375      25.049 -42.109 -53.370  1.00 52.40           C
ATOM   1050  NE  ARG A 375      26.408 -41.612 -53.628  1.00 77.74           N
ATOM   1051  CZ  ARG A 375      27.255 -42.132 -54.519  1.00 75.83           C
ATOM   1052  NH1 ARG A 375      26.899 -43.175 -55.262  1.00 69.90           N
ATOM   1053  NH2 ARG A 375      28.457 -41.595 -54.676  1.00 81.71           N
ATOM   1054  C   ARG A 375      24.198 -38.668 -56.966  1.00 30.05           C
ATOM   1055  O   ARG A 375      24.100 -39.043 -58.132  1.00 30.89           O
ATOM   1056  N   PRO A 376      24.880 -37.561 -56.619  1.00 25.07           N
ATOM   1057  CA  PRO A 376      25.445 -36.742 -57.711  1.00 23.23           C
ATOM   1058  CB  PRO A 376      26.062 -35.542 -56.972  1.00 25.63           C
ATOM   1059  CG  PRO A 376      25.348 -35.500 -55.653  1.00 31.07           C
ATOM   1060  CD  PRO A 376      25.091 -36.936 -55.300  1.00 31.31           C
ATOM   1061  C   PRO A 376      26.494 -37.477 -58.553  1.00 27.82           C
ATOM   1062  O   PRO A 376      27.211 -38.334 -58.034  1.00 33.45           O
ATOM   1063  N   SER A 377      26.548 -37.169 -59.850  1.00 24.06           N
ATOM   1064  CA  SER A 377      27.555 -37.751 -60.746  1.00 24.41           C
ATOM   1065  CB  SER A 377      26.933 -38.851 -61.642  1.00 24.09           C
ATOM   1066  OG  SER A 377      27.849 -39.241 -62.686  1.00 28.67           O
ATOM   1067  C   SER A 377      28.152 -36.679 -61.617  1.00 25.29           C
ATOM   1068  O   SER A 377      27.441 -35.761 -62.089  1.00 24.22           O
ATOM   1069  N   THR A 378      29.444 -36.787 -61.887  1.00 21.39           N
ATOM   1070  CA  THR A 378      30.069 -35.875 -62.848  1.00 22.60           C
ATOM   1071  CB  THR A 378      31.495 -35.499 -62.411  1.00 28.47           C
ATOM   1072  OG1 THR A 378      32.250 -36.696 -62.263  1.00 26.46           O
ATOM   1073  CG2 THR A 378      31.467 -34.772 -61.077  1.00 25.64           C
ATOM   1074  C   THR A 378      30.156 -36.442 -64.267  1.00 20.34           C
ATOM   1075  O   THR A 378      30.633 -35.751 -65.181  1.00 23.40           O
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ATOM   1076  N   VAL A 379      29.734 -37.699 -64.443  1.00 25.52           N
ATOM   1077  CA  VAL A 379      29.851 -38.369 -65.738  1.00 26.25           C
ATOM   1078  CB  VAL A 379      29.410 -39.853 -65.656  1.00 25.49           C
ATOM   1079  CG1 VAL A 379      29.529 -40.512 -67.021  1.00 36.68           C
ATOM   1080  CG2 VAL A 379      30.271 -40.599 -64.649  1.00 32.31           C
ATOM   1081  C   VAL A 379      29.041 -37.635 -66.806  1.00 24.36           C
ATOM   1082  O   VAL A 379      27.870 -37.394 -66.623  1.00 27.01           O
ATOM   1083  N   HIS A 380      29.693 -37.260 -67.900  1.00 21.88           N
ATOM   1084  CA  HIS A 380      29.053 -36.523 -69.009  1.00 26.88           C
ATOM   1085  CB  HIS A 380      27.998 -37.406 -69.743  1.00 25.41           C
ATOM   1086  CG  HIS A 380      28.561 -38.701 -70.313  1.00 27.07           C
ATOM   1087  ND1 HIS A 380      29.619 -38.727 -71.168  1.00 30.51           N
ATOM   1088  CE1 HIS A 380      29.888 -40.005 -71.499  1.00 27.87           C
ATOM   1089  NE2 HIS A 380      29.011 -40.801 -70.859  1.00 27.67           N
ATOM   1090  CD2 HIS A 380      28.164 -40.033 -70.140  1.00 27.53           C
ATOM   1091  C   HIS A 380      28.436 -35.166 -68.641  1.00 25.06           C
ATOM   1092  O   HIS A 380      27.648 -34.615 -69.414  1.00 23.98           O
ATOM   1093  N   SER A 381      28.782 -34.617 -67.473  1.00 25.37           N
ATOM   1094  CA  SER A 381      28.188 -33.314 -67.045  1.00 23.77           C
ATOM   1095  CB  SER A 381      28.864 -32.775 -65.791  1.00 25.06           C
ATOM   1096  OG  SER A 381      28.205 -31.577 -65.394  1.00 21.03           O
ATOM   1097  C   SER A 381      28.231 -32.249 -68.117  1.00 21.38           C
ATOM   1098  O   SER A 381      29.288 -31.959 -68.684  1.00 21.51           O
ATOM   1099  N   TRP A 382      27.084 -31.630 -68.386  1.00 18.44           N
ATOM   1100  CA  TRP A 382      27.026 -30.557 -69.347  1.00 20.60           C
ATOM   1101  CB  TRP A 382      25.608 -30.281 -69.796  1.00 23.63           C
ATOM   1102  CG  TRP A 382      24.904 -31.474 -70.389  1.00 23.49           C
ATOM   1103  CD1 TRP A 382      25.452 -32.460 -71.216  1.00 26.82           C
ATOM   1104  NE1 TRP A 382      24.489 -33.401 -71.555  1.00 21.24           N
ATOM   1105  CE2 TRP A 382      23.296 -33.094 -70.940  1.00 22.49           C
ATOM   1106  CD2 TRP A 382      23.501 -31.851 -70.197  1.00 24.48           C
ATOM   1107  CE3 TRP A 382      22.427 -31.306 -69.476  1.00 26.68           C
ATOM   1108  CZ3 TRP A 382      21.187 -31.967 -69.513  1.00 22.77           C
ATOM   1109  CH2 TRP A 382      21.005 -33.145 -70.267  1.00 24.87           C
ATOM   1110  CZ2 TRP A 382      22.065 -33.737 -70.974  1.00 27.21           C
ATOM   1111  C   TRP A 382      27.621 -29.293 -68.832  1.00 22.03           C
ATOM   1112  O   TRP A 382      27.810 -28.362 -69.593  1.00 22.11           O
ATOM   1113  N   PHE A 383      27.845 -29.235 -67.522  1.00 22.34           N
ATOM   1114  CA  PHE A 383      28.417 -28.009 -66.868  1.00 20.86           C
ATOM   1115  CB  PHE A 383      27.347 -27.327 -65.992  1.00 19.63           C
ATOM   1116  CG  PHE A 383      26.107 -26.956 -66.754  1.00 20.66           C
ATOM   1117  CD1 PHE A 383      26.113 -25.895 -67.624  1.00 22.70           C
ATOM   1118  CE1 PHE A 383      24.969 -25.558 -68.345  1.00 33.06           C
ATOM   1119  CZ  PHE A 383      23.813 -26.325 -68.216  1.00 25.51           C
ATOM   1120  CE2 PHE A 383      23.817 -27.418 -67.367  1.00 22.05           C
ATOM   1121  CD2 PHE A 383      24.953 -27.732 -66.649  1.00 19.30           C
ATOM   1122  C   PHE A 383      29.657 -28.378 -66.059  1.00 19.37           C
ATOM   1123  O   PHE A 383      29.573 -28.720 -64.903  1.00 20.96           O
ATOM   1124  N   PRO A 384      30.828 -28.345 -66.703  1.00 26.97           N
ATOM   1125  CA  PRO A 384      32.078 -28.795 -66.056  1.00 30.77           C
ATOM   1126  CB  PRO A 384      33.167 -28.354 -67.060  1.00 30.95           C
ATOM   1127  CG  PRO A 384      32.479 -28.385 -68.372  1.00 37.59           C
ATOM   1128  CD  PRO A 384      31.032 -27.986 -68.120  1.00 26.71           C
ATOM   1129  C   PRO A 384      32.276 -28.100 -64.719  1.00 25.39           C
ATOM   1130  O   PRO A 384      32.042 -26.910 -64.613  1.00 27.70           O
ATOM   1131  N   GLY A 385      32.637 -28.856 -63.695  1.00 24.10           N
ATOM   1132  CA  GLY A 385      32.723 -28.301 -62.375  1.00 28.87           C
ATOM   1133  C   GLY A 385      31.483 -28.583 -61.548  1.00 28.15           C
ATOM   1134  O   GLY A 385      31.479 -28.356 -60.341  1.00 25.07           O
ATOM   1135  N   TYR A 386      30.412 -29.063 -62.206  1.00 23.50           N
ATOM   1136  CA  TYR A 386      29.186 -29.473 -61.494  1.00 22.79           C
ATOM   1137  CB  TYR A 386      27.987 -28.644 -61.986  1.00 20.38           C
ATOM   1138  CG  TYR A 386      28.071 -27.185 -61.612  1.00 20.82           C
ATOM   1139  CD2 TYR A 386      27.472 -26.716 -60.440  1.00 19.55           C
ATOM   1140  CE2 TYR A 386      27.546 -25.369 -60.086  1.00 19.57           C
ATOM   1141  CZ  TYR A 386      28.216 -24.474 -60.907  1.00 21.35           C
ATOM   1142  OH  TYR A 386      28.271 -23.134 -60.535  1.00 18.04           O
ATOM   1143  CE1 TYR A 386      28.810 -24.910 -62.094  1.00 17.74           C
ATOM   1144  CD1 TYR A 386      28.728 -26.260 -62.440  1.00 21.38           C
ATOM   1145  C   TYR A 386      28.891 -30.951 -61.715  1.00 20.73           C
ATOM   1146  O   TYR A 386      29.187 -31.494 -62.772  1.00 21.44           O
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ATOM   1147  N   ALA A 387      28.337 -31.583 -60.701  1.00 22.51           N
ATOM   1148  CA  ALA A 387      27.762 -32.907 -60.830  1.00 22.36           C
ATOM   1149  CB  ALA A 387      28.143 -33.757 -59.637  1.00 22.23           C
ATOM   1150  C   ALA A 387      26.239 -32.784 -60.938  1.00 23.77           C
ATOM   1151  O   ALA A 387      25.665 -31.756 -60.579  1.00 23.94           O
ATOM   1152  N   TRP A 388      25.601 -33.834 -61.433  1.00 20.85           N
ATOM   1153  CA  TRP A 388      24.161 -33.837 -61.653  1.00 21.29           C
ATOM   1154  CB  TRP A 388      23.848 -33.926 -63.159  1.00 22.82           C
ATOM   1155  CG  TRP A 388      24.459 -35.129 -63.834  1.00 20.86           C
ATOM   1156  CD1 TRP A 388      25.650 -35.185 -64.552  1.00 21.27           C
ATOM   1157  NE1 TRP A 388      25.862 -36.460 -65.039  1.00 21.02           N
ATOM   1158  CE2 TRP A 388      24.874 -37.289 -64.625  1.00 20.94           C
ATOM   1159  CD2 TRP A 388      23.927 -36.483 -63.856  1.00 20.92           C
ATOM   1160  CE3 TRP A 388      22.791 -37.093 -63.328  1.00 21.07           C
ATOM   1161  CZ3 TRP A 388      22.584 -38.464 -63.579  1.00 29.65           C
ATOM   1162  CH2 TRP A 388      23.510 -39.216 -64.325  1.00 24.57           C
ATOM   1163  CZ2 TRP A 388      24.669 -38.637 -64.865  1.00 26.17           C
ATOM   1164  C   TRP A 388      23.463 -34.907 -60.863  1.00 24.28           C
ATOM   1165  O   TRP A 388      24.049 -35.968 -60.511  1.00 22.04           O
ATOM   1166  N   THR A 389      22.219 -34.617 -60.512  1.00 22.74           N
ATOM   1167  CA  THR A 389      21.341 -35.561 -59.861  1.00 18.08           C
ATOM   1168  CB  THR A 389      21.155 -35.214 -58.356  1.00 22.84           C
ATOM   1169  OG1 THR A 389      22.448 -35.158 -57.705  1.00 25.75           O
ATOM   1170  CG2 THR A 389      20.307 -36.246 -57.663  1.00 20.09           C
ATOM   1171  C   THR A 389      19.998 -35.465 -60.609  1.00 18.87           C
ATOM   1172  O   THR A 389      19.503 -34.360 -60.863  1.00 17.08           O
ATOM   1173  N   ILE A 390      19.424 -36.607 -60.988  1.00 16.95           N
ATOM   1174  CA  ILE A 390      18.071 -36.577 -61.618  1.00 18.27           C
ATOM   1175  CB  ILE A 390      17.637 -37.992 -62.078  1.00 23.37           C
ATOM   1176  CG1 ILE A 390      18.577 -38.492 -63.183  1.00 23.70           C
ATOM   1177  CD1 ILE A 390      18.560 -40.019 -63.336  1.00 33.13           C
ATOM   1178  CG2 ILE A 390      16.193 -37.991 -62.562  1.00 23.33           C
ATOM   1179  C   ILE A 390      17.007 -35.936 -60.691  1.00 16.79           C
ATOM   1180  O   ILE A 390      16.956 -36.231 -59.470  1.00 16.80           O
ATOM   1181  N   ALA A 391      16.148 -35.089 -61.280  1.00 17.09           N
ATOM   1182  CA  ALA A 391      15.091 -34.386 -60.542  1.00 18.29           C
ATOM   1183  CB  ALA A 391      15.376 -32.872 -60.521  1.00 17.09           C
ATOM   1184  C   ALA A 391      13.750 -34.663 -61.214  1.00 19.96           C
ATOM   1185  O   ALA A 391      13.593 -34.428 -62.412  1.00 17.86           O
ATOM   1186  N   GLN A 392      12.806 -35.219 -60.465  1.00 16.58           N
ATOM   1187  CA  GLN A 392      11.501 -35.546 -61.034  1.00 17.64           C
ATOM   1188  CB  GLN A 392      11.273 -37.057 -61.035  1.00 24.45           C
ATOM   1189  CG  GLN A 392      11.366 -37.712 -59.683  1.00 24.08           C
ATOM   1190  CD  GLN A 392      11.135 -39.230 -59.775  1.00 32.39           C
ATOM   1191  OE1 GLN A 392      11.665 -39.903 -60.657  1.00 28.38           O
ATOM   1192  NE2 GLN A 392      10.347 -39.752 -58.871  1.00 33.11           N
ATOM   1193  C   GLN A 392      10.386 -34.872 -60.267  1.00 15.18           C
ATOM   1194  O   GLN A 392      10.527 -34.584 -59.068  1.00 14.91           O
ATOM   1195  N   CYS A 393       9.276 -34.627 -60.948  1.00 13.31           N
ATOM   1196  CA  CYS A 393       8.103 -33.991 -60.319  1.00 15.19           C
ATOM   1197  CB  CYS A 393       6.943 -33.848 -61.336  1.00 14.35           C
ATOM   1198  SG  CYS A 393       5.435 -33.133 -60.584  1.00 16.09           S
ATOM   1199  C   CYS A 393       7.629 -34.818 -59.116  1.00 18.29           C
ATOM   1200  O   CYS A 393       7.474 -36.023 -59.230  1.00 16.38           O
ATOM   1201  N   LYS A 394       7.400 -34.159 -57.973  1.00 15.55           N
ATOM   1202  CA  LYS A 394       6.950 -34.866 -56.742  1.00 18.48           C
ATOM   1203  CB  LYS A 394       7.007 -33.949 -55.520  1.00 18.74           C
ATOM   1204  CG  LYS A 394       5.807 -33.003 -55.367  1.00 19.82           C
ATOM   1205  CD  LYS A 394       5.871 -32.240 -54.036  1.00 23.50           C
ATOM   1206  CE  LYS A 394       4.638 -31.347 -53.846  1.00 24.76           C
ATOM   1207  NZ  LYS A 394       4.742 -30.437 -52.642  1.00 25.38           N
ATOM   1208  C   LYS A 394       5.565 -35.480 -56.865  1.00 17.86           C
ATOM   1209  O   LYS A 394       5.257 -36.433 -56.159  1.00 19.63           O
ATOM   1210  N   ILE A 395       4.735 -34.927 -57.754  1.00 17.80           N
ATOM   1211  CA  ILE A 395       3.358 -35.409 -57.947  1.00 20.98           C
ATOM   1212  CB  ILE A 395       2.408 -34.284 -58.397  1.00 20.30           C
ATOM   1213  CG1 ILE A 395       2.338 -33.152 -57.341  1.00 21.67           C
ATOM   1214  CD1 ILE A 395       1.867 -33.568 -55.961  1.00 28.19           C
ATOM   1215  CG2 ILE A 395       1.024 -34.849 -58.748  1.00 22.86           C
ATOM   1216  C   ILE A 395       3.265 -36.578 -58.951  1.00 23.60           C
ATOM   1217  O   ILE A 395       2.767 -37.650 -58.609  1.00 24.21           O
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ATOM   1218  N   CYS A 396       3.824 -36.390 -60.152  1.00 16.52           N
ATOM   1219  CA  CYS A 396       3.610 -37.329 -61.250  1.00 14.91           C
ATOM   1220  CB  CYS A 396       3.020 -36.610 -62.452  1.00 19.18           C
ATOM   1221  SG  CYS A 396       4.212 -35.527 -63.306  1.00 17.12           S
ATOM   1222  C   CYS A 396       4.836 -38.152 -61.653  1.00 19.70           C
ATOM   1223  O   CYS A 396       4.747 -39.029 -62.545  1.00 18.60           O
ATOM   1224  N   ALA A 397       5.962 -37.895 -60.960  1.00 18.51           N
ATOM   1225  CA  ALA A 397       7.253 -38.527 -61.225  1.00 18.99           C
ATOM   1226  CB  ALA A 397       7.222 -40.038 -60.907  1.00 21.26           C
ATOM   1227  C   ALA A 397       7.832 -38.273 -62.613  1.00 17.09           C
ATOM   1228  O   ALA A 397       8.748 -38.957 -63.026  1.00 17.46           O
ATOM   1229  N   SER A 398       7.310 -37.303 -63.342  1.00 16.46           N
ATOM   1230  CA  SER A 398       7.904 -36.964 -64.642  1.00 17.70           C
ATOM   1231  CB  SER A 398       7.061 -35.926 -65.384  1.00 20.22           C
ATOM   1232  OG  SER A 398       5.807 -36.483 -65.729  1.00 27.61           O
ATOM   1233  C   SER A 398       9.306 -36.414 -64.447  1.00 21.04           C
ATOM   1234  O   SER A 398       9.542 -35.611 -63.548  1.00 18.56           O
ATOM   1235  N   HIS A 399      10.229 -36.824 -65.305  1.00 20.73           N
ATOM   1236  CA  HIS A 399      11.618 -36.356 -65.214  1.00 23.98           C
ATOM   1237  CB  HIS A 399      12.552 -37.301 -65.980  1.00 26.36           C
ATOM   1238  CG  HIS A 399      12.905 -38.558 -65.222  1.00 38.61           C
ATOM   1239  ND1 HIS A 399      12.082 -39.114 -64.298  1.00 37.93           N
ATOM   1240  CE1 HIS A 399      12.651 -40.224 -63.803  1.00 35.70           C
ATOM   1241  NE2 HIS A 399      13.837 -40.394 -64.411  1.00 38.97           N
ATOM   1242  CD2 HIS A 399      14.025 -39.388 -65.293  1.00 37.44           C
ATOM   1243  C   HIS A 399      11.692 -34.962 -65.775  1.00 23.95           C
ATOM   1244  O   HIS A 399      11.474 -34.758 -66.958  1.00 26.60           O
ATOM   1245  N   ILE A 400      11.943 -33.976 -64.917  1.00 17.27           N
ATOM   1246  CA  ILE A 400      11.912 -32.570 -65.360  1.00 17.27           C
ATOM   1247  CB  ILE A 400      11.344 -31.628 -64.252  1.00 19.92           C
ATOM   1248  CG1 ILE A 400      10.029 -32.185 -63.717  1.00 23.37           C
ATOM   1249  CD1 ILE A 400       8.992 -32.393 -64.791  1.00 22.30           C
ATOM   1250  CG2 ILE A 400      11.112 -30.193 -64.805  1.00 16.32           C
ATOM   1251  C   ILE A 400      13.325 -32.081 -65.751  1.00 15.70           C
ATOM   1252  O   ILE A 400      13.477 -31.209 -66.608  1.00 16.12           O
ATOM   1253  N   GLY A 401      14.338 -32.618 -65.084  1.00 17.30           N
ATOM   1254  CA  GLY A 401      15.707 -32.124 -65.280  1.00 16.35           C
ATOM   1255  C   GLY A 401      16.649 -32.656 -64.242  1.00 17.80           C
ATOM   1256  O   GLY A 401      16.549 -33.825 -63.825  1.00 18.07           O
ATOM   1257  N   TRP A 402      17.607 -31.813 -63.836  1.00 15.87           N
ATOM   1258  CA  TRP A 402      18.672 -32.244 -62.939  1.00 14.10           C
ATOM   1259  CB  TRP A 402      19.949 -32.590 -63.735  1.00 16.11           C
ATOM   1260  CG  TRP A 402      19.710 -33.668 -64.748  1.00 17.78           C
ATOM   1261  CD1 TRP A 402      19.912 -35.028 -64.588  1.00 17.21           C
ATOM   1262  NE1 TRP A 402      19.526 -35.709 -65.716  1.00 20.74           N
ATOM   1263  CE2 TRP A 402      19.081 -34.839 -66.655  1.00 19.99           C
ATOM   1264  CD2 TRP A 402      19.161 -33.506 -66.080  1.00 18.31           C
ATOM   1265  CE3 TRP A 402      18.730 -32.417 -66.831  1.00 19.19           C
ATOM   1266  CZ3 TRP A 402      18.216 -32.655 -68.120  1.00 22.55           C
ATOM   1267  CH2 TRP A 402      18.127 -33.961 -68.640  1.00 20.63           C
ATOM   1268  CZ2 TRP A 402      18.561 -35.066 -67.920  1.00 23.58           C
ATOM   1269  C   TRP A 402      19.019 -31.130 -62.004  1.00 15.12           C
ATOM   1270  O   TRP A 402      18.966 -29.957 -62.383  1.00 15.21           O
ATOM   1271  N   LYS A 403      19.375 -31.494 -60.785  1.00 17.30           N
ATOM   1272  CA  LYS A 403      20.052 -30.576 -59.875  1.00 15.95           C
ATOM   1273  CB  LYS A 403      19.773 -30.939 -58.442  1.00 19.03           C
ATOM   1274  CG  LYS A 403      20.163 -29.836 -57.442  1.00 21.17           C
ATOM   1275  CD  LYS A 403      20.084 -30.380 -56.012  1.00 22.22           C
ATOM   1276  CE  LYS A 403      20.025 -29.262 -54.973  1.00 30.25           C
ATOM   1277  NZ  LYS A 403      20.272 -29.871 -53.635  1.00 40.26           N
ATOM   1278  C   LYS A 403      21.561 -30.655 -60.121  1.00 19.31           C
ATOM   1279  O   LYS A 403      22.151 -31.748 -60.123  1.00 21.01           O
ATOM   1280  N   PHE A 404      22.174 -29.505 -60.335  1.00 14.51           N
ATOM   1281  CA  PHE A 404      23.620 -29.439 -60.555  1.00 16.13           C
ATOM   1282  CB  PHE A 404      23.927 -28.551 -61.739  1.00 16.01           C
ATOM   1283  CG  PHE A 404      23.694 -29.231 -63.059  1.00 20.17           C
ATOM   1284  CD1 PHE A 404      24.676 -30.083 -63.597  1.00 18.44           C
ATOM   1285  CE1 PHE A 404      24.441 -30.796 -64.778  1.00 20.09           C
ATOM   1286  CZ  PHE A 404      23.224 -30.649 -65.446  1.00 17.78           C
ATOM   1287  CE2 PHE A 404      22.218 -29.833 -64.910  1.00 16.13           C
ATOM   1288  CD2 PHE A 404      22.462 -29.103 -63.724  1.00 15.93           C
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ATOM   1289  C   PHE A 404      24.257 -28.882 -59.301  1.00 19.95           C
ATOM   1290  O   PHE A 404      23.831 -27.831 -58.805  1.00 17.09           O
ATOM   1291  N   THR A 405      25.231 -29.609 -58.764  1.00 17.32           N
ATOM   1292  CA  THR A 405      25.909 -29.215 -57.525  1.00 20.07           C
ATOM   1293  CB  THR A 405      25.658 -30.281 -56.434  1.00 23.95           C
ATOM   1294  OG1 THR A 405      25.926 -31.585 -56.977  1.00 28.20           O
ATOM   1295  CG2 THR A 405      24.142 -30.270 -55.973  1.00 25.69           C
ATOM   1296  C   THR A 405      27.435 -29.017 -57.762  1.00 23.38           C
ATOM   1297  O   THR A 405      28.080 -29.831 -58.447  1.00 22.36           O
ATOM   1298  N   ALA A 406      27.986 -27.898 -57.262  1.00 21.03           N
ATOM   1299  CA  ALA A 406      29.404 -27.538 -57.519  1.00 23.57           C
ATOM   1300  CB  ALA A 406      29.710 -26.147 -56.932  1.00 22.59           C
ATOM   1301  C   ALA A 406      30.333 -28.568 -56.907  1.00 24.15           C
ATOM   1302  O   ALA A 406      30.087 -29.038 -55.833  1.00 25.53           O
ATOM   1303  N   THR A 407      31.402 -28.922 -57.609  1.00 28.23           N
ATOM   1304  CA  THR A 407      32.384 -29.843 -57.039  1.00 29.91           C
ATOM   1305  CB  THR A 407      33.084 -30.689 -58.128  1.00 25.99           C
ATOM   1306  OG1 THR A 407      33.745 -29.819 -59.059  1.00 28.89           O
ATOM   1307  CG2 THR A 407      32.066 -31.527 -58.874  1.00 26.23           C
ATOM   1308  C   THR A 407      33.435 -29.101 -56.177  1.00 36.18           C
ATOM   1309  O   THR A 407      34.094 -29.717 -55.370  1.00 34.56           O
ATOM   1310  N   LYS A 408      33.558 -27.780 -56.352  1.00 29.09           N
ATOM   1311  CA  LYS A 408      34.460 -26.958 -55.515  1.00 37.57           C
ATOM   1312  CB  LYS A 408      35.575 -26.332 -56.369  1.00 34.23           C
ATOM   1313  CG  LYS A 408      36.430 -27.332 -57.146  1.00 39.89           C
ATOM   1314  CD  LYS A 408      37.785 -26.732 -57.514  1.00 49.23           C
ATOM   1315  CE  LYS A 408      37.652 -25.438 -58.312  1.00 55.68           C
ATOM   1316  NZ  LYS A 408      37.440 -25.692 -59.765  1.00 54.21           N
ATOM   1317  C   LYS A 408      33.722 -25.836 -54.780  1.00 34.85           C
ATOM   1318  O   LYS A 408      32.818 -25.197 -55.333  1.00 25.69           O
ATOM   1319  N   LYS A 409      34.176 -25.524 -53.573  1.00 31.99           N
ATOM   1320  CA  LYS A 409      33.569 -24.451 -52.792  1.00 26.25           C
ATOM   1321  CB  LYS A 409      34.125 -24.443 -51.350  1.00 32.85           C
ATOM   1322  CG  LYS A 409      33.475 -25.462 -50.426  1.00 40.79           C
ATOM   1323  CD  LYS A 409      32.471 -24.806 -49.499  1.00 50.12           C
ATOM   1324  CE  LYS A 409      31.959 -25.792 -48.455  1.00 55.36           C
ATOM   1325  NZ  LYS A 409      30.861 -26.650 -48.998  1.00 53.81           N
ATOM   1326  C   LYS A 409      33.687 -23.054 -53.409  1.00 24.07           C
ATOM   1327  O   LYS A 409      32.896 -22.166 -53.088  1.00 29.10           O
ATOM   1328  N   ASP A 410      34.683 -22.820 -54.245  1.00 26.10           N
ATOM   1329  CA  ASP A 410      34.947 -21.411 -54.633  1.00 31.13           C
ATOM   1330  CB  ASP A 410      36.424 -21.194 -54.985  1.00 43.91           C
ATOM   1331  CG  ASP A 410      36.894 -22.092 -56.120  1.00 46.43           C
ATOM   1332  OD1 ASP A 410      36.042 -22.719 -56.793  1.00 47.71           O
ATOM   1333  OD2 ASP A 410      38.118 -22.160 -56.347  1.00 62.90           O
ATOM   1334  C   ASP A 410      34.038 -20.932 -55.782  1.00 34.75           C
ATOM   1335  O   ASP A 410      34.136 -19.780 -56.226  1.00 33.89           O
ATOM   1336  N   MET A 411      33.156 -21.833 -56.247  1.00 30.59           N
ATOM   1337  CA  MET A 411      32.273 -21.580 -57.393  1.00 31.59           C
ATOM   1338  CB  MET A 411      31.923 -22.917 -58.078  1.00 25.09           C
ATOM   1339  CG  MET A 411      33.155 -23.553 -58.683  1.00 38.34           C
ATOM   1340  SD  MET A 411      32.886 -25.110 -59.523  1.00 35.70           S
ATOM   1341  CE  MET A 411      32.345 -26.148 -58.205  1.00 40.76           C
ATOM   1342  C   MET A 411      30.986 -20.865 -56.983  1.00 29.05           C
ATOM   1343  O   MET A 411      30.542 -20.984 -55.849  1.00 24.90           O
ATOM   1344  N   SER A 412      30.412 -20.101 -57.912  1.00 26.31           N
ATOM   1345  CA  SER A 412      29.044 -19.577 -57.756  1.00 23.18           C
ATOM   1346  CB  SER A 412      29.028 -18.075 -57.478  1.00 25.95           C
ATOM   1347  OG  SER A 412      29.735 -17.356 -58.485  1.00 33.06           O
ATOM   1348  C   SER A 412      28.228 -19.940 -58.981  1.00 18.92           C
ATOM   1349  O   SER A 412      28.699 -19.686 -60.092  1.00 19.11           O
ATOM   1350  N   PRO A 413      26.914 -20.050 -58.790  1.00 19.00           N
ATOM   1351  CA  PRO A 413      26.284 -20.718 -57.630  1.00 16.35           C
ATOM   1352  CB  PRO A 413      24.795 -20.776 -58.039  1.00 16.81           C
ATOM   1353  CG  PRO A 413      24.848 -21.037 -59.512  1.00 15.99           C
ATOM   1354  CD  PRO A 413      26.143 -20.319 -60.032  1.00 15.71           C
ATOM   1355  C   PRO A 413      26.826 -22.093 -57.201  1.00 17.48           C
ATOM   1356  O   PRO A 413      27.332 -22.842 -58.016  1.00 17.78           O
ATOM   1357  N   GLN A 414      26.698 -22.419 -55.924  1.00 16.45           N
ATOM   1358  CA  GLN A 414      27.085 -23.757 -55.452  1.00 16.16           C
ATOM   1359  CB  GLN A 414      27.118 -23.771 -53.908  1.00 20.14           C
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ATOM   1360  CG  GLN A 414      28.411 -23.115 -53.370  1.00 17.68           C
ATOM   1361  CD  GLN A 414      29.612 -23.952 -53.711  1.00 19.82           C
ATOM   1362  OE1 GLN A 414      30.433 -23.588 -54.569  1.00 24.32           O
ATOM   1363  NE2 GLN A 414      29.682 -25.106 -53.121  1.00 17.48           N
ATOM   1364  C   GLN A 414      26.123 -24.845 -55.986  1.00 15.39           C
ATOM   1365  O   GLN A 414      26.474 -26.043 -56.031  1.00 19.71           O
ATOM   1366  N   LYS A 415      24.926 -24.425 -56.374  1.00 15.24           N
ATOM   1367  CA  LYS A 415      24.011 -25.317 -57.068  1.00 17.66           C
ATOM   1368  CB  LYS A 415      23.345 -26.277 -56.088  1.00 19.03           C
ATOM   1369  CG  LYS A 415      22.389 -25.609 -55.129  1.00 23.48           C
ATOM   1370  CD  LYS A 415      21.026 -25.483 -55.779  1.00 29.23           C
ATOM   1371  CE  LYS A 415      19.980 -25.059 -54.757  1.00 36.87           C
ATOM   1372  NZ  LYS A 415      20.289 -23.745 -54.117  1.00 34.89           N
ATOM   1373  C   LYS A 415      22.996 -24.562 -57.903  1.00 14.85           C
ATOM   1374  O   LYS A 415      22.779 -23.344 -57.721  1.00 14.11           O
ATOM   1375  N   PHE A 416      22.423 -25.260 -58.882  1.00 14.03           N
ATOM   1376  CA  PHE A 416      21.351 -24.676 -59.668  1.00 12.36           C
ATOM   1377  CB  PHE A 416      21.887 -23.714 -60.771  1.00 14.50           C
ATOM   1378  CG  PHE A 416      22.752 -24.396 -61.806  1.00 14.79           C
ATOM   1379  CD2 PHE A 416      22.197 -24.879 -62.992  1.00 17.15           C
ATOM   1380  CE2 PHE A 416      22.996 -25.493 -63.946  1.00 17.56           C
ATOM   1381  CZ  PHE A 416      24.343 -25.665 -63.713  1.00 20.09           C
ATOM   1382  CE1 PHE A 416      24.916 -25.203 -62.519  1.00 16.98           C
ATOM   1383  CD1 PHE A 416      24.116 -24.588 -61.574  1.00 18.98           C
ATOM   1384  C   PHE A 416      20.600 -25.853 -60.264  1.00 12.59           C
ATOM   1385  O   PHE A 416      20.925 -27.009 -59.979  1.00 15.60           O
ATOM   1386  N   TRP A 417      19.574 -25.559 -61.035  1.00 14.09           N
ATOM   1387  CA  TRP A 417      18.785 -26.607 -61.686  1.00 13.27           C
ATOM   1388  CB  TRP A 417      17.335 -26.496 -61.243  1.00 14.58           C
ATOM   1389  CG  TRP A 417      17.171 -26.569 -59.755  1.00 14.33           C
ATOM   1390  CD1 TRP A 417      17.294 -25.515 -58.823  1.00 14.78           C
ATOM   1391  NE1 TRP A 417      17.125 -25.987 -57.546  1.00 16.20           N
ATOM   1392  CE2 TRP A 417      16.851 -27.315 -57.570  1.00 17.92           C
ATOM   1393  CD2 TRP A 417      16.899 -27.747 -58.975  1.00 16.73           C
ATOM   1394  CE3 TRP A 417      16.682 -29.099 -59.284  1.00 17.17           C
ATOM   1395  CZ3 TRP A 417      16.418 -29.994 -58.234  1.00 22.73           C
ATOM   1396  CH2 TRP A 417      16.373 -29.556 -56.882  1.00 21.81           C
ATOM   1397  CZ2 TRP A 417      16.590 -28.199 -56.535  1.00 19.90           C
ATOM   1398  C   TRP A 417      18.844 -26.414 -63.164  1.00 14.40           C
ATOM   1399  O   TRP A 417      18.699 -25.294 -63.647  1.00 16.44           O
ATOM   1400  N   GLY A 418      18.989 -27.525 -63.902  1.00 13.65           N
ATOM   1401  CA  GLY A 418      18.917 -27.497 -65.376  1.00 14.90           C
ATOM   1402  C   GLY A 418      17.683 -28.297 -65.778  1.00 14.31           C
ATOM   1403  O   GLY A 418      17.579 -29.475 -65.468  1.00 16.37           O
ATOM   1404  N   LEU A 419      16.717 -27.614 -66.366  1.00 16.42           N
ATOM   1405  CA  LEU A 419      15.388 -28.178 -66.578  1.00 13.55           C
ATOM   1406  CB  LEU A 419      14.322 -27.333 -65.896  1.00 15.25           C
ATOM   1407  CG  LEU A 419      14.547 -27.012 -64.404  1.00 15.95           C
ATOM   1408  CD1 LEU A 419      13.413 -26.117 -63.922  1.00 18.96           C
ATOM   1409  CD2 LEU A 419      14.600 -28.300 -63.584  1.00 15.01           C
ATOM   1410  C   LEU A 419      15.092 -28.252 -68.059  1.00 15.68           C
ATOM   1411  O   LEU A 419      15.370 -27.329 -68.809  1.00 15.62           O
ATOM   1412  N   THR A 420      14.532 -29.373 -68.467  1.00 18.21           N
ATOM   1413  CA  THR A 420      14.182 -29.592 -69.885  1.00 17.19           C
ATOM   1414  CB  THR A 420      13.827 -31.079 -70.074  1.00 16.08           C
ATOM   1415  OG1 THR A 420      14.934 -31.854 -69.645  1.00 17.97           O
ATOM   1416  CG2 THR A 420      13.519 -31.411 -71.576  1.00 21.47           C
ATOM   1417  C   THR A 420      12.978 -28.751 -70.186  1.00 15.49           C
ATOM   1418  O   THR A 420      11.923 -28.970 -69.610  1.00 17.29           O
ATOM   1419  N   ARG A 421      13.116 -27.790 -71.105  1.00 14.83           N
ATOM   1420  CA  ARG A 421      12.081 -26.763 -71.312  1.00 20.90           C
ATOM   1421  CB  ARG A 421      12.505 -25.763 -72.394  1.00 25.72           C
ATOM   1422  CG  ARG A 421      13.530 -24.738 -71.955  1.00 35.74           C
ATOM   1423  CD  ARG A 421      13.908 -23.816 -73.127  1.00 47.49           C
ATOM   1424  NE  ARG A 421      15.140 -23.066 -72.854  1.00 49.32           N
ATOM   1425  CZ  ARG A 421      15.185 -21.771 -72.554  1.00 59.92           C
ATOM   1426  NH1 ARG A 421      14.064 -21.051 -72.511  1.00 66.35           N
ATOM   1427  NH2 ARG A 421      16.358 -21.187 -72.309  1.00 55.67           N
ATOM   1428  C   ARG A 421      10.749 -27.388 -71.744  1.00 19.86           C
ATOM   1429  O   ARG A 421       9.684 -26.887 -71.421  1.00 17.71           O
ATOM   1430  N   SER A 422      10.834 -28.477 -72.494  1.00 17.52           N
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ATOM   1431  CA  SER A 422       9.622 -29.081 -73.047  1.00 22.34           C
ATOM   1432  CB  SER A 422       9.972 -30.022 -74.214  1.00 23.06           C
ATOM   1433  OG  SER A 422      10.776 -31.082 -73.767  1.00 23.61           O
ATOM   1434  C   SER A 422       8.832 -29.825 -71.968  1.00 19.92           C
ATOM   1435  O   SER A 422       7.699 -30.237 -72.209  1.00 21.55           O
ATOM   1436  N   ALA A 423       9.454 -30.027 -70.787  1.00 18.29           N
ATOM   1437  CA  ALA A 423       8.777 -30.667 -69.645  1.00 17.59           C
ATOM   1438  CB  ALA A 423       9.783 -31.363 -68.726  1.00 17.38           C
ATOM   1439  C   ALA A 423       7.940 -29.675 -68.847  1.00 17.51           C
ATOM   1440  O   ALA A 423       7.285 -30.051 -67.856  1.00 16.65           O
ATOM   1441  N   LEU A 424       7.982 -28.405 -69.251  1.00 14.88           N
ATOM   1442  CA  LEU A 424       7.302 -27.332 -68.517  1.00 16.25           C
ATOM   1443  CB  LEU A 424       8.327 -26.333 -67.974  1.00 15.98           C
ATOM   1444  CG  LEU A 424       9.431 -26.917 -67.082  1.00 19.37           C
ATOM   1445  CD1 LEU A 424      10.536 -25.873 -66.914  1.00 22.31           C
ATOM   1446  CD2 LEU A 424       8.859 -27.347 -65.714  1.00 19.49           C
ATOM   1447  C   LEU A 424       6.255 -26.597 -69.356  1.00 20.91           C
ATOM   1448  O   LEU A 424       6.382 -26.498 -70.589  1.00 18.67           O
ATOM   1449  N   LEU A 425       5.259 -26.025 -68.669  1.00 20.30           N
ATOM   1450  CA  LEU A 425       4.191 -25.232 -69.319  1.00 24.52           C
ATOM   1451  CB  LEU A 425       2.832 -25.809 -68.954  1.00 31.62           C
ATOM   1452  CG  LEU A 425       1.754 -26.121 -69.989  1.00 49.01           C
ATOM   1453  CD1 LEU A 425       2.319 -26.800 -71.229  1.00 41.11           C
ATOM   1454  CD2 LEU A 425       0.693 -26.994 -69.326  1.00 37.22           C
ATOM   1455  C   LEU A 425       4.320 -23.817 -68.779  1.00 31.26           C
ATOM   1456  O   LEU A 425       4.498 -23.673 -67.554  1.00 26.55           O
ATOM   1457  N   PRO A 426       3.829 -22.831 -69.571  1.00 38.63           N
ATOM   1458  CA  PRO A 426       4.472 -22.132 -70.665  1.00 44.78           C
ATOM   1459  CB  PRO A 426       4.778 -20.753 -70.066  1.00 39.91           C
ATOM   1460  CG  PRO A 426       3.697 -20.563 -69.031  1.00 47.03           C
ATOM   1461  CD  PRO A 426       2.972 -21.886 -68.836  1.00 47.91           C
ATOM   1462  C   PRO A 426       5.713 -22.854 -71.207  1.00 32.51           C
ATOM   1463  O   PRO A 426       6.730 -22.941 -70.518  1.00 45.29           O
ATOM   1464  N   THR B 321      67.510 -54.988 -61.608  1.00 50.15           N
ATOM   1465  CA  THR B 321      66.120 -54.688 -62.057  1.00 45.53           C
ATOM   1466  CB  THR B 321      65.100 -55.503 -61.254  1.00 47.96           C
ATOM   1467  OG1 THR B 321      65.342 -55.316 -59.859  1.00 46.61           O
ATOM   1468  CG2 THR B 321      65.181 -57.010 -61.607  1.00 53.71           C
ATOM   1469  C   THR B 321      65.799 -53.188 -61.895  1.00 39.43           C
ATOM   1470  O   THR B 321      64.657 -52.773 -62.075  1.00 34.49           O
ATOM   1471  N   SER B 322      66.823 -52.391 -61.581  1.00 36.88           N
ATOM   1472  CA  SER B 322      66.637 -51.033 -61.064  1.00 29.11           C
ATOM   1473  CB  SER B 322      67.823 -50.617 -60.177  1.00 36.22           C
ATOM   1474  OG  SER B 322      67.703 -51.173 -58.884  1.00 43.63           O
ATOM   1475  C   SER B 322      66.438 -49.999 -62.147  1.00 30.62           C
ATOM   1476  O   SER B 322      67.098 -50.025 -63.172  1.00 29.43           O
ATOM   1477  N   LEU B 323      65.499 -49.091 -61.914  1.00 26.36           N
ATOM   1478  CA  LEU B 323      65.290 -47.953 -62.808  1.00 27.16           C
ATOM   1479  CB  LEU B 323      63.846 -47.929 -63.337  1.00 24.04           C
ATOM   1480  CG  LEU B 323      63.403 -49.230 -64.057  1.00 28.53           C
ATOM   1481  CD1 LEU B 323      61.917 -49.184 -64.406  1.00 28.53           C
ATOM   1482  CD2 LEU B 323      64.224 -49.482 -65.305  1.00 28.81           C
ATOM   1483  C   LEU B 323      65.605 -46.706 -62.016  1.00 24.54           C
ATOM   1484  O   LEU B 323      64.988 -46.443 -60.976  1.00 23.32           O
ATOM   1485  N   CYS B 324      66.595 -45.953 -62.494  1.00 23.12           N
ATOM   1486  CA  CYS B 324      67.134 -44.818 -61.774  1.00 22.61           C
ATOM   1487  CB  CYS B 324      68.659 -44.989 -61.582  1.00 25.17           C
ATOM   1488  SG  CYS B 324      69.079 -46.490 -60.692  1.00 34.87           S
ATOM   1489  C   CYS B 324      66.864 -43.544 -62.523  1.00 24.14           C
ATOM   1490  O   CYS B 324      66.644 -43.563 -63.732  1.00 23.60           O
ATOM   1491  N   CYS B 325      66.818 -42.440 -61.789  1.00 21.75           N
ATOM   1492  CA  CYS B 325      66.672 -41.106 -62.384  1.00 24.00           C
ATOM   1493  CB  CYS B 325      66.868 -40.054 -61.298  1.00 26.44           C
ATOM   1494  SG  CYS B 325      66.820 -38.357 -61.899  1.00 23.82           S
ATOM   1495  C   CYS B 325      67.733 -40.898 -63.467  1.00 26.57           C
ATOM   1496  O   CYS B 325      68.918 -41.069 -63.209  1.00 29.43           O
ATOM   1497  N   LYS B 326      67.318 -40.575 -64.682  1.00 24.89           N
ATOM   1498  CA  LYS B 326      68.298 -40.492 -65.766  1.00 32.55           C
ATOM   1499  CB  LYS B 326      67.627 -40.522 -67.130  1.00 29.78           C
ATOM   1500  CG  LYS B 326      68.610 -40.427 -68.307  1.00 33.05           C
ATOM   1501  CD  LYS B 326      67.896 -40.593 -69.626  1.00 37.12           C
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ATOM   1502  CE  LYS B 326      67.481 -39.246 -70.192  1.00 49.68           C
ATOM   1503  NZ  LYS B 326      66.570 -39.387 -71.373  1.00 57.66           N
ATOM   1504  C   LYS B 326      69.149 -39.228 -65.607  1.00 33.07           C
ATOM   1505  O   LYS B 326      70.324 -39.221 -65.946  1.00 31.21           O
ATOM   1506  N   GLN B 327      68.538 -38.183 -65.060  1.00 30.41           N
ATOM   1507  CA  GLN B 327      69.207 -36.897 -64.880  1.00 32.29           C
ATOM   1508  CB  GLN B 327      68.226 -35.832 -64.421  1.00 30.48           C
ATOM   1509  CG  GLN B 327      68.890 -34.503 -64.072  1.00 37.69           C
ATOM   1510  CD  GLN B 327      67.985 -33.318 -64.282  1.00 34.33           C
ATOM   1511  OE1 GLN B 327      67.464 -32.744 -63.338  1.00 41.08           O
ATOM   1512  NE2 GLN B 327      67.809 -32.938 -65.519  1.00 37.96           N
ATOM   1513  C   GLN B 327      70.414 -36.963 -63.937  1.00 37.97           C
ATOM   1514  O   GLN B 327      71.521 -36.586 -64.336  1.00 27.33           O
ATOM   1515  N   CYS B 328      70.206 -37.452 -62.704  1.00 28.79           N
ATOM   1516  CA  CYS B 328      71.290 -37.465 -61.688  1.00 29.66           C
ATOM   1517  CB  CYS B 328      70.839 -36.801 -60.384  1.00 35.67           C
ATOM   1518  SG  CYS B 328      69.660 -37.749 -59.343  1.00 28.53           S
ATOM   1519  C   CYS B 328      71.897 -38.855 -61.436  1.00 34.59           C
ATOM   1520  O   CYS B 328      72.986 -38.970 -60.874  1.00 33.18           O
ATOM   1521  N   GLN B 329      71.193 -39.901 -61.870  1.00 29.14           N
ATOM   1522  CA  GLN B 329      71.597 -41.306 -61.623  1.00 29.80           C
ATOM   1523  CB  GLN B 329      72.766 -41.727 -62.527  1.00 33.43           C
ATOM   1524  CG  GLN B 329      72.418 -41.827 -63.997  1.00 41.84           C
ATOM   1525  CD  GLN B 329      73.593 -42.298 -64.827  1.00 44.44           C
ATOM   1526  OE1 GLN B 329      74.238 -41.508 -65.496  1.00 47.55           O
ATOM   1527  NE2 GLN B 329      73.897 -43.592 -64.751  1.00 38.10           N
ATOM   1528  C   GLN B 329      71.906 -41.671 -60.167  1.00 26.74           C
ATOM   1529  O   GLN B 329      72.498 -42.715 -59.900  1.00 30.24           O
ATOM   1530  N   GLU B 330      71.480 -40.843 -59.233  1.00 24.72           N
ATOM   1531  CA  GLU B 330      71.726 -41.109 -57.816  1.00 27.80           C
ATOM   1532  CB  GLU B 330      71.675 -39.819 -57.013  1.00 26.00           C
ATOM   1533  CG  GLU B 330      72.851 -38.875 -57.257  1.00 32.21           C
ATOM   1534  CD  GLU B 330      74.040 -39.132 -56.341  1.00 43.50           C
ATOM   1535  OE1 GLU B 330      73.977 -40.057 -55.487  1.00 40.85           O
ATOM   1536  OE2 GLU B 330      75.055 -38.403 -56.480  1.00 39.44           O
ATOM   1537  C   GLU B 330      70.676 -42.057 -57.252  1.00 32.46           C
ATOM   1538  O   GLU B 330      70.978 -42.896 -56.398  1.00 27.68           O
ATOM   1539  N   THR B 331      69.442 -41.885 -57.707  1.00 28.07           N
ATOM   1540  CA  THR B 331      68.285 -42.473 -57.031  1.00 28.91           C
ATOM   1541  CB  THR B 331      67.175 -41.424 -56.829  1.00 26.85           C
ATOM   1542  OG1 THR B 331      66.976 -40.698 -58.052  1.00 29.33           O
ATOM   1543  CG2 THR B 331      67.513 -40.467 -55.698  1.00 30.16           C
ATOM   1544  C   THR B 331      67.674 -43.616 -57.826  1.00 27.23           C
ATOM   1545  O   THR B 331      67.367 -43.458 -59.015  1.00 22.40           O
ATOM   1546  N   GLU B 332      67.456 -44.755 -57.167  1.00 26.47           N
ATOM   1547  CA  GLU B 332      66.530 -45.756 -57.697  1.00 22.73           C
ATOM   1548  CB  GLU B 332      66.698 -47.100 -56.970  1.00 29.49           C
ATOM   1549  CG  GLU B 332      66.030 -48.267 -57.684  1.00 24.21           C
ATOM   1550  CD  GLU B 332      66.017 -49.520 -56.846  1.00 29.84           C
ATOM   1551  OE1 GLU B 332      66.925 -50.362 -57.021  1.00 30.98           O
ATOM   1552  OE2 GLU B 332      65.116 -49.656 -56.001  1.00 28.42           O
ATOM   1553  C   GLU B 332      65.105 -45.236 -57.521  1.00 22.22           C
ATOM   1554  O   GLU B 332      64.710 -44.827 -56.424  1.00 19.31           O
ATOM   1555  N   ILE B 333      64.340 -45.240 -58.610  1.00 22.08           N
ATOM   1556  CA  ILE B 333      62.947 -44.770 -58.570  1.00 19.15           C
ATOM   1557  CB  ILE B 333      62.649 -43.847 -59.787  1.00 22.55           C
ATOM   1558  CG1 ILE B 333      63.606 -42.651 -59.779  1.00 23.08           C
ATOM   1559  CD1 ILE B 333      63.485 -41.765 -58.537  1.00 21.33           C
ATOM   1560  CG2 ILE B 333      61.201 -43.355 -59.763  1.00 21.98           C
ATOM   1561  C   ILE B 333      61.941 -45.952 -58.526  1.00 18.07           C
ATOM   1562  O   ILE B 333      60.940 -45.879 -57.822  1.00 17.92           O
ATOM   1563  N   THR B 334      62.209 -46.997 -59.303  1.00 18.22           N
ATOM   1564  CA  THR B 334      61.469 -48.281 -59.200  1.00 24.81           C
ATOM   1565  CB  THR B 334      60.305 -48.442 -60.216  1.00 30.68           C
ATOM   1566  OG1 THR B 334      60.203 -47.329 -61.108  1.00 38.29           O
ATOM   1567  CG2 THR B 334      59.032 -48.780 -59.544  1.00 18.71           C
ATOM   1568  C   THR B 334      62.333 -49.419 -59.601  1.00 21.83           C
ATOM   1569  O   THR B 334      63.541 -49.266 -59.839  1.00 24.25           O
ATOM   1570  N   THR B 335      61.676 -50.568 -59.776  1.00 19.42           N
ATOM   1571  CA  THR B 335      62.307 -51.751 -60.309  1.00 23.17           C
ATOM   1572  CB  THR B 335      62.603 -52.772 -59.205  1.00 26.92           C
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ATOM   1573  OG1 THR B 335      61.383 -53.416 -58.816  1.00 24.69           O
ATOM   1574  CG2 THR B 335      63.266 -52.084 -57.954  1.00 23.55           C
ATOM   1575  C   THR B 335      61.360 -52.400 -61.305  1.00 22.11           C
ATOM   1576  O   THR B 335      60.134 -52.212 -61.232  1.00 22.40           O
ATOM   1577  N   LYS B 336      61.910 -53.203 -62.196  1.00 24.64           N
ATOM   1578  CA  LYS B 336      61.093 -53.912 -63.173  1.00 30.13           C
ATOM   1579  CB  LYS B 336      61.959 -54.729 -64.126  1.00 30.69           C
ATOM   1580  CG  LYS B 336      62.911 -53.903 -64.979  1.00 36.55           C
ATOM   1581  CD  LYS B 336      63.489 -54.756 -66.098  1.00 38.79           C
ATOM   1582  CE  LYS B 336      64.540 -54.007 -66.908  1.00 50.00           C
ATOM   1583  NZ  LYS B 336      65.172 -54.919 -67.907  1.00 48.46           N
ATOM   1584  C   LYS B 336      60.065 -54.827 -62.502  1.00 27.48           C
ATOM   1585  O   LYS B 336      59.062 -55.161 -63.110  1.00 22.14           O
ATOM   1586  N   ASN B 337      60.314 -55.221 -61.243  1.00 25.94           N
ATOM   1587  CA  ASN B 337      59.374 -56.092 -60.521  1.00 24.82           C
ATOM   1588  CB  ASN B 337      59.987 -56.581 -59.200  1.00 21.33           C
ATOM   1589  CG  ASN B 337      61.192 -57.472 -59.419  1.00 33.06           C
ATOM   1590  OD1 ASN B 337      62.280 -57.204 -58.920  1.00 36.10           O
ATOM   1591  ND2 ASN B 337      61.014 -58.492 -60.204  1.00 31.21           N
ATOM   1592  C   ASN B 337      58.045 -55.416 -60.241  1.00 23.32           C
ATOM   1593  O   ASN B 337      57.024 -56.083 -60.045  1.00 24.76           O
ATOM   1594  N   GLU B 338      58.055 -54.091 -60.202  1.00 20.06           N
ATOM   1595  CA  GLU B 338      56.863 -53.335 -59.859  1.00 19.51           C
ATOM   1596  CB  GLU B 338      57.234 -52.044 -59.096  1.00 22.47           C
ATOM   1597  CG  GLU B 338      57.997 -52.294 -57.797  1.00 23.74           C
ATOM   1598  CD  GLU B 338      57.300 -53.302 -56.897  1.00 30.38           C
ATOM   1599  OE1 GLU B 338      56.066 -53.214 -56.710  1.00 26.60           O
ATOM   1600  OE2 GLU B 338      57.987 -54.174 -56.359  1.00 40.84           O
ATOM   1601  C   GLU B 338      55.973 -52.987 -61.067  1.00 18.40           C
ATOM   1602  O   GLU B 338      54.909 -52.417 -60.902  1.00 17.39           O
ATOM   1603  N   ILE B 339      56.440 -53.294 -62.271  1.00 20.06           N
ATOM   1604  CA  ILE B 339      55.715 -52.907 -63.480  1.00 18.96           C
ATOM   1605  CB  ILE B 339      56.563 -53.177 -64.737  1.00 22.28           C
ATOM   1606  CG1 ILE B 339      57.792 -52.254 -64.759  1.00 18.17           C
ATOM   1607  CD1 ILE B 339      58.772 -52.593 -65.892  1.00 25.04           C
ATOM   1608  CG2 ILE B 339      55.713 -53.006 -66.010  1.00 24.94           C
ATOM   1609  C   ILE B 339      54.387 -53.675 -63.609  1.00 20.85           C
ATOM   1610  O   ILE B 339      54.338 -54.876 -63.384  1.00 23.21           O
ATOM   1611  N   PHE B 340      53.318 -52.961 -63.927  1.00 18.09           N
ATOM   1612  CA  PHE B 340      52.050 -53.613 -64.293  1.00 19.52           C
ATOM   1613  CB  PHE B 340      51.119 -53.750 -63.043  1.00 20.09           C
ATOM   1614  CG  PHE B 340      50.470 -52.463 -62.622  1.00 19.49           C
ATOM   1615  CD2 PHE B 340      49.106 -52.250 -62.857  1.00 16.21           C
ATOM   1616  CE2 PHE B 340      48.497 -51.056 -62.510  1.00 16.48           C
ATOM   1617  CZ  PHE B 340      49.235 -50.030 -61.934  1.00 20.44           C
ATOM   1618  CE1 PHE B 340      50.610 -50.210 -61.710  1.00 21.71           C
ATOM   1619  CD1 PHE B 340      51.221 -51.422 -62.055  1.00 18.66           C
ATOM   1620  C   PHE B 340      51.400 -52.826 -65.405  1.00 24.86           C
ATOM   1621  O   PHE B 340      51.911 -51.767 -65.816  1.00 21.71           O
ATOM   1622  N   SER B 341      50.286 -53.330 -65.922  1.00 25.72           N
ATOM   1623  CA  SER B 341      49.679 -52.695 -67.078  1.00 26.83           C
ATOM   1624  CB  SER B 341      49.925 -53.519 -68.341  1.00 30.87           C
ATOM   1625  OG  SER B 341      49.374 -52.858 -69.475  1.00 31.98           O
ATOM   1626  C   SER B 341      48.201 -52.449 -66.884  1.00 25.33           C
ATOM   1627  O   SER B 341      47.450 -53.356 -66.524  1.00 29.73           O
ATOM   1628  N   LEU B 342      47.800 -51.207 -67.084  1.00 23.60           N
ATOM   1629  CA  LEU B 342      46.399 -50.827 -67.091  1.00 26.62           C
ATOM   1630  CB  LEU B 342      46.249 -49.467 -66.434  1.00 30.73           C
ATOM   1631  CG  LEU B 342      45.538 -49.332 -65.096  1.00 32.89           C
ATOM   1632  CD1 LEU B 342      45.436 -50.642 -64.319  1.00 33.84           C
ATOM   1633  CD2 LEU B 342      46.164 -48.221 -64.268  1.00 37.00           C
ATOM   1634  C   LEU B 342      45.784 -50.795 -68.531  1.00 32.15           C
ATOM   1635  O   LEU B 342      44.602 -50.535 -68.697  1.00 31.92           O
ATOM   1636  N   SER B 343      46.599 -51.033 -69.545  1.00 29.79           N
ATOM   1637  CA  SER B 343      46.090 -51.055 -70.920  1.00 34.22           C
ATOM   1638  CB  SER B 343      47.208 -50.772 -71.907  1.00 33.17           C
ATOM   1639  OG  SER B 343      48.152 -51.817 -71.903  1.00 42.82           O
ATOM   1640  C   SER B 343      45.380 -52.383 -71.248  1.00 35.37           C
ATOM   1641  O   SER B 343      45.751 -53.456 -70.746  1.00 24.05           O
ATOM   1642  N   LEU B 344      44.339 -52.304 -72.061  1.00 35.22           N
ATOM   1643  CA  LEU B 344      43.537 -53.502 -72.362  1.00 34.17           C
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ATOM   1644  CB  LEU B 344      42.087 -53.119 -72.684  1.00 34.64           C
ATOM   1645  CG  LEU B 344      41.375 -52.330 -71.565  1.00 36.65           C
ATOM   1646  CD1 LEU B 344      39.920 -52.044 -71.908  1.00 35.55           C
ATOM   1647  CD2 LEU B 344      41.486 -53.023 -70.196  1.00 34.02           C
ATOM   1648  C   LEU B 344      44.187 -54.321 -73.472  1.00 38.45           C
ATOM   1649  O   LEU B 344      44.837 -53.761 -74.374  1.00 39.44           O
ATOM   1650  N   CYS B 345      44.065 -55.645 -73.375  1.00 36.57           N
ATOM   1651  CA  CYS B 345      44.767 -56.569 -74.285  1.00 42.35           C
ATOM   1652  CB  CYS B 345      45.367 -57.760 -73.510  1.00 41.87           C
ATOM   1653  SG  CYS B 345      46.163 -57.352 -71.914  1.00 51.52           S
ATOM   1654  C   CYS B 345      43.890 -57.067 -75.461  1.00 49.69           C
ATOM   1655  O   CYS B 345      44.379 -57.775 -76.348  1.00 53.67           O
ATOM   1656  N   GLY B 346      42.610 -56.681 -75.467  1.00 48.13           N
ATOM   1657  CA  GLY B 346      41.664 -57.096 -76.528  1.00 47.69           C
ATOM   1658  C   GLY B 346      41.101 -55.939 -77.370  1.00 48.54           C
ATOM   1659  O   GLY B 346      41.584 -54.798 -77.279  1.00 44.60           O
ATOM   1660  N   PRO B 347      40.047 -56.219 -78.180  1.00 49.78           N
ATOM   1661  CA  PRO B 347      39.484 -55.230 -79.123  1.00 44.60           C
ATOM   1662  CB  PRO B 347      38.247 -55.951 -79.702  1.00 45.79           C
ATOM   1663  CG  PRO B 347      38.509 -57.398 -79.487  1.00 44.52           C
ATOM   1664  CD  PRO B 347      39.294 -57.485 -78.203  1.00 43.09           C
ATOM   1665  C   PRO B 347      39.061 -53.907 -78.458  1.00 49.17           C
ATOM   1666  O   PRO B 347      39.048 -52.866 -79.119  1.00 48.51           O
ATOM   1667  N   MET B 348      38.725 -53.953 -77.167  1.00 42.16           N
ATOM   1668  CA  MET B 348      38.362 -52.744 -76.414  1.00 55.36           C
ATOM   1669  CB  MET B 348      37.900 -53.105 -75.000  1.00 47.21           C
ATOM   1670  CG  MET B 348      36.677 -54.003 -74.953  1.00 63.11           C
ATOM   1671  SD  MET B 348      35.389 -53.356 -73.877  1.00 82.63           S
ATOM   1672  CE  MET B 348      34.473 -52.336 -75.041  1.00 75.27           C
ATOM   1673  C   MET B 348      39.500 -51.704 -76.348  1.00 48.70           C
ATOM   1674  O   MET B 348      40.674 -52.034 -76.545  1.00 47.54           O
ATOM   1675  N   GLY B 356      48.931 -42.541 -79.352  1.00 63.03           N
ATOM   1676  CA  GLY B 356      50.309 -42.762 -79.779  1.00 71.69           C
ATOM   1677  C   GLY B 356      51.305 -42.690 -78.635  1.00 75.51           C
ATOM   1678  O   GLY B 356      52.508 -42.502 -78.852  1.00 71.05           O
ATOM   1679  N   TYR B 357      50.797 -42.823 -77.411  1.00 70.15           N
ATOM   1680  CA  TYR B 357      51.641 -42.961 -76.221  1.00 64.86           C
ATOM   1681  CB  TYR B 357      51.143 -42.034 -75.102  1.00 53.46           C
ATOM   1682  CG  TYR B 357      51.532 -40.584 -75.329  1.00 40.26           C
ATOM   1683  CD1 TYR B 357      52.782 -40.116 -74.936  1.00 41.69           C
ATOM   1684  CE1 TYR B 357      53.162 -38.796 -75.155  1.00 44.87           C
ATOM   1685  CZ  TYR B 357      52.277 -37.918 -75.789  1.00 36.22           C
ATOM   1686  OH  TYR B 357      52.668 -36.620 -76.005  1.00 35.67           O
ATOM   1687  CE2 TYR B 357      51.030 -38.360 -76.204  1.00 37.32           C
ATOM   1688  CD2 TYR B 357      50.667 -39.693 -75.990  1.00 34.35           C
ATOM   1689  C   TYR B 357      51.702 -44.435 -75.786  1.00 80.45           C
ATOM   1690  O   TYR B 357      51.891 -44.764 -74.595  1.00 53.74           O
ATOM   1691  N   VAL B 358      51.566 -45.303 -76.795  1.00 89.75           N
ATOM   1692  CA  VAL B 358      51.647 -46.763 -76.676  1.00 81.56           C
ATOM   1693  CB  VAL B 358      52.154 -47.397 -78.007  1.00 81.45           C
ATOM   1694  CG2 VAL B 358      51.595 -46.635 -79.220  1.00 52.77           C
ATOM   1695  CG1 VAL B 358      51.794 -48.879 -78.073  1.00 74.26           C
ATOM   1696  C   VAL B 358      52.491 -47.253 -75.484  1.00 82.83           C
ATOM   1697  O   VAL B 358      52.010 -48.040 -74.665  1.00 72.88           O
ATOM   1698  N   HIS B 359      53.736 -46.774 -75.385  1.00 80.53           N
ATOM   1699  CA  HIS B 359      54.603 -47.100 -74.245  1.00 67.40           C
ATOM   1700  CB  HIS B 359      55.380 -48.396 -74.498  1.00 74.36           C
ATOM   1701  CG  HIS B 359      55.713 -48.639 -75.957  1.00109.23           C
ATOM   1702  ND1 HIS B 359      56.345 -47.723 -76.723  1.00111.85           N
ATOM   1703  CE1 HIS B 359      56.503 -48.213 -77.967  1.00114.31           C
ATOM   1704  NE2 HIS B 359      55.979 -49.449 -77.999  1.00115.36           N
ATOM   1705  CD2 HIS B 359      55.484 -49.746 -76.778  1.00108.09           C
ATOM   1706  C   HIS B 359      55.543 -45.978 -73.875  1.00 66.12           C
ATOM   1707  O   HIS B 359      56.745 -46.183 -73.749  1.00 81.42           O
ATOM   1708  N   GLU B 360      54.997 -44.781 -73.687  1.00 66.19           N
ATOM   1709  CA  GLU B 360      55.780 -43.634 -73.198  1.00 60.10           C
ATOM   1710  CB  GLU B 360      55.187 -42.339 -73.731  1.00 59.59           C
ATOM   1711  CG  GLU B 360      56.219 -41.334 -74.221  1.00 69.87           C
ATOM   1712  CD  GLU B 360      56.584 -41.543 -75.681  1.00 80.44           C
ATOM   1713  OE1 GLU B 360      57.798 -41.568 -75.989  1.00 89.35           O
ATOM   1714  OE2 GLU B 360      55.657 -41.683 -76.523  1.00 69.85           O
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ATOM   1715  C   GLU B 360      55.780 -43.599 -71.659  1.00 59.46           C
ATOM   1716  O   GLU B 360      56.629 -42.909 -71.015  1.00 33.01           O
ATOM   1717  N   THR B 361      54.816 -44.323 -71.080  1.00 46.42           N
ATOM   1718  CA  THR B 361      54.509 -44.230 -69.653  1.00 49.04           C
ATOM   1719  CB  THR B 361      53.128 -43.564 -69.392  1.00 52.32           C
ATOM   1720  OG1 THR B 361      53.110 -42.257 -69.976  1.00 75.08           O
ATOM   1721  CG2 THR B 361      52.840 -43.434 -67.880  1.00 43.73           C
ATOM   1722  C   THR B 361      54.550 -45.616 -69.048  1.00 40.27           C
ATOM   1723  O   THR B 361      53.838 -46.515 -69.469  1.00 33.11           O
ATOM   1724  N   LEU B 362      55.470 -45.797 -68.122  1.00 35.08           N
ATOM   1725  CA  LEU B 362      55.558 -46.998 -67.380  1.00 30.03           C
ATOM   1726  CB  LEU B 362      56.991 -47.162 -66.876  1.00 27.65           C
ATOM   1727  CG  LEU B 362      57.352 -48.572 -66.491  1.00 33.81           C
ATOM   1728  CD1 LEU B 362      57.477 -49.446 -67.730  1.00 38.59           C
ATOM   1729  CD2 LEU B 362      58.655 -48.559 -65.709  1.00 47.77           C
ATOM   1730  C   LEU B 362      54.618 -46.830 -66.198  1.00 29.49           C
ATOM   1731  O   LEU B 362      54.650 -45.806 -65.545  1.00 28.13           O
ATOM   1732  N   THR B 363      53.752 -47.804 -65.937  1.00 23.26           N
ATOM   1733  CA  THR B 363      52.994 -47.762 -64.687  1.00 20.27           C
ATOM   1734  CB  THR B 363      51.465 -47.984 -64.900  1.00 21.87           C
ATOM   1735  OG1 THR B 363      51.278 -49.143 -65.699  1.00 25.84           O
ATOM   1736  CG2 THR B 363      50.845 -46.800 -65.628  1.00 25.43           C
ATOM   1737  C   THR B 363      53.561 -48.818 -63.719  1.00 17.27           C
ATOM   1738  O   THR B 363      53.835 -49.966 -64.114  1.00 21.02           O
ATOM   1739  N   VAL B 364      53.763 -48.409 -62.472  1.00 18.20           N
ATOM   1740  CA  VAL B 364      54.317 -49.306 -61.443  1.00 16.03           C
ATOM   1741  CB  VAL B 364      55.846 -49.060 -61.164  1.00 17.93           C
ATOM   1742  CG1 VAL B 364      56.685 -49.372 -62.410  1.00 17.30           C
ATOM   1743  CG2 VAL B 364      56.115 -47.640 -60.635  1.00 16.12           C
ATOM   1744  C   VAL B 364      53.520 -49.197 -60.158  1.00 13.99           C
ATOM   1745  O   VAL B 364      52.955 -48.135 -59.853  1.00 14.95           O
ATOM   1746  N   TYR B 365      53.497 -50.299 -59.379  1.00 15.27           N
ATOM   1747  CA  TYR B 365      52.726 -50.335 -58.132  1.00 15.27           C
ATOM   1748  CB  TYR B 365      52.594 -51.798 -57.635  1.00 15.22           C
ATOM   1749  CG  TYR B 365      51.527 -52.602 -58.396  1.00 16.64           C
ATOM   1750  CD1 TYR B 365      50.210 -52.176 -58.427  1.00 16.82           C
ATOM   1751  CE1 TYR B 365      49.215 -52.930 -59.094  1.00 18.58           C
ATOM   1752  CZ  TYR B 365      49.568 -54.092 -59.732  1.00 20.21           C
ATOM   1753  OH  TYR B 365      48.596 -54.847 -60.364  1.00 22.48           O
ATOM   1754  CE2 TYR B 365      50.870 -54.547 -59.692  1.00 18.91           C
ATOM   1755  CD2 TYR B 365      51.844 -53.798 -59.024  1.00 17.45           C
ATOM   1756  C   TYR B 365      53.367 -49.479 -57.048  1.00 14.92           C
ATOM   1757  O   TYR B 365      52.683 -48.951 -56.154  1.00 16.09           O
ATOM   1758  N   LYS B 366      54.684 -49.431 -57.099  1.00 16.31           N
ATOM   1759  CA  LYS B 366      55.491 -48.888 -56.041  1.00 16.02           C
ATOM   1760  CB  LYS B 366      56.013 -50.034 -55.148  1.00 16.03           C
ATOM   1761  CG  LYS B 366      54.941 -50.708 -54.293  1.00 15.69           C
ATOM   1762  CD  LYS B 366      54.623 -49.785 -53.126  1.00 19.34           C
ATOM   1763  CE  LYS B 366      53.671 -50.394 -52.140  1.00 29.43           C
ATOM   1764  NZ  LYS B 366      53.463 -49.421 -51.012  1.00 25.44           N
ATOM   1765  C   LYS B 366      56.679 -48.138 -56.638  1.00 15.70           C
ATOM   1766  O   LYS B 366      57.276 -48.593 -57.622  1.00 17.11           O
ATOM   1767  N   ALA B 367      57.056 -47.041 -55.968  1.00 17.02           N
ATOM   1768  CA  ALA B 367      58.229 -46.234 -56.353  1.00 19.37           C
ATOM   1769  CB  ALA B 367      57.825 -45.121 -57.313  1.00 18.65           C
ATOM   1770  C   ALA B 367      58.857 -45.638 -55.119  1.00 18.92           C
ATOM   1771  O   ALA B 367      58.261 -45.644 -54.007  1.00 19.36           O
ATOM   1772  N   SER B 368      60.053 -45.087 -55.304  1.00 19.37           N
ATOM   1773  CA  SER B 368      60.830 -44.567 -54.199  1.00 18.94           C
ATOM   1774  CB  SER B 368      61.826 -45.640 -53.736  1.00 18.13           C
ATOM   1775  OG  SER B 368      62.722 -45.985 -54.789  1.00 23.37           O
ATOM   1776  C   SER B 368      61.582 -43.292 -54.615  1.00 18.59           C
ATOM   1777  O   SER B 368      61.783 -43.020 -55.833  1.00 19.06           O
ATOM   1778  N   ASN B 369      61.989 -42.511 -53.614  1.00 20.63           N
ATOM   1779  CA  ASN B 369      62.876 -41.382 -53.839  1.00 20.71           C
ATOM   1780  CB  ASN B 369      64.166 -41.843 -54.529  1.00 19.23           C
ATOM   1781  CG  ASN B 369      65.078 -42.643 -53.602  1.00 29.83           C
ATOM   1782  OD1 ASN B 369      65.663 -43.660 -53.995  1.00 34.23           O
ATOM   1783  ND2 ASN B 369      65.182 -42.204 -52.379  1.00 23.95           N
ATOM   1784  C   ASN B 369      62.205 -40.277 -54.670  1.00 25.05           C
ATOM   1785  O   ASN B 369      62.885 -39.464 -55.286  1.00 28.63           O
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ATOM   1786  N   LEU B 370      60.874 -40.249 -54.663  1.00 26.36           N
ATOM   1787  CA  LEU B 370      60.132 -39.181 -55.312  1.00 24.68           C
ATOM   1788  CB  LEU B 370      59.050 -39.757 -56.237  1.00 24.27           C
ATOM   1789  CG  LEU B 370      59.539 -40.516 -57.460  1.00 19.62           C
ATOM   1790  CD1 LEU B 370      58.316 -41.163 -58.129  1.00 23.24           C
ATOM   1791  CD2 LEU B 370      60.243 -39.576 -58.442  1.00 21.56           C
ATOM   1792  C   LEU B 370      59.476 -38.284 -54.283  1.00 26.74           C
ATOM   1793  O   LEU B 370      58.915 -38.756 -53.297  1.00 26.36           O
ATOM   1794  N   ASN B 371      59.542 -36.982 -54.526  1.00 26.56           N
ATOM   1795  CA  ASN B 371      58.792 -36.013 -53.767  1.00 24.89           C
ATOM   1796  CB  ASN B 371      59.643 -34.761 -53.507  1.00 33.82           C
ATOM   1797  CG  ASN B 371      60.528 -34.896 -52.277  1.00 43.42           C
ATOM   1798  OD1 ASN B 371      60.119 -35.457 -51.257  1.00 49.45           O
ATOM   1799  ND2 ASN B 371      61.746 -34.377 -52.368  1.00 38.40           N
ATOM   1800  C   ASN B 371      57.545 -35.608 -54.531  1.00 24.46           C
ATOM   1801  O   ASN B 371      57.600 -35.365 -55.744  1.00 21.96           O
ATOM   1802  N   LEU B 372      56.431 -35.505 -53.810  1.00 24.82           N
ATOM   1803  CA  LEU B 372      55.156 -35.104 -54.408  1.00 25.02           C
ATOM   1804  CB  LEU B 372      53.994 -35.765 -53.673  1.00 25.54           C
ATOM   1805  CG  LEU B 372      53.983 -37.287 -53.670  1.00 29.40           C
ATOM   1806  CD1 LEU B 372      52.802 -37.773 -52.838  1.00 32.39           C
ATOM   1807  CD2 LEU B 372      53.926 -37.839 -55.092  1.00 27.68           C
ATOM   1808  C   LEU B 372      55.007 -33.601 -54.323  1.00 31.80           C
ATOM   1809  O   LEU B 372      55.315 -33.004 -53.283  1.00 27.90           O
ATOM   1810  N   ILE B 373      54.501 -33.000 -55.403  1.00 29.23           N
ATOM   1811  CA  ILE B 373      54.336 -31.542 -55.515  1.00 34.49           C
ATOM   1812  CB  ILE B 373      54.970 -30.999 -56.844  1.00 36.77           C
ATOM   1813  CG1 ILE B 373      56.355 -31.586 -57.080  1.00 34.94           C
ATOM   1814  CD1 ILE B 373      57.371 -31.204 -56.035  1.00 42.02           C
ATOM   1815  CG2 ILE B 373      55.024 -29.475 -56.836  1.00 42.71           C
ATOM   1816  C   ILE B 373      52.854 -31.215 -55.552  1.00 35.04           C
ATOM   1817  O   ILE B 373      52.129 -31.735 -56.393  1.00 33.44           O
ATOM   1818  N   GLY B 374      52.397 -30.355 -54.646  1.00 35.66           N
ATOM   1819  CA  GLY B 374      51.001 -29.918 -54.669  1.00 38.32           C
ATOM   1820  C   GLY B 374      50.012 -31.004 -54.252  1.00 45.77           C
ATOM   1821  O   GLY B 374      50.302 -31.833 -53.365  1.00 38.22           O
ATOM   1822  N   ARG B 375      48.854 -31.010 -54.906  1.00 36.94           N
ATOM   1823  CA  ARG B 375      47.719 -31.820 -54.483  1.00 42.99           C
ATOM   1824  CB  ARG B 375      46.681 -30.933 -53.782  1.00 49.49           C
ATOM   1825  CG  ARG B 375      47.138 -30.354 -52.442  1.00 63.58           C
ATOM   1826  CD  ARG B 375      46.374 -29.083 -52.077  1.00 75.38           C
ATOM   1827  NE  ARG B 375      44.920 -29.268 -52.133  1.00 86.36           N
ATOM   1828  CZ  ARG B 375      44.138 -28.820 -53.116  1.00 83.29           C
ATOM   1829  NH1 ARG B 375      44.657 -28.143 -54.137  1.00 84.63           N
ATOM   1830  NH2 ARG B 375      42.832 -29.049 -53.078  1.00 81.05           N
ATOM   1831  C   ARG B 375      47.082 -32.482 -55.689  1.00 31.24           C
ATOM   1832  O   ARG B 375      47.186 -31.964 -56.794  1.00 37.99           O
ATOM   1833  N   PRO B 376      46.357 -33.594 -55.478  1.00 31.59           N
ATOM   1834  CA  PRO B 376      45.809 -34.325 -56.613  1.00 29.94           C
ATOM   1835  CB  PRO B 376      45.043 -35.467 -55.942  1.00 32.72           C
ATOM   1836  CG  PRO B 376      45.799 -35.722 -54.681  1.00 26.98           C
ATOM   1837  CD  PRO B 376      46.174 -34.342 -54.213  1.00 31.89           C
ATOM   1838  C   PRO B 376      44.858 -33.508 -57.474  1.00 32.16           C
ATOM   1839  O   PRO B 376      44.032 -32.763 -56.955  1.00 32.07           O
ATOM   1840  N   SER B 377      44.930 -33.719 -58.781  1.00 27.14           N
ATOM   1841  CA  SER B 377      43.961 -33.142 -59.716  1.00 25.64           C
ATOM   1842  CB  SER B 377      44.646 -32.000 -60.504  1.00 29.29           C
ATOM   1843  OG  SER B 377      43.916 -31.657 -61.655  1.00 26.64           O
ATOM   1844  C   SER B 377      43.468 -34.214 -60.676  1.00 23.23           C
ATOM   1845  O   SER B 377      44.216 -35.103 -61.035  1.00 28.92           O
ATOM   1846  N   THR B 378      42.209 -34.123 -61.105  1.00 22.77           N
ATOM   1847  CA  THR B 378      41.674 -35.013 -62.148  1.00 23.90           C
ATOM   1848  CB  THR B 378      40.229 -35.459 -61.849  1.00 31.81           C
ATOM   1849  OG1 THR B 378      39.424 -34.305 -61.638  1.00 30.11           O
ATOM   1850  CG2 THR B 378      40.173 -36.349 -60.614  1.00 26.71           C
ATOM   1851  C   THR B 378      41.674 -34.360 -63.541  1.00 23.70           C
ATOM   1852  O   THR B 378      41.319 -34.994 -64.540  1.00 22.07           O
ATOM   1853  N   VAL B 379      42.139 -33.125 -63.615  1.00 25.93           N
ATOM   1854  CA  VAL B 379      42.142 -32.395 -64.889  1.00 25.41           C
ATOM   1855  CB  VAL B 379      42.594 -30.926 -64.673  1.00 28.55           C
ATOM   1856  CG1 VAL B 379      42.661 -30.181 -66.001  1.00 35.39           C
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ATOM   1857  CG2 VAL B 379      41.656 -30.206 -63.688  1.00 30.31           C
ATOM   1858  C   VAL B 379      43.037 -33.105 -65.925  1.00 23.26           C
ATOM   1859  O   VAL B 379      44.223 -33.386 -65.653  1.00 25.38           O
ATOM   1860  N   HIS B 380      42.459 -33.447 -67.077  1.00 20.20           N
ATOM   1861  CA  HIS B 380      43.187 -34.132 -68.185  1.00 25.05           C
ATOM   1862  CB  HIS B 380      44.353 -33.274 -68.713  1.00 23.09           C
ATOM   1863  CG  HIS B 380      43.963 -31.857 -69.099  1.00 26.55           C
ATOM   1864  ND1 HIS B 380      42.912 -31.581 -69.898  1.00 29.63           N
ATOM   1865  CE1 HIS B 380      42.822 -30.238 -70.078  1.00 24.85           C
ATOM   1866  NE2 HIS B 380      43.827 -29.661 -69.398  1.00 25.66           N
ATOM   1867  CD2 HIS B 380      44.555 -30.627 -68.788  1.00 25.94           C
ATOM   1868  C   HIS B 380      43.740 -35.499 -67.807  1.00 23.87           C
ATOM   1869  O   HIS B 380      44.638 -36.004 -68.471  1.00 19.89           O
ATOM   1870  N   SER B 381      43.215 -36.119 -66.759  1.00 27.13           N
ATOM   1871  CA  SER B 381      43.830 -37.365 -66.285  1.00 21.54           C
ATOM   1872  CB  SER B 381      43.131 -37.898 -65.036  1.00 26.12           C
ATOM   1873  OG  SER B 381      43.723 -39.137 -64.656  1.00 27.41           O
ATOM   1874  C   SER B 381      43.914 -38.451 -67.361  1.00 19.95           C
ATOM   1875  O   SER B 381      42.920 -38.801 -68.014  1.00 25.35           O
ATOM   1876  N   TRP B 382      45.099 -39.001 -67.528  1.00 17.98           N
ATOM   1877  CA  TRP B 382      45.320 -40.052 -68.483  1.00 20.29           C
ATOM   1878  CB  TRP B 382      46.806 -40.220 -68.752  1.00 21.35           C
ATOM   1879  CG  TRP B 382      47.434 -38.964 -69.246  1.00 24.47           C
ATOM   1880  CD1 TRP B 382      46.842 -37.986 -70.057  1.00 21.06           C
ATOM   1881  NE1 TRP B 382      47.738 -36.984 -70.328  1.00 23.04           N
ATOM   1882  CE2 TRP B 382      48.929 -37.237 -69.716  1.00 24.13           C
ATOM   1883  CD2 TRP B 382      48.794 -38.510 -69.017  1.00 24.12           C
ATOM   1884  CE3 TRP B 382      49.892 -39.016 -68.312  1.00 26.14           C
ATOM   1885  CZ3 TRP B 382      51.083 -38.277 -68.314  1.00 26.99           C
ATOM   1886  CH2 TRP B 382      51.188 -37.051 -68.991  1.00 31.26           C
ATOM   1887  CZ2 TRP B 382      50.114 -36.506 -69.701  1.00 26.83           C
ATOM   1888  C   TRP B 382      44.731 -41.376 -68.079  1.00 22.92           C
ATOM   1889  O   TRP B 382      44.714 -42.309 -68.875  1.00 25.45           O
ATOM   1890  N   PHE B 383      44.283 -41.478 -66.832  1.00 22.28           N
ATOM   1891  CA  PHE B 383      43.734 -42.745 -66.318  1.00 24.17           C
ATOM   1892  CB  PHE B 383      44.723 -43.411 -65.335  1.00 20.51           C
ATOM   1893  CG  PHE B 383      46.015 -43.807 -65.959  1.00 20.63           C
ATOM   1894  CD1 PHE B 383      46.103 -44.959 -66.733  1.00 20.80           C
ATOM   1895  CE1 PHE B 383      47.303 -45.330 -67.333  1.00 25.81           C
ATOM   1896  CZ  PHE B 383      48.425 -44.535 -67.185  1.00 26.22           C
ATOM   1897  CE2 PHE B 383      48.339 -43.351 -66.445  1.00 23.89           C
ATOM   1898  CD2 PHE B 383      47.141 -42.989 -65.841  1.00 20.32           C
ATOM   1899  C   PHE B 383      42.425 -42.425 -65.642  1.00 25.14           C
ATOM   1900  O   PHE B 383      42.399 -41.993 -64.476  1.00 23.05           O
ATOM   1901  N   PRO B 384      41.322 -42.514 -66.405  1.00 25.62           N
ATOM   1902  CA  PRO B 384      40.034 -42.087 -65.872  1.00 29.68           C
ATOM   1903  CB  PRO B 384      39.066 -42.447 -66.999  1.00 39.89           C
ATOM   1904  CG  PRO B 384      39.894 -42.273 -68.235  1.00 39.35           C
ATOM   1905  CD  PRO B 384      41.259 -42.788 -67.854  1.00 32.11           C
ATOM   1906  C   PRO B 384      39.698 -42.835 -64.591  1.00 27.51           C
ATOM   1907  O   PRO B 384      39.950 -44.033 -64.493  1.00 30.82           O
ATOM   1908  N   GLY B 385      39.226 -42.106 -63.594  1.00 23.60           N
ATOM   1909  CA  GLY B 385      39.005 -42.658 -62.280  1.00 28.07           C
ATOM   1910  C   GLY B 385      40.113 -42.318 -61.303  1.00 31.07           C
ATOM   1911  O   GLY B 385      39.958 -42.517 -60.097  1.00 30.97           O
ATOM   1912  N   TYR B 386      41.231 -41.794 -61.821  1.00 25.77           N
ATOM   1913  CA  TYR B 386      42.369 -41.389 -60.980  1.00 23.05           C
ATOM   1914  CB  TYR B 386      43.619 -42.171 -61.365  1.00 21.82           C
ATOM   1915  CG  TYR B 386      43.533 -43.670 -61.067  1.00 19.56           C
ATOM   1916  CD2 TYR B 386      44.003 -44.193 -59.841  1.00 24.10           C
ATOM   1917  CE2 TYR B 386      43.898 -45.566 -59.556  1.00 19.69           C
ATOM   1918  CZ  TYR B 386      43.384 -46.430 -60.539  1.00 22.41           C
ATOM   1919  OH  TYR B 386      43.320 -47.801 -60.318  1.00 19.99           O
ATOM   1920  CE1 TYR B 386      42.930 -45.923 -61.759  1.00 22.45           C
ATOM   1921  CD1 TYR B 386      43.020 -44.549 -62.010  1.00 21.07           C
ATOM   1922  C   TYR B 386      42.696 -39.902 -61.085  1.00 25.43           C
ATOM   1923  O   TYR B 386      42.521 -39.285 -62.136  1.00 22.35           O
ATOM   1924  N   ALA B 387      43.212 -39.363 -59.990  1.00 24.74           N
ATOM   1925  CA  ALA B 387      43.769 -38.046 -59.949  1.00 25.37           C
ATOM   1926  CB  ALA B 387      43.312 -37.339 -58.681  1.00 24.07           C
ATOM   1927  C   ALA B 387      45.284 -38.168 -59.979  1.00 26.78           C
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ATOM   1928  O   ALA B 387      45.826 -39.205 -59.625  1.00 27.99           O
ATOM   1929  N   TRP B 388      45.974 -37.110 -60.403  1.00 22.43           N
ATOM   1930  CA  TRP B 388      47.441 -37.133 -60.485  1.00 19.83           C
ATOM   1931  CB  TRP B 388      47.902 -36.943 -61.937  1.00 21.42           C
ATOM   1932  CG  TRP B 388      47.366 -35.689 -62.576  1.00 23.56           C
ATOM   1933  CD1 TRP B 388      46.229 -35.571 -63.382  1.00 23.07           C
ATOM   1934  NE1 TRP B 388      46.045 -34.245 -63.773  1.00 24.16           N
ATOM   1935  CE2 TRP B 388      47.003 -33.449 -63.247  1.00 25.32           C
ATOM   1936  CD2 TRP B 388      47.909 -34.314 -62.471  1.00 23.01           C
ATOM   1937  CE3 TRP B 388      48.993 -33.737 -61.818  1.00 22.08           C
ATOM   1938  CZ3 TRP B 388      49.202 -32.338 -61.947  1.00 27.14           C
ATOM   1939  CH2 TRP B 388      48.316 -31.528 -62.706  1.00 25.60           C
ATOM   1940  CZ2 TRP B 388      47.219 -32.079 -63.380  1.00 24.52           C
ATOM   1941  C   TRP B 388      48.065 -36.083 -59.617  1.00 20.56           C
ATOM   1942  O   TRP B 388      47.480 -34.999 -59.396  1.00 24.79           O
ATOM   1943  N   THR B 389      49.256 -36.391 -59.110  1.00 23.53           N
ATOM   1944  CA  THR B 389      50.100 -35.439 -58.390  1.00 24.50           C
ATOM   1945  CB  THR B 389      50.169 -35.771 -56.878  1.00 26.86           C
ATOM   1946  OG1 THR B 389      48.851 -35.822 -56.334  1.00 21.82           O
ATOM   1947  CG2 THR B 389      50.993 -34.715 -56.133  1.00 26.94           C
ATOM   1948  C   THR B 389      51.518 -35.557 -58.946  1.00 23.47           C
ATOM   1949  O   THR B 389      52.059 -36.655 -59.037  1.00 21.83           O
ATOM   1950  N   ILE B 390      52.125 -34.419 -59.306  1.00 22.88           N
ATOM   1951  CA  ILE B 390      53.466 -34.409 -59.871  1.00 19.71           C
ATOM   1952  CB  ILE B 390      53.928 -32.967 -60.219  1.00 21.20           C
ATOM   1953  CG1 ILE B 390      53.165 -32.442 -61.451  1.00 24.92           C
ATOM   1954  CD1 ILE B 390      53.365 -30.953 -61.740  1.00 27.35           C
ATOM   1955  CG2 ILE B 390      55.431 -32.939 -60.450  1.00 24.54           C
ATOM   1956  C   ILE B 390      54.491 -35.060 -58.917  1.00 20.69           C
ATOM   1957  O   ILE B 390      54.498 -34.787 -57.699  1.00 22.22           O
ATOM   1958  N   ALA B 391      55.342 -35.899 -59.479  1.00 18.66           N
ATOM   1959  CA  ALA B 391      56.384 -36.571 -58.704  1.00 22.41           C
ATOM   1960  CB  ALA B 391      56.117 -38.083 -58.648  1.00 19.22           C
ATOM   1961  C   ALA B 391      57.753 -36.281 -59.318  1.00 21.16           C
ATOM   1962  O   ALA B 391      57.992 -36.566 -60.494  1.00 24.34           O
ATOM   1963  N   GLN B 392      58.663 -35.745 -58.510  1.00 24.72           N
ATOM   1964  CA  GLN B 392      60.021 -35.468 -58.974  1.00 20.61           C
ATOM   1965  CB  GLN B 392      60.227 -33.946 -59.034  1.00 29.01           C
ATOM   1966  CG  GLN B 392      60.180 -33.277 -57.674  1.00 30.75           C
ATOM   1967  CD  GLN B 392      60.248 -31.760 -57.760  1.00 43.21           C
ATOM   1968  OE1 GLN B 392      59.787 -31.155 -58.729  1.00 34.94           O
ATOM   1969  NE2 GLN B 392      60.811 -31.142 -56.731  1.00 45.60           N
ATOM   1970  C   GLN B 392      61.113 -36.123 -58.099  1.00 23.41           C
ATOM   1971  O   GLN B 392      60.889 -36.393 -56.922  1.00 25.37           O
ATOM   1972  N   CYS B 393      62.281 -36.388 -58.695  1.00 23.20           N
ATOM   1973  CA  CYS B 393      63.419 -36.977 -57.981  1.00 24.77           C
ATOM   1974  CB  CYS B 393      64.638 -37.063 -58.922  1.00 22.66           C
ATOM   1975  SG  CYS B 393      66.185 -37.610 -58.175  1.00 25.31           S
ATOM   1976  C   CYS B 393      63.754 -36.154 -56.732  1.00 27.61           C
ATOM   1977  O   CYS B 393      63.827 -34.925 -56.789  1.00 27.15           O
ATOM   1978  N   LYS B 394      63.911 -36.815 -55.595  1.00 19.95           N
ATOM   1979  CA  LYS B 394      64.166 -36.076 -54.371  1.00 23.60           C
ATOM   1980  CB  LYS B 394      63.973 -36.938 -53.137  1.00 26.08           C
ATOM   1981  CG  LYS B 394      65.127 -37.887 -52.857  1.00 25.52           C
ATOM   1982  CD  LYS B 394      64.981 -38.488 -51.474  1.00 35.48           C
ATOM   1983  CE  LYS B 394      66.248 -39.208 -51.071  1.00 39.32           C
ATOM   1984  NZ  LYS B 394      65.926 -40.438 -50.293  1.00 45.39           N
ATOM   1985  C   LYS B 394      65.558 -35.422 -54.355  1.00 28.58           C
ATOM   1986  O   LYS B 394      65.781 -34.496 -53.586  1.00 28.00           O
ATOM   1987  N   ILE B 395      66.466 -35.900 -55.211  1.00 25.13           N
ATOM   1988  CA  ILE B 395      67.850 -35.377 -55.276  1.00 32.87           C
ATOM   1989  CB  ILE B 395      68.898 -36.498 -55.606  1.00 29.09           C
ATOM   1990  CG1 ILE B 395      69.046 -37.468 -54.430  1.00 25.99           C
ATOM   1991  CD1 ILE B 395      69.050 -36.804 -53.057  1.00 31.34           C
ATOM   1992  CG2 ILE B 395      70.266 -35.909 -55.988  1.00 33.04           C
ATOM   1993  C   ILE B 395      67.977 -34.179 -56.229  1.00 35.20           C
ATOM   1994  O   ILE B 395      68.404 -33.112 -55.817  1.00 37.26           O
ATOM   1995  N   CYS B 396      67.557 -34.345 -57.483  1.00 32.30           N
ATOM   1996  CA  CYS B 396      67.816 -33.336 -58.514  1.00 26.52           C
ATOM   1997  CB  CYS B 396      68.564 -33.963 -59.678  1.00 32.72           C
ATOM   1998  SG  CYS B 396      67.496 -34.951 -60.756  1.00 26.64           S
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ATOM   1999  C   CYS B 396      66.562 -32.623 -59.017  1.00 34.67           C
ATOM   2000  O   CYS B 396      66.651 -31.716 -59.841  1.00 30.77           O
ATOM   2001  N   ALA B 397      65.394 -33.059 -58.533  1.00 30.00           N
ATOM   2002  CA  ALA B 397      64.099 -32.457 -58.864  1.00 25.27           C
ATOM   2003  CB  ALA B 397      64.056 -30.966 -58.510  1.00 28.66           C
ATOM   2004  C   ALA B 397      63.645 -32.691 -60.306  1.00 26.11           C
ATOM   2005  O   ALA B 397      62.715 -32.051 -60.766  1.00 27.15           O
ATOM   2006  N   SER B 398      64.295 -33.617 -61.007  1.00 25.27           N
ATOM   2007  CA  SER B 398      63.823 -34.015 -62.321  1.00 28.85           C
ATOM   2008  CB  SER B 398      64.699 -35.101 -62.890  1.00 28.47           C
ATOM   2009  OG  SER B 398      64.122 -35.645 -64.063  1.00 31.63           O
ATOM   2010  C   SER B 398      62.370 -34.497 -62.233  1.00 33.13           C
ATOM   2011  O   SER B 398      61.991 -35.214 -61.300  1.00 26.97           O
ATOM   2012  N   HIS B 399      61.556 -34.054 -63.174  1.00 26.79           N
ATOM   2013  CA  HIS B 399      60.158 -34.440 -63.227  1.00 29.56           C
ATOM   2014  CB  HIS B 399      59.371 -33.430 -64.067  1.00 31.35           C
ATOM   2015  CG  HIS B 399      58.965 -32.194 -63.302  1.00 43.04           C
ATOM   2016  ND1 HIS B 399      59.667 -31.727 -62.243  1.00 51.35           N
ATOM   2017  CE1 HIS B 399      59.066 -30.627 -61.757  1.00 41.17           C
ATOM   2018  NE2 HIS B 399      57.987 -30.376 -62.508  1.00 52.23           N
ATOM   2019  CD2 HIS B 399      57.890 -31.326 -63.469  1.00 47.63           C
ATOM   2020  C   HIS B 399      60.064 -35.809 -63.813  1.00 26.09           C
ATOM   2021  O   HIS B 399      60.208 -35.996 -65.009  1.00 26.83           O
ATOM   2022  N   ILE B 400      59.874 -36.803 -62.972  1.00 20.13           N
ATOM   2023  CA  ILE B 400      59.993 -38.173 -63.442  1.00 22.22           C
ATOM   2024  CB  ILE B 400      60.723 -39.048 -62.406  1.00 20.67           C
ATOM   2025  CG1 ILE B 400      62.212 -38.660 -62.365  1.00 23.93           C
ATOM   2026  CD1 ILE B 400      62.947 -39.221 -61.193  1.00 30.82           C
ATOM   2027  CG2 ILE B 400      60.604 -40.526 -62.744  1.00 19.31           C
ATOM   2028  C   ILE B 400      58.628 -38.761 -63.804  1.00 19.11           C
ATOM   2029  O   ILE B 400      58.519 -39.591 -64.716  1.00 21.52           O
ATOM   2030  N   GLY B 401      57.603 -38.350 -63.087  1.00 22.40           N
ATOM   2031  CA  GLY B 401      56.221 -38.828 -63.402  1.00 25.38           C
ATOM   2032  C   GLY B 401      55.164 -38.245 -62.498  1.00 21.84           C
ATOM   2033  O   GLY B 401      55.206 -37.053 -62.160  1.00 21.94           O
ATOM   2034  N   TRP B 402      54.211 -39.106 -62.078  1.00 18.17           N
ATOM   2035  CA  TRP B 402      53.068 -38.705 -61.289  1.00 17.97           C
ATOM   2036  CB  TRP B 402      51.854 -38.359 -62.193  1.00 20.77           C
ATOM   2037  CG  TRP B 402      52.148 -37.254 -63.195  1.00 19.94           C
ATOM   2038  CD1 TRP B 402      51.911 -35.901 -63.040  1.00 23.19           C
ATOM   2039  NE1 TRP B 402      52.356 -35.182 -64.165  1.00 22.03           N
ATOM   2040  CE2 TRP B 402      52.908 -36.023 -65.056  1.00 19.85           C
ATOM   2041  CD2 TRP B 402      52.800 -37.388 -64.496  1.00 21.91           C
ATOM   2042  CE3 TRP B 402      53.300 -38.468 -65.238  1.00 20.75           C
ATOM   2043  CZ3 TRP B 402      53.923 -38.201 -66.471  1.00 26.36           C
ATOM   2044  CH2 TRP B 402      54.002 -36.889 -66.993  1.00 23.65           C
ATOM   2045  CZ2 TRP B 402      53.484 -35.776 -66.298  1.00 22.87           C
ATOM   2046  C   TRP B 402      52.637 -39.844 -60.402  1.00 19.19           C
ATOM   2047  O   TRP B 402      52.729 -41.013 -60.778  1.00 16.56           O
ATOM   2048  N   LYS B 403      52.109 -39.499 -59.251  1.00 17.80           N
ATOM   2049  CA  LYS B 403      51.378 -40.483 -58.447  1.00 22.47           C
ATOM   2050  CB  LYS B 403      51.545 -40.192 -56.978  1.00 19.11           C
ATOM   2051  CG  LYS B 403      51.000 -41.301 -56.057  1.00 24.56           C
ATOM   2052  CD  LYS B 403      50.951 -40.811 -54.608  1.00 29.24           C
ATOM   2053  CE  LYS B 403      50.879 -41.970 -53.618  1.00 34.86           C
ATOM   2054  NZ  LYS B 403      50.945 -41.502 -52.204  1.00 41.33           N
ATOM   2055  C   LYS B 403      49.918 -40.392 -58.824  1.00 17.70           C
ATOM   2056  O   LYS B 403      49.337 -39.300 -58.837  1.00 21.56           O
ATOM   2057  N   PHE B 404      49.330 -41.525 -59.184  1.00 19.40           N
ATOM   2058  CA  PHE B 404      47.900 -41.546 -59.496  1.00 19.48           C
ATOM   2059  CB  PHE B 404      47.654 -42.330 -60.764  1.00 21.50           C
ATOM   2060  CG  PHE B 404      48.033 -41.577 -61.997  1.00 19.10           C
ATOM   2061  CD1 PHE B 404      47.132 -40.665 -62.572  1.00 19.05           C
ATOM   2062  CE1 PHE B 404      47.500 -39.929 -63.720  1.00 21.95           C
ATOM   2063  CZ  PHE B 404      48.760 -40.098 -64.278  1.00 20.72           C
ATOM   2064  CE2 PHE B 404      49.665 -41.015 -63.720  1.00 20.35           C
ATOM   2065  CD2 PHE B 404      49.302 -41.747 -62.580  1.00 18.57           C
ATOM   2066  C   PHE B 404      47.131 -42.148 -58.350  1.00 22.07           C
ATOM   2067  O   PHE B 404      47.514 -43.171 -57.846  1.00 20.40           O
ATOM   2068  N   THR B 405      46.068 -41.475 -57.922  1.00 22.63           N
ATOM   2069  CA  THR B 405      45.309 -41.921 -56.760  1.00 21.98           C
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ATOM   2070  CB  THR B 405      45.491 -40.938 -55.582  1.00 28.44           C
ATOM   2071  OG1 THR B 405      45.236 -39.595 -56.031  1.00 28.02           O
ATOM   2072  CG2 THR B 405      46.936 -41.031 -55.019  1.00 27.07           C
ATOM   2073  C   THR B 405      43.836 -42.050 -57.140  1.00 23.88           C
ATOM   2074  O   THR B 405      43.290 -41.168 -57.829  1.00 21.85           O
ATOM   2075  N   ALA B 406      43.189 -43.155 -56.709  1.00 21.65           N
ATOM   2076  CA  ALA B 406      41.806 -43.453 -57.144  1.00 21.78           C
ATOM   2077  CB  ALA B 406      41.422 -44.916 -56.823  1.00 22.43           C
ATOM   2078  C   ALA B 406      40.798 -42.492 -56.543  1.00 19.96           C
ATOM   2079  O   ALA B 406      40.925 -42.086 -55.421  1.00 28.14           O
ATOM   2080  N   THR B 407      39.803 -42.110 -57.328  1.00 23.19           N
ATOM   2081  CA  THR B 407      38.781 -41.206 -56.841  1.00 28.46           C
ATOM   2082  CB  THR B 407      38.201 -40.351 -57.986  1.00 30.35           C
ATOM   2083  OG1 THR B 407      37.621 -41.212 -58.978  1.00 33.67           O
ATOM   2084  CG2 THR B 407      39.309 -39.511 -58.641  1.00 30.01           C
ATOM   2085  C   THR B 407      37.644 -41.986 -56.151  1.00 31.47           C
ATOM   2086  O   THR B 407      36.855 -41.408 -55.416  1.00 33.47           O
ATOM   2087  N   LYS B 408      37.587 -43.299 -56.390  1.00 32.31           N
ATOM   2088  CA  LYS B 408      36.543 -44.186 -55.804  1.00 35.44           C
ATOM   2089  CB  LYS B 408      35.633 -44.750 -56.909  1.00 37.65           C
ATOM   2090  CG  LYS B 408      34.717 -43.734 -57.595  1.00 47.66           C
ATOM   2091  CD  LYS B 408      33.609 -43.223 -56.667  1.00 65.18           C
ATOM   2092  CE  LYS B 408      32.782 -44.358 -56.048  1.00 66.05           C
ATOM   2093  NZ  LYS B 408      32.197 -45.275 -57.070  1.00 63.73           N
ATOM   2094  C   LYS B 408      37.208 -45.354 -55.057  1.00 35.52           C
ATOM   2095  O   LYS B 408      38.211 -45.894 -55.513  1.00 27.55           O
ATOM   2096  N   LYS B 409      36.614 -45.772 -53.947  1.00 35.54           N
ATOM   2097  CA  LYS B 409      37.224 -46.790 -53.103  1.00 32.09           C
ATOM   2098  CB  LYS B 409      36.707 -46.687 -51.658  1.00 38.15           C
ATOM   2099  CG  LYS B 409      36.929 -45.313 -50.983  1.00 48.59           C
ATOM   2100  CD  LYS B 409      38.413 -44.890 -50.910  1.00 58.61           C
ATOM   2101  CE  LYS B 409      38.719 -43.598 -51.711  1.00 55.96           C
ATOM   2102  NZ  LYS B 409      39.614 -43.765 -52.928  1.00 32.94           N
ATOM   2103  C   LYS B 409      37.111 -48.225 -53.668  1.00 31.39           C
ATOM   2104  O   LYS B 409      37.875 -49.110 -53.277  1.00 31.57           O
ATOM   2105  N   ASP B 410      36.220 -48.440 -54.633  1.00 33.50           N
ATOM   2106  CA  ASP B 410      36.055 -49.787 -55.226  1.00 34.27           C
ATOM   2107  CB  ASP B 410      34.600 -50.016 -55.668  1.00 43.97           C
ATOM   2108  CG  ASP B 410      34.141 -49.037 -56.763  1.00 51.07           C
ATOM   2109  OD1 ASP B 410      34.940 -48.178 -57.219  1.00 45.00           O
ATOM   2110  OD2 ASP B 410      32.968 -49.144 -57.174  1.00 50.95           O
ATOM   2111  C   ASP B 410      37.034 -50.119 -56.376  1.00 37.51           C
ATOM   2112  O   ASP B 410      36.965 -51.192 -56.969  1.00 40.14           O
ATOM   2113  N   MET B 411      37.923 -49.181 -56.691  1.00 33.37           N
ATOM   2114  CA  MET B 411      38.947 -49.374 -57.735  1.00 30.15           C
ATOM   2115  CB  MET B 411      39.375 -47.980 -58.307  1.00 21.71           C
ATOM   2116  CG  MET B 411      38.208 -47.331 -59.054  1.00 35.80           C
ATOM   2117  SD  MET B 411      38.504 -45.709 -59.780  1.00 36.76           S
ATOM   2118  CE  MET B 411      38.578 -44.655 -58.375  1.00 30.18           C
ATOM   2119  C   MET B 411      40.158 -50.141 -57.173  1.00 29.10           C
ATOM   2120  O   MET B 411      40.427 -50.092 -55.980  1.00 25.37           O
ATOM   2121  N   SER B 412      40.843 -50.897 -58.027  1.00 30.07           N
ATOM   2122  CA  SER B 412      42.167 -51.416 -57.678  1.00 26.45           C
ATOM   2123  CB  SER B 412      42.163 -52.926 -57.501  1.00 27.50           C
ATOM   2124  OG  SER B 412      41.512 -53.527 -58.594  1.00 31.67           O
ATOM   2125  C   SER B 412      43.104 -50.979 -58.795  1.00 25.60           C
ATOM   2126  O   SER B 412      42.745 -51.157 -59.958  1.00 23.85           O
ATOM   2127  N   PRO B 413      44.393 -50.881 -58.473  1.00 21.41           N
ATOM   2128  CA  PRO B 413      44.883 -50.222 -57.289  1.00 19.98           C
ATOM   2129  CB  PRO B 413      46.396 -50.108 -57.558  1.00 20.19           C
ATOM   2130  CG  PRO B 413      46.478 -49.910 -59.013  1.00 20.26           C
ATOM   2131  CD  PRO B 413      45.251 -50.562 -59.638  1.00 19.68           C
ATOM   2132  C   PRO B 413      44.306 -48.915 -56.895  1.00 22.23           C
ATOM   2133  O   PRO B 413      43.914 -48.105 -57.746  1.00 23.82           O
ATOM   2134  N   GLN B 414      44.332 -48.661 -55.593  1.00 16.67           N
ATOM   2135  CA  GLN B 414      43.927 -47.397 -55.078  1.00 18.64           C
ATOM   2136  CB  GLN B 414      43.727 -47.465 -53.558  1.00 21.07           C
ATOM   2137  CG  GLN B 414      42.360 -48.072 -53.181  1.00 20.88           C
ATOM   2138  CD  GLN B 414      41.196 -47.200 -53.634  1.00 20.83           C
ATOM   2139  OE1 GLN B 414      40.420 -47.564 -54.536  1.00 28.56           O
ATOM   2140  NE2 GLN B 414      41.096 -46.038 -53.052  1.00 22.14           N
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ATOM   2141  C   GLN B 414      44.943 -46.306 -55.457  1.00 18.17           C
ATOM   2142  O   GLN B 414      44.624 -45.137 -55.422  1.00 20.82           O
ATOM   2143  N   LYS B 415      46.157 -46.726 -55.780  1.00 18.50           N
ATOM   2144  CA  LYS B 415      47.218 -45.806 -56.187  1.00 20.24           C
ATOM   2145  CB  LYS B 415      47.776 -44.996 -54.998  1.00 25.82           C
ATOM   2146  CG  LYS B 415      48.725 -45.715 -54.106  1.00 34.82           C
ATOM   2147  CD  LYS B 415      50.132 -45.625 -54.666  1.00 29.51           C
ATOM   2148  CE  LYS B 415      51.058 -46.526 -53.859  1.00 35.54           C
ATOM   2149  NZ  LYS B 415      52.349 -46.704 -54.594  1.00 26.80           N
ATOM   2150  C   LYS B 415      48.285 -46.517 -56.963  1.00 18.95           C
ATOM   2151  O   LYS B 415      48.458 -47.741 -56.846  1.00 17.81           O
ATOM   2152  N   PHE B 416      48.945 -45.773 -57.852  1.00 19.20           N
ATOM   2153  CA  PHE B 416      50.093 -46.310 -58.623  1.00 16.41           C
ATOM   2154  CB  PHE B 416      49.631 -47.216 -59.784  1.00 16.68           C
ATOM   2155  CG  PHE B 416      48.860 -46.494 -60.864  1.00 17.67           C
ATOM   2156  CD2 PHE B 416      49.519 -46.024 -62.010  1.00 18.03           C
ATOM   2157  CE2 PHE B 416      48.817 -45.402 -63.029  1.00 17.05           C
ATOM   2158  CZ  PHE B 416      47.455 -45.149 -62.877  1.00 19.28           C
ATOM   2159  CE1 PHE B 416      46.782 -45.615 -61.752  1.00 20.02           C
ATOM   2160  CD1 PHE B 416      47.484 -46.272 -60.741  1.00 19.52           C
ATOM   2161  C   PHE B 416      50.909 -45.127 -59.129  1.00 14.06           C
ATOM   2162  O   PHE B 416      50.555 -43.975 -58.847  1.00 19.21           O
ATOM   2163  N   TRP B 417      52.009 -45.410 -59.813  1.00 16.50           N
ATOM   2164  CA  TRP B 417      52.871 -44.341 -60.367  1.00 19.40           C
ATOM   2165  CB  TRP B 417      54.288 -44.461 -59.824  1.00 16.84           C
ATOM   2166  CG  TRP B 417      54.305 -44.441 -58.305  1.00 17.04           C
ATOM   2167  CD1 TRP B 417      54.069 -45.512 -57.439  1.00 18.41           C
ATOM   2168  NE1 TRP B 417      54.161 -45.102 -56.124  1.00 20.34           N
ATOM   2169  CE2 TRP B 417      54.435 -43.757 -56.083  1.00 23.03           C
ATOM   2170  CD2 TRP B 417      54.523 -43.291 -57.467  1.00 19.05           C
ATOM   2171  CE3 TRP B 417      54.826 -41.940 -57.716  1.00 18.50           C
ATOM   2172  CZ3 TRP B 417      54.985 -41.075 -56.626  1.00 21.97           C
ATOM   2173  CH2 TRP B 417      54.879 -41.539 -55.298  1.00 23.62           C
ATOM   2174  CZ2 TRP B 417      54.603 -42.898 -55.004  1.00 22.75           C
ATOM   2175  C   TRP B 417      52.911 -44.479 -61.833  1.00 21.48           C
ATOM   2176  O   TRP B 417      53.107 -45.590 -62.349  1.00 19.86           O
ATOM   2177  N   GLY B 418      52.716 -43.357 -62.535  1.00 21.50           N
ATOM   2178  CA  GLY B 418      52.894 -43.355 -63.988  1.00 22.82           C
ATOM   2179  C   GLY B 418      54.175 -42.600 -64.237  1.00 22.57           C
ATOM   2180  O   GLY B 418      54.285 -41.433 -63.840  1.00 22.33           O
ATOM   2181  N   LEU B 419      55.163 -43.267 -64.825  1.00 18.90           N
ATOM   2182  CA  LEU B 419      56.510 -42.673 -64.906  1.00 18.11           C
ATOM   2183  CB  LEU B 419      57.560 -43.552 -64.185  1.00 18.20           C
ATOM   2184  CG  LEU B 419      57.233 -43.892 -62.708  1.00 17.73           C
ATOM   2185  CD1 LEU B 419      58.261 -44.872 -62.171  1.00 22.72           C
ATOM   2186  CD2 LEU B 419      57.198 -42.639 -61.821  1.00 18.32           C
ATOM   2187  C   LEU B 419      56.908 -42.455 -66.362  1.00 20.23           C
ATOM   2188  O   LEU B 419      56.676 -43.309 -67.219  1.00 24.57           O
ATOM   2189  N   THR B 420      57.578 -41.336 -66.621  1.00 22.71           N
ATOM   2190  CA  THR B 420      58.031 -41.043 -67.974  1.00 23.72           C
ATOM   2191  CB  THR B 420      58.313 -39.541 -68.149  1.00 22.08           C
ATOM   2192  OG1 THR B 420      57.126 -38.824 -67.824  1.00 23.21           O
ATOM   2193  CG2 THR B 420      58.704 -39.237 -69.607  1.00 24.82           C
ATOM   2194  C   THR B 420      59.234 -41.880 -68.307  1.00 22.37           C
ATOM   2195  O   THR B 420      60.303 -41.730 -67.693  1.00 24.14           O
ATOM   2196  N   ARG B 421      59.069 -42.810 -69.247  1.00 21.72           N
ATOM   2197  CA  ARG B 421      60.124 -43.792 -69.511  1.00 27.49           C
ATOM   2198  CB  ARG B 421      59.752 -44.714 -70.650  1.00 29.41           C
ATOM   2199  CG  ARG B 421      58.946 -45.913 -70.252  1.00 35.70           C
ATOM   2200  CD  ARG B 421      58.671 -46.773 -71.474  1.00 41.16           C
ATOM   2201  NE  ARG B 421      57.613 -47.735 -71.219  1.00 55.06           N
ATOM   2202  CZ  ARG B 421      57.727 -49.045 -71.403  1.00 66.07           C
ATOM   2203  NH1 ARG B 421      58.859 -49.561 -71.868  1.00 72.67           N
ATOM   2204  NH2 ARG B 421      56.697 -49.838 -71.140  1.00 75.15           N
ATOM   2205  C   ARG B 421      61.449 -43.113 -69.868  1.00 29.60           C
ATOM   2206  O   ARG B 421      62.520 -43.628 -69.544  1.00 23.60           O
ATOM   2207  N   SER B 422      61.362 -41.970 -70.559  1.00 29.08           N
ATOM   2208  CA  SER B 422      62.559 -41.286 -71.027  1.00 30.42           C
ATOM   2209  CB  SER B 422      62.232 -40.289 -72.158  1.00 28.03           C
ATOM   2210  OG  SER B 422      61.377 -39.255 -71.726  1.00 35.09           O
ATOM   2211  C   SER B 422      63.281 -40.595 -69.878  1.00 31.76           C
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ATOM   2212  O   SER B 422      64.412 -40.199 -70.036  1.00 30.97           O
ATOM   2213  N   ALA B 423      62.624 -40.500 -68.702  1.00 23.51           N
ATOM   2214  CA  ALA B 423      63.254 -39.929 -67.505  1.00 23.73           C
ATOM   2215  CB  ALA B 423      62.236 -39.137 -66.686  1.00 24.71           C
ATOM   2216  C   ALA B 423      63.995 -40.944 -66.614  1.00 23.11           C
ATOM   2217  O   ALA B 423      64.493 -40.584 -65.549  1.00 22.70           O
ATOM   2218  N   LEU B 424      64.078 -42.192 -67.066  1.00 23.23           N
ATOM   2219  CA  LEU B 424      64.720 -43.263 -66.298  1.00 21.80           C
ATOM   2220  CB  LEU B 424      63.680 -44.331 -65.891  1.00 23.22           C
ATOM   2221  CG  LEU B 424      62.499 -43.818 -65.049  1.00 20.38           C
ATOM   2222  CD1 LEU B 424      61.370 -44.844 -65.013  1.00 24.99           C
ATOM   2223  CD2 LEU B 424      62.951 -43.441 -63.634  1.00 21.85           C
ATOM   2224  C   LEU B 424      65.810 -43.918 -67.113  1.00 27.47           C
ATOM   2225  O   LEU B 424      65.751 -43.908 -68.345  1.00 29.56           O
ATOM   2226  N   LEU B 425      66.784 -44.517 -66.416  1.00 29.62           N
ATOM   2227  CA  LEU B 425      67.863 -45.284 -67.043  1.00 35.64           C
ATOM   2228  CB  LEU B 425      69.214 -44.716 -66.653  1.00 36.39           C
ATOM   2229  CG  LEU B 425      70.221 -44.498 -67.783  1.00 48.35           C
ATOM   2230  CD1 LEU B 425      69.553 -43.945 -69.041  1.00 44.47           C
ATOM   2231  CD2 LEU B 425      71.308 -43.554 -67.297  1.00 48.49           C
ATOM   2232  C   LEU B 425      67.773 -46.742 -66.615  1.00 42.74           C
ATOM   2233  O   LEU B 425      67.237 -47.014 -65.558  1.00 43.56           O
ATOM   2234  N   PRO B 426      68.532 -47.632 -67.296  1.00 56.39           N
ATOM   2235  CA  PRO B 426      67.955 -48.535 -68.250  1.00 49.52           C
ATOM   2236  CB  PRO B 426      67.596 -49.736 -67.386  1.00 49.11           C
ATOM   2237  CG  PRO B 426      68.725 -49.762 -66.354  1.00 47.03           C
ATOM   2238  CD  PRO B 426      69.431 -48.396 -66.424  1.00 62.58           C
ATOM   2239  C   PRO B 426      66.762 -47.901 -68.955  1.00 57.15           C
ATOM   2240  O   PRO B 426      65.754 -47.569 -68.323  1.00 44.27           O
ATOM   2241  N   THR B 427      66.913 -47.680 -70.254  1.00 60.10           N
ATOM   2242  CA  THR B 427      66.055 -46.754 -70.968  1.00 64.18           C
ATOM   2243  CB  THR B 427      66.752 -45.366 -71.114  1.00 71.13           C
ATOM   2244  OG1 THR B 427      65.770 -44.317 -71.233  1.00 52.24           O
ATOM   2245  CG2 THR B 427      67.724 -45.346 -72.311  1.00 58.56           C
ATOM   2246  C   THR B 427      65.656 -47.319 -72.336  1.00 76.11           C
ATOM   2247  O   THR B 427      65.371 -48.513 -72.465  1.00 75.97           O
ATOM   2248  N   THR D 321      67.953 -14.879 -79.916  1.00 44.44           N
ATOM   2249  CA  THR D 321      66.490 -15.242 -79.994  1.00 39.62           C
ATOM   2250  CB  THR D 321      65.714 -14.372 -81.008  1.00 41.63           C
ATOM   2251  OG1 THR D 321      66.212 -14.609 -82.320  1.00 45.50           O
ATOM   2252  CG2 THR D 321      65.804 -12.871 -80.664  1.00 49.40           C
ATOM   2253  C   THR D 321      66.228 -16.721 -80.355  1.00 33.66           C
ATOM   2254  O   THR D 321      65.101 -17.154 -80.357  1.00 27.86           O
ATOM   2255  N   SER D 322      67.268 -17.485 -80.662  1.00 28.46           N
ATOM   2256  CA  SER D 322      67.068 -18.900 -81.008  1.00 30.21           C
ATOM   2257  CB  SER D 322      68.297 -19.449 -81.697  1.00 27.30           C
ATOM   2258  OG  SER D 322      68.479 -18.814 -82.931  1.00 34.80           O
ATOM   2259  C   SER D 322      66.718 -19.765 -79.796  1.00 29.25           C
ATOM   2260  O   SER D 322      67.366 -19.677 -78.751  1.00 28.20           O
ATOM   2261  N   LEU D 323      65.687 -20.607 -79.940  1.00 25.22           N
ATOM   2262  CA  LEU D 323      65.379 -21.626 -78.929  1.00 22.92           C
ATOM   2263  CB  LEU D 323      63.920 -21.545 -78.466  1.00 19.72           C
ATOM   2264  CG  LEU D 323      63.493 -20.156 -77.949  1.00 28.78           C
ATOM   2265  CD1 LEU D 323      62.035 -20.148 -77.553  1.00 30.40           C
ATOM   2266  CD2 LEU D 323      64.346 -19.694 -76.781  1.00 33.30           C
ATOM   2267  C   LEU D 323      65.683 -23.002 -79.490  1.00 23.34           C
ATOM   2268  O   LEU D 323      65.066 -23.429 -80.458  1.00 24.04           O
ATOM   2269  N   CYS D 324      66.656 -23.677 -78.884  1.00 25.44           N
ATOM   2270  CA  CYS D 324      67.222 -24.907 -79.436  1.00 25.51           C
ATOM   2271  CB  CYS D 324      68.754 -24.799 -79.453  1.00 23.78           C
ATOM   2272  SG  CYS D 324      69.309 -23.636 -80.701  1.00 32.31           S
ATOM   2273  C   CYS D 324      66.837 -26.134 -78.649  1.00 21.89           C
ATOM   2274  O   CYS D 324      66.594 -26.057 -77.442  1.00 23.78           O
ATOM   2275  N   CYS D 325      66.823 -27.276 -79.324  1.00 19.89           N
ATOM   2276  CA  CYS D 325      66.635 -28.546 -78.645  1.00 23.67           C
ATOM   2277  CB  CYS D 325      66.755 -29.697 -79.654  1.00 18.79           C
ATOM   2278  SG  CYS D 325      66.731 -31.343 -78.903  1.00 23.84           S
ATOM   2279  C   CYS D 325      67.689 -28.693 -77.518  1.00 26.11           C
ATOM   2280  O   CYS D 325      68.884 -28.610 -77.769  1.00 27.69           O
ATOM   2281  N   LYS D 326      67.236 -28.929 -76.290  1.00 25.67           N
ATOM   2282  CA  LYS D 326      68.162 -29.078 -75.151  1.00 24.80           C
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ATOM   2283  CB  LYS D 326      67.385 -29.235 -73.856  1.00 28.45           C
ATOM   2284  CG  LYS D 326      68.255 -29.277 -72.603  1.00 29.89           C
ATOM   2285  CD  LYS D 326      67.404 -29.350 -71.343  1.00 31.48           C
ATOM   2286  CE  LYS D 326      66.716 -30.702 -71.213  1.00 43.44           C
ATOM   2287  NZ  LYS D 326      66.101 -30.908 -69.864  1.00 56.07           N
ATOM   2288  C   LYS D 326      69.120 -30.267 -75.335  1.00 29.95           C
ATOM   2289  O   LYS D 326      70.288 -30.197 -74.942  1.00 28.84           O
ATOM   2290  N   GLN D 327      68.634 -31.330 -75.961  1.00 24.61           N
ATOM   2291  CA  GLN D 327      69.411 -32.598 -76.081  1.00 29.81           C
ATOM   2292  CB  GLN D 327      68.488 -33.795 -76.367  1.00 25.61           C
ATOM   2293  CG  GLN D 327      69.194 -35.046 -76.892  1.00 35.40           C
ATOM   2294  CD  GLN D 327      70.008 -35.742 -75.822  1.00 44.68           C
ATOM   2295  OE1 GLN D 327      69.738 -35.583 -74.630  1.00 35.09           O
ATOM   2296  NE2 GLN D 327      71.029 -36.508 -76.240  1.00 40.17           N
ATOM   2297  C   GLN D 327      70.542 -32.540 -77.114  1.00 33.25           C
ATOM   2298  O   GLN D 327      71.669 -32.899 -76.808  1.00 27.19           O
ATOM   2299  N   CYS D 328      70.239 -32.134 -78.347  1.00 27.64           N
ATOM   2300  CA  CYS D 328      71.279 -32.080 -79.368  1.00 30.83           C
ATOM   2301  CB  CYS D 328      70.766 -32.574 -80.720  1.00 33.24           C
ATOM   2302  SG  CYS D 328      69.439 -31.547 -81.421  1.00 27.36           S
ATOM   2303  C   CYS D 328      71.915 -30.692 -79.469  1.00 27.65           C
ATOM   2304  O   CYS D 328      72.922 -30.516 -80.155  1.00 29.26           O
ATOM   2305  N   GLN D 329      71.337 -29.726 -78.758  1.00 24.10           N
ATOM   2306  CA  GLN D 329      71.948 -28.408 -78.521  1.00 27.95           C
ATOM   2307  CB  GLN D 329      73.332 -28.549 -77.843  1.00 31.61           C
ATOM   2308  CG  GLN D 329      73.307 -29.476 -76.620  1.00 28.22           C
ATOM   2309  CD  GLN D 329      74.666 -29.638 -75.948  1.00 39.75           C
ATOM   2310  OE1 GLN D 329      75.308 -28.659 -75.569  1.00 36.77           O
ATOM   2311  NE2 GLN D 329      75.095 -30.883 -75.780  1.00 42.28           N
ATOM   2312  C   GLN D 329      72.018 -27.461 -79.743  1.00 29.87           C
ATOM   2313  O   GLN D 329      71.900 -26.246 -79.588  1.00 43.02           O
ATOM   2314  N   GLU D 330      72.143 -28.024 -80.935  1.00 29.98           N
ATOM   2315  CA  GLU D 330      72.464 -27.255 -82.132  1.00 40.03           C
ATOM   2316  CB  GLU D 330      73.475 -28.015 -83.004  1.00 46.93           C
ATOM   2317  CG  GLU D 330      74.854 -28.177 -82.375  1.00 61.31           C
ATOM   2318  CD  GLU D 330      75.483 -26.849 -82.009  1.00 71.59           C
ATOM   2319  OE1 GLU D 330      75.537 -26.528 -80.800  1.00 74.82           O
ATOM   2320  OE2 GLU D 330      75.901 -26.115 -82.932  1.00 84.62           O
ATOM   2321  C   GLU D 330      71.233 -26.936 -82.976  1.00 36.38           C
ATOM   2322  O   GLU D 330      71.265 -26.028 -83.815  1.00 34.33           O
ATOM   2323  N   THR D 331      70.175 -27.703 -82.782  1.00 27.07           N
ATOM   2324  CA  THR D 331      69.036 -27.665 -83.694  1.00 26.59           C
ATOM   2325  CB  THR D 331      68.374 -29.045 -83.785  1.00 30.74           C
ATOM   2326  OG1 THR D 331      69.347 -30.004 -84.252  1.00 31.83           O
ATOM   2327  CG2 THR D 331      67.191 -29.025 -84.732  1.00 23.43           C
ATOM   2328  C   THR D 331      68.044 -26.636 -83.185  1.00 26.22           C
ATOM   2329  O   THR D 331      67.502 -26.763 -82.069  1.00 20.96           O
ATOM   2330  N   GLU D 332      67.812 -25.609 -83.992  1.00 21.63           N
ATOM   2331  CA  GLU D 332      66.864 -24.563 -83.633  1.00 22.42           C
ATOM   2332  CB  GLU D 332      67.072 -23.322 -84.508  1.00 23.45           C
ATOM   2333  CG  GLU D 332      66.102 -22.208 -84.131  1.00 24.23           C
ATOM   2334  CD  GLU D 332      66.234 -21.014 -85.022  1.00 28.65           C
ATOM   2335  OE1 GLU D 332      67.171 -20.229 -84.813  1.00 25.99           O
ATOM   2336  OE2 GLU D 332      65.396 -20.875 -85.924  1.00 24.99           O
ATOM   2337  C   GLU D 332      65.432 -25.071 -83.797  1.00 21.70           C
ATOM   2338  O   GLU D 332      65.072 -25.599 -84.857  1.00 24.48           O
ATOM   2339  N   ILE D 333      64.618 -24.923 -82.753  1.00 16.36           N
ATOM   2340  CA  ILE D 333      63.216 -25.408 -82.838  1.00 16.17           C
ATOM   2341  CB  ILE D 333      62.793 -26.196 -81.594  1.00 17.10           C
ATOM   2342  CG1 ILE D 333      63.751 -27.384 -81.383  1.00 20.80           C
ATOM   2343  CD1 ILE D 333      63.748 -28.384 -82.536  1.00 17.38           C
ATOM   2344  CG2 ILE D 333      61.336 -26.656 -81.729  1.00 17.71           C
ATOM   2345  C   ILE D 333      62.222 -24.270 -83.074  1.00 18.22           C
ATOM   2346  O   ILE D 333      61.250 -24.436 -83.813  1.00 18.73           O
ATOM   2347  N   THR D 334      62.449 -23.150 -82.408  1.00 20.52           N
ATOM   2348  CA  THR D 334      61.643 -21.931 -82.659  1.00 21.42           C
ATOM   2349  CB  THR D 334      60.296 -21.945 -81.878  1.00 21.16           C
ATOM   2350  OG1 THR D 334      59.470 -20.838 -82.304  1.00 21.42           O
ATOM   2351  CG2 THR D 334      60.540 -21.840 -80.395  1.00 18.90           C
ATOM   2352  C   THR D 334      62.496 -20.717 -82.317  1.00 21.10           C
ATOM   2353  O   THR D 334      63.682 -20.858 -82.028  1.00 19.46           O
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ATOM   2354  N   THR D 335      61.921 -19.529 -82.405  1.00 19.83           N
ATOM   2355  CA  THR D 335      62.616 -18.352 -81.969  1.00 23.05           C
ATOM   2356  CB  THR D 335      62.988 -17.452 -83.153  1.00 22.99           C
ATOM   2357  OG1 THR D 335      61.812 -16.844 -83.660  1.00 26.04           O
ATOM   2358  CG2 THR D 335      63.651 -18.256 -84.272  1.00 24.90           C
ATOM   2359  C   THR D 335      61.744 -17.564 -81.003  1.00 21.50           C
ATOM   2360  O   THR D 335      60.492 -17.721 -80.976  1.00 20.48           O
ATOM   2361  N   LYS D 336      62.368 -16.691 -80.232  1.00 19.92           N
ATOM   2362  CA  LYS D 336      61.586 -15.802 -79.342  1.00 22.50           C
ATOM   2363  CB  LYS D 336      62.503 -14.888 -78.548  1.00 22.50           C
ATOM   2364  CG  LYS D 336      63.178 -15.542 -77.349  1.00 32.98           C
ATOM   2365  CD  LYS D 336      64.027 -14.507 -76.621  1.00 32.46           C
ATOM   2366  CE  LYS D 336      64.581 -15.052 -75.321  1.00 42.54           C
ATOM   2367  NZ  LYS D 336      65.145 -13.950 -74.506  1.00 47.55           N
ATOM   2368  C   LYS D 336      60.537 -14.964 -80.114  1.00 20.92           C
ATOM   2369  O   LYS D 336      59.489 -14.613 -79.567  1.00 18.93           O
ATOM   2370  N   ASN D 337      60.822 -14.641 -81.372  1.00 17.68           N
ATOM   2371  CA  ASN D 337      59.892 -13.849 -82.177  1.00 21.09           C
ATOM   2372  CB  ASN D 337      60.540 -13.435 -83.497  1.00 19.30           C
ATOM   2373  CG  ASN D 337      61.855 -12.703 -83.290  1.00 32.88           C
ATOM   2374  OD1 ASN D 337      62.919 -13.201 -83.655  1.00 38.62           O
ATOM   2375  ND2 ASN D 337      61.797 -11.572 -82.618  1.00 32.56           N
ATOM   2376  C   ASN D 337      58.553 -14.559 -82.448  1.00 19.23           C
ATOM   2377  O   ASN D 337      57.565 -13.918 -82.805  1.00 17.93           O
ATOM   2378  N   GLU D 338      58.540 -15.880 -82.312  1.00 16.14           N
ATOM   2379  CA  GLU D 338      57.346 -16.678 -82.630  1.00 16.54           C
ATOM   2380  CB  GLU D 338      57.743 -18.046 -83.234  1.00 21.08           C
ATOM   2381  CG  GLU D 338      58.497 -17.934 -84.552  1.00 21.82           C
ATOM   2382  CD  GLU D 338      57.808 -16.994 -85.526  1.00 28.91           C
ATOM   2383  OE1 GLU D 338      56.576 -17.126 -85.728  1.00 24.73           O
ATOM   2384  OE2 GLU D 338      58.496 -16.123 -86.090  1.00 34.64           O
ATOM   2385  C   GLU D 338      56.429 -16.872 -81.442  1.00 17.76           C
ATOM   2386  O   GLU D 338      55.300 -17.345 -81.587  1.00 16.91           O
ATOM   2387  N   ILE D 339      56.880 -16.440 -80.270  1.00 18.50           N
ATOM   2388  CA  ILE D 339      56.131 -16.659 -79.035  1.00 17.47           C
ATOM   2389  CB  ILE D 339      56.983 -16.291 -77.792  1.00 19.50           C
ATOM   2390  CG1 ILE D 339      58.180 -17.257 -77.657  1.00 20.60           C
ATOM   2391  CD1 ILE D 339      59.169 -16.849 -76.562  1.00 21.66           C
ATOM   2392  CG2 ILE D 339      56.126 -16.311 -76.537  1.00 20.45           C
ATOM   2393  C   ILE D 339      54.838 -15.832 -78.992  1.00 18.80           C
ATOM   2394  O   ILE D 339      54.835 -14.644 -79.351  1.00 17.55           O
ATOM   2395  N   PHE D 340      53.743 -16.464 -78.577  1.00 14.25           N
ATOM   2396  CA  PHE D 340      52.483 -15.735 -78.373  1.00 18.16           C
ATOM   2397  CB  PHE D 340      51.594 -15.734 -79.655  1.00 14.54           C
ATOM   2398  CG  PHE D 340      50.872 -17.032 -79.914  1.00 16.30           C
ATOM   2399  CD2 PHE D 340      49.497 -17.147 -79.675  1.00 17.44           C
ATOM   2400  CE2 PHE D 340      48.815 -18.342 -79.926  1.00 17.02           C
ATOM   2401  CZ  PHE D 340      49.509 -19.464 -80.427  1.00 20.18           C
ATOM   2402  CE1 PHE D 340      50.881 -19.358 -80.714  1.00 15.15           C
ATOM   2403  CD1 PHE D 340      51.567 -18.169 -80.438  1.00 16.03           C
ATOM   2404  C   PHE D 340      51.766 -16.347 -77.206  1.00 20.74           C
ATOM   2405  O   PHE D 340      52.199 -17.383 -76.692  1.00 19.13           O
ATOM   2406  N   SER D 341      50.691 -15.695 -76.756  1.00 19.60           N
ATOM   2407  CA  SER D 341      49.922 -16.213 -75.619  1.00 23.90           C
ATOM   2408  CB  SER D 341      49.864 -15.170 -74.495  1.00 27.38           C
ATOM   2409  OG  SER D 341      49.295 -15.727 -73.316  1.00 35.12           O
ATOM   2410  C   SER D 341      48.542 -16.648 -76.027  1.00 22.50           C
ATOM   2411  O   SER D 341      47.650 -15.842 -76.184  1.00 25.37           O
ATOM   2412  N   LEU D 342      48.391 -17.937 -76.286  1.00 25.13           N
ATOM   2413  CA  LEU D 342      47.095 -18.505 -76.597  1.00 24.94           C
ATOM   2414  CB  LEU D 342      47.248 -19.963 -77.072  1.00 25.61           C
ATOM   2415  CG  LEU D 342      46.045 -20.630 -77.755  1.00 31.69           C
ATOM   2416  CD1 LEU D 342      44.980 -21.046 -76.754  1.00 32.58           C
ATOM   2417  CD2 LEU D 342      45.448 -19.691 -78.793  1.00 34.18           C
ATOM   2418  C   LEU D 342      46.251 -18.440 -75.334  1.00 29.27           C
ATOM   2419  O   LEU D 342      45.120 -17.918 -75.346  1.00 23.49           O
ATOM   2420  N   SER D 343      46.824 -18.928 -74.228  1.00 28.36           N
ATOM   2421  CA ASER D 343      46.144 -18.902 -72.949  0.50 30.32           C
ATOM   2422  CA BSER D 343      46.155 -18.901 -72.937  0.50 29.33           C
ATOM   2423  CB ASER D 343      46.865 -19.803 -71.937  0.50 31.29           C
ATOM   2424  CB BSER D 343      46.896 -19.788 -71.915  0.50 28.18           C
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ATOM   2425  OG ASER D 343      48.130 -19.263 -71.611  0.50 29.93           O
ATOM   2426  OG BSER D 343      47.057 -21.106 -72.399  0.50 23.67           O
ATOM   2427  C   SER D 343      46.099 -17.471 -72.423  1.00 33.93           C
ATOM   2428  O   SER D 343      47.004 -16.672 -72.691  1.00 31.24           O
ATOM   2429  N   LEU D 344      45.043 -17.155 -71.682  1.00 29.96           N
ATOM   2430  CA  LEU D 344      44.870 -15.825 -71.090  1.00 35.32           C
ATOM   2431  CB  LEU D 344      43.574 -15.767 -70.271  1.00 35.61           C
ATOM   2432  CG  LEU D 344      42.285 -16.016 -71.070  1.00 50.21           C
ATOM   2433  CD1 LEU D 344      41.083 -15.968 -70.144  1.00 52.66           C
ATOM   2434  CD2 LEU D 344      42.120 -15.041 -72.237  1.00 39.69           C
ATOM   2435  C   LEU D 344      46.042 -15.401 -70.213  1.00 40.17           C
ATOM   2436  O   LEU D 344      46.648 -16.233 -69.502  1.00 33.33           O
ATOM   2437  N   CYS D 345      46.310 -14.092 -70.234  1.00 46.57           N
ATOM   2438  CA  CYS D 345      47.419 -13.465 -69.508  1.00 54.22           C
ATOM   2439  CB  CYS D 345      48.094 -12.396 -70.392  1.00 54.37           C
ATOM   2440  SG  CYS D 345      47.985 -12.684 -72.182  1.00 58.02           S
ATOM   2441  C   CYS D 345      46.905 -12.795 -68.231  1.00 61.31           C
ATOM   2442  O   CYS D 345      45.689 -12.747 -67.986  1.00 53.83           O
ATOM   2443  N   GLY D 346      47.832 -12.259 -67.434  1.00 61.51           N
ATOM   2444  CA  GLY D 346      47.478 -11.492 -66.231  1.00 56.35           C
ATOM   2445  C   GLY D 346      46.978 -12.357 -65.079  1.00 54.40           C
ATOM   2446  O   GLY D 346      47.476 -13.476 -64.870  1.00 54.53           O
ATOM   2447  N   PRO D 347      45.995 -11.837 -64.307  1.00 45.88           N
ATOM   2448  CA  PRO D 347      45.462 -12.549 -63.128  1.00 46.75           C
ATOM   2449  CB  PRO D 347      44.562 -11.492 -62.449  1.00 45.71           C
ATOM   2450  CG  PRO D 347      45.040 -10.173 -62.984  1.00 49.98           C
ATOM   2451  CD  PRO D 347      45.492 -10.450 -64.389  1.00 50.19           C
ATOM   2452  C   PRO D 347      44.656 -13.826 -63.466  1.00 43.50           C
ATOM   2453  O   PRO D 347      44.261 -14.554 -62.559  1.00 54.05           O
ATOM   2454  N   MET D 348      44.414 -14.079 -64.759  1.00 36.05           N
ATOM   2455  CA  MET D 348      43.774 -15.327 -65.193  1.00 39.70           C
ATOM   2456  CB  MET D 348      42.900 -15.097 -66.425  1.00 40.80           C
ATOM   2457  CG  MET D 348      41.527 -14.504 -66.099  1.00 36.76           C
ATOM   2458  SD  MET D 348      40.487 -15.594 -65.099  1.00 39.12           S
ATOM   2459  CE  MET D 348      40.536 -17.091 -66.102  1.00 40.07           C
ATOM   2460  C   MET D 348      44.765 -16.477 -65.442  1.00 37.01           C
ATOM   2461  O   MET D 348      44.362 -17.636 -65.479  1.00 38.01           O
ATOM   2462  N   ALA D 349      46.052 -16.146 -65.602  1.00 40.94           N
ATOM   2463  CA  ALA D 349      47.106 -17.163 -65.881  1.00 53.94           C
ATOM   2464  CB  ALA D 349      48.487 -16.512 -65.917  1.00 47.04           C
ATOM   2465  C   ALA D 349      47.083 -18.346 -64.881  1.00 58.15           C
ATOM   2466  O   ALA D 349      47.228 -19.520 -65.273  1.00 46.82           O
ATOM   2467  N   ALA D 350      46.859 -18.023 -63.603  1.00 57.24           N
ATOM   2468  CA  ALA D 350      46.805 -19.015 -62.530  1.00 52.59           C
ATOM   2469  CB  ALA D 350      46.872 -18.319 -61.167  1.00 48.28           C
ATOM   2470  C   ALA D 350      45.565 -19.931 -62.617  1.00 57.05           C
ATOM   2471  O   ALA D 350      45.547 -21.021 -62.039  1.00 46.40           O
ATOM   2472  N   TYR D 351      44.539 -19.490 -63.348  1.00 48.21           N
ATOM   2473  CA  TYR D 351      43.288 -20.250 -63.450  1.00 47.97           C
ATOM   2474  CB  TYR D 351      42.085 -19.308 -63.421  1.00 53.85           C
ATOM   2475  CG  TYR D 351      41.795 -18.780 -62.047  1.00 48.98           C
ATOM   2476  CD2 TYR D 351      40.910 -19.451 -61.194  1.00 50.32           C
ATOM   2477  CE2 TYR D 351      40.658 -18.978 -59.915  1.00 50.03           C
ATOM   2478  CZ  TYR D 351      41.306 -17.820 -59.477  1.00 53.88           C
ATOM   2479  OH  TYR D 351      41.069 -17.338 -58.222  1.00 61.26           O
ATOM   2480  CE1 TYR D 351      42.195 -17.149 -60.301  1.00 50.73           C
ATOM   2481  CD1 TYR D 351      42.434 -17.630 -61.575  1.00 49.23           C
ATOM   2482  C   TYR D 351      43.206 -21.152 -64.678  1.00 54.85           C
ATOM   2483  O   TYR D 351      42.379 -22.068 -64.733  1.00 63.23           O
ATOM   2484  N   VAL D 352      44.051 -20.887 -65.665  1.00 47.99           N
ATOM   2485  CA  VAL D 352      43.874 -21.496 -66.989  1.00 45.26           C
ATOM   2486  CB  VAL D 352      44.149 -20.479 -68.160  1.00 38.21           C
ATOM   2487  CG1 VAL D 352      43.183 -19.294 -68.075  1.00 36.70           C
ATOM   2488  CG2 VAL D 352      45.584 -19.981 -68.135  1.00 38.85           C
ATOM   2489  C   VAL D 352      44.647 -22.840 -67.142  1.00 38.08           C
ATOM   2490  O   VAL D 352      44.361 -23.622 -68.051  1.00 41.25           O
ATOM   2491  N   ASN D 353      45.586 -23.110 -66.227  1.00 33.57           N
ATOM   2492  CA  ASN D 353      46.250 -24.448 -66.155  1.00 37.20           C
ATOM   2493  CB  ASN D 353      47.678 -24.391 -66.708  1.00 43.06           C
ATOM   2494  CG  ASN D 353      47.717 -24.339 -68.221  1.00 42.18           C
ATOM   2495  OD1 ASN D 353      47.416 -25.324 -68.903  1.00 38.05           O
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ATOM   2496  ND2 ASN D 353      48.093 -23.192 -68.755  1.00 38.82           N
ATOM   2497  C   ASN D 353      46.289 -24.941 -64.714  1.00 43.29           C
ATOM   2498  O   ASN D 353      46.186 -24.121 -63.785  1.00 41.95           O
ATOM   2499  N   PRO D 354      46.463 -26.275 -64.511  1.00 47.24           N
ATOM   2500  CA  PRO D 354      46.615 -26.790 -63.134  1.00 46.91           C
ATOM   2501  CB  PRO D 354      46.833 -28.306 -63.333  1.00 40.94           C
ATOM   2502  CG  PRO D 354      46.448 -28.598 -64.748  1.00 44.08           C
ATOM   2503  CD  PRO D 354      46.659 -27.333 -65.525  1.00 46.85           C
ATOM   2504  C   PRO D 354      47.842 -26.174 -62.464  1.00 45.55           C
ATOM   2505  O   PRO D 354      48.786 -25.777 -63.152  1.00 39.56           O
ATOM   2506  N   HIS D 355      47.829 -26.079 -61.134  1.00 45.30           N
ATOM   2507  CA  HIS D 355      49.045 -25.721 -60.403  1.00 45.87           C
ATOM   2508  CB  HIS D 355      48.789 -25.685 -58.900  1.00 49.39           C
ATOM   2509  CG  HIS D 355      47.640 -24.783 -58.499  1.00 71.56           C
ATOM   2510  ND1 HIS D 355      47.389 -23.605 -59.113  1.00 80.15           N
ATOM   2511  CE1 HIS D 355      46.310 -23.028 -58.549  1.00 77.53           C
ATOM   2512  NE2 HIS D 355      45.870 -23.831 -57.567  1.00 79.81           N
ATOM   2513  CD2 HIS D 355      46.666 -24.922 -57.506  1.00 78.62           C
ATOM   2514  C   HIS D 355      50.120 -26.723 -60.740  1.00 44.54           C
ATOM   2515  O   HIS D 355      49.828 -27.923 -60.930  1.00 33.48           O
ATOM   2516  N   GLY D 356      51.359 -26.239 -60.857  1.00 37.58           N
ATOM   2517  CA  GLY D 356      52.482 -27.058 -61.322  1.00 40.85           C
ATOM   2518  C   GLY D 356      52.776 -26.852 -62.808  1.00 38.27           C
ATOM   2519  O   GLY D 356      53.879 -27.122 -63.262  1.00 38.29           O
ATOM   2520  N   TYR D 357      51.784 -26.370 -63.561  1.00 31.59           N
ATOM   2521  CA  TYR D 357      51.902 -26.289 -65.033  1.00 35.46           C
ATOM   2522  CB  TYR D 357      51.007 -27.336 -65.703  1.00 32.29           C
ATOM   2523  CG  TYR D 357      51.494 -28.757 -65.507  1.00 28.76           C
ATOM   2524  CD1 TYR D 357      52.816 -29.104 -65.791  1.00 33.11           C
ATOM   2525  CE1 TYR D 357      53.278 -30.410 -65.607  1.00 30.23           C
ATOM   2526  CZ  TYR D 357      52.407 -31.378 -65.148  1.00 29.53           C
ATOM   2527  OH  TYR D 357      52.882 -32.673 -64.972  1.00 29.44           O
ATOM   2528  CE2 TYR D 357      51.089 -31.067 -64.872  1.00 26.99           C
ATOM   2529  CD2 TYR D 357      50.635 -29.756 -65.043  1.00 26.63           C
ATOM   2530  C   TYR D 357      51.616 -24.909 -65.635  1.00 43.94           C
ATOM   2531  O   TYR D 357      51.441 -24.778 -66.871  1.00 37.75           O
ATOM   2532  N   VAL D 358      51.581 -23.885 -64.787  1.00 38.84           N
ATOM   2533  CA  VAL D 358      51.235 -22.529 -65.247  1.00 43.50           C
ATOM   2534  CB  VAL D 358      51.033 -21.528 -64.072  1.00 51.57           C
ATOM   2535  CG1 VAL D 358      49.913 -22.004 -63.138  1.00 45.44           C
ATOM   2536  CG2 VAL D 358      52.336 -21.316 -63.306  1.00 52.19           C
ATOM   2537  C   VAL D 358      52.251 -21.991 -66.275  1.00 47.53           C
ATOM   2538  O   VAL D 358      51.880 -21.235 -67.172  1.00 52.85           O
ATOM   2539  N   HIS D 359      53.512 -22.422 -66.162  1.00 44.52           N
ATOM   2540  CA  HIS D 359      54.570 -21.985 -67.076  1.00 43.78           C
ATOM   2541  CB  HIS D 359      55.583 -21.106 -66.334  1.00 65.42           C
ATOM   2542  CG  HIS D 359      55.198 -19.644 -66.278  1.00 82.70           C
ATOM   2543  ND1 HIS D 359      54.295 -19.161 -65.395  1.00 97.15           N
ATOM   2544  CE1 HIS D 359      54.151 -17.835 -65.582  1.00 89.11           C
ATOM   2545  NE2 HIS D 359      54.965 -17.463 -66.584  1.00102.06           N
ATOM   2546  CD2 HIS D 359      55.625 -18.553 -67.039  1.00 88.79           C
ATOM   2547  C   HIS D 359      55.275 -23.147 -67.731  1.00 40.22           C
ATOM   2548  O   HIS D 359      56.483 -23.111 -67.947  1.00 45.51           O
ATOM   2549  N   GLU D 360      54.528 -24.189 -68.063  1.00 27.08           N
ATOM   2550  CA  GLU D 360      55.139 -25.443 -68.521  1.00 27.32           C
ATOM   2551  CB  GLU D 360      54.210 -26.614 -68.172  1.00 31.37           C
ATOM   2552  CG  GLU D 360      54.595 -27.945 -68.805  1.00 34.63           C
ATOM   2553  CD  GLU D 360      55.817 -28.559 -68.147  1.00 41.93           C
ATOM   2554  OE1 GLU D 360      56.415 -29.484 -68.736  1.00 39.25           O
ATOM   2555  OE2 GLU D 360      56.182 -28.108 -67.044  1.00 38.61           O
ATOM   2556  C   GLU D 360      55.387 -25.420 -70.038  1.00 28.74           C
ATOM   2557  O   GLU D 360      56.405 -25.971 -70.541  1.00 24.80           O
ATOM   2558  N   THR D 361      54.424 -24.833 -70.757  1.00 23.58           N
ATOM   2559  CA  THR D 361      54.328 -24.964 -72.216  1.00 29.66           C
ATOM   2560  CB  THR D 361      52.956 -25.523 -72.644  1.00 36.08           C
ATOM   2561  OG1 THR D 361      52.742 -26.789 -72.017  1.00 38.33           O
ATOM   2562  CG2 THR D 361      52.893 -25.715 -74.156  1.00 33.81           C
ATOM   2563  C   THR D 361      54.520 -23.590 -72.853  1.00 30.62           C
ATOM   2564  O   THR D 361      53.910 -22.612 -72.429  1.00 29.15           O
ATOM   2565  N   LEU D 362      55.415 -23.514 -73.825  1.00 22.36           N
ATOM   2566  CA  LEU D 362      55.586 -22.312 -74.604  1.00 20.47           C
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ATOM   2567  CB  LEU D 362      57.065 -22.186 -74.968  1.00 22.09           C
ATOM   2568  CG  LEU D 362      57.572 -20.894 -75.560  1.00 26.95           C
ATOM   2569  CD1 LEU D 362      57.651 -19.787 -74.516  1.00 25.81           C
ATOM   2570  CD2 LEU D 362      58.945 -21.158 -76.176  1.00 29.27           C
ATOM   2571  C   LEU D 362      54.712 -22.459 -75.859  1.00 21.04           C
ATOM   2572  O   LEU D 362      54.736 -23.506 -76.495  1.00 19.78           O
ATOM   2573  N   THR D 363      53.904 -21.447 -76.199  1.00 16.67           N
ATOM   2574  CA  THR D 363      53.126 -21.527 -77.450  1.00 15.97           C
ATOM   2575  CB  THR D 363      51.609 -21.246 -77.279  1.00 18.24           C
ATOM   2576  OG1 THR D 363      51.420 -19.993 -76.625  1.00 16.20           O
ATOM   2577  CG2 THR D 363      50.955 -22.366 -76.474  1.00 17.89           C
ATOM   2578  C   THR D 363      53.715 -20.596 -78.503  1.00 16.58           C
ATOM   2579  O   THR D 363      53.979 -19.417 -78.232  1.00 15.75           O
ATOM   2580  N   VAL D 364      53.996 -21.161 -79.670  1.00 13.70           N
ATOM   2581  CA  VAL D 364      54.587 -20.387 -80.772  1.00 16.04           C
ATOM   2582  CB  VAL D 364      56.089 -20.741 -80.988  1.00 15.95           C
ATOM   2583  CG1 VAL D 364      56.897 -20.448 -79.721  1.00 15.03           C
ATOM   2584  CG2 VAL D 364      56.270 -22.203 -81.384  1.00 14.84           C
ATOM   2585  C   VAL D 364      53.792 -20.600 -82.062  1.00 13.81           C
ATOM   2586  O   VAL D 364      53.202 -21.687 -82.287  1.00 12.28           O
ATOM   2587  N   TYR D 365      53.810 -19.579 -82.938  1.00 15.53           N
ATOM   2588  CA  TYR D 365      53.052 -19.662 -84.210  1.00 13.43           C
ATOM   2589  CB  TYR D 365      52.924 -18.280 -84.849  1.00 12.13           C
ATOM   2590  CG  TYR D 365      51.901 -17.385 -84.178  1.00 14.12           C
ATOM   2591  CD1 TYR D 365      50.544 -17.768 -84.110  1.00 13.77           C
ATOM   2592  CE1 TYR D 365      49.583 -16.926 -83.512  1.00 15.10           C
ATOM   2593  CZ  TYR D 365      49.991 -15.687 -82.984  1.00 15.49           C
ATOM   2594  OH  TYR D 365      49.053 -14.874 -82.375  1.00 17.24           O
ATOM   2595  CE2 TYR D 365      51.329 -15.292 -83.029  1.00 15.81           C
ATOM   2596  CD2 TYR D 365      52.285 -16.159 -83.623  1.00 14.04           C
ATOM   2597  C   TYR D 365      53.751 -20.598 -85.186  1.00 14.61           C
ATOM   2598  O   TYR D 365      53.100 -21.239 -86.010  1.00 15.23           O
ATOM   2599  N   LYS D 366      55.079 -20.683 -85.073  1.00 14.91           N
ATOM   2600  CA  LYS D 366      55.887 -21.352 -86.074  1.00 14.82           C
ATOM   2601  CB  LYS D 366      56.450 -20.314 -87.095  1.00 16.70           C
ATOM   2602  CG  LYS D 366      55.437 -19.735 -88.084  1.00 15.41           C
ATOM   2603  CD  LYS D 366      55.220 -20.782 -89.186  1.00 19.20           C
ATOM   2604  CE  LYS D 366      54.120 -20.437 -90.153  1.00 22.48           C
ATOM   2605  NZ  LYS D 366      54.054 -21.571 -91.138  1.00 15.78           N
ATOM   2606  C   LYS D 366      57.072 -22.039 -85.389  1.00 14.61           C
ATOM   2607  O   LYS D 366      57.672 -21.493 -84.455  1.00 16.82           O
ATOM   2608  N   ALA D 367      57.449 -23.187 -85.915  1.00 14.78           N
ATOM   2609  CA  ALA D 367      58.594 -23.932 -85.397  1.00 14.44           C
ATOM   2610  CB  ALA D 367      58.136 -24.894 -84.279  1.00 14.74           C
ATOM   2611  C   ALA D 367      59.243 -24.692 -86.554  1.00 16.81           C
ATOM   2612  O   ALA D 367      58.651 -24.822 -87.656  1.00 17.10           O
ATOM   2613  N   SER D 368      60.451 -25.187 -86.317  1.00 18.43           N
ATOM   2614  CA  SER D 368      61.260 -25.769 -87.382  1.00 20.30           C
ATOM   2615  CB  SER D 368      62.302 -24.752 -87.867  1.00 19.50           C
ATOM   2616  OG  SER D 368      63.108 -24.309 -86.799  1.00 23.02           O
ATOM   2617  C   SER D 368      61.964 -27.030 -86.888  1.00 16.89           C
ATOM   2618  O   SER D 368      62.204 -27.189 -85.663  1.00 19.11           O
ATOM   2619  N   ASN D 369      62.311 -27.915 -87.826  1.00 18.18           N
ATOM   2620  CA  ASN D 369      63.184 -29.042 -87.511  1.00 20.92           C
ATOM   2621  CB  ASN D 369      64.490 -28.539 -86.867  1.00 17.47           C
ATOM   2622  CG  ASN D 369      65.242 -27.569 -87.763  1.00 23.77           C
ATOM   2623  OD1 ASN D 369      65.672 -26.505 -87.320  1.00 27.54           O
ATOM   2624  ND2 ASN D 369      65.356 -27.914 -89.032  1.00 20.46           N
ATOM   2625  C   ASN D 369      62.512 -30.017 -86.559  1.00 24.80           C
ATOM   2626  O   ASN D 369      63.189 -30.723 -85.792  1.00 25.89           O
ATOM   2627  N   LEU D 370      61.186 -30.019 -86.578  1.00 22.54           N
ATOM   2628  CA  LEU D 370      60.407 -31.016 -85.867  1.00 23.88           C
ATOM   2629  CB  LEU D 370      59.256 -30.351 -85.073  1.00 21.84           C
ATOM   2630  CG  LEU D 370      59.675 -29.438 -83.921  1.00 20.70           C
ATOM   2631  CD1 LEU D 370      58.484 -28.623 -83.428  1.00 17.93           C
ATOM   2632  CD2 LEU D 370      60.274 -30.264 -82.780  1.00 20.54           C
ATOM   2633  C   LEU D 370      59.840 -32.012 -86.855  1.00 24.81           C
ATOM   2634  O   LEU D 370      59.453 -31.667 -87.978  1.00 25.01           O
ATOM   2635  N   ASN D 371      59.785 -33.254 -86.415  1.00 22.93           N
ATOM   2636  CA  ASN D 371      59.143 -34.298 -87.144  1.00 23.87           C
ATOM   2637  CB  ASN D 371      60.106 -35.481 -87.255  1.00 30.34           C
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ATOM   2638  CG  ASN D 371      59.485 -36.667 -87.924  1.00 39.88           C
ATOM   2639  OD1 ASN D 371      59.054 -36.593 -89.081  1.00 46.83           O
ATOM   2640  ND2 ASN D 371      59.425 -37.774 -87.209  1.00 36.27           N
ATOM   2641  C   ASN D 371      57.855 -34.718 -86.400  1.00 22.49           C
ATOM   2642  O   ASN D 371      57.880 -34.907 -85.183  1.00 24.35           O
ATOM   2643  N   LEU D 372      56.753 -34.839 -87.141  1.00 21.33           N
ATOM   2644  CA  LEU D 372      55.467 -35.233 -86.584  1.00 25.52           C
ATOM   2645  CB  LEU D 372      54.321 -34.605 -87.391  1.00 25.63           C
ATOM   2646  CG  LEU D 372      54.361 -33.071 -87.496  1.00 24.98           C
ATOM   2647  CD1 LEU D 372      53.250 -32.590 -88.396  1.00 24.11           C
ATOM   2648  CD2 LEU D 372      54.244 -32.464 -86.106  1.00 22.99           C
ATOM   2649  C   LEU D 372      55.304 -36.742 -86.549  1.00 26.66           C
ATOM   2650  O   LEU D 372      55.524 -37.412 -87.548  1.00 26.61           O
ATOM   2651  N   ILE D 373      54.868 -37.253 -85.399  1.00 25.93           N
ATOM   2652  CA  ILE D 373      54.582 -38.667 -85.218  1.00 31.55           C
ATOM   2653  CB  ILE D 373      55.196 -39.172 -83.905  1.00 31.48           C
ATOM   2654  CG1 ILE D 373      56.703 -38.984 -83.945  1.00 36.34           C
ATOM   2655  CD1 ILE D 373      57.321 -39.470 -85.244  1.00 39.69           C
ATOM   2656  CG2 ILE D 373      54.823 -40.638 -83.659  1.00 37.28           C
ATOM   2657  C   ILE D 373      53.086 -38.860 -85.125  1.00 33.17           C
ATOM   2658  O   ILE D 373      52.442 -38.242 -84.286  1.00 27.63           O
ATOM   2659  N   GLY D 374      52.529 -39.697 -85.993  1.00 36.46           N
ATOM   2660  CA  GLY D 374      51.115 -40.081 -85.880  1.00 39.38           C
ATOM   2661  C   GLY D 374      50.116 -39.071 -86.431  1.00 37.90           C
ATOM   2662  O   GLY D 374      50.466 -38.190 -87.226  1.00 35.72           O
ATOM   2663  N   ARG D 375      48.865 -39.212 -86.008  1.00 35.66           N
ATOM   2664  CA  ARG D 375      47.764 -38.390 -86.512  1.00 39.72           C
ATOM   2665  CB  ARG D 375      46.665 -39.284 -87.091  1.00 45.20           C
ATOM   2666  CG  ARG D 375      47.051 -39.986 -88.388  1.00 55.76           C
ATOM   2667  CD  ARG D 375      46.609 -41.445 -88.393  1.00 65.22           C
ATOM   2668  NE  ARG D 375      45.216 -41.611 -87.980  1.00 74.97           N
ATOM   2669  CZ  ARG D 375      44.167 -41.517 -88.797  1.00 81.23           C
ATOM   2670  NH1 ARG D 375      44.340 -41.257 -90.087  1.00 79.15           N
ATOM   2671  NH2 ARG D 375      42.940 -41.686 -88.321  1.00 79.81           N
ATOM   2672  C   ARG D 375      47.214 -37.543 -85.364  1.00 32.34           C
ATOM   2673  O   ARG D 375      47.450 -37.866 -84.186  1.00 31.73           O
ATOM   2674  N   PRO D 376      46.499 -36.441 -85.681  1.00 32.50           N
ATOM   2675  CA  PRO D 376      46.017 -35.605 -84.555  1.00 27.40           C
ATOM   2676  CB  PRO D 376      45.261 -34.473 -85.262  1.00 32.97           C
ATOM   2677  CG  PRO D 376      45.906 -34.376 -86.609  1.00 36.81           C
ATOM   2678  CD  PRO D 376      46.307 -35.780 -86.987  1.00 32.39           C
ATOM   2679  C   PRO D 376      45.067 -36.363 -83.616  1.00 27.51           C
ATOM   2680  O   PRO D 376      44.326 -37.224 -84.056  1.00 32.39           O
ATOM   2681  N   SER D 377      45.073 -36.012 -82.342  1.00 22.19           N
ATOM   2682  CA  SER D 377      44.061 -36.492 -81.432  1.00 24.19           C
ATOM   2683  CB  SER D 377      44.642 -37.593 -80.518  1.00 26.97           C
ATOM   2684  OG  SER D 377      43.698 -37.944 -79.521  1.00 26.58           O
ATOM   2685  C   SER D 377      43.550 -35.351 -80.584  1.00 23.68           C
ATOM   2686  O   SER D 377      44.317 -34.441 -80.234  1.00 21.53           O
ATOM   2687  N   THR D 378      42.271 -35.410 -80.204  1.00 19.26           N
ATOM   2688  CA  THR D 378      41.705 -34.397 -79.301  1.00 21.51           C
ATOM   2689  CB  THR D 378      40.257 -34.006 -79.692  1.00 28.98           C
ATOM   2690  OG1 THR D 378      39.474 -35.186 -79.785  1.00 28.60           O
ATOM   2691  CG2 THR D 378      40.229 -33.298 -81.059  1.00 26.30           C
ATOM   2692  C   THR D 378      41.677 -34.886 -77.859  1.00 22.90           C
ATOM   2693  O   THR D 378      41.363 -34.119 -76.957  1.00 22.50           O
ATOM   2694  N   VAL D 379      42.011 -36.162 -77.651  1.00 24.01           N
ATOM   2695  CA  VAL D 379      41.910 -36.763 -76.315  1.00 24.88           C
ATOM   2696  CB  VAL D 379      42.232 -38.282 -76.366  1.00 26.77           C
ATOM   2697  CG1 VAL D 379      41.924 -38.929 -75.020  1.00 30.28           C
ATOM   2698  CG2 VAL D 379      41.420 -38.961 -77.483  1.00 30.55           C
ATOM   2699  C   VAL D 379      42.851 -36.059 -75.345  1.00 21.36           C
ATOM   2700  O   VAL D 379      44.052 -35.946 -75.619  1.00 23.03           O
ATOM   2701  N   HIS D 380      42.302 -35.601 -74.209  1.00 20.07           N
ATOM   2702  CA  HIS D 380      43.053 -34.884 -73.156  1.00 23.59           C
ATOM   2703  CB  HIS D 380      44.130 -35.769 -72.478  1.00 21.22           C
ATOM   2704  CG  HIS D 380      43.659 -37.163 -72.110  1.00 29.25           C
ATOM   2705  ND1 HIS D 380      42.624 -37.386 -71.282  1.00 33.10           N
ATOM   2706  CE1 HIS D 380      42.449 -38.713 -71.121  1.00 26.61           C
ATOM   2707  NE2 HIS D 380      43.397 -39.345 -71.822  1.00 30.44           N
ATOM   2708  CD2 HIS D 380      44.165 -38.421 -72.451  1.00 32.96           C
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ATOM   2709  C   HIS D 380      43.735 -33.611 -73.629  1.00 26.08           C
ATOM   2710  O   HIS D 380      44.682 -33.152 -72.989  1.00 20.61           O
ATOM   2711  N   SER D 381      43.255 -33.006 -74.715  1.00 24.43           N
ATOM   2712  CA  SER D 381      43.917 -31.802 -75.216  1.00 21.29           C
ATOM   2713  CB  SER D 381      43.274 -31.290 -76.505  1.00 24.58           C
ATOM   2714  OG  SER D 381      43.976 -30.118 -76.959  1.00 24.41           O
ATOM   2715  C   SER D 381      44.030 -30.671 -74.168  1.00 18.56           C
ATOM   2716  O   SER D 381      43.038 -30.283 -73.513  1.00 20.72           O
ATOM   2717  N   TRP D 382      45.217 -30.099 -74.056  1.00 16.61           N
ATOM   2718  CA  TRP D 382      45.439 -28.979 -73.139  1.00 18.86           C
ATOM   2719  CB  TRP D 382      46.919 -28.831 -72.790  1.00 24.08           C
ATOM   2720  CG  TRP D 382      47.498 -30.064 -72.142  1.00 25.00           C
ATOM   2721  CD1 TRP D 382      46.837 -30.979 -71.308  1.00 23.24           C
ATOM   2722  NE1 TRP D 382      47.710 -31.991 -70.905  1.00 25.16           N
ATOM   2723  CE2 TRP D 382      48.949 -31.776 -71.436  1.00 21.93           C
ATOM   2724  CD2 TRP D 382      48.873 -30.544 -72.241  1.00 24.42           C
ATOM   2725  CE3 TRP D 382      50.019 -30.085 -72.877  1.00 26.05           C
ATOM   2726  CZ3 TRP D 382      51.203 -30.831 -72.751  1.00 27.58           C
ATOM   2727  CH2 TRP D 382      51.251 -32.016 -71.983  1.00 29.29           C
ATOM   2728  CZ2 TRP D 382      50.130 -32.499 -71.305  1.00 26.50           C
ATOM   2729  C   TRP D 382      44.919 -27.670 -73.671  1.00 23.15           C
ATOM   2730  O   TRP D 382      44.885 -26.667 -72.945  1.00 22.81           O
ATOM   2731  N   PHE D 383      44.539 -27.664 -74.947  1.00 18.80           N
ATOM   2732  CA  PHE D 383      43.985 -26.458 -75.590  1.00 21.89           C
ATOM   2733  CB  PHE D 383      45.002 -25.888 -76.601  1.00 18.94           C
ATOM   2734  CG  PHE D 383      46.294 -25.453 -75.965  1.00 18.29           C
ATOM   2735  CD1 PHE D 383      46.383 -24.232 -75.291  1.00 21.99           C
ATOM   2736  CE1 PHE D 383      47.582 -23.829 -74.679  1.00 23.29           C
ATOM   2737  CZ  PHE D 383      48.711 -24.643 -74.756  1.00 22.42           C
ATOM   2738  CE2 PHE D 383      48.626 -25.872 -75.404  1.00 21.97           C
ATOM   2739  CD2 PHE D 383      47.431 -26.272 -76.016  1.00 18.10           C
ATOM   2740  C   PHE D 383      42.659 -26.807 -76.253  1.00 20.33           C
ATOM   2741  O   PHE D 383      42.621 -27.267 -77.379  1.00 19.52           O
ATOM   2742  N   PRO D 384      41.551 -26.655 -75.506  1.00 24.45           N
ATOM   2743  CA  PRO D 384      40.237 -27.104 -75.968  1.00 25.86           C
ATOM   2744  CB  PRO D 384      39.286 -26.541 -74.890  1.00 33.13           C
ATOM   2745  CG  PRO D 384      40.137 -26.480 -73.659  1.00 36.86           C
ATOM   2746  CD  PRO D 384      41.486 -26.036 -74.165  1.00 27.74           C
ATOM   2747  C   PRO D 384      39.919 -26.472 -77.318  1.00 23.10           C
ATOM   2748  O   PRO D 384      40.217 -25.298 -77.526  1.00 26.74           O
ATOM   2749  N   GLY D 385      39.410 -27.273 -78.247  1.00 23.86           N
ATOM   2750  CA  GLY D 385      39.190 -26.821 -79.618  1.00 20.87           C
ATOM   2751  C   GLY D 385      40.309 -27.189 -80.557  1.00 19.55           C
ATOM   2752  O   GLY D 385      40.168 -27.041 -81.755  1.00 23.34           O
ATOM   2753  N   TYR D 386      41.445 -27.660 -80.007  1.00 20.31           N
ATOM   2754  CA  TYR D 386      42.586 -28.134 -80.827  1.00 18.04           C
ATOM   2755  CB  TYR D 386      43.843 -27.348 -80.493  1.00 17.22           C
ATOM   2756  CG  TYR D 386      43.759 -25.886 -80.888  1.00 16.50           C
ATOM   2757  CD2 TYR D 386      44.173 -25.472 -82.140  1.00 18.88           C
ATOM   2758  CE2 TYR D 386      44.097 -24.121 -82.519  1.00 16.81           C
ATOM   2759  CZ  TYR D 386      43.602 -23.181 -81.629  1.00 17.04           C
ATOM   2760  OH  TYR D 386      43.526 -21.837 -82.018  1.00 19.56           O
ATOM   2761  CE1 TYR D 386      43.177 -23.560 -80.360  1.00 17.79           C
ATOM   2762  CD1 TYR D 386      43.258 -24.924 -79.994  1.00 18.35           C
ATOM   2763  C   TYR D 386      42.879 -29.605 -80.586  1.00 19.53           C
ATOM   2764  O   TYR D 386      42.698 -30.105 -79.467  1.00 19.82           O
ATOM   2765  N   ALA D 387      43.329 -30.275 -81.638  1.00 17.74           N
ATOM   2766  CA  ALA D 387      43.877 -31.632 -81.562  1.00 20.43           C
ATOM   2767  CB  ALA D 387      43.397 -32.442 -82.745  1.00 16.82           C
ATOM   2768  C   ALA D 387      45.411 -31.545 -81.553  1.00 20.36           C
ATOM   2769  O   ALA D 387      45.972 -30.549 -82.006  1.00 19.86           O
ATOM   2770  N   TRP D 388      46.089 -32.553 -80.987  1.00 19.70           N
ATOM   2771  CA  TRP D 388      47.558 -32.524 -80.886  1.00 18.19           C
ATOM   2772  CB  TRP D 388      48.022 -32.599 -79.426  1.00 20.16           C
ATOM   2773  CG  TRP D 388      47.357 -33.718 -78.650  1.00 21.18           C
ATOM   2774  CD1 TRP D 388      46.235 -33.626 -77.857  1.00 19.17           C
ATOM   2775  NE1 TRP D 388      45.919 -34.867 -77.309  1.00 25.77           N
ATOM   2776  CE2 TRP D 388      46.779 -35.812 -77.737  1.00 22.02           C
ATOM   2777  CD2 TRP D 388      47.747 -35.148 -78.605  1.00 24.52           C
ATOM   2778  CE3 TRP D 388      48.791 -35.900 -79.155  1.00 22.55           C
ATOM   2779  CZ3 TRP D 388      48.853 -37.280 -78.861  1.00 27.56           C
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ATOM   2780  CH2 TRP D 388      47.892 -37.896 -78.021  1.00 27.40           C
ATOM   2781  CZ2 TRP D 388      46.854 -37.172 -77.440  1.00 22.96           C
ATOM   2782  C   TRP D 388      48.157 -33.648 -81.660  1.00 19.88           C
ATOM   2783  O   TRP D 388      47.525 -34.699 -81.836  1.00 20.05           O
ATOM   2784  N   THR D 389      49.362 -33.410 -82.183  1.00 20.25           N
ATOM   2785  CA  THR D 389      50.188 -34.437 -82.821  1.00 20.61           C
ATOM   2786  CB  THR D 389      50.304 -34.183 -84.353  1.00 23.30           C
ATOM   2787  OG1 THR D 389      48.991 -34.110 -84.950  1.00 21.65           O
ATOM   2788  CG2 THR D 389      51.111 -35.320 -85.052  1.00 25.38           C
ATOM   2789  C   THR D 389      51.593 -34.333 -82.175  1.00 20.88           C
ATOM   2790  O   THR D 389      52.158 -33.256 -82.098  1.00 19.77           O
ATOM   2791  N   ILE D 390      52.169 -35.457 -81.730  1.00 20.43           N
ATOM   2792  CA  ILE D 390      53.483 -35.413 -81.073  1.00 18.66           C
ATOM   2793  CB  ILE D 390      53.935 -36.817 -80.566  1.00 21.69           C
ATOM   2794  CG1 ILE D 390      53.078 -37.251 -79.366  1.00 22.22           C
ATOM   2795  CD1 ILE D 390      53.070 -38.773 -79.188  1.00 27.82           C
ATOM   2796  CG2 ILE D 390      55.384 -36.795 -80.141  1.00 22.82           C
ATOM   2797  C   ILE D 390      54.539 -34.885 -82.038  1.00 17.90           C
ATOM   2798  O   ILE D 390      54.549 -35.256 -83.228  1.00 18.74           O
ATOM   2799  N   ALA D 391      55.399 -34.010 -81.524  1.00 16.82           N
ATOM   2800  CA  ALA D 391      56.467 -33.386 -82.327  1.00 20.59           C
ATOM   2801  CB  ALA D 391      56.221 -31.865 -82.438  1.00 20.63           C
ATOM   2802  C   ALA D 391      57.838 -33.662 -81.698  1.00 20.11           C
ATOM   2803  O   ALA D 391      58.111 -33.250 -80.557  1.00 21.13           O
ATOM   2804  N   GLN D 392      58.713 -34.337 -82.456  1.00 20.43           N
ATOM   2805  CA  GLN D 392      60.048 -34.667 -81.977  1.00 22.86           C
ATOM   2806  CB  GLN D 392      60.292 -36.192 -82.076  1.00 21.97           C
ATOM   2807  CG  GLN D 392      60.155 -36.738 -83.484  1.00 27.05           C
ATOM   2808  CD  GLN D 392      60.535 -38.210 -83.597  1.00 36.97           C
ATOM   2809  OE1 GLN D 392      61.045 -38.815 -82.651  1.00 35.40           O
ATOM   2810  NE2 GLN D 392      60.276 -38.787 -84.747  1.00 32.21           N
ATOM   2811  C   GLN D 392      61.098 -33.931 -82.796  1.00 19.30           C
ATOM   2812  O   GLN D 392      60.871 -33.620 -83.945  1.00 20.51           O
ATOM   2813  N   CYS D 393      62.251 -33.679 -82.180  1.00 19.60           N
ATOM   2814  CA  CYS D 393      63.410 -33.116 -82.863  1.00 24.38           C
ATOM   2815  CB  CYS D 393      64.582 -32.989 -81.879  1.00 21.32           C
ATOM   2816  SG  CYS D 393      66.117 -32.301 -82.593  1.00 22.90           S
ATOM   2817  C   CYS D 393      63.781 -34.059 -84.013  1.00 23.15           C
ATOM   2818  O   CYS D 393      63.925 -35.248 -83.802  1.00 25.53           O
ATOM   2819  N   LYS D 394      63.911 -33.534 -85.220  1.00 20.51           N
ATOM   2820  CA  LYS D 394      64.245 -34.399 -86.356  1.00 26.63           C
ATOM   2821  CB  LYS D 394      64.053 -33.679 -87.690  1.00 22.99           C
ATOM   2822  CG  LYS D 394      65.219 -32.758 -88.057  1.00 26.05           C
ATOM   2823  CD  LYS D 394      64.929 -31.954 -89.321  1.00 32.45           C
ATOM   2824  CE  LYS D 394      66.165 -31.181 -89.765  1.00 34.37           C
ATOM   2825  NZ  LYS D 394      65.814 -30.211 -90.828  1.00 32.51           N
ATOM   2826  C   LYS D 394      65.687 -34.947 -86.247  1.00 24.31           C
ATOM   2827  O   LYS D 394      66.012 -35.965 -86.880  1.00 27.33           O
ATOM   2828  N   ILE D 395      66.535 -34.250 -85.481  1.00 22.07           N
ATOM   2829  CA  ILE D 395      67.954 -34.646 -85.329  1.00 30.16           C
ATOM   2830  CB  ILE D 395      68.880 -33.463 -84.944  1.00 32.13           C
ATOM   2831  CG1 ILE D 395      69.018 -32.449 -86.096  1.00 32.56           C
ATOM   2832  CD1 ILE D 395      69.165 -33.047 -87.473  1.00 33.80           C
ATOM   2833  CG2 ILE D 395      70.263 -33.958 -84.490  1.00 30.13           C
ATOM   2834  C   ILE D 395      68.117 -35.777 -84.310  1.00 32.39           C
ATOM   2835  O   ILE D 395      68.687 -36.812 -84.618  1.00 31.83           O
ATOM   2836  N   CYS D 396      67.591 -35.580 -83.111  1.00 22.91           N
ATOM   2837  CA  CYS D 396      67.875 -36.486 -81.989  1.00 24.90           C
ATOM   2838  CB  CYS D 396      68.540 -35.710 -80.849  1.00 26.29           C
ATOM   2839  SG  CYS D 396      67.392 -34.667 -79.902  1.00 26.29           S
ATOM   2840  C   CYS D 396      66.639 -37.254 -81.475  1.00 26.23           C
ATOM   2841  O   CYS D 396      66.746 -38.040 -80.534  1.00 29.29           O
ATOM   2842  N   ALA D 397      65.470 -36.992 -82.071  1.00 22.61           N
ATOM   2843  CA  ALA D 397      64.201 -37.677 -81.709  1.00 25.29           C
ATOM   2844  CB  ALA D 397      64.328 -39.203 -81.848  1.00 25.44           C
ATOM   2845  C   ALA D 397      63.662 -37.305 -80.330  1.00 25.97           C
ATOM   2846  O   ALA D 397      62.674 -37.871 -79.882  1.00 25.29           O
ATOM   2847  N   SER D 398      64.281 -36.329 -79.678  1.00 20.06           N
ATOM   2848  CA  SER D 398      63.770 -35.863 -78.387  1.00 25.85           C
ATOM   2849  CB  SER D 398      64.682 -34.776 -77.817  1.00 26.83           C
ATOM   2850  OG  SER D 398      64.119 -34.158 -76.673  1.00 43.29           O
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ATOM   2851  C   SER D 398      62.339 -35.335 -78.569  1.00 24.41           C
ATOM   2852  O   SER D 398      62.070 -34.595 -79.514  1.00 22.42           O
ATOM   2853  N   HIS D 399      61.411 -35.796 -77.725  1.00 22.73           N
ATOM   2854  CA  HIS D 399      60.027 -35.284 -77.746  1.00 25.25           C
ATOM   2855  CB  HIS D 399      59.090 -36.183 -76.938  1.00 25.16           C
ATOM   2856  CG  HIS D 399      58.789 -37.515 -77.592  1.00 29.41           C
ATOM   2857  ND1 HIS D 399      59.657 -38.141 -78.423  1.00 42.10           N
ATOM   2858  CE1 HIS D 399      59.126 -39.316 -78.823  1.00 32.43           C
ATOM   2859  NE2 HIS D 399      57.922 -39.447 -78.249  1.00 38.99           N
ATOM   2860  CD2 HIS D 399      57.685 -38.364 -77.473  1.00 30.44           C
ATOM   2861  C   HIS D 399      59.979 -33.866 -77.218  1.00 26.07           C
ATOM   2862  O   HIS D 399      60.175 -33.624 -76.026  1.00 26.52           O
ATOM   2863  N   ILE D 400      59.700 -32.912 -78.101  1.00 18.90           N
ATOM   2864  CA  ILE D 400      59.814 -31.492 -77.755  1.00 21.18           C
ATOM   2865  CB  ILE D 400      60.427 -30.671 -78.916  1.00 22.02           C
ATOM   2866  CG1 ILE D 400      61.814 -31.213 -79.280  1.00 26.01           C
ATOM   2867  CD1 ILE D 400      62.851 -30.915 -78.247  1.00 24.92           C
ATOM   2868  CG2 ILE D 400      60.554 -29.183 -78.541  1.00 20.07           C
ATOM   2869  C   ILE D 400      58.462 -30.880 -77.394  1.00 19.50           C
ATOM   2870  O   ILE D 400      58.392 -29.961 -76.573  1.00 22.64           O
ATOM   2871  N   GLY D 401      57.412 -31.381 -78.019  1.00 20.88           N
ATOM   2872  CA  GLY D 401      56.065 -30.843 -77.787  1.00 20.61           C
ATOM   2873  C   GLY D 401      55.094 -31.405 -78.756  1.00 21.00           C
ATOM   2874  O   GLY D 401      55.157 -32.587 -79.080  1.00 20.04           O
ATOM   2875  N   TRP D 402      54.159 -30.558 -79.212  1.00 18.09           N
ATOM   2876  CA  TRP D 402      53.078 -30.991 -80.069  1.00 17.38           C
ATOM   2877  CB  TRP D 402      51.787 -31.276 -79.257  1.00 16.14           C
ATOM   2878  CG  TRP D 402      52.008 -32.297 -78.200  1.00 18.15           C
ATOM   2879  CD1 TRP D 402      51.756 -33.677 -78.286  1.00 19.91           C
ATOM   2880  NE1 TRP D 402      52.167 -34.313 -77.129  1.00 19.11           N
ATOM   2881  CE2 TRP D 402      52.717 -33.402 -76.263  1.00 20.02           C
ATOM   2882  CD2 TRP D 402      52.678 -32.095 -76.923  1.00 17.68           C
ATOM   2883  CE3 TRP D 402      53.191 -30.991 -76.260  1.00 19.50           C
ATOM   2884  CZ3 TRP D 402      53.745 -31.174 -74.980  1.00 23.62           C
ATOM   2885  CH2 TRP D 402      53.787 -32.446 -74.374  1.00 23.72           C
ATOM   2886  CZ2 TRP D 402      53.261 -33.573 -75.000  1.00 21.22           C
ATOM   2887  C   TRP D 402      52.747 -29.932 -81.048  1.00 16.27           C
ATOM   2888  O   TRP D 402      52.825 -28.729 -80.732  1.00 16.67           O
ATOM   2889  N   LYS D 403      52.282 -30.354 -82.200  1.00 17.19           N
ATOM   2890  CA  LYS D 403      51.580 -29.444 -83.110  1.00 18.61           C
ATOM   2891  CB  LYS D 403      51.747 -29.906 -84.534  1.00 19.86           C
ATOM   2892  CG  LYS D 403      51.145 -28.943 -85.534  1.00 22.36           C
ATOM   2893  CD  LYS D 403      51.345 -29.462 -86.962  1.00 23.16           C
ATOM   2894  CE  LYS D 403      51.176 -28.334 -87.968  1.00 30.55           C
ATOM   2895  NZ  LYS D 403      51.137 -28.881 -89.362  1.00 43.90           N
ATOM   2896  C   LYS D 403      50.107 -29.450 -82.767  1.00 18.59           C
ATOM   2897  O   LYS D 403      49.512 -30.511 -82.660  1.00 19.04           O
ATOM   2898  N   PHE D 404      49.518 -28.263 -82.583  1.00 15.85           N
ATOM   2899  CA  PHE D 404      48.099 -28.178 -82.265  1.00 15.88           C
ATOM   2900  CB  PHE D 404      47.846 -27.268 -81.039  1.00 15.01           C
ATOM   2901  CG  PHE D 404      48.173 -27.943 -79.722  1.00 14.42           C
ATOM   2902  CD1 PHE D 404      47.250 -28.799 -79.119  1.00 17.09           C
ATOM   2903  CE1 PHE D 404      47.550 -29.454 -77.920  1.00 16.70           C
ATOM   2904  CZ  PHE D 404      48.807 -29.283 -77.345  1.00 16.21           C
ATOM   2905  CE2 PHE D 404      49.760 -28.466 -77.962  1.00 15.82           C
ATOM   2906  CD2 PHE D 404      49.438 -27.801 -79.151  1.00 15.87           C
ATOM   2907  C   PHE D 404      47.365 -27.655 -83.486  1.00 18.10           C
ATOM   2908  O   PHE D 404      47.786 -26.652 -84.082  1.00 18.76           O
ATOM   2909  N   THR D 405      46.293 -28.346 -83.872  1.00 17.48           N
ATOM   2910  CA  THR D 405      45.537 -27.995 -85.077  1.00 19.83           C
ATOM   2911  CB  THR D 405      45.701 -29.076 -86.157  1.00 22.66           C
ATOM   2912  OG1 THR D 405      45.506 -30.366 -85.553  1.00 23.05           O
ATOM   2913  CG2 THR D 405      47.127 -29.010 -86.766  1.00 22.52           C
ATOM   2914  C   THR D 405      44.053 -27.823 -84.734  1.00 20.90           C
ATOM   2915  O   THR D 405      43.482 -28.622 -83.984  1.00 19.38           O
ATOM   2916  N   ALA D 406      43.451 -26.742 -85.251  1.00 18.26           N
ATOM   2917  CA  ALA D 406      42.106 -26.340 -84.864  1.00 18.56           C
ATOM   2918  CB  ALA D 406      41.778 -24.955 -85.466  1.00 19.38           C
ATOM   2919  C   ALA D 406      41.106 -27.376 -85.353  1.00 18.61           C
ATOM   2920  O   ALA D 406      41.244 -27.899 -86.457  1.00 23.36           O
ATOM   2921  N   THR D 407      40.098 -27.667 -84.542  1.00 21.85           N
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ATOM   2922  CA  THR D 407      39.047 -28.594 -84.974  1.00 22.97           C
ATOM   2923  CB  THR D 407      38.429 -29.381 -83.786  1.00 21.80           C
ATOM   2924  OG1 THR D 407      37.845 -28.469 -82.849  1.00 25.70           O
ATOM   2925  CG2 THR D 407      39.519 -30.175 -83.051  1.00 22.40           C
ATOM   2926  C   THR D 407      37.948 -27.853 -85.776  1.00 32.49           C
ATOM   2927  O   THR D 407      37.209 -28.480 -86.492  1.00 30.54           O
ATOM   2928  N   LYS D 408      37.880 -26.513 -85.654  1.00 25.87           N
ATOM   2929  CA  LYS D 408      36.832 -25.701 -86.364  1.00 28.10           C
ATOM   2930  CB  LYS D 408      35.870 -25.048 -85.355  1.00 32.89           C
ATOM   2931  CG  LYS D 408      34.970 -25.994 -84.585  1.00 36.35           C
ATOM   2932  CD  LYS D 408      34.202 -25.257 -83.497  1.00 48.16           C
ATOM   2933  CE  LYS D 408      32.762 -24.959 -83.914  1.00 63.50           C
ATOM   2934  NZ  LYS D 408      32.634 -23.746 -84.770  1.00 52.08           N
ATOM   2935  C   LYS D 408      37.522 -24.588 -87.181  1.00 30.24           C
ATOM   2936  O   LYS D 408      38.502 -24.005 -86.728  1.00 22.47           O
ATOM   2937  N   LYS D 409      36.963 -24.258 -88.338  1.00 26.45           N
ATOM   2938  CA  LYS D 409      37.560 -23.270 -89.245  1.00 26.90           C
ATOM   2939  CB  LYS D 409      36.853 -23.310 -90.605  1.00 37.47           C
ATOM   2940  CG  LYS D 409      36.642 -24.707 -91.166  1.00 56.31           C
ATOM   2941  CD  LYS D 409      37.459 -24.950 -92.422  1.00 62.22           C
ATOM   2942  CE  LYS D 409      36.731 -25.917 -93.350  1.00 70.53           C
ATOM   2943  NZ  LYS D 409      37.416 -26.054 -94.662  1.00 75.31           N
ATOM   2944  C   LYS D 409      37.509 -21.828 -88.696  1.00 24.58           C
ATOM   2945  O   LYS D 409      38.265 -20.966 -89.135  1.00 28.14           O
ATOM   2946  N   ASP D 410      36.628 -21.570 -87.748  1.00 28.01           N
ATOM   2947  CA  ASP D 410      36.371 -20.172 -87.340  1.00 36.30           C
ATOM   2948  CB  ASP D 410      34.898 -19.976 -86.963  1.00 39.17           C
ATOM   2949  CG  ASP D 410      34.518 -20.716 -85.688  1.00 55.66           C
ATOM   2950  OD1 ASP D 410      35.157 -21.754 -85.375  1.00 51.51           O
ATOM   2951  OD2 ASP D 410      33.593 -20.249 -84.988  1.00 61.91           O
ATOM   2952  C   ASP D 410      37.306 -19.706 -86.202  1.00 36.47           C
ATOM   2953  O   ASP D 410      37.162 -18.592 -85.685  1.00 39.80           O
ATOM   2954  N   MET D 411      38.252 -20.579 -85.824  1.00 31.09           N
ATOM   2955  CA  MET D 411      39.228 -20.315 -84.748  1.00 27.12           C
ATOM   2956  CB  MET D 411      39.606 -21.648 -84.053  1.00 20.71           C
ATOM   2957  CG  MET D 411      38.462 -22.248 -83.261  1.00 33.06           C
ATOM   2958  SD  MET D 411      38.885 -23.835 -82.490  1.00 38.53           S
ATOM   2959  CE  MET D 411      38.689 -25.017 -83.757  1.00 31.10           C
ATOM   2960  C   MET D 411      40.504 -19.665 -85.302  1.00 20.43           C
ATOM   2961  O   MET D 411      40.856 -19.867 -86.470  1.00 20.88           O
ATOM   2962  N   SER D 412      41.224 -18.927 -84.452  1.00 20.52           N
ATOM   2963  CA  SER D 412      42.574 -18.472 -84.801  1.00 19.80           C
ATOM   2964  CB  SER D 412      42.598 -16.993 -85.229  1.00 20.35           C
ATOM   2965  OG  SER D 412      42.148 -16.141 -84.152  1.00 23.08           O
ATOM   2966  C   SER D 412      43.485 -18.768 -83.605  1.00 19.45           C
ATOM   2967  O   SER D 412      43.076 -18.495 -82.454  1.00 17.91           O
ATOM   2968  N   PRO D 413      44.788 -18.912 -83.876  1.00 16.20           N
ATOM   2969  CA  PRO D 413      45.291 -19.597 -85.050  1.00 16.92           C
ATOM   2970  CB  PRO D 413      46.813 -19.674 -84.771  1.00 14.98           C
ATOM   2971  CG  PRO D 413      46.867 -19.942 -83.312  1.00 16.17           C
ATOM   2972  CD  PRO D 413      45.665 -19.185 -82.703  1.00 15.30           C
ATOM   2973  C   PRO D 413      44.695 -20.960 -85.366  1.00 16.13           C
ATOM   2974  O   PRO D 413      44.231 -21.667 -84.470  1.00 17.90           O
ATOM   2975  N   GLN D 414      44.681 -21.305 -86.648  1.00 15.27           N
ATOM   2976  CA  GLN D 414      44.269 -22.633 -87.052  1.00 15.54           C
ATOM   2977  CB  GLN D 414      44.021 -22.669 -88.553  1.00 18.13           C
ATOM   2978  CG  GLN D 414      42.676 -22.057 -88.954  1.00 19.04           C
ATOM   2979  CD  GLN D 414      41.508 -22.881 -88.469  1.00 18.67           C
ATOM   2980  OE1 GLN D 414      40.749 -22.474 -87.590  1.00 24.03           O
ATOM   2981  NE2 GLN D 414      41.388 -24.058 -89.000  1.00 14.78           N
ATOM   2982  C   GLN D 414      45.316 -23.707 -86.658  1.00 18.36           C
ATOM   2983  O   GLN D 414      45.002 -24.892 -86.593  1.00 19.98           O
ATOM   2984  N   LYS D 415      46.549 -23.284 -86.423  1.00 15.11           N
ATOM   2985  CA  LYS D 415      47.615 -24.200 -85.961  1.00 18.74           C
ATOM   2986  CB  LYS D 415      48.321 -24.936 -87.143  1.00 24.21           C
ATOM   2987  CG  LYS D 415      49.397 -24.109 -87.835  1.00 37.45           C
ATOM   2988  CD  LYS D 415      49.753 -24.667 -89.199  1.00 42.17           C
ATOM   2989  CE  LYS D 415      50.241 -23.566 -90.120  1.00 35.40           C
ATOM   2990  NZ  LYS D 415      49.120 -22.642 -90.526  1.00 39.35           N
ATOM   2991  C   LYS D 415      48.613 -23.440 -85.157  1.00 17.77           C
ATOM   2992  O   LYS D 415      48.801 -22.237 -85.359  1.00 16.36           O
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ATOM   2993  N   PHE D 416      49.265 -24.137 -84.224  1.00 15.39           N
ATOM   2994  CA  PHE D 416      50.367 -23.587 -83.499  1.00 13.97           C
ATOM   2995  CB  PHE D 416      49.906 -22.538 -82.432  1.00 13.98           C
ATOM   2996  CG  PHE D 416      49.113 -23.119 -81.306  1.00 13.20           C
ATOM   2997  CD2 PHE D 416      49.755 -23.504 -80.123  1.00 15.38           C
ATOM   2998  CE2 PHE D 416      49.029 -24.072 -79.075  1.00 16.53           C
ATOM   2999  CZ  PHE D 416      47.651 -24.254 -79.196  1.00 17.32           C
ATOM   3000  CE1 PHE D 416      46.995 -23.893 -80.375  1.00 16.12           C
ATOM   3001  CD1 PHE D 416      47.726 -23.325 -81.425  1.00 16.37           C
ATOM   3002  C   PHE D 416      51.126 -24.759 -82.862  1.00 14.27           C
ATOM   3003  O   PHE D 416      50.735 -25.902 -83.039  1.00 15.95           O
ATOM   3004  N   TRP D 417      52.236 -24.445 -82.197  1.00 15.15           N
ATOM   3005  CA  TRP D 417      53.061 -25.453 -81.512  1.00 15.27           C
ATOM   3006  CB  TRP D 417      54.498 -25.364 -82.024  1.00 15.46           C
ATOM   3007  CG  TRP D 417      54.574 -25.549 -83.513  1.00 17.45           C
ATOM   3008  CD1 TRP D 417      54.397 -24.560 -84.514  1.00 17.65           C
ATOM   3009  NE1 TRP D 417      54.476 -25.121 -85.765  1.00 17.37           N
ATOM   3010  CE2 TRP D 417      54.723 -26.465 -85.671  1.00 21.95           C
ATOM   3011  CD2 TRP D 417      54.770 -26.803 -84.239  1.00 18.57           C
ATOM   3012  CE3 TRP D 417      55.027 -28.135 -83.857  1.00 19.07           C
ATOM   3013  CZ3 TRP D 417      55.203 -29.102 -84.867  1.00 20.47           C
ATOM   3014  CH2 TRP D 417      55.174 -28.749 -86.247  1.00 18.03           C
ATOM   3015  CZ2 TRP D 417      54.903 -27.429 -86.669  1.00 19.17           C
ATOM   3016  C   TRP D 417      53.036 -25.216 -80.048  1.00 17.19           C
ATOM   3017  O   TRP D 417      53.240 -24.089 -79.583  1.00 17.21           O
ATOM   3018  N   GLY D 418      52.828 -26.281 -79.288  1.00 15.50           N
ATOM   3019  CA  GLY D 418      52.968 -26.191 -77.839  1.00 17.14           C
ATOM   3020  C   GLY D 418      54.210 -26.945 -77.460  1.00 20.96           C
ATOM   3021  O   GLY D 418      54.272 -28.139 -77.645  1.00 18.76           O
ATOM   3022  N   LEU D 419      55.205 -26.232 -76.952  1.00 17.38           N
ATOM   3023  CA  LEU D 419      56.532 -26.826 -76.722  1.00 17.67           C
ATOM   3024  CB  LEU D 419      57.605 -26.031 -77.436  1.00 17.99           C
ATOM   3025  CG  LEU D 419      57.414 -25.837 -78.932  1.00 21.22           C
ATOM   3026  CD1 LEU D 419      58.557 -25.003 -79.458  1.00 21.28           C
ATOM   3027  CD2 LEU D 419      57.297 -27.193 -79.664  1.00 16.10           C
ATOM   3028  C   LEU D 419      56.855 -26.865 -75.240  1.00 20.53           C
ATOM   3029  O   LEU D 419      56.672 -25.866 -74.509  1.00 21.57           O
ATOM   3030  N   THR D 420      57.386 -28.000 -74.793  1.00 20.09           N
ATOM   3031  CA  THR D 420      57.776 -28.125 -73.392  1.00 19.54           C
ATOM   3032  CB  THR D 420      58.056 -29.600 -73.053  1.00 20.93           C
ATOM   3033  OG1 THR D 420      56.896 -30.364 -73.371  1.00 21.41           O
ATOM   3034  CG2 THR D 420      58.401 -29.767 -71.565  1.00 18.81           C
ATOM   3035  C   THR D 420      59.013 -27.292 -73.140  1.00 19.42           C
ATOM   3036  O   THR D 420      60.060 -27.543 -73.742  1.00 21.87           O
ATOM   3037  N   ARG D 421      58.891 -26.287 -72.256  1.00 19.64           N
ATOM   3038  CA  ARG D 421      59.970 -25.320 -72.011  1.00 22.01           C
ATOM   3039  CB  ARG D 421      59.574 -24.319 -70.937  1.00 28.17           C
ATOM   3040  CG  ARG D 421      58.809 -23.137 -71.455  1.00 42.45           C
ATOM   3041  CD  ARG D 421      58.322 -22.288 -70.303  1.00 48.21           C
ATOM   3042  NE  ARG D 421      57.077 -21.627 -70.645  1.00 49.13           N
ATOM   3043  CZ  ARG D 421      56.950 -20.317 -70.792  1.00 57.75           C
ATOM   3044  NH1 ARG D 421      57.994 -19.527 -70.595  1.00 48.98           N
ATOM   3045  NH2 ARG D 421      55.772 -19.795 -71.111  1.00 56.93           N
ATOM   3046  C   ARG D 421      61.246 -26.010 -71.583  1.00 22.68           C
ATOM   3047  O   ARG D 421      62.319 -25.613 -71.996  1.00 24.46           O
ATOM   3048  N   SER D 422      61.110 -27.049 -70.752  1.00 25.59           N
ATOM   3049  CA  SER D 422      62.278 -27.791 -70.229  1.00 26.45           C
ATOM   3050  CB  SER D 422      61.864 -28.719 -69.063  1.00 23.58           C
ATOM   3051  OG  SER D 422      61.032 -29.789 -69.505  1.00 30.45           O
ATOM   3052  C   SER D 422      63.032 -28.581 -71.313  1.00 24.74           C
ATOM   3053  O   SER D 422      64.146 -29.042 -71.084  1.00 27.42           O
ATOM   3054  N   ALA D 423      62.417 -28.727 -72.495  1.00 25.27           N
ATOM   3055  CA  ALA D 423      63.039 -29.420 -73.621  1.00 24.37           C
ATOM   3056  CB  ALA D 423      61.980 -30.120 -74.487  1.00 23.85           C
ATOM   3057  C   ALA D 423      63.885 -28.474 -74.481  1.00 23.06           C
ATOM   3058  O   ALA D 423      64.510 -28.906 -75.443  1.00 21.86           O
ATOM   3059  N   LEU D 424      63.846 -27.179 -74.173  1.00 23.19           N
ATOM   3060  CA  LEU D 424      64.551 -26.179 -74.976  1.00 25.64           C
ATOM   3061  CB  LEU D 424      63.578 -25.115 -75.495  1.00 19.70           C
ATOM   3062  CG  LEU D 424      62.394 -25.660 -76.338  1.00 25.58           C
ATOM   3063  CD1 LEU D 424      61.387 -24.553 -76.624  1.00 24.39           C
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ATOM   3064  CD2 LEU D 424      62.882 -26.313 -77.638  1.00 25.84           C
ATOM   3065  C   LEU D 424      65.645 -25.485 -74.180  1.00 25.22           C
ATOM   3066  O   LEU D 424      65.543 -25.346 -72.967  1.00 28.72           O
ATOM   3067  N   LEU D 425      66.657 -25.001 -74.885  1.00 25.53           N
ATOM   3068  CA  LEU D 425      67.682 -24.158 -74.280  1.00 32.98           C
ATOM   3069  CB  LEU D 425      69.071 -24.752 -74.471  1.00 35.32           C
ATOM   3070  CG  LEU D 425      69.450 -25.808 -73.446  1.00 42.29           C
ATOM   3071  CD1 LEU D 425      70.929 -26.112 -73.572  1.00 42.56           C
ATOM   3072  CD2 LEU D 425      69.095 -25.346 -72.042  1.00 45.77           C
ATOM   3073  C   LEU D 425      67.629 -22.788 -74.877  1.00 40.87           C
ATOM   3074  O   LEU D 425      67.349 -22.668 -76.088  1.00 33.25           O
ATOM   3075  N   PRO D 426      68.212 -21.810 -74.155  1.00 45.89           N
ATOM   3076  CA  PRO D 426      67.610 -20.786 -73.349  1.00 57.87           C
ATOM   3077  CB  PRO D 426      67.331 -19.679 -74.380  1.00 53.21           C
ATOM   3078  CG  PRO D 426      68.497 -19.824 -75.359  1.00 54.74           C
ATOM   3079  CD  PRO D 426      69.193 -21.159 -75.038  1.00 67.18           C
ATOM   3080  C   PRO D 426      66.365 -21.192 -72.512  1.00 58.45           C
ATOM   3081  O   PRO D 426      65.411 -21.780 -73.041  1.00 48.30           O
ATOM   3082  N   THR D 427      66.441 -20.925 -71.198  1.00 66.40           N
ATOM   3083  CA  THR D 427      65.263 -20.854 -70.308  1.00 67.80           C
ATOM   3084  CB  THR D 427      65.635 -21.203 -68.848  1.00 60.74           C
ATOM   3085  OG1 THR D 427      66.376 -22.426 -68.822  1.00 58.02           O
ATOM   3086  CG2 THR D 427      64.381 -21.351 -67.979  1.00 50.29           C
ATOM   3087  C   THR D 427      64.662 -19.438 -70.333  1.00 71.52           C
ATOM   3088  O   THR D 427      63.487 -19.234 -70.000  1.00 76.83           O
ATOM   3089 ZN    ZN E   1      67.618 -37.228 -59.988  1.00 27.99          ZN
ATOM   3090 ZN    ZN E   2      67.487 -32.570 -80.846  1.00 25.78          ZN
ATOM   3091 ZN    ZN E   3       4.097 -33.368 -62.459  1.00 18.39          ZN
ATOM   3092 ZN    ZN E   4      34.532 -10.753 -66.813  1.00 20.66          ZN
ATOM   3093  O4  SO4 F   1      53.568 -24.050 -89.945  1.00 27.02           O
ATOM   3094  S   SO4 F   1      53.601 -25.374 -90.617  1.00 28.11           S
ATOM   3095  O1  SO4 F   1      53.923 -25.053 -92.001  1.00 32.61           O
ATOM   3096  O2  SO4 F   1      52.338 -26.140 -90.510  1.00 27.60           O
ATOM   3097  O3  SO4 F   1      54.655 -26.234 -90.020  1.00 27.04           O
ATOM   3098  O4  SO4 F   2      50.231 -19.037 -91.853  1.00 34.18           O
ATOM   3099  S   SO4 F   2      50.876 -20.322 -92.143  1.00 26.17           S
ATOM   3100  O1  SO4 F   2      52.110 -20.082 -92.935  1.00 37.87           O
ATOM   3101  O2  SO4 F   2      49.990 -21.173 -92.931  1.00 30.99           O
ATOM   3102  O3  SO4 F   2      51.220 -21.044 -90.914  1.00 29.76           O
ATOM   3103  O4  SO4 F   3      45.129 -18.809 -88.412  1.00 28.56           O
ATOM   3104  S   SO4 F   3      46.195 -19.365 -89.235  1.00 32.81           S
ATOM   3105  O1  SO4 F   3      47.348 -18.420 -89.377  1.00 28.73           O
ATOM   3106  O2  SO4 F   3      45.551 -19.636 -90.540  1.00 49.07           O
ATOM   3107  O3  SO4 F   3      46.830 -20.580 -88.652  1.00 35.57           O
ATOM   3108  O4  SO4 F   4      26.417 -19.462 -52.350  1.00 33.03           O
ATOM   3109  S   SO4 F   4      25.795 -19.828 -53.661  1.00 31.11           S
ATOM   3110  O1  SO4 F   4      26.701 -19.259 -54.691  1.00 31.40           O
ATOM   3111  O2  SO4 F   4      24.383 -19.360 -53.762  1.00 30.81           O
ATOM   3112  O3  SO4 F   4      25.697 -21.229 -53.808  1.00 33.31           O
ATOM   3113  O4  SO4 F   5      32.829 -35.024 -71.669  1.00 57.21           O
ATOM   3114  S   SO4 F   5      32.284 -36.387 -71.587  1.00 60.38           S
ATOM   3115  O1  SO4 F   5      32.659 -37.161 -72.786  1.00 47.81           O
ATOM   3116  O2  SO4 F   5      30.815 -36.320 -71.522  1.00 58.23           O
ATOM   3117  O3  SO4 F   5      32.793 -37.041 -70.361  1.00 51.17           O
ATOM   3118  O4  SO4 F   6      54.372 -44.362 -51.667  1.00 32.99           O
ATOM   3119  S   SO4 F   6      53.289 -45.242 -51.226  1.00 32.65           S
ATOM   3120  O1  SO4 F   6      53.288 -46.499 -52.033  1.00 28.49           O
ATOM   3121  O2  SO4 F   6      52.026 -44.469 -51.301  1.00 35.40           O
ATOM   3122  O3  SO4 F   6      53.486 -45.666 -49.862  1.00 40.91           O
ATOM   3123  O4  SO4 F   7      49.141 -49.576 -49.719  0.33 24.16          O
ATOM   3124  S   SO4 F   7      50.191 -50.555 -50.043  0.33 22.72          S
ATOM   3125  O1  SO4 F   7      51.120 -50.733 -48.908  0.50 26.94          O
ATOM   3126  O2  SO4 F   7      50.930 -50.091 -51.228  0.50 31.15          O
ATOM   3127  O3  SO4 F   7      49.597 -51.873 -50.348  0.50 28.00          O
ATOM   3128  O4  SO4 F   8      39.942 -33.808 -68.999  1.00 80.40          O
ATOM   3129  S   SO4 F   8      39.983 -33.670 -70.474  1.00 72.31          S
ATOM   3130  O1  SO4 F   8      41.339 -33.212 -70.905  1.00 54.52          O
ATOM   3131  O2  SO4 F   8      38.978 -32.671 -70.880  1.00 67.79          O
ATOM   3132  O3  SO4 F   8      39.656 -34.972 -71.101  1.00 57.24          O
ATOM   3133  O1  tha G   1      32.649  -4.810 -46.725  1.00 20.74          O
ATOM   3134  C4  tha G   1      33.736  -4.493 -47.208  1.00 23.72          C
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ATOM   3135  N1  tha G   1      34.439  -3.448 -46.705  1.00 23.58           N
ATOM   3136  C5  tha G   1      35.492  -2.884 -47.320  1.00 27.69           C
ATOM   3137  O2  tha G   1      35.998  -1.826 -46.907  1.00 23.56           O
ATOM   3138  C3  tha G   1      34.313  -5.273 -48.385  1.00 21.17           C
ATOM   3139  C2  tha G   1      35.822  -5.074 -48.482  1.00 22.99           C
ATOM   3140  C1  tha G   1      36.047  -3.586 -48.549  1.00 23.94           C
ATOM   3141  N   tha G   1      37.469  -3.212 -48.671  1.00 33.94           N
ATOM   3142  C6  tha G   1      38.045  -2.668 -49.734  1.00 25.81           C
ATOM   3143  O3  tha G   1      37.260  -2.381 -50.923  1.00 25.24           O
ATOM   3144  C   tha G   1      38.458  -3.251 -47.772  1.00 30.12           C
ATOM   3145  O   tha G   1      38.304  -3.806 -46.444  1.00 26.85           O
ATOM   3146  C12 tha G   1      39.752  -2.707 -48.258  1.00 33.22           C
ATOM   3147  C11 tha G   1      41.013  -2.561 -47.675  1.00 37.87           C
ATOM   3148  C10 tha G   1      42.014  -1.972 -48.458  1.00 32.82           C
ATOM   3149  C9  tha G   1      41.737  -1.564 -49.775  1.00 31.86           C
ATOM   3150  C8  tha G   1      40.457  -1.729 -50.339  1.00 33.36           C
ATOM   3151  C7  tha G   1      39.484  -2.312 -49.541  1.00 31.31           C
ATOM   3152  O1  tha H   1      47.266 -37.534 -66.093  1.00 21.69           O
ATOM   3153  C4  tha H   1      47.832 -36.498 -66.403  1.00 23.28           C
ATOM   3154  N1  tha H   1      47.418 -35.791 -67.471  1.00 24.07           N
ATOM   3155  C5  tha H   1      48.038 -34.697 -67.946  1.00 25.82           C
ATOM   3156  O2  tha H   1      47.583 -34.121 -68.956  1.00 23.16           O
ATOM   3157  C3  tha H   1      49.005 -36.000 -65.601  1.00 19.27           C
ATOM   3158  C2  tha H   1      49.179 -34.474 -65.735  1.00 22.11           C
ATOM   3159  C1  tha H   1      49.293 -34.204 -67.222  1.00 25.56           C
ATOM   3160  N   tha H   1      49.513 -32.791 -67.594  1.00 27.31           N
ATOM   3161  C6  tha H   1      50.591 -32.281 -68.200  1.00 21.40           C
ATOM   3162  O3  tha H   1      51.755 -33.075 -68.500  1.00 22.54           O
ATOM   3163  C   tha H   1      48.664 -31.743 -67.531  1.00 23.73           C
ATOM   3164  O   tha H   1      47.327 -31.806 -66.943  1.00 24.82           O
ATOM   3165  C12 tha H   1      49.203 -30.492 -68.117  1.00 21.03           C
ATOM   3166  C11 tha H   1      48.684 -29.198 -68.256  1.00 25.42           C
ATOM   3167  C10 tha H   1      49.530 -28.263 -68.892  1.00 24.97           C
ATOM   3168  C9  tha H   1      50.830 -28.634 -69.335  1.00 23.71           C
ATOM   3169  C8  tha H   1      51.332 -29.952 -69.185  1.00 21.01           C
ATOM   3170  C7  tha H   1      50.478 -30.849 -68.556  1.00 23.19           C
ATOM   3171  O1  tha I   1      47.337 -31.704 -75.372  1.00 17.69           O
ATOM   3172  C4  tha I   1      47.886 -32.674 -74.932  1.00 22.81           C
ATOM   3173  N1  tha I   1      47.416 -33.311 -73.831  1.00 20.72           N
ATOM   3174  C5  tha I   1      48.035 -34.360 -73.273  1.00 22.00           C
ATOM   3175  O2  tha I   1      47.585 -34.857 -72.231  1.00 24.61           O
ATOM   3176  C3  tha I   1      49.124 -33.205 -75.627  1.00 20.77           C
ATOM   3177  C2  tha I   1      49.281 -34.709 -75.419  1.00 22.13           C
ATOM   3178  C1  tha I   1      49.305 -34.900 -73.916  1.00 23.16           C
ATOM   3179  N   tha I   1      49.465 -36.310 -73.512  1.00 28.08           N
ATOM   3180  C6  tha I   1      50.538 -36.859 -72.935  1.00 25.51           C
ATOM   3181  O3  tha I   1      51.733 -36.112 -72.648  1.00 25.38           O
ATOM   3182  C   tha I   1      48.595 -37.325 -73.536  1.00 27.27           C
ATOM   3183  O   tha I   1      47.256 -37.214 -74.073  1.00 24.97           O
ATOM   3184  C12 tha I   1      49.114 -38.586 -72.942  1.00 28.92           C
ATOM   3185  C11 tha I   1      48.580 -39.847 -72.752  1.00 28.01           C
ATOM   3186  C10 tha I   1      49.425 -40.783 -72.129  1.00 33.52           C
ATOM   3187  C9  tha I   1      50.749 -40.458 -71.733  1.00 30.84           C
ATOM   3188  C8  tha I   1      51.256 -39.167 -71.928  1.00 25.90           C
ATOM   3189  C7  tha I   1      50.400 -38.272 -72.560  1.00 24.13           C
ATOM   3190  O1  tha J   1      24.801 -33.124 -67.097  1.00 20.37           O
ATOM   3191  C4  tha J   1      24.183 -34.100 -67.526  1.00 22.00           C
ATOM   3192  N1  tha J   1      24.716 -34.860 -68.490  1.00 22.11           N
ATOM   3193  C5  tha J   1      24.068 -35.818 -69.151  1.00 25.13           C
ATOM   3194  O2  tha J   1      24.555 -36.342 -70.149  1.00 24.55           O
ATOM   3195  C3  tha J   1      22.816 -34.486 -66.967  1.00 20.11           C
ATOM   3196  C2  tha J   1      22.595 -35.985 -67.165  1.00 23.98           C
ATOM   3197  C1  tha J   1      22.708 -36.249 -68.657  1.00 25.08           C
ATOM   3198  N   tha J   1      22.518 -37.687 -69.024  1.00 26.77           N
ATOM   3199  C6  tha J   1      21.454 -38.222 -69.614  1.00 26.80           C
ATOM   3200  O3  tha J   1      20.327 -37.391 -69.949  1.00 25.74           O
ATOM   3201  C   tha J   1      23.338 -38.734 -68.909  1.00 27.97           C
ATOM   3202  O   tha J   1      24.653 -38.642 -68.325  1.00 30.49           O
ATOM   3203  C12 tha J   1      22.799 -40.010 -69.459  1.00 27.99           C
ATOM   3204  C11 tha J   1      23.300 -41.301 -69.548  1.00 32.96           C
ATOM   3205  C10 tha J   1      22.471 -42.266 -70.154  1.00 37.29           C
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ATOM   3206  C9  tha J   1      21.192 -41.923 -70.640  1.00 31.51           C
ATOM   3207  C8  tha J   1      20.713 -40.608 -70.525  1.00 34.99           C
ATOM   3208  C7  tha J   1      21.563 -39.671 -69.932  1.00 29.61           C
ATOM   3209  O   HOH L   1      15.687 -24.868 -55.044  1.00 18.53           O
ATOM   3210  O   HOH L   2      50.141 -49.492 -55.581  1.00 18.42           O
ATOM   3211  O   HOH L   3      16.276 -16.194 -55.792  1.00 25.79           O
ATOM   3212  O   HOH L   4      24.719 -17.416 -55.839  1.00 18.80           O
ATOM   3213  O   HOH L   5      56.042 -24.139 -88.387  1.00 23.26           O
ATOM   3214  O   HOH L   6      52.369 -23.781 -61.646  1.00 54.74           O
ATOM   3215  O   HOH L   7      55.535 -46.365 -53.456  1.00 22.16           O
ATOM   3216  O   HOH L   8       8.828 -22.635 -58.171  1.00 18.50           O
ATOM   3217  O   HOH L   9      14.988 -21.145 -51.047  1.00 17.77           O
ATOM   3218  O   HOH L  10      62.602 -48.505 -56.129  1.00 24.86           O
ATOM   3219  O   HOH L  11      65.001 -31.563 -76.089  1.00 25.53           O
ATOM   3220  O   HOH L  12      14.130  -8.733 -49.754  1.00 21.34           O
ATOM   3221  O   HOH L  13      23.119 -14.548 -62.918  1.00 20.40           O
ATOM   3222  O   HOH L  14      21.210 -15.286 -50.733  1.00 17.30           O
ATOM   3223  O   HOH L  15      57.259 -13.554 -86.198  1.00 25.37           O
ATOM   3224  O   HOH L  16      24.956 -18.321 -34.540  1.00 38.12           O
ATOM   3225  O   HOH L  19      47.754 -31.698 -84.578  1.00 22.45           O
ATOM   3226  O   HOH L  20      21.030 -21.563 -56.566  1.00 19.08           O
ATOM   3227  O   HOH L  21      71.002 -29.362 -86.145  1.00 36.25           O
ATOM   3228  O   HOH L  22      23.857 -32.982 -58.161  1.00 23.66           O
ATOM   3229  O   HOH L  23       2.875 -25.757 -57.166  1.00 20.01           O
ATOM   3230  O   HOH L  24      32.192 -13.968 -47.044  1.00 25.63           O
ATOM   3231  O   HOH L  26      49.912 -19.759 -74.422  1.00 19.54           O
ATOM   3232  O   HOH L  27      13.373 -28.885 -74.194  1.00 27.49           O
ATOM   3233  O   HOH L  29      48.198 -32.174 -59.017  1.00 29.19           O
ATOM   3234  O   HOH L  30      31.596  -3.197 -71.615  1.00 29.34           O
ATOM   3235  O   HOH L  31      29.564   1.563 -58.456  1.00 31.73           O
ATOM   3236  O   HOH L  32      56.721 -56.721 -56.721  0.33 21.07           O
ATOM   3237  O   HOH L  33      34.576  -4.582 -56.622  1.00 32.80           O
ATOM   3238  O   HOH L  34      52.739 -23.483 -87.327  1.00 35.47           O
ATOM   3239  O   HOH L  35      50.819 -31.948 -58.772  1.00 24.57           O
ATOM   3240  O   HOH L  36      52.449 -22.563 -94.386  1.00 45.59           O
ATOM   3241  O   HOH L  37      56.155 -34.208 -76.897  1.00 24.73           O
ATOM   3242  O   HOH L  38      58.601 -27.291 -69.075  1.00 26.55           O
ATOM   3243  O   HOH L  39      39.518 -32.027 -76.439  1.00 27.86           O
ATOM   3244  O   HOH L  40      20.804  -3.252 -50.008  1.00 22.31           O
ATOM   3245  O   HOH L  41      19.819 -38.478 -66.567  1.00 38.71           O
ATOM   3246  O   HOH L  42      35.862  -6.990 -55.363  1.00 29.01           O
ATOM   3247  O   HOH L  43      23.403 -38.735 -60.658  1.00 32.76           O
ATOM   3248  O   HOH L  44      56.335 -35.307 -63.878  1.00 23.02           O
ATOM   3249  O   HOH L  45      20.683 -39.095 -60.510  1.00 23.74           O
ATOM   3250  O   HOH L  46      47.508 -38.125 -57.069  1.00 30.14           O
ATOM   3251  O   HOH L  47      33.932  -5.710 -64.561  1.00 25.29           O
ATOM   3252  O   HOH L  48      31.829 -31.634 -63.627  1.00 29.57           O
ATOM   3253  O   HOH L  49       6.581 -32.724 -67.282  1.00 16.81           O
ATOM   3254  O   HOH L  50      55.424 -36.395 -75.847  1.00 29.00           O
ATOM   3255  O   HOH L  52      53.938 -18.795 -74.751  1.00 22.50           O
ATOM   3256  O   HOH L  53      29.550 -19.261 -53.836  1.00 28.96           O
ATOM   3257  O   HOH L  54      38.663  -5.963 -51.096  1.00 36.07           O
ATOM   3258  O   HOH L  55      30.627  -7.838 -39.456  1.00 30.12           O
ATOM   3259  O   HOH L  56      62.560 -58.143 -63.161  1.00 40.85           O
ATOM   3260  O   HOH L  57      22.691 -21.161 -68.558  1.00 21.56           O
ATOM   3261  O   HOH L  58      32.005 -19.832 -60.629  1.00 24.94           O
ATOM   3262  O   HOH L  59      50.865 -37.985 -81.995  1.00 30.20           O
ATOM   3263  O   HOH L  60      57.411 -32.713 -74.573  1.00 27.14           O
ATOM   3264  O   HOH L  62      65.431 -37.990 -65.124  1.00 26.53           O
ATOM   3265  O   HOH L  63      15.410 -35.574 -65.857  1.00 26.67           O
ATOM   3266  O   HOH L  64      22.259 -23.786 -52.561  1.00 27.79           O
ATOM   3267  O   HOH L  65      -0.586 -30.232 -70.323  1.00 23.86           O
ATOM   3268  O   HOH L  66      30.833 -38.965 -60.588  1.00 38.45           O
ATOM   3269  O   HOH L  67      38.890 -27.652 -90.787  1.00 43.26           O
ATOM   3270  O   HOH L  68      14.621 -34.144 -68.435  1.00 27.37           O
ATOM   3271  O   HOH L  69      55.315 -32.985 -64.970  1.00 32.04           O
ATOM   3272  O   HOH L  70      39.917  -5.867 -64.037  1.00 37.19           O
ATOM   3273  O   HOH L  71      59.042 -30.597 -67.840  1.00 49.83           O
ATOM   3274  O   HOH L  72      39.956 -30.167 -78.435  1.00 26.40           O
ATOM   3275  O   HOH L  73      38.715 -12.185 -49.915  1.00 26.98           O
ATOM   3276  O   HOH L  74      34.733 -25.884 -89.162  1.00 44.84           O
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ATOM   3277  O   HOH L  75      14.793 -10.253 -55.318  1.00 25.87           O
ATOM   3278  O   HOH L  76      43.257 -19.289 -71.654  1.00 35.85           O
ATOM   3279  O   HOH L  77      54.191 -29.019 -89.699  1.00 26.10           O
ATOM   3280  O   HOH L  78      56.049 -35.127 -73.022  1.00 40.71           O
ATOM   3281  O   HOH L  79      53.602 -50.162 -67.499  1.00 25.66           O
ATOM   3282  O   HOH L  81      19.392  -5.729 -67.548  1.00 50.36           O
ATOM   3283  O   HOH L  82      48.086 -37.600 -81.927  1.00 33.03           O
ATOM   3284  O   HOH L  83      33.928 -23.343 -87.740  1.00 43.29           O
ATOM   3285  O   HOH L  84      45.337 -54.283 -68.061  1.00 24.25           O
ATOM   3286  O   HOH L  85      40.008 -26.253 -88.773  1.00 32.15           O
ATOM   3287  O   HOH L  86      62.007 -37.583 -75.462  1.00 30.26           O
ATOM   3288  O   HOH L  87      26.924 -15.979 -68.699  1.00 22.27           O
ATOM   3289  O   HOH L  88      54.758 -54.758 -54.758  0.33 29.36           O
ATOM   3290  O   HOH L  89       4.211 -18.498 -58.358  1.00 29.69           O
ATOM   3291  O   HOH L  90      19.606 -14.751 -67.753  1.00 25.57           O
ATOM   3292  O   HOH L  91      55.344 -17.358 -73.069  1.00 39.29           O
ATOM   3293  O   HOH L  92      15.205  -2.801 -46.301  1.00 27.99           O
ATOM   3294  O   HOH L  94      62.815 -11.784 -80.085  1.00 48.21           O
ATOM   3295  O   HOH L  95      67.361 -18.113 -86.396  1.00 29.05           O
ATOM   3296  O   HOH L  96      16.186 -37.729 -66.798  1.00 29.22           O
ATOM   3297  O   HOH L  97      16.017 -13.618 -64.796  1.00 31.48           O
ATOM   3298  O   HOH L  98       8.144 -38.224 -57.733  1.00 31.35           O
ATOM   3299  O   HOH L  99      55.048 -51.828 -69.233  1.00 37.02           O
ATOM   3300  O   HOH L 100      69.818 -53.683 -61.252  1.00 48.96           O
ATOM   3301  O   HOH L 101      66.240 -27.453 -70.201  1.00 44.37           O
ATOM   3302  O   HOH L 102      31.341 -16.062 -42.771  1.00 38.42           O
ATOM   3303  O   HOH L 103      72.208 -29.557 -72.934  1.00 33.19           O
ATOM   3304  O   HOH L 104      23.266 -42.575 -57.325  1.00 46.63           O
ATOM   3305  O   HOH L 105      25.859 -27.605 -53.579  1.00 34.86           O
ATOM   3306  O   HOH L 106      70.231 -16.418 -80.824  1.00 42.25           O
ATOM   3307  O   HOH L 107      58.669 -13.001 -77.376  1.00 32.45           O
ATOM   3308  O   HOH L 109      40.445 -38.004 -67.661  1.00 37.07           O
ATOM   3309  O   HOH L 110      17.351 -14.704 -61.888  1.00 24.50           O
ATOM   3310  O   HOH L 111       2.094 -17.036 -63.913  1.00 38.85           O
ATOM   3311  O   HOH L 112      33.007   0.435 -69.383  1.00 47.08           O
ATOM   3312  O   HOH L 113      38.233 -11.754 -47.081  1.00 29.21           O
ATOM   3313  O   HOH L 114      30.240 -20.982 -62.176  1.00 33.07           O
ATOM   3314  O   HOH L 115      59.000 -41.676 -72.417  1.00 38.40           O
ATOM   3315  O   HOH L 116      19.994 -18.861 -69.408  1.00 32.79           O
ATOM   3316  O   HOH L 117      27.959 -32.428 -55.745  1.00 31.40           O
ATOM   3317  O   HOH L 118      41.831 -45.805 -65.492  1.00 37.37           O
ATOM   3318  O   HOH L 119      39.227  -5.519 -61.376  1.00 26.62           O
ATOM   3319  O   HOH L 120      43.399 -31.422 -86.723  1.00 41.65           O
ATOM   3320  O   HOH L 121      40.759 -31.942 -59.751  1.00 33.49           O
ATOM   3321  O   HOH L 122      38.990 -18.743 -56.566  1.00 37.57           O
ATOM   3322  O   HOH L 124      34.180 -28.803 -83.172  1.00 66.36           O
ATOM   3323  O   HOH L 125      22.157 -34.743 -55.043  1.00 36.26           O
ATOM   3324  O   HOH L 126      23.554 -28.381 -52.885  1.00 36.67           O
ATOM   3325  O   HOH L 127      49.603 -49.326 -67.804  1.00 30.26           O
ATOM   3326  O   HOH L 128      49.184 -33.675 -87.620  1.00 40.57           O
ATOM   3327  O   HOH L 129      46.134 -24.500 -91.071  1.00 54.77           O
ATOM   3328  O   HOH L 131      34.363 -21.085 -61.021  1.00 39.28           O
ATOM   3329  O   HOH L 132       5.001 -18.000 -67.452  1.00 48.23           O
ATOM   3330  O   HOH L 133      41.393 -51.695 -53.867  1.00 33.74           O
ATOM   3331  O   HOH L 134      57.460 -36.666 -66.273  1.00 26.39           O
ATOM   3332  O   HOH L 135      54.206 -56.313 -60.809  1.00 30.48           O
ATOM   3333  O   HOH L 136      56.422 -12.436 -79.243  1.00 26.12           O
ATOM   3334  O   HOH L 137      32.210  -2.412 -75.847  1.00 36.07           O
ATOM   3335  O   HOH L 138      -1.794 -33.617 -68.497  1.00 31.48           O
ATOM   3336  O   HOH L 139      19.335  -1.722 -55.280  1.00 39.05           O
ATOM   3337  O   HOH L 140      31.331 -15.482 -70.862  1.00 29.93           O
ATOM   3338  O   HOH L 141       9.905 -31.642 -53.142  1.00 27.94           O
ATOM   3339  O   HOH L 142       8.821 -24.376 -71.208  1.00 29.89           O
ATOM   3340  O   HOH L 143      63.042 -46.222 -69.149  1.00 38.30           O
ATOM   3341  O   HOH L 144      17.345 -42.282 -55.006  1.00 44.34           O
ATOM   3342  O   HOH L 145      55.020 -38.474 -69.945  1.00 34.61           O
ATOM   3343  O   HOH L 146      18.450 -20.692 -68.957  1.00 30.72           O
ATOM   3344  O   HOH L 147      42.077 -23.300 -76.781  1.00 32.86           O
ATOM   3345  O   HOH L 148      58.625 -39.090 -81.652  1.00 60.70           O
ATOM   3346  O   HOH L 149      51.531 -24.281 -69.517  1.00 34.26           O
ATOM   3347  O   HOH L 151      45.150 -26.535 -89.054  1.00 34.72           O
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ATOM   3348  O   HOH L 152      31.499 -19.040 -49.210  1.00 38.16           O
ATOM   3349  O   HOH L 153      37.891  -6.083 -54.755  1.00 33.57           O
ATOM   3350  O   HOH L 154      66.988 -52.671 -55.719  1.00 30.81           O
ATOM   3351  O   HOH L 155      45.069 -27.121 -68.805  1.00 40.12           O
ATOM   3352  O   HOH L 156       3.210 -14.373 -61.150  1.00 38.71           O
ATOM   3353  O   HOH L 157      39.664  -3.492 -58.805  1.00 45.72           O
ATOM   3354  O   HOH L 159      53.595 -54.245 -69.104  1.00 43.37           O
ATOM   3355  O   HOH L 160      54.828 -13.631 -82.091  1.00 26.33           O
ATOM   3356  O   HOH L 161      20.814 -25.479 -74.702  1.00 58.61           O
ATOM   3357  O   HOH L 163      19.228 -25.990 -77.787  1.00 48.48           O
ATOM   3358  O   HOH L 164      67.264 -15.888 -77.412  1.00 48.33           O
ATOM   3359  O   HOH L 165      42.006 -18.352 -88.476  1.00 33.63           O
ATOM   3360  O   HOH L 166      25.933 -17.844 -39.812  1.00 31.78           O
ATOM   3361  O   HOH L 167      37.206 -24.371 -53.780  1.00 39.40           O
ATOM   3362  O   HOH L 168      37.999 -11.068 -39.807  1.00 42.75           O
ATOM   3363  O   HOH L 169      73.344 -30.963 -82.523  1.00 40.49           O
ATOM   3364  O   HOH L 170      36.362 -26.893 -52.369  1.00 36.87           O
ATOM   3365  O   HOH L 171      62.308 -32.498 -65.409  1.00 37.46           O
ATOM   3366  O   HOH L 172      17.254 -31.252 -71.362  1.00 33.43           O
ATOM   3367  O   HOH L 173      40.001 -39.056 -63.160  1.00 31.88           O
ATOM   3368  O   HOH L 174      49.625 -34.552 -52.605  1.00 44.94           O
ATOM   3369  O   HOH L 176      20.609  -3.320 -53.976  1.00 31.97           O
ATOM   3370  O   HOH L 177      39.607 -36.067 -73.555  1.00 39.96           O
ATOM   3371  O   HOH L 179      40.911 -37.582 -81.155  1.00 42.56           O
ATOM   3372  O   HOH L 180      32.366  -5.642 -39.007  1.00 37.50           O
ATOM   3373  O   HOH L 181      38.412 -18.866 -63.601  1.00 46.78           O
ATOM   3374  O   HOH L 183      23.962  -5.949 -41.743  1.00 38.92           O
ATOM   3375  O   HOH L 184      38.101 -18.926 -51.774  1.00 42.05           O
ATOM   3376  O   HOH L 185      33.742 -17.263 -48.603  1.00 40.25           O
ATOM   3377  O   HOH L 186      61.142 -31.392 -90.072  1.00 28.73           O
ATOM   3378  O   HOH L 187      37.584 -16.568 -42.204  1.00 53.14           O
ATOM   3379  O   HOH L 189      40.534 -31.244 -73.750  1.00 32.02           O
ATOM   3380  O   HOH L 190      13.600 -39.173 -54.119  1.00 40.73           O
ATOM   3381  O   HOH L 192      48.744 -41.484 -84.299  1.00 40.90           O
ATOM   3382  O   HOH L 193      30.427 -24.885 -65.755  1.00 35.31           O
ATOM   3383  O   HOH L 194      31.790  -3.373 -39.852  1.00 35.52           O
ATOM   3384  O   HOH L 195      39.482 -49.661 -51.476  1.00 43.93           O
ATOM   3385  O   HOH L 197      67.361 -52.465 -64.836  1.00 43.12           O
ATOM   3386  O   HOH L 198       3.320 -34.365 -70.523  1.00 31.27           O
ATOM   3387  O   HOH L 199      37.825 -39.366 -61.254  1.00 43.02           O
ATOM   3388  O   HOH L 200      38.849 -36.273 -77.550  1.00 42.21           O
ATOM   3389  O   HOH L 201      65.151 -25.188 -70.176  1.00 37.38           O
ATOM   3390  O   HOH L 203      18.713 -38.229 -53.728  1.00 49.01           O
ATOM   3391  O   HOH L 206      34.839 -22.018 -82.723  1.00 50.80           O
ATOM   3392  O   HOH L 207      42.650 -25.189 -90.764  1.00 44.63           O
ATOM   3393  O   HOH L 208       4.356 -15.540 -63.217  1.00 38.03           O
ATOM   3394  O   HOH L 209      43.320 -38.463 -54.937  1.00 44.13           O
ATOM   3395  O   HOH L 211      76.029 -28.331 -85.901  1.00 57.13           O
ATOM   3396  O   HOH L 212      56.366 -26.141 -65.497  1.00 39.95           O
ATOM   3397  O   HOH L 213       9.305 -38.562 -67.431  1.00 36.28           O
ATOM   3398  O   HOH L 214      13.767  -7.728 -63.610  1.00 42.90           O
ATOM   3399  O   HOH L 215      41.452 -36.154 -70.496  1.00 37.07           O
ATOM   3400  O   HOH L 216      38.839 -15.497 -61.917  1.00 33.52           O
ATOM   3401  O   HOH L 217       1.308 -33.231 -72.057  1.00 36.29           O
ATOM   3402  O   HOH L 219      49.869 -31.383 -89.375  1.00 44.40           O
ATOM   3403  O   HOH L 220      61.475 -49.641 -72.537  1.00 50.76           O
ATOM   3404  O   HOH L 221      61.166 -39.487 -51.137  1.00 33.15           O
ATOM   3405  O   HOH L 223      21.276 -36.732 -53.795  1.00 48.63           O
ATOM   3406  O   HOH L 224      30.813 -21.851 -51.107  1.00 47.68           O
ATOM   3407  O   HOH L 225      48.521 -21.025 -67.416  1.00 50.19           O
ATOM   3408  O   HOH L 226      18.429 -24.372 -56.098  1.00 39.59           O
ATOM   3409  O   HOH L 227      53.694 -41.460 -87.578  1.00 38.29           O
ATOM   3410  O   HOH L 228      13.969 -14.370 -66.634  1.00 34.12           O
ATOM   3411  O   HOH L 229      40.230 -11.784 -41.009  1.00 49.09           O
ATOM   3412  O   HOH L 230       6.830 -21.656 -74.018  1.00 50.79           O
ATOM   3413  O   HOH L 231       6.370 -30.440 -50.445  1.00 35.75           O
ATOM   3414  O   HOH L 233      47.555 -29.458 -60.157  1.00 35.84           O
ATOM   3415  O   HOH L 234      67.711 -55.008 -63.991  1.00 39.36           O
ATOM   3416  O   HOH L 235      18.254 -37.505 -71.346  1.00 39.21           O
ATOM   3417  O   HOH L 236      50.344 -27.293 -92.014  1.00 47.07           O
ATOM   3418  O   HOH L 237      14.476 -14.568 -69.530  1.00 52.40           O
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ATOM   3419  O   HOH L 238      24.003 -41.225 -61.832  1.00 35.95           O
ATOM   3420  O   HOH L 239      62.939 -22.994 -72.369  1.00 37.23           O
ATOM   3421  O   HOH L 240      15.132 -36.153 -70.002  1.00 37.73           O
ATOM   3422  O   HOH L 241      37.454  -1.305 -53.238  1.00 38.09           O
ATOM   3423  O   HOH L 242      17.252 -19.234 -70.577  1.00 40.42           O
ATOM   3424  O   HOH L 243       1.304 -38.421 -56.467  1.00 31.41           O
ATOM   3425  O   HOH L 244       8.930 -34.037 -51.990  1.00 37.56           O
ATOM   3426  O   HOH L 245       8.559 -29.551 -51.831  1.00 40.49           O
ATOM   3427  O   HOH L 246      35.787 -20.582 -51.226  1.00 43.29           O
ATOM   3428  O   HOH L 247      34.824  -3.225 -65.250  1.00 31.64           O
ATOM   3429  O   HOH L 248      22.672 -16.662 -34.081  1.00 46.02           O
ATOM   3430  O   HOH L 249      75.262 -40.190 -59.792  1.00 41.19           O
ATOM   3431  O   HOH L 250      22.962   0.248 -57.829  1.00 40.96           O
ATOM   3432  O   HOH L 251      25.981   0.591 -71.688  0.50 24.89           O
ATOM   3433  O   HOH L 252      63.706 -56.018 -57.061  1.00 30.50           O
ATOM   3434  O   HOH L 253      54.040 -33.292 -69.581  1.00 41.72           O
ATOM   3435  O   HOH L 254      31.642  -1.034 -54.424  1.00 40.44           O
ATOM   3436  O   HOH L 255      31.894 -32.875 -68.582  1.00 38.12           O
ATOM   3437  O   HOH L 256      64.430 -30.335 -93.014  1.00 36.75           O
ATOM   3438  O   HOH L 257      51.606 -48.445 -47.516  1.00 35.56           O
ATOM   3439  O   HOH L 258      14.775  -5.738 -59.449  1.00 41.76           O
ATOM   3440  O   HOH L 259      41.671 -49.537 -61.972  1.00 37.02           O
ATOM   3441  O   HOH L 260      31.930 -51.902 -57.220  1.00 41.09           O
ATOM   3442  O   HOH L 318      40.656 -10.643 -46.436  1.00 48.66           O
ATOM   3443  O   HOH L 319      36.632 -32.374 -81.505  1.00 43.88           O
ATOM   3444  O   HOH L 320      68.355 -33.475 -72.601  1.00 39.03           O
ATOM   3445  O   HOH L 321      20.142 -19.865 -40.472  1.00 43.62           O
ATOM   3446  O   HOH L 322      55.509 -21.896 -63.050  1.00 61.99           O
ATOM   3447  O   HOH L 323      44.019 -45.006 -69.659  1.00 41.56           O
ATOM   3448  O   HOH L 324      48.406 -28.659 -56.758  1.00 35.63           O
ATOM   3449  O   HOH L 325      22.016 -11.423 -35.128  1.00 42.67           O
ATOM   3450  O   HOH L 328      38.454 -17.463 -69.431  1.00 42.17           O
ATOM   3451  O   HOH L 329      61.742 -31.652 -71.038  1.00 44.53           O
ATOM   3452  O   HOH L 330      42.263 -40.186 -81.271  1.00 48.24           O
ATOM   3453  O   HOH L 331      49.976 -26.005 -71.185  1.00 47.01           O
ATOM   3454  O   HOH L 333      26.720 -18.070 -44.965  1.00 47.61           O
ATOM   3455  O   HOH L 335      43.194 -28.288 -88.825  1.00 55.66           O
ATOM   3456  O   HOH L 336      66.480 -36.523 -76.859  1.00 58.80           O
ATOM   3457  O   HOH L 337      35.490 -19.711 -90.890  1.00 47.63           O
ATOM   3458  O   HOH L 338      39.878 -37.252 -65.509  1.00 46.45           O
ATOM   3459  O   HOH L 340      62.966 -32.900 -55.399  1.00 37.54           O
ATOM   3460  O   HOH L 341      31.868  -4.880 -77.701  1.00 39.79           O
ATOM   3461  O   HOH L 342      36.203  -3.882 -61.128  1.00 39.23           O
ATOM   3462  O   HOH L 343      42.685  -0.657 -42.764  1.00 43.15           O
ATOM   3463  O   HOH L 344      40.818  -5.215 -45.096  1.00 56.07           O
ATOM   3464  O   HOH L 346      66.722 -22.108 -81.794  1.00 56.72           O
ATOM   3465  O   HOH L 348      55.966 -41.575 -79.472  1.00 49.96           O
ATOM   3466  O   HOH L 349      44.585 -60.475 -75.365  1.00 48.56           O
ATOM   3467  O   HOH L 350      28.321 -18.140 -42.798  1.00 48.85           O
ATOM   3468  O   HOH L 351      36.711 -12.525 -69.413  1.00 62.02           O
ATOM   3469  O   HOH L 352      23.475  -1.669 -44.351  1.00 50.11           O
ATOM   3470  O   HOH L 353      32.683 -34.482 -74.566  1.00 42.64           O
ATOM   3471  O   HOH L 354      42.598 -42.479 -53.181  1.00 54.04           O
ATOM   3472  O   HOH L 355      45.226 -27.496 -59.852  1.00 56.54           O
ATOM   3473  O   HOH L 356      48.705 -23.071 -71.479  1.00 42.28           O
ATOM   3474  O   HOH L 357      64.200 -40.843 -48.240  1.00 47.71           O
ATOM   3475  O   HOH L 358      42.462 -57.325 -79.655  1.00 55.02           O
ATOM   3476  O   HOH L 359      61.857 -37.082 -49.618  1.00 43.95           O
ATOM   3477  O   HOH L 360      69.801 -49.760 -56.992  1.00 35.21           O
ATOM   3478  O   HOH L 361      25.528 -14.672 -70.983  1.00 47.17           O
ATOM   3479  O   HOH L 362       9.448 -41.468 -63.620  1.00 45.28           O
ATOM   3480  O   HOH L 364      40.318 -20.441 -66.053  1.00 56.41           O
ATOM   3481  O   HOH L 365       7.020 -26.697 -73.127  1.00 44.25           O
ATOM   3482  O   HOH L 367      48.565 -24.330 -92.755  1.00 46.91           O
ATOM   3483  O   HOH L 368      54.933 -30.591 -71.122  1.00 39.83           O
ATOM   3484  O   HOH L 369      47.106 -24.178 -95.234  1.00 60.27           O
ATOM   3485  O   HOH L 370      35.148 -33.345 -60.155  1.00 36.82           O
ATOM   3486  O   HOH L 371      64.203 -11.806 -73.783  1.00 46.01           O
ATOM   3487  O   HOH L 372       2.006 -14.612 -65.015  1.00 51.51           O
ATOM   3488  O   HOH L 373      65.637 -36.074 -74.556  1.00 50.95           O
ATOM   3489  O   HOH L 374      59.802 -38.574 -74.031  1.00 50.58           O
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ATOM   3490  O   HOH L 375      13.879 -38.462 -61.263  1.00 85.18           O
ATOM   3491  O   HOH L 376      61.763 -34.002 -90.900  1.00 39.47           O
ATOM   3492  O   HOH L 378      40.289 -13.680 -42.954  1.00 45.75           O
ATOM   3493  O   HOH L 379      33.129 -28.516 -51.743  1.00 64.82           O
ATOM   3494  O   HOH L 382      42.921 -25.366 -65.742  1.00 57.36           O
ATOM   3495  O   HOH L 383      42.791 -19.175 -74.336  1.00 43.59           O
ATOM   3496  O   HOH L 384      53.243 -34.346 -84.660  1.00 63.91           O
ATOM   3497  O   HOH L 385      25.954   8.497 -50.232  1.00 53.53           O
ATOM   3498  O   HOH L 388      59.804 -31.394 -53.029  1.00 65.02           O
ATOM   3499  O   HOH L 389      50.780 -22.230 -72.760  1.00 33.62           O
ATOM   3500  O   HOH L 390      26.340  -3.601 -60.202  1.00 64.75           O
ATOM   3501  O   HOH L 391      28.129 -25.852 -51.071  1.00 46.50           O
ATOM   3502  O   HOH L 393      14.154  -7.292 -57.036  1.00 36.09           O
ATOM   3503  O   HOH L 397      37.422 -20.224 -46.867  1.00 69.67           O
ATOM   3504  O   HOH L 398      37.165 -35.258 -81.376  1.00 44.63           O
ATOM   3505  O   HOH L 400      22.752  -7.309 -70.576  1.00 53.33           O
ATOM   3506  O   HOH L 401      63.020 -10.241 -71.323  1.00 57.90           O
ATOM   3507  O   HOH L 402      47.411 -48.771 -53.710  1.00 41.80           O
ATOM   3508  O   HOH L 403      25.259 -18.469 -61.248  1.00 52.14           O
ATOM   3509  O   HOH L 406      27.197 -40.973 -58.632  1.00 47.94           O
ATOM   3510  O   HOH L 407      19.218  -2.737 -68.050  1.00 80.35           O
ATOM   3511  O   HOH L 408      34.045 -37.292 -60.300  1.00 48.46           O
ATOM   3512  O   HOH L 409      38.079 -14.004 -48.990  1.00 57.05           O
ATOM   3513  O   HOH L 410      68.493 -23.786 -69.129  1.00 57.46           O
ATOM   3514  O   HOH L 412      35.863 -27.309 -81.341  1.00 57.62           O
ATOM   3515  O   HOH L 413      43.397 -38.381 -88.954  1.00 59.21           O
ATOM   3516  O   HOH L 414      29.038 -25.674 -69.827  1.00 50.18           O
ATOM   3517  O   HOH L 415      38.214 -20.548 -62.410  1.00 47.80           O
ATOM   3518  O   HOH L 416      38.066 -58.766 -76.704  1.00108.60           O
ATOM   3519  O   HOH L 417      40.397 -19.342 -70.694  1.00 50.29           O
ATOM   3520  O   HOH L 418      18.178 -21.139 -78.978  1.00 51.89           O
ATOM   3521  O   HOH L 420      24.201  -9.978 -36.105  1.00 54.93           O
ATOM   3522  O   HOH L 421      34.155 -34.691 -58.438  1.00 43.66           O
ATOM   3523  O   HOH L 422      48.926 -11.244 -62.863  1.00 59.34           O
ATOM   3524  O   HOH L 423      66.056 -32.537 -73.870  1.00 41.33           O
ATOM   3525  O   HOH L 424      12.775 -11.201 -65.750  1.00 58.59           O
ATOM   3526  O   HOH L 425      50.865 -34.999 -61.675  1.00 48.86           O
ATOM   3527  O   HOH L 427      36.098 -18.817 -49.819  1.00 55.72           O
ATOM   3528  O   HOH L 428      42.444 -11.260 -57.047  1.00 48.82           O
ATOM   3529  O   HOH L 429      19.126  -4.696 -70.541  1.00 60.29           O
ATOM   3530  O   HOH L 430      44.422 -20.507 -59.266  1.00 58.82           O
ATOM   3531  O   HOH L 434      41.488 -44.139 -70.800  1.00 45.75           O
ATOM   3532  O   HOH L 435      37.748 -20.285 -58.136  1.00 69.72           O
ATOM   3533  O   HOH L 436       6.736 -37.548 -54.063  1.00 51.47           O
ATOM   3534  O   HOH L 437      40.302 -20.411 -90.763  1.00 48.84           O
ATOM   3535  O   HOH L 438      51.936 -14.318 -74.016  1.00 63.98           O
ATOM   3536  O   HOH L 439      35.775 -42.192 -51.221  1.00 68.50           O
ATOM   3537  O   HOH L 440      31.059 -22.571 -64.147  1.00 41.43           O
ATOM   3538  O   HOH L 441      38.952 -22.237 -59.564  1.00 66.15           O
ATOM   3539  O   HOH L 443      21.653 -21.658 -41.663  1.00 55.01           O
ATOM   3540  O   HOH L 444      45.934 -37.282 -89.854  1.00 77.52           O
ATOM   3541  O   HOH L 445      49.404 -22.222 -95.458  1.00 46.52           O
ATOM   3542  O   HOH L 447      36.141 -17.190 -48.065  1.00 76.63           O
ATOM   3543  O   HOH L 448      43.357  -8.198 -66.460  1.00 44.89           O
ATOM   3544  O   HOH L 450      26.356 -38.679 -52.157  1.00 60.56           O
ATOM   3545  O   HOH L 451      29.155 -44.336 -52.040  1.00 63.24           O
ATOM   3546  O   HOH L 452      12.995 -12.330 -68.262  1.00 47.16           O
ATOM   3547  O   HOH L 453      25.708  -7.592 -35.823  1.00 55.17           O
ATOM   3548  O   HOH L 456      39.290 -48.097 -78.072  1.00 44.75           O
ATOM   3549  O   HOH L 457      39.633 -46.097 -75.983  1.00 55.61           O
ATOM   3550  O   HOH L 458      44.789 -55.609 -78.400  1.00 53.98           O
ATOM   3551  O   HOH L 459      42.624  -5.991 -47.762  1.00 47.34           O
ATOM   3552  O   HOH L 460      27.298 -19.154 -47.330  1.00 49.15           O
ATOM   3553  O   HOH L 461      37.021 -18.360 -71.526  1.00 37.33           O
ATOM   3554  O   HOH L 462      65.590 -31.078 -55.377  1.00 47.85           O
ATOM   3555  O   HOH L 463      33.060 -15.229 -40.224  1.00 50.46           O
ATOM   3556  O   HOH L 464      24.892 -20.182 -48.125  1.00 43.16           O
ATOM   3557  O   HOH L 465      29.460 -41.184 -60.394  1.00 53.06           O
ATOM   3558  O   HOH L 466      37.928 -19.983 -92.336  1.00 51.84           O
ATOM   3559  O   HOH L 467      63.218 -10.543 -75.851  1.00 43.94           O
ATOM   3560  O   HOH L 469      25.231 -42.054 -59.855  1.00 53.14           O
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ATOM   3561  O   HOH L 470      64.008 -10.820 -78.548  1.00 53.06           O
ATOM   3562  O   HOH L 471      47.546 -40.121 -80.753  1.00 44.37           O
ATOM   3563  O   HOH L 472      51.031 -40.891 -81.788  1.00 51.25           O
ATOM   3564  O   HOH L 473      45.074 -43.805 -52.942  1.00 44.56           O
ATOM   3565  O   HOH L 474      47.261 -42.514 -51.929  1.00 51.34           O
ATOM   3566  O   HOH L 475      31.206 -27.290 -53.325  1.00 43.72           O
ATOM   3567  O   HOH L 476      27.504 -20.579 -50.009  1.00 42.93           O
ATOM   3568  O   HOH L 477      33.038 -20.830 -49.848  1.00 41.85           O
ATOM   3569  O   HOH L 478      34.566 -17.368 -41.666  1.00 61.85           O
ATOM   3570  O   HOH L 479      40.793  -8.591 -44.126  1.00 39.32           O
ATOM   3571  O   HOH L 480      47.451 -25.402 -71.374  1.00 36.75           O
ATOM   3572  O   HOH L 481      42.703 -22.365 -74.608  1.00 40.31           O
ATOM   3573  O   HOH L 482      27.821   0.433 -65.034  1.00 37.12           O
ATOM   3574  O   HOH L 483      53.711 -35.490 -71.518  1.00 47.76           O
ATOM   3575  O   HOH L 484      60.386 -43.312 -74.062  1.00 43.55           O
ATOM   3576  O   HOH L 485      55.953 -28.281 -61.541  1.00 50.31           O
END
```

TABLE 6. Atomic coordinates for CRBN:DDB1: Compound B (Human protein)

```
HEADER    ----                                      xx-xxx-xx   xxxx
COMPND    ---
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM     : REFMAC 5.8.0107
REMARK   3   AUTHORS     : MURSHUDOV,SKUBAK,LEBEDEV,PANNU,
REMARK   3                 STEINER,NICHOLLS,WINN,LONG,VAGIN
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   3.05
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  50.01
REMARK   3   DATA CUTOFF            (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.88
REMARK   3   NUMBER OF REFLECTIONS             :   44722
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD          : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION  : RANDOM
REMARK   3   R VALUE     (WORKING + TEST SET) : 0.19939
REMARK   3   R VALUE            (WORKING SET) :  0.19552
REMARK   3   FREE R VALUE                     :  0.27388
REMARK   3   FREE R VALUE TEST SET SIZE   (%) :  5.0
REMARK   3   FREE R VALUE TEST SET COUNT      :  2360
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED           :      20
REMARK   3   BIN RESOLUTION RANGE HIGH           :    3.050
REMARK   3   BIN RESOLUTION RANGE LOW            :    3.129
REMARK   3   REFLECTION IN BIN     (WORKING SET) :     3217
REMARK   3   BIN COMPLETENESS (WORKING+TEST) (%) :    99.24
REMARK   3   BIN R VALUE           (WORKING SET) :    0.338
REMARK   3   BIN FREE R VALUE SET COUNT          :      170
REMARK   3   BIN FREE R VALUE                    :    0.367
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   ALL ATOMS                :    11203
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT           (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  66.267
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) :    -1.58
REMARK   3    B22 (A**2) :     0.92
REMARK   3    B33 (A**2) :     0.66
REMARK   3    B12 (A**2) :     0.00
REMARK   3    B13 (A**2) :     0.00
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REMARK   3    B23 (A**2) :     0.00
REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                              (A): NULL
REMARK   3   ESU BASED ON FREE R VALUE                         (A):   0.425
REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                   (A):   0.318
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):  37.619
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.932
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.889
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES        COUNT    RMS    WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS        (A): 11426 ; 0.018 ; 0.019
REMARK   3   BOND LENGTHS OTHERS               (A): 10793 ; 0.002 ; 0.020
REMARK   3   BOND ANGLES REFINED ATOMS   (DEGREES): 15525 ; 2.170 ; 1.960
REMARK   3   BOND ANGLES OTHERS          (DEGREES): 24721 ; 1.198 ; 2.998
REMARK   3   TORSION ANGLES, PERIOD 1    (DEGREES):  1438 ;10.001 ; 5.000
REMARK   3   TORSION ANGLES, PERIOD 2    (DEGREES):   479 ;38.842 ;24.509
REMARK   3   TORSION ANGLES, PERIOD 3    (DEGREES):  1885 ;21.358 ;15.000
REMARK   3   TORSION ANGLES, PERIOD 4    (DEGREES):    54 ;21.493 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS       (A**3):  1806 ; 0.120 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS      (A): 12897 ; 0.010 ; 0.021
REMARK   3   GENERAL PLANES OTHERS             (A):  2546 ; 0.002 ; 0.020
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.     COUNT   RMS    WEIGHT
REMARK   3   MAIN-CHAIN BOND REFINED ATOMS  (A**2):  5800 ; 4.224 ; 6.618
REMARK   3   MAIN-CHAIN BOND OTHER ATOMS    (A**2):  5799 ; 4.220 ; 6.618
REMARK   3   MAIN-CHAIN ANGLE REFINED ATOMS (A**2):  7222 ; 6.795 ; 9.915
REMARK   3   MAIN-CHAIN ANGLE OTHER ATOMS (A**2)  :  7223 ; 6.795 ; 9.915
REMARK   3   SIDE-CHAIN BOND REFINED ATOMS  (A**2):  5626 ; 4.335 ; 7.005
REMARK   3   SIDE-CHAIN BOND OTHER ATOMS  (A**2)  :  5625 ; 4.335 ; 7.005
REMARK   3   SIDE-CHAIN ANGLE OTHER ATOMS (A**2)  :  8304 ; 7.018 ;10.352
REMARK   3   LONG RANGE B REFINED ATOMS (A**2)    : 11997 ;10.042 ;51.862
REMARK   3   LONG RANGE B OTHER ATOMS (A**2)      : 11998 ;10.042 ;51.863
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3  TWIN DETAILS
REMARK   3   NUMBER OF TWIN DOMAINS  : NULL
REMARK   3
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :    4
REMARK   3   ATOM RECORD CONTAINS RESIDUAL B FACTORS ONLY
REMARK   3
REMARK   3   TLS GROUP :     1
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   C   249        C   500
REMARK   3    ORIGIN FOR THE GROUP (A):  33.3654  41.9729 -41.4237
REMARK   3    T TENSOR
REMARK   3      T11:   0.1446 T22:   0.0795
REMARK   3      T33:   0.0393 T12:  -0.0516
REMARK   3      T13:   0.0063 T23:   0.0170
REMARK   3    L TENSOR
REMARK   3      L11:   0.7796 L22:   0.8042
REMARK   3      L33:   0.5164 L12:   0.4556
REMARK   3      L13:  -0.5729 L23:  -0.5351
REMARK   3    S TENSOR
REMARK   3      S11:  -0.0778 S12:   0.1035 S13:   0.0076
REMARK   3      S21:   0.0089 S22:   0.0384 S23:  -0.0762
REMARK   3      S31:   0.0871 S32:  -0.0718 S33:   0.0395
REMARK   3
REMARK   3   TLS GROUP :     2
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   C     1        C   186
REMARK   3    ORIGIN FOR THE GROUP (A):  36.5549  48.4341 -20.4615
REMARK   3    T TENSOR
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REMARK   3      T11:   0.1568 T22:   0.0389
REMARK   3      T33:   0.0846 T12:  -0.0032
REMARK   3      T13:  -0.0522 T23:  -0.0273
REMARK   3    L TENSOR
REMARK   3      L11:   0.8462 L22:   0.1050
REMARK   3      L33:   1.7469 L12:   0.2400
REMARK   3      L13:  -0.6199 L23:  -0.3871
REMARK   3    S TENSOR
REMARK   3      S11:  -0.0249 S12:  -0.1579 S13:   0.1794
REMARK   3      S21:  -0.0033 S22:  -0.0303 S23:   0.0248
REMARK   3      S31:   0.0092 S32:   0.0825 S33:   0.0551
REMARK   3
REMARK   3   TLS GROUP :     3
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A   392        A   709
REMARK   3    ORIGIN FOR THE GROUP (A): -51.9624  12.4713 -21.7463
REMARK   3    T TENSOR
REMARK   3      T11:   0.1123 T22:   0.0568
REMARK   3      T33:   0.1861 T12:   0.0446
REMARK   3      T13:   0.0023 T23:  -0.0742
REMARK   3    L TENSOR
REMARK   3      L11:   0.9429 L22:   0.7862
REMARK   3      L33:   0.6826 L12:  -0.0382
REMARK   3      L13:   0.5800 L23:  -0.1420
REMARK   3    S TENSOR
REMARK   3      S11:  -0.2064 S12:  -0.0720 S13:   0.1271
REMARK   3      S21:   0.0658 S22:  -0.0429 S23:   0.1679
REMARK   3      S31:  -0.0799 S32:  -0.0980 S33:   0.2493
REMARK   3
REMARK   3   TLS GROUP :     4
REMARK   3    NUMBER OF COMPONENTS GROUP :    2
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A     1        A   391
REMARK   3    RESIDUE RANGE :   A   710        A  1200
REMARK   3    ORIGIN FOR THE GROUP (A):  -1.7398  16.1076 -23.5039
REMARK   3    T TENSOR
REMARK   3      T11:   0.1786 T22:   0.0449
REMARK   3      T33:   0.0159 T12:  -0.0188
REMARK   3      T13:   0.0281 T23:  -0.0203
REMARK   3    L TENSOR
REMARK   3      L11:   0.2717 L22:   0.3466
REMARK   3      L33:   0.4327 L12:   0.0020
REMARK   3      L13:   0.0605 L23:   0.0146
REMARK   3    S TENSOR
REMARK   3      S11:  -0.0545 S12:  -0.0318 S13:  -0.0054
REMARK   3      S21:  -0.0789 S22:   0.0717 S23:  -0.0222
REMARK   3      S31:   0.0079 S32:   0.0666 S33:  -0.0172
REMARK   3
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED :  MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.20
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS:
REMARK   3  HYDROGENS HAVE BEEN ADDED IN THE RIDING POSITIONS
REMARK   3  U VALUES      : RESIDUAL ONLY
REMARK   3
LINKR          GLN A 209                 ASN A 211              gap
LINKR          LYS A 287                 THR A 296              gap
LINKR          LEU A 546                 GLY A 551              gap
LINKR          ASP A 744                 THR A 749              gap
LINKR          LYS A 769                 GLU A 784              gap
LINKR          ASP A 980                 GLU A 987              gap
LINKR          MET A1014                 THR A1024              gap
LINKR          THR A1078                 LYS A1081              gap
LINKR          ASP A1116                 LYS A1121              gap
LINKR          SER C 126                 GLU C 132              gap
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LINKR           VAL C 213                SER C 220               gap
LINKR           ASP C 265                ASP C 270               gap
LINKR           ARG A 391                ILE A 707               gap
LINKR           ALA A  46                LEU A  49               gap
LINKR           GLN A  93                SER A  97               gap
LINKR           ASN A 337                GLU A 342               gap
LINKR           GLU A 368                GLN A 372               gap
LINKR           ARG A 391                LEU A 710               gap
LINKR           SER A 767                GLU A 784               gap
LINKR           VAL A1013                THR A1024               gap
LINKR           PRO A 417                GLU A 420               gap
LINKR           HIS A 536                VAL A 538               gap
LINKR           GLU A 535                VAL A 538               gap
LINKR           LEU A 560                THR A 562               gap
LINKR           LEU A 576                HIS A 578               gap
LINKR           GLY A 584                ILE A 586               gap
LINKR           SER A 643                SER A 645               gap
LINKR           SER A 661                ASN A 663               gap
LINKR           ASP A 625                LYS A 627               gap
LINKR           ASP C 265                SER C 272               gap
LINKR           THR C 172                GLY C 176               gap
SSBOND   1 CYS A   18    CYS A  313
SSBOND   2 CYS C  323    CYS C  326
SSBOND   3 CYS C  326    CYS C  391
SSBOND   4 CYS C  326    CYS C  394
CRYST1  111.029  126.886  172.487  90.00  90.00  90.00 P 21 21 21
SCALE1      0.009007  0.000000  0.000000        0.00000
SCALE2      0.000000  0.007881  0.000000        0.00000
SCALE3      0.000000  0.000000  0.005798        0.00000
ATOM      1  N   SER A   2     -10.005  42.968 -18.390  1.00 84.59           N
ATOM      2  CA  SER A   2     -10.680  41.660 -18.759  1.00 84.02           C
ATOM      3  CB  SER A   2     -10.098  40.978 -20.050  1.00 80.59           C
ATOM      4  OG  SER A   2     -11.107  40.512 -20.977  1.00 68.86           O
ATOM      5  C   SER A   2     -10.680  40.705 -17.540  1.00 77.34           C
ATOM      6  O   SER A   2      -9.765  40.653 -16.724  1.00 68.49           O
ATOM      7  N   TYR A   3     -11.782  39.985 -17.463  1.00 73.95           N
ATOM      8  CA  TYR A   3     -12.165  39.195 -16.352  1.00 68.46           C
ATOM      9  CB  TYR A   3     -13.255  39.929 -15.615  1.00 71.81           C
ATOM     10  CG  TYR A   3     -12.847  41.291 -15.165  1.00 75.50           C
ATOM     11  CD1 TYR A   3     -11.744  41.461 -14.330  1.00 78.09           C
ATOM     12  CE1 TYR A   3     -11.378  42.721 -13.905  1.00 83.18           C
ATOM     13  CZ  TYR A   3     -12.115  43.828 -14.324  1.00 81.80           C
ATOM     14  OH  TYR A   3     -11.784  45.088 -13.895  1.00 83.08           O
ATOM     15  CE2 TYR A   3     -13.209  43.673 -15.145  1.00 78.84           C
ATOM     16  CD2 TYR A   3     -13.573  42.412 -15.554  1.00 76.19           C
ATOM     17  C   TYR A   3     -12.734  37.917 -16.932  1.00 61.62           C
ATOM     18  O   TYR A   3     -13.895  37.851 -17.355  1.00 52.94           O
ATOM     19  N   ASN A   4     -11.902  36.901 -16.976  1.00 57.85           N
ATOM     20  CA  ASN A   4     -12.321  35.666 -17.563  1.00 55.67           C
ATOM     21  CB  ASN A   4     -11.317  35.325 -18.628  1.00 57.30           C
ATOM     22  CG  ASN A   4     -11.151  36.492 -19.603  1.00 62.49           C
ATOM     23  OD1 ASN A   4     -12.040  36.782 -20.436  1.00 66.61           O
ATOM     24  ND2 ASN A   4     -10.050  37.214 -19.457  1.00 64.50           N
ATOM     25  C   ASN A   4     -12.599  34.578 -16.529  1.00 52.23           C
ATOM     26  O   ASN A   4     -12.102  34.646 -15.364  1.00 48.64           O
ATOM     27  N   TYR A   5     -13.485  33.653 -16.949  1.00 49.26           N
ATOM     28  CA  TYR A   5     -13.885  32.446 -16.211  1.00 46.57           C
ATOM     29  CB  TYR A   5     -15.356  32.526 -16.020  1.00 42.94           C
ATOM     30  CG  TYR A   5     -16.033  31.410 -15.286  1.00 45.14           C
ATOM     31  CD1 TYR A   5     -16.548  30.337 -15.963  1.00 47.98           C
ATOM     32  CE1 TYR A   5     -17.264  29.328 -15.291  1.00 50.62           C
ATOM     33  CZ  TYR A   5     -17.487  29.396 -13.934  1.00 47.26           C
ATOM     34  OH  TYR A   5     -18.186  28.367 -13.354  1.00 48.08           O
ATOM     35  CE2 TYR A   5     -16.990  30.463 -13.235  1.00 45.13           C
ATOM     36  CD2 TYR A   5     -16.268  31.466 -13.911  1.00 45.20           C
ATOM     37  C   TYR A   5     -13.508  31.200 -17.040  1.00 47.62           C
ATOM     38  O   TYR A   5     -13.928  31.103 -18.188  1.00 47.74           O
ATOM     39  N   VAL A   6     -12.673  30.293 -16.495  1.00 48.08           N
ATOM     40  CA  VAL A   6     -12.357  29.004 -17.167  1.00 46.07           C
ATOM     41  CB  VAL A   6     -10.878  28.681 -17.307  1.00 44.74           C
ATOM     42  CG1 VAL A   6     -10.662  27.785 -18.497  1.00 43.45           C
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ATOM     43  CG2 VAL A   6     -10.111  29.929 -17.495  1.00 49.07           C
ATOM     44  C   VAL A   6     -12.848  27.813 -16.404  1.00 46.12           C
ATOM     45  O   VAL A   6     -12.553  27.621 -15.205  1.00 48.25           O
ATOM     46  N   VAL A   7     -13.448  26.934 -17.175  1.00 44.72           N
ATOM     47  CA  VAL A   7     -14.034  25.743 -16.655  1.00 44.24           C
ATOM     48  CB  VAL A   7     -15.521  25.973 -16.450  1.00 45.37           C
ATOM     49  CG1 VAL A   7     -16.233  26.282 -17.781  1.00 45.99           C
ATOM     50  CG2 VAL A   7     -16.140  24.770 -15.768  1.00 45.70           C
ATOM     51  C   VAL A   7     -13.828  24.547 -17.595  1.00 41.83           C
ATOM     52  O   VAL A   7     -13.747  24.688 -18.845  1.00 37.16           O
ATOM     53  N   THR A   8     -13.779  23.380 -16.961  1.00 37.39           N
ATOM     54  CA  THR A   8     -13.697  22.157 -17.662  1.00 35.46           C
ATOM     55  CB  THR A   8     -13.181  21.093 -16.748  1.00 36.27           C
ATOM     56  OG1 THR A   8     -11.813  21.332 -16.485  1.00 34.13           O
ATOM     57  CG2 THR A   8     -13.309  19.719 -17.392  1.00 39.98           C
ATOM     58  C   THR A   8     -15.048  21.721 -18.163  1.00 35.87           C
ATOM     59  O   THR A   8     -15.974  21.614 -17.435  1.00 39.59           O
ATOM     60  N   ALA A   9     -15.145  21.437 -19.440  1.00 37.76           N
ATOM     61  CA  ALA A   9     -16.332  20.833 -20.020  1.00 35.23           C
ATOM     62  CB  ALA A   9     -16.547  21.348 -21.430  1.00 35.30           C
ATOM     63  C   ALA A   9     -16.129  19.360 -20.066  1.00 35.17           C
ATOM     64  O   ALA A   9     -17.093  18.630 -20.056  1.00 34.48           O
ATOM     65  N   GLN A  10     -14.886  18.916 -20.217  1.00 35.76           N
ATOM     66  CA  GLN A  10     -14.626  17.509 -20.344  1.00 37.64           C
ATOM     67  CB  GLN A  10     -14.782  17.125 -21.811  1.00 39.11           C
ATOM     68  CG  GLN A  10     -14.144  15.810 -22.211  1.00 40.34           C
ATOM     69  CD  GLN A  10     -14.767  14.636 -21.506  1.00 41.11           C
ATOM     70  OE1 GLN A  10     -15.990  14.462 -21.537  1.00 42.09           O
ATOM     71  NE2 GLN A  10     -13.938  13.816 -20.881  1.00 39.93           N
ATOM     72  C   GLN A  10     -13.255  17.204 -19.825  1.00 36.43           C
ATOM     73  O   GLN A  10     -12.280  17.662 -20.376  1.00 36.13           O
ATOM     74  N   LYS A  11     -13.180  16.398 -18.778  1.00 37.80           N
ATOM     75  CA  LYS A  11     -11.900  16.197 -18.065  1.00 38.32           C
ATOM     76  CB  LYS A  11     -12.082  15.375 -16.800  1.00 39.91           C
ATOM     77  CG  LYS A  11     -13.334  15.538 -15.953  1.00 40.69           C
ATOM     78  CD  LYS A  11     -13.025  14.736 -14.700  1.00 43.83           C
ATOM     79  CE  LYS A  11     -14.176  14.656 -13.730  1.00 48.32           C
ATOM     80  NZ  LYS A  11     -13.924  13.619 -12.717  1.00 49.18           N
ATOM     81  C   LYS A  11     -10.941  15.413 -18.953  1.00 37.06           C
ATOM     82  O   LYS A  11     -11.377  14.631 -19.798  1.00 38.42           O
ATOM     83  N   PRO A  12      -9.650  15.571 -18.760  1.00 33.78           N
ATOM     84  CA  PRO A  12      -8.765  14.870 -19.653  1.00 35.08           C
ATOM     85  CB  PRO A  12      -7.406  15.212 -19.113  1.00 34.44           C
ATOM     86  CG  PRO A  12      -7.647  15.285 -17.680  1.00 34.64           C
ATOM     87  CD  PRO A  12      -8.971  15.938 -17.541  1.00 34.11           C
ATOM     88  C   PRO A  12      -8.943  13.367 -19.615  1.00 36.15           C
ATOM     89  O   PRO A  12      -9.142  12.778 -18.521  1.00 37.55           O
ATOM     90  N   THR A  13      -8.896  12.773 -20.811  1.00 36.27           N
ATOM     91  CA  THR A  13      -9.132  11.333 -21.018  1.00 35.76           C
ATOM     92  CB  THR A  13     -10.047  11.109 -22.200  1.00 35.92           C
ATOM     93  OG1 THR A  13      -9.438  11.700 -23.355  1.00 38.97           O
ATOM     94  CG2 THR A  13     -11.418  11.772 -21.974  1.00 34.88           C
ATOM     95  C   THR A  13      -7.886  10.543 -21.275  1.00 35.29           C
ATOM     96  O   THR A  13      -7.846   9.386 -20.996  1.00 39.16           O
ATOM     97  N   ALA A  14      -6.869  11.140 -21.843  1.00 36.74           N
ATOM     98  CA  ALA A  14      -5.603  10.442 -22.029  1.00 39.22           C
ATOM     99  CB  ALA A  14      -4.619  11.411 -22.649  1.00 41.48           C
ATOM    100  C   ALA A  14      -4.984   9.855 -20.758  1.00 38.94           C
ATOM    101  O   ALA A  14      -4.860  10.531 -19.765  1.00 44.16           O
ATOM    102  N   VAL A  15      -4.539   8.619 -20.813  1.00 38.42           N
ATOM    103  CA  VAL A  15      -3.978   7.954 -19.642  1.00 37.06           C
ATOM    104  CB  VAL A  15      -4.170   6.429 -19.693  1.00 35.55           C
ATOM    105  CG1 VAL A  15      -3.238   5.738 -18.714  1.00 36.66           C
ATOM    106  CG2 VAL A  15      -5.609   6.057 -19.376  1.00 34.82           C
ATOM    107  C   VAL A  15      -2.523   8.166 -19.687  1.00 37.80           C
ATOM    108  O   VAL A  15      -1.949   7.979 -20.693  1.00 40.33           O
ATOM    109  N   ASN A  16      -1.903   8.452 -18.566  1.00 40.97           N
ATOM    110  CA  ASN A  16      -0.459   8.573 -18.515  1.00 40.13           C
ATOM    111  CB  ASN A  16      -0.080  10.056 -18.431  1.00 44.35           C
ATOM    112  CG  ASN A  16      -0.672  10.772 -17.225  1.00 44.80           C
ATOM    113  OD1 ASN A  16      -1.826  11.218 -17.240  1.00 51.01           O
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ATOM    114  ND2 ASN A  16       0.123  10.923 -16.208  1.00 42.58           N
ATOM    115  C   ASN A  16       0.189   7.791 -17.406  1.00 37.75           C
ATOM    116  O   ASN A  16       1.364   7.857 -17.258  1.00 37.18           O
ATOM    117  N   GLY A  17      -0.548   7.033 -16.624  1.00 38.59           N
ATOM    118  CA  GLY A  17       0.087   6.065 -15.710  1.00 39.54           C
ATOM    119  C   GLY A  17      -0.914   5.038 -15.268  1.00 38.90           C
ATOM    120  O   GLY A  17      -2.124   5.259 -15.266  1.00 38.60           O
ATOM    121  N   CYS A  18      -0.433   3.880 -14.930  1.00 40.51           N
ATOM    122  CA  CYS A  18      -1.355   2.813 -14.554  1.00 43.49           C
ATOM    123  CB  CYS A  18      -1.912   2.059 -15.775  1.00 43.52           C
ATOM    124  SG  CYS A  18      -0.742   1.558 -17.087  1.00 53.82           S
ATOM    125  C   CYS A  18      -0.555   1.948 -13.633  1.00 45.19           C
ATOM    126  O   CYS A  18       0.468   1.435 -14.030  1.00 51.75           O
ATOM    127  N   VAL A  19      -0.935   1.857 -12.376  1.00 44.40           N
ATOM    128  CA  VAL A  19      -0.222   0.975 -11.487  1.00 46.98           C
ATOM    129  CB  VAL A  19       0.442   1.843 -10.440  1.00 49.42           C
ATOM    130  CG1 VAL A  19      -0.443   1.981  -9.210  1.00 49.10           C
ATOM    131  CG2 VAL A  19       1.807   1.292 -10.093  1.00 55.84           C
ATOM    132  C   VAL A  19      -1.191  -0.066 -10.899  1.00 45.76           C
ATOM    133  O   VAL A  19      -2.410   0.162 -10.916  1.00 45.49           O
ATOM    134  N   THR A  20      -0.697  -1.208 -10.410  1.00 44.39           N
ATOM    135  CA  THR A  20      -1.601  -2.080  -9.551  1.00 44.15           C
ATOM    136  CB  THR A  20      -2.044  -3.444 -10.140  1.00 42.52           C
ATOM    137  OG1 THR A  20      -0.967  -4.068 -10.840  1.00 39.92           O
ATOM    138  CG2 THR A  20      -3.189  -3.226 -11.085  1.00 44.71           C
ATOM    139  C   THR A  20      -1.061  -2.356  -8.205  1.00 42.58           C
ATOM    140  O   THR A  20       0.111  -2.109  -7.950  1.00 39.44           O
ATOM    141  N   GLY A  21      -1.938  -2.804  -7.323  1.00 45.46           N
ATOM    142  CA  GLY A  21      -1.585  -3.083  -5.956  1.00 50.92           C
ATOM    143  C   GLY A  21      -2.814  -3.159  -5.090  1.00 54.49           C
ATOM    144  O   GLY A  21      -3.915  -3.221  -5.593  1.00 54.79           O
ATOM    145  N   HIS A  22      -2.617  -3.163  -3.782  1.00 55.62           N
ATOM    146  CA  HIS A  22      -3.710  -3.223  -2.841  1.00 57.07           C
ATOM    147  CB  HIS A  22      -3.482  -4.417  -1.959  1.00 56.33           C
ATOM    148  CG  HIS A  22      -3.095  -5.633  -2.728  1.00 57.50           C
ATOM    149  ND1 HIS A  22      -1.791  -5.926  -3.038  1.00 55.59           N
ATOM    150  CE1 HIS A  22      -1.748  -7.037  -3.742  1.00 57.44           C
ATOM    151  NE2 HIS A  22      -2.980  -7.471  -3.905  1.00 61.30           N
ATOM    152  CD2 HIS A  22      -3.843  -6.606  -3.288  1.00 57.01           C
ATOM    153  C   HIS A  22      -3.692  -1.944  -2.056  1.00 61.31           C
ATOM    154  O   HIS A  22      -2.839  -1.736  -1.215  1.00 67.92           O
ATOM    155  N   PHE A  23      -4.662  -1.099  -2.361  1.00 57.84           N
ATOM    156  CA  PHE A  23      -4.797   0.229  -1.826  1.00 54.40           C
ATOM    157  CB  PHE A  23      -4.869   1.125  -3.052  1.00 51.67           C
ATOM    158  CG  PHE A  23      -4.812   2.580  -2.776  1.00 47.77           C
ATOM    159  CD1 PHE A  23      -3.777   3.123  -2.088  1.00 51.37           C
ATOM    160  CE1 PHE A  23      -3.722   4.468  -1.858  1.00 50.75           C
ATOM    161  CZ  PHE A  23      -4.696   5.278  -2.345  1.00 47.09           C
ATOM    162  CE2 PHE A  23      -5.721   4.745  -3.049  1.00 47.31           C
ATOM    163  CD2 PHE A  23      -5.767   3.403  -3.270  1.00 46.08           C
ATOM    164  C   PHE A  23      -6.041   0.411  -1.008  1.00 54.06           C
ATOM    165  O   PHE A  23      -6.023   0.981   0.057  1.00 57.62           O
ATOM    166  N   THR A  24      -7.133  -0.075  -1.549  1.00 51.51           N
ATOM    167  CA  THR A  24      -8.451   0.016  -0.928  1.00 54.42           C
ATOM    168  CB  THR A  24      -9.599  -0.360  -1.883  1.00 53.56           C
ATOM    169  OG1 THR A  24      -9.423  -1.679  -2.375  1.00 54.48           O
ATOM    170  CG2 THR A  24      -9.678   0.544  -3.051  1.00 55.64           C
ATOM    171  C   THR A  24      -8.560  -0.915   0.278  1.00 61.90           C
ATOM    172  O   THR A  24      -9.071  -0.526   1.326  1.00 66.84           O
ATOM    173  N   SER A  25      -8.104  -2.153   0.105  1.00 63.86           N
ATOM    174  CA  SER A  25      -7.987  -3.120   1.185  1.00 59.57           C
ATOM    175  CB  SER A  25      -9.259  -3.978   1.256  1.00 57.48           C
ATOM    176  OG  SER A  25      -9.060  -5.284   0.771  1.00 56.66           O
ATOM    177  C   SER A  25      -6.758  -3.940   0.865  1.00 59.31           C
ATOM    178  O   SER A  25      -6.319  -3.878  -0.257  1.00 64.84           O
ATOM    179  N   ALA A  26      -6.184  -4.682   1.817  1.00 60.38           N
ATOM    180  CA  ALA A  26      -5.119  -5.672   1.477  1.00 58.27           C
ATOM    181  CB  ALA A  26      -4.361  -6.142   2.701  1.00 57.76           C
ATOM    182  C   ALA A  26      -5.694  -6.869   0.756  1.00 56.16           C
ATOM    183  O   ALA A  26      -5.011  -7.471  -0.053  1.00 50.43           O
ATOM    184  N   GLU A  27      -6.943  -7.207   1.089  1.00 59.21           N
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ATOM    185  CA  GLU A  27      -7.636  -8.367   0.545  1.00 60.96           C
ATOM    186  CB  GLU A  27      -8.688  -8.896   1.592  1.00 56.04           C
ATOM    187  C   GLU A  27      -8.151  -8.053  -0.927  1.00 62.67           C
ATOM    188  O   GLU A  27      -8.305  -8.966  -1.725  1.00 64.25           O
ATOM    189  N   ASP A  28      -8.322  -6.769  -1.295  1.00 68.07           N
ATOM    190  CA  ASP A  28      -8.676  -6.296  -2.696  1.00 64.97           C
ATOM    191  CB  ASP A  28      -9.342  -4.896  -2.655  1.00 70.98           C
ATOM    192  CG  ASP A  28     -10.809  -4.909  -2.160  1.00 81.59           C
ATOM    193  OD1 ASP A  28     -11.519  -5.936  -2.365  1.00 88.28           O
ATOM    194  OD2 ASP A  28     -11.257  -3.860  -1.592  1.00 82.95           O
ATOM    195  C   ASP A  28      -7.490  -6.101  -3.649  1.00 59.18           C
ATOM    196  O   ASP A  28      -6.414  -5.701  -3.223  1.00 56.48           O
ATOM    197  N   LEU A  29      -7.707  -6.324  -4.947  1.00 56.71           N
ATOM    198  CA  LEU A  29      -6.738  -5.920  -5.998  1.00 57.16           C
ATOM    199  CB  LEU A  29      -6.425  -7.079  -6.947  1.00 57.01           C
ATOM    200  CG  LEU A  29      -5.559  -6.793  -8.210  1.00 58.50           C
ATOM    201  CD1 LEU A  29      -4.074  -6.769  -7.858  1.00 59.51           C
ATOM    202  CD2 LEU A  29      -5.806  -7.767  -9.360  1.00 57.56           C
ATOM    203  C   LEU A  29      -7.229  -4.683  -6.823  1.00 58.74           C
ATOM    204  O   LEU A  29      -8.267  -4.728  -7.521  1.00 63.17           O
ATOM    205  N   ASN A  30      -6.466  -3.614  -6.815  1.00 53.74           N
ATOM    206  CA  ASN A  30      -6.923  -2.502  -7.588  1.00 51.53           C
ATOM    207  CB  ASN A  30      -7.267  -1.274  -6.739  1.00 49.39           C
ATOM    208  CG  ASN A  30      -7.347  -1.560  -5.277  1.00 48.46           C
ATOM    209  OD1 ASN A  30      -6.392  -1.988  -4.688  1.00 46.09           O
ATOM    210  ND2 ASN A  30      -8.476  -1.293  -4.684  1.00 47.58           N
ATOM    211  C   ASN A  30      -5.965  -2.055  -8.636  1.00 53.94           C
ATOM    212  O   ASN A  30      -4.783  -2.276  -8.564  1.00 54.39           O
ATOM    213  N   LEU A  31      -6.558  -1.431  -9.629  1.00 54.06           N
ATOM    214  CA  LEU A  31      -5.914  -0.716 -10.755  1.00 50.28           C
ATOM    215  CB  LEU A  31      -6.591  -1.108 -12.074  1.00 47.02           C
ATOM    216  CG  LEU A  31      -6.142  -0.333 -13.309  1.00 47.50           C
ATOM    217  CD1 LEU A  31      -4.646  -0.514 -13.546  1.00 48.13           C
ATOM    218  CD2 LEU A  31      -6.940  -0.767 -14.512  1.00 46.65           C
ATOM    219  C   LEU A  31      -6.067   0.822 -10.507  1.00 48.29           C
ATOM    220  O   LEU A  31      -7.167   1.312 -10.426  1.00 47.24           O
ATOM    221  N   LEU A  32      -4.976   1.557 -10.356  1.00 45.68           N
ATOM    222  CA  LEU A  32      -5.051   3.001 -10.249  1.00 46.81           C
ATOM    223  CB  LEU A  32      -4.159   3.518  -9.118  1.00 46.95           C
ATOM    224  CG  LEU A  32      -4.677   3.443  -7.694  1.00 44.05           C
ATOM    225  CD1 LEU A  32      -5.199   2.070  -7.389  1.00 45.61           C
ATOM    226  CD2 LEU A  32      -3.514   3.750  -6.808  1.00 43.43           C
ATOM    227  C   LEU A  32      -4.572   3.587 -11.562  1.00 47.78           C
ATOM    228  O   LEU A  32      -3.585   3.109 -12.116  1.00 49.17           O
ATOM    229  N   ILE A  33      -5.249   4.632 -12.032  1.00 45.97           N
ATOM    230  CA  ILE A  33      -4.977   5.205 -13.323  1.00 43.78           C
ATOM    231  CB  ILE A  33      -6.131   4.975 -14.290  1.00 43.88           C
ATOM    232  CG1 ILE A  33      -6.379   3.515 -14.465  1.00 44.63           C
ATOM    233  CD1 ILE A  33      -7.532   3.296 -15.405  1.00 46.56           C
ATOM    234  CG2 ILE A  33      -5.817   5.491 -15.686  1.00 44.67           C
ATOM    235  C   ILE A  33      -4.863   6.684 -13.170  1.00 43.69           C
ATOM    236  O   ILE A  33      -5.692   7.316 -12.535  1.00 46.07           O
ATOM    237  N   ALA A  34      -3.892   7.257 -13.842  1.00 42.80           N
ATOM    238  CA  ALA A  34      -3.683   8.674 -13.817  1.00 44.29           C
ATOM    239  CB  ALA A  34      -2.251   8.957 -13.479  1.00 46.42           C
ATOM    240  C   ALA A  34      -4.018   9.293 -15.151  1.00 45.93           C
ATOM    241  O   ALA A  34      -3.613   8.820 -16.171  1.00 48.30           O
ATOM    242  N   LYS A  35      -4.771  10.368 -15.133  1.00 43.83           N
ATOM    243  CA  LYS A  35      -5.129  11.050 -16.337  1.00 40.65           C
ATOM    244  CB  LYS A  35      -6.599  10.877 -16.577  1.00 40.87           C
ATOM    245  CG  LYS A  35      -6.978   9.473 -16.930  1.00 43.41           C
ATOM    246  CD  LYS A  35      -8.446   9.434 -17.230  1.00 45.09           C
ATOM    247  CE  LYS A  35      -8.926   8.056 -17.569  1.00 45.60           C
ATOM    248  NZ  LYS A  35     -10.335   8.139 -18.004  1.00 47.53           N
ATOM    249  C   LYS A  35      -4.799  12.493 -16.092  1.00 40.40           C
ATOM    250  O   LYS A  35      -5.659  13.324 -15.964  1.00 42.60           O
ATOM    251  N   ASN A  36      -3.519  12.787 -16.035  1.00 37.09           N
ATOM    252  CA  ASN A  36      -3.093  14.127 -15.763  1.00 36.27           C
ATOM    253  CB  ASN A  36      -3.755  15.081 -16.727  1.00 35.86           C
ATOM    254  CG  ASN A  36      -3.013  16.362 -16.848  1.00 37.24           C
ATOM    255  OD1 ASN A  36      -1.909  16.476 -16.379  1.00 37.08           O
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ATOM    256  ND2 ASN A  36      -3.616  17.329 -17.481  1.00 37.78           N
ATOM    257  C   ASN A  36      -3.400  14.481 -14.329  1.00 37.89           C
ATOM    258  O   ASN A  36      -2.707  14.054 -13.445  1.00 40.16           O
ATOM    259  N   THR A  37      -4.417  15.293 -14.106  1.00 38.17           N
ATOM    260  CA  THR A  37      -4.806  15.738 -12.798  1.00 40.11           C
ATOM    261  CB  THR A  37      -5.428  17.114 -12.888  1.00 41.86           C
ATOM    262  OG1 THR A  37      -6.662  17.017 -13.565  1.00 42.82           O
ATOM    263  CG2 THR A  37      -4.589  18.006 -13.662  1.00 43.11           C
ATOM    264  C   THR A  37      -5.842  14.883 -12.128  1.00 41.82           C
ATOM    265  O   THR A  37      -6.227  15.170 -11.034  1.00 41.39           O
ATOM    266  N   ARG A  38      -6.308  13.842 -12.781  1.00 39.83           N
ATOM    267  CA  ARG A  38      -7.318  13.001 -12.210  1.00 38.83           C
ATOM    268  CB  ARG A  38      -8.414  12.739 -13.208  1.00 41.00           C
ATOM    269  CG  ARG A  38      -8.831  13.938 -13.992  1.00 41.76           C
ATOM    270  CD  ARG A  38      -9.426  14.964 -13.086  1.00 44.75           C
ATOM    271  NE  ARG A  38     -10.597  14.444 -12.432  1.00 49.28           N
ATOM    272  CZ  ARG A  38     -11.237  15.074 -11.472  1.00 48.98           C
ATOM    273  NH1 ARG A  38     -10.819  16.237 -11.064  1.00 53.26           N
ATOM    274  NH2 ARG A  38     -12.298  14.542 -10.933  1.00 48.71           N
ATOM    275  C   ARG A  38      -6.741  11.696 -11.870  1.00 38.00           C
ATOM    276  O   ARG A  38      -5.896  11.215 -12.554  1.00 35.90           O
ATOM    277  N   LEU A  39      -7.201  11.118 -10.786  1.00 40.06           N
ATOM    278  CA  LEU A  39      -6.750   9.792 -10.375  1.00 41.84           C
ATOM    279  CB  LEU A  39      -5.927   9.873  -9.105  1.00 43.12           C
ATOM    280  CG  LEU A  39      -5.725   8.587  -8.301  1.00 46.34           C
ATOM    281  CD1 LEU A  39      -4.813   7.662  -9.040  1.00 49.46           C
ATOM    282  CD2 LEU A  39      -5.104   8.811  -6.939  1.00 48.22           C
ATOM    283  C   LEU A  39      -8.002   8.972 -10.169  1.00 41.92           C
ATOM    284  O   LEU A  39      -8.756   9.308  -9.305  1.00 38.88           O
ATOM    285  N   GLU A  40      -8.217   7.950 -11.016  1.00 44.57           N
ATOM    286  CA  GLU A  40      -9.313   6.998 -10.912  1.00 45.38           C
ATOM    287  CB  GLU A  40      -9.805   6.507 -12.280  1.00 50.07           C
ATOM    288  CG  GLU A  40     -10.120   7.598 -13.287  1.00 57.71           C
ATOM    289  CD  GLU A  40     -10.523   7.134 -14.710  1.00 67.78           C
ATOM    290  OE1 GLU A  40      -9.991   6.138 -15.364  1.00 68.04           O
ATOM    291  OE2 GLU A  40     -11.419   7.850 -15.202  1.00 74.59           O
ATOM    292  C   GLU A  40      -8.733   5.812 -10.173  1.00 44.48           C
ATOM    293  O   GLU A  40      -7.561   5.489 -10.377  1.00 41.61           O
ATOM    294  N   ILE A  41      -9.573   5.187  -9.338  1.00 42.45           N
ATOM    295  CA  ILE A  41      -9.291   3.967  -8.604  1.00 41.53           C
ATOM    296  CB  ILE A  41      -9.347   4.196  -7.103  1.00 43.60           C
ATOM    297  CG1 ILE A  41      -8.354   5.297  -6.679  1.00 45.83           C
ATOM    298  CD1 ILE A  41      -8.530   5.784  -5.235  1.00 45.22           C
ATOM    299  CG2 ILE A  41      -9.158   2.855  -6.383  1.00 43.64           C
ATOM    300  C   ILE A  41     -10.375   2.926  -8.799  1.00 41.93           C
ATOM    301  O   ILE A  41     -11.482   3.055  -8.261  1.00 42.01           O
ATOM    302  N   TYR A  42     -10.029   1.838  -9.475  1.00 43.54           N
ATOM    303  CA  TYR A  42     -10.921   0.658  -9.603  1.00 41.62           C
ATOM    304  CB  TYR A  42     -10.939   0.156 -11.023  1.00 38.45           C
ATOM    305  CG  TYR A  42     -11.274   1.171 -12.010  1.00 37.06           C
ATOM    306  CD1 TYR A  42     -10.316   2.002 -12.480  1.00 38.41           C
ATOM    307  CE1 TYR A  42     -10.599   2.945 -13.447  1.00 39.71           C
ATOM    308  CZ  TYR A  42     -11.863   3.046 -13.949  1.00 39.45           C
ATOM    309  OH  TYR A  42     -12.092   4.007 -14.901  1.00 45.31           O
ATOM    310  CE2 TYR A  42     -12.849   2.206 -13.501  1.00 37.36           C
ATOM    311  CD2 TYR A  42     -12.543   1.268 -12.539  1.00 36.89           C
ATOM    312  C   TYR A  42     -10.498  -0.528  -8.698  1.00 41.55           C
ATOM    313  O   TYR A  42      -9.376  -0.579  -8.201  1.00 36.79           O
ATOM    314  N   VAL A  43     -11.434  -1.461  -8.515  1.00 45.04           N
ATOM    315  CA  VAL A  43     -11.160  -2.801  -8.013  1.00 50.19           C
ATOM    316  CB  VAL A  43     -12.189  -3.241  -6.956  1.00 53.38           C
ATOM    317  CG1 VAL A  43     -11.959  -4.707  -6.556  1.00 54.50           C
ATOM    318  CG2 VAL A  43     -12.110  -2.336  -5.732  1.00 54.66           C
ATOM    319  C   VAL A  43     -11.301  -3.771  -9.163  1.00 51.12           C
ATOM    320  O   VAL A  43     -12.323  -3.763  -9.866  1.00 53.29           O
ATOM    321  N   VAL A  44     -10.299  -4.618  -9.334  1.00 52.42           N
ATOM    322  CA  VAL A  44     -10.370  -5.680 -10.346  1.00 58.09           C
ATOM    323  CB  VAL A  44      -8.981  -6.354 -10.556  1.00 57.94           C
ATOM    324  CG1 VAL A  44      -9.112  -7.584 -11.421  1.00 59.05           C
ATOM    325  CG2 VAL A  44      -7.967  -5.398 -11.173  1.00 56.40           C
ATOM    326  C   VAL A  44     -11.391  -6.741  -9.896  1.00 59.01           C
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ATOM    327  O   VAL A  44     -11.396  -7.131  -8.734  1.00 54.04           O
ATOM    328  N   THR A  45     -12.246  -7.184 -10.816  1.00 65.90           N
ATOM    329  CA  THR A  45     -13.176  -8.324 -10.590  1.00 71.66           C
ATOM    330  CB  THR A  45     -14.672  -7.851 -10.641  1.00 71.96           C
ATOM    331  OG1 THR A  45     -15.022  -7.321 -11.938  1.00 64.98           O
ATOM    332  CG2 THR A  45     -14.956  -6.778  -9.551  1.00 73.02           C
ATOM    333  C   THR A  45     -12.944  -9.422 -11.648  1.00 73.92           C
ATOM    334  O   THR A  45     -12.219  -9.206 -12.598  1.00 77.65           O
ATOM    335  N   ALA A  46     -13.561 -10.587 -11.520  1.00 80.17           N
ATOM    336  CA  ALA A  46     -13.721 -11.436 -12.724  1.00 86.24           C
ATOM    337  CB  ALA A  46     -14.284 -12.818 -12.401  1.00 83.20           C
ATOM    338  C   ALA A  46     -14.611 -10.702 -13.749  1.00 87.72           C
ATOM    339  O   ALA A  46     -14.206 -10.503 -14.890  1.00 90.98           O
ATOM    340  N   GLU A  47     -15.792 -10.261 -13.316  1.00 89.49           N
ATOM    341  CA  GLU A  47     -16.701  -9.465 -14.156  1.00 90.43           C
ATOM    342  CB  GLU A  47     -17.893  -8.987 -13.284  1.00 88.71           C
ATOM    343  C   GLU A  47     -16.011  -8.291 -14.993  1.00 88.98           C
ATOM    344  O   GLU A  47     -16.504  -7.938 -16.066  1.00 81.51           O
ATOM    345  N   GLY A  48     -14.879  -7.736 -14.518  1.00 85.76           N
ATOM    346  CA  GLY A  48     -14.080  -6.714 -15.246  1.00 81.62           C
ATOM    347  C   GLY A  48     -13.445  -5.680 -14.298  1.00 78.10           C
ATOM    348  O   GLY A  48     -12.698  -6.059 -13.379  1.00 77.53           O
ATOM    349  N   LEU A  49     -13.727  -4.383 -14.494  1.00 68.51           N
ATOM    350  CA  LEU A  49     -13.249  -3.336 -13.545  1.00 63.27           C
ATOM    351  CB  LEU A  49     -12.455  -2.271 -14.294  1.00 59.90           C
ATOM    352  CG  LEU A  49     -11.110  -2.629 -14.905  1.00 58.85           C
ATOM    353  CD1 LEU A  49     -10.583  -1.417 -15.642  1.00 59.12           C
ATOM    354  CD2 LEU A  49     -10.100  -3.047 -13.853  1.00 59.16           C
ATOM    355  C   LEU A  49     -14.361  -2.620 -12.771  1.00 60.19           C
ATOM    356  O   LEU A  49     -15.175  -1.940 -13.381  1.00 56.21           O
ATOM    357  N   ARG A  50     -14.369  -2.716 -11.436  1.00 61.26           N
ATOM    358  CA  ARG A  50     -15.347  -1.953 -10.605  1.00 60.73           C
ATOM    359  CB  ARG A  50     -15.777  -2.697  -9.334  1.00 65.22           C
ATOM    360  CG  ARG A  50     -17.053  -2.113  -8.685  1.00 69.70           C
ATOM    361  CD  ARG A  50     -17.830  -3.126  -7.816  1.00 71.57           C
ATOM    362  NE  ARG A  50     -16.955  -3.992  -6.991  1.00 74.61           N
ATOM    363  CZ  ARG A  50     -16.271  -3.600  -5.895  1.00 75.28           C
ATOM    364  NH1 ARG A  50     -16.331  -2.340  -5.436  1.00 75.08           N
ATOM    365  NH2 ARG A  50     -15.505  -4.475  -5.237  1.00 71.43           N
ATOM    366  C   ARG A  50     -14.775  -0.615 -10.184  1.00 56.25           C
ATOM    367  O   ARG A  50     -13.807  -0.580  -9.431  1.00 51.30           O
ATOM    368  N   PRO A  51     -15.341   0.477 -10.657  1.00 53.20           N
ATOM    369  CA  PRO A  51     -14.854   1.792 -10.309  1.00 53.44           C
ATOM    370  CB  PRO A  51     -15.740   2.665 -11.142  1.00 50.63           C
ATOM    371  CG  PRO A  51     -17.037   1.990 -11.049  1.00 49.90           C
ATOM    372  CD  PRO A  51     -16.773   0.527 -10.932  1.00 52.19           C
ATOM    373  C   PRO A  51     -15.179   2.035  -8.878  1.00 52.86           C
ATOM    374  O   PRO A  51     -16.243   1.657  -8.485  1.00 55.49           O
ATOM    375  N   VAL A  52     -14.300   2.651  -8.111  1.00 53.63           N
ATOM    376  CA  VAL A  52     -14.582   2.885  -6.713  1.00 51.53           C
ATOM    377  CB  VAL A  52     -13.606   2.064  -5.873  1.00 49.44           C
ATOM    378  CG1 VAL A  52     -13.616   2.451  -4.417  1.00 51.21           C
ATOM    379  CG2 VAL A  52     -13.975   0.619  -5.981  1.00 51.50           C
ATOM    380  C   VAL A  52     -14.554   4.347  -6.302  1.00 52.93           C
ATOM    381  O   VAL A  52     -15.473   4.838  -5.686  1.00 54.55           O
ATOM    382  N   LYS A  53     -13.471   5.023  -6.614  1.00 50.17           N
ATOM    383  CA  LYS A  53     -13.346   6.400  -6.256  1.00 45.90           C
ATOM    384  CB  LYS A  53     -12.685   6.467  -4.893  1.00 47.97           C
ATOM    385  CG  LYS A  53     -12.451   7.845  -4.310  1.00 51.37           C
ATOM    386  CD  LYS A  53     -13.734   8.489  -3.856  1.00 50.93           C
ATOM    387  CE  LYS A  53     -13.483   9.798  -3.160  1.00 51.75           C
ATOM    388  NZ  LYS A  53     -14.783  10.384  -2.776  1.00 54.36           N
ATOM    389  C   LYS A  53     -12.515   7.126  -7.262  1.00 46.86           C
ATOM    390  O   LYS A  53     -11.514   6.646  -7.681  1.00 45.60           O
ATOM    391  N   GLU A  54     -12.939   8.313  -7.624  1.00 45.96           N
ATOM    392  CA  GLU A  54     -12.207   9.179  -8.499  1.00 44.79           C
ATOM    393  CB  GLU A  54     -12.991   9.244  -9.802  1.00 46.24           C
ATOM    394  CG  GLU A  54     -12.244   9.722 -11.042  1.00 47.42           C
ATOM    395  CD  GLU A  54     -12.343  11.194 -11.269  1.00 48.07           C
ATOM    396  OE1 GLU A  54     -11.714  11.711 -12.228  1.00 51.06           O
ATOM    397  OE2 GLU A  54     -13.044  11.835 -10.469  1.00 51.51           O
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ATOM    398  C   GLU A  54     -11.997  10.569  -7.857  1.00 44.13           C
ATOM    399  O   GLU A  54     -12.816  11.045  -7.103  1.00 49.02           O
ATOM    400  N   VAL A  55     -10.872  11.203  -8.146  1.00 45.67           N
ATOM    401  CA  VAL A  55     -10.499  12.489  -7.555  1.00 44.91           C
ATOM    402  CB  VAL A  55      -9.737  12.382  -6.206  1.00 41.77           C
ATOM    403  CG1 VAL A  55     -10.610  11.698  -5.174  1.00 40.41           C
ATOM    404  CG2 VAL A  55      -8.384  11.683  -6.375  1.00 41.94           C
ATOM    405  C   VAL A  55      -9.588  13.266  -8.438  1.00 44.68           C
ATOM    406  O   VAL A  55      -8.776  12.689  -9.129  1.00 51.52           O
ATOM    407  N   GLY A  56      -9.717  14.579  -8.347  1.00 44.93           N
ATOM    408  CA  GLY A  56      -8.743  15.514  -8.828  1.00 44.77           C
ATOM    409  C   GLY A  56      -7.590  15.771  -7.838  1.00 44.25           C
ATOM    410  O   GLY A  56      -7.665  15.473  -6.637  1.00 38.93           O
ATOM    411  N   MET A  57      -6.493  16.290  -8.404  1.00 46.35           N
ATOM    412  CA  MET A  57      -5.432  16.979  -7.673  1.00 45.06           C
ATOM    413  CB  MET A  57      -4.143  16.171  -7.654  1.00 45.30           C
ATOM    414  CG  MET A  57      -4.354  14.869  -6.929  1.00 45.32           C
ATOM    415  SD  MET A  57      -2.856  13.935  -6.744  1.00 56.85           S
ATOM    416  CE  MET A  57      -1.599  15.123  -6.263  1.00 53.91           C
ATOM    417  C   MET A  57      -5.255  18.337  -8.318  1.00 42.08           C
ATOM    418  O   MET A  57      -5.836  18.628  -9.346  1.00 39.26           O
ATOM    419  N   TYR A  58      -4.532  19.172  -7.614  1.00 42.61           N
ATOM    420  CA  TYR A  58      -4.183  20.489  -8.055  1.00 43.63           C
ATOM    421  CB  TYR A  58      -4.306  21.394  -6.873  1.00 45.17           C
ATOM    422  CG  TYR A  58      -5.703  21.788  -6.424  1.00 44.09           C
ATOM    423  CD1 TYR A  58      -6.807  21.735  -7.228  1.00 40.68           C
ATOM    424  CE1 TYR A  58      -8.038  22.174  -6.756  1.00 42.09           C
ATOM    425  CZ  TYR A  58      -8.154  22.687  -5.483  1.00 43.38           C
ATOM    426  OH  TYR A  58      -9.313  23.184  -4.901  1.00 46.14           O
ATOM    427  CE2 TYR A  58      -7.069  22.751  -4.708  1.00 43.26           C
ATOM    428  CD2 TYR A  58      -5.865  22.313  -5.164  1.00 44.52           C
ATOM    429  C   TYR A  58      -2.732  20.371  -8.500  1.00 44.78           C
ATOM    430  O   TYR A  58      -1.780  20.961  -7.929  1.00 41.17           O
ATOM    431  N   GLY A  59      -2.574  19.543  -9.521  1.00 43.33           N
ATOM    432  CA  GLY A  59      -1.271  19.082  -9.879  1.00 42.99           C
ATOM    433  C   GLY A  59      -1.419  18.194 -11.069  1.00 42.48           C
ATOM    434  O   GLY A  59      -2.458  17.537 -11.226  1.00 46.28           O
ATOM    435  N   LYS A  60      -0.380  18.196 -11.905  1.00 41.06           N
ATOM    436  CA  LYS A  60      -0.159  17.192 -12.969  1.00 38.02           C
ATOM    437  CB  LYS A  60       0.693  17.785 -14.129  1.00 39.06           C
ATOM    438  CG  LYS A  60      -0.081  18.804 -14.991  1.00 42.64           C
ATOM    439  CD  LYS A  60       0.721  19.595 -16.015  1.00 43.37           C
ATOM    440  CE  LYS A  60       1.277  18.673 -17.071  1.00 45.61           C
ATOM    441  NZ  LYS A  60       0.218  18.058 -17.914  1.00 47.23           N
ATOM    442  C   LYS A  60       0.535  15.952 -12.390  1.00 35.34           C
ATOM    443  O   LYS A  60       1.707  15.979 -12.090  1.00 30.00           O
ATOM    444  N   ILE A  61      -0.180  14.852 -12.247  1.00 36.68           N
ATOM    445  CA  ILE A  61       0.469  13.650 -11.726  1.00 39.94           C
ATOM    446  CB  ILE A  61      -0.460  12.437 -11.705  1.00 40.19           C
ATOM    447  CG1 ILE A  61      -1.564  12.643 -10.682  1.00 42.02           C
ATOM    448  CD1 ILE A  61      -2.739  11.747 -10.940  1.00 45.07           C
ATOM    449  CG2 ILE A  61       0.317  11.218 -11.253  1.00 40.57           C
ATOM    450  C   ILE A  61       1.649  13.268 -12.574  1.00 40.25           C
ATOM    451  O   ILE A  61       1.451  13.026 -13.698  1.00 40.97           O
ATOM    452  N   ALA A  62       2.854  13.200 -12.029  1.00 43.18           N
ATOM    453  CA  ALA A  62       4.078  12.866 -12.821  1.00 43.52           C
ATOM    454  CB  ALA A  62       5.054  14.031 -12.778  1.00 42.94           C
ATOM    455  C   ALA A  62       4.795  11.572 -12.360  1.00 43.09           C
ATOM    456  O   ALA A  62       5.452  10.931 -13.134  1.00 50.11           O
ATOM    457  N   VAL A  63       4.717  11.238 -11.092  1.00 42.12           N
ATOM    458  CA  VAL A  63       5.059   9.926 -10.558  1.00 40.46           C
ATOM    459  CB  VAL A  63       6.220  10.039  -9.562  1.00 39.90           C
ATOM    460  CG1 VAL A  63       6.772   8.692  -9.232  1.00 40.37           C
ATOM    461  CG2 VAL A  63       7.346  10.867 -10.131  1.00 41.18           C
ATOM    462  C   VAL A  63       3.840   9.384  -9.786  1.00 42.70           C
ATOM    463  O   VAL A  63       3.113  10.105  -9.064  1.00 42.57           O
ATOM    464  N   MET A  64       3.628   8.094  -9.907  1.00 45.17           N
ATOM    465  CA  MET A  64       2.542   7.463  -9.182  1.00 46.69           C
ATOM    466  CB  MET A  64       1.297   7.427 -10.048  1.00 46.50           C
ATOM    467  CG  MET A  64       0.245   6.497  -9.510  1.00 47.97           C
ATOM    468  SD  MET A  64      -1.340   6.924 -10.164  1.00 53.90           S
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ATOM    469  CE  MET A  64      -1.281   5.954 -11.669  1.00 55.11           C
ATOM    470  C   MET A  64       2.943   6.055  -8.825  1.00 46.95           C
ATOM    471  O   MET A  64       2.932   5.204  -9.713  1.00 51.01           O
ATOM    472  N   GLU A  65       3.285   5.800  -7.568  1.00 45.00           N
ATOM    473  CA  GLU A  65       3.741   4.471  -7.210  1.00 51.09           C
ATOM    474  CB  GLU A  65       5.272   4.446  -7.072  1.00 58.26           C
ATOM    475  CG  GLU A  65       6.052   4.774  -8.359  1.00 61.79           C
ATOM    476  CD  GLU A  65       5.847   3.744  -9.459  1.00 68.45           C
ATOM    477  OE1 GLU A  65       5.349   2.601  -9.164  1.00 68.61           O
ATOM    478  OE2 GLU A  65       6.181   4.097 -10.622  1.00 75.47           O
ATOM    479  C   GLU A  65       3.137   3.988  -5.943  1.00 47.13           C
ATOM    480  O   GLU A  65       3.046   4.755  -5.020  1.00 48.02           O
ATOM    481  N   LEU A  66       2.764   2.708  -5.896  1.00 46.57           N
ATOM    482  CA  LEU A  66       2.233   2.084  -4.670  1.00 46.42           C
ATOM    483  CB  LEU A  66       1.148   1.073  -4.982  1.00 42.76           C
ATOM    484  CG  LEU A  66      -0.251   1.666  -5.184  1.00 41.69           C
ATOM    485  CD1 LEU A  66      -1.139   0.535  -5.691  1.00 41.51           C
ATOM    486  CD2 LEU A  66      -0.881   2.320  -3.940  1.00 40.68           C
ATOM    487  C   LEU A  66       3.332   1.411  -3.870  1.00 49.67           C
ATOM    488  O   LEU A  66       4.264   0.875  -4.431  1.00 54.17           O
ATOM    489  N   PHE A  67       3.232   1.470  -2.555  1.00 53.28           N
ATOM    490  CA  PHE A  67       4.234   0.863  -1.678  1.00 57.57           C
ATOM    491  CB  PHE A  67       5.455   1.787  -1.521  1.00 53.47           C
ATOM    492  CG  PHE A  67       5.187   2.978  -0.690  1.00 54.40           C
ATOM    493  CD1 PHE A  67       4.447   4.030  -1.189  1.00 54.73           C
ATOM    494  CE1 PHE A  67       4.166   5.143  -0.393  1.00 55.50           C
ATOM    495  CZ  PHE A  67       4.623   5.206   0.911  1.00 52.99           C
ATOM    496  CE2 PHE A  67       5.342   4.138   1.424  1.00 54.32           C
ATOM    497  CD2 PHE A  67       5.614   3.033   0.630  1.00 55.90           C
ATOM    498  C   PHE A  67       3.580   0.506  -0.337  1.00 64.11           C
ATOM    499  O   PHE A  67       2.493   1.003  -0.029  1.00 70.80           O
ATOM    500  N   ARG A  68       4.213  -0.382   0.429  1.00 70.32           N
ATOM    501  CA  ARG A  68       3.699  -0.806   1.747  1.00 73.36           C
ATOM    502  CB  ARG A  68       3.125  -2.233   1.701  1.00 69.89           C
ATOM    503  CG  ARG A  68       1.896  -2.352   2.552  1.00 70.81           C
ATOM    504  CD  ARG A  68       1.497  -3.783   2.837  1.00 75.39           C
ATOM    505  NE  ARG A  68       0.436  -4.272   1.952  1.00 75.87           N
ATOM    506  CZ  ARG A  68      -0.332  -5.333   2.203  1.00 81.34           C
ATOM    507  NH1 ARG A  68      -0.198  -6.025   3.340  1.00 89.34           N
ATOM    508  NH2 ARG A  68      -1.258  -5.715   1.321  1.00 83.00           N
ATOM    509  C   ARG A  68       4.846  -0.740   2.743  1.00 79.30           C
ATOM    510  O   ARG A  68       5.662  -1.645   2.765  1.00 77.42           O
ATOM    511  N   PRO A  69       4.929   0.336   3.559  1.00 88.44           N
ATOM    512  CA  PRO A  69       6.031   0.347   4.527  1.00 91.63           C
ATOM    513  CB  PRO A  69       6.054   1.795   5.033  1.00 92.01           C
ATOM    514  CG  PRO A  69       4.653   2.281   4.851  1.00 92.58           C
ATOM    515  CD  PRO A  69       4.023   1.487   3.735  1.00 89.40           C
ATOM    516  C   PRO A  69       5.773  -0.683   5.648  1.00 95.91           C
ATOM    517  O   PRO A  69       4.626  -1.172   5.800  1.00 90.29           O
ATOM    518  N   LYS A  70       6.832  -1.012   6.400  1.00 94.87           N
ATOM    519  CA  LYS A  70       6.796  -2.148   7.310  1.00 93.51           C
ATOM    520  CB  LYS A  70       8.117  -2.328   8.047  1.00101.05           C
ATOM    521  CG  LYS A  70       8.349  -3.777   8.490  1.00108.47           C
ATOM    522  CD  LYS A  70       9.128  -4.606   7.458  1.00113.18           C
ATOM    523  CE  LYS A  70      10.492  -4.005   7.065  1.00112.45           C
ATOM    524  NZ  LYS A  70      11.216  -3.227   8.130  1.00108.58           N
ATOM    525  C   LYS A  70       5.707  -1.904   8.308  1.00 84.14           C
ATOM    526  O   LYS A  70       5.696  -0.834   8.925  1.00 73.15           O
ATOM    527  N   GLY A  71       4.786  -2.868   8.418  1.00 80.46           N
ATOM    528  CA  GLY A  71       3.658  -2.781   9.356  1.00 85.28           C
ATOM    529  C   GLY A  71       2.569  -1.757   8.999  1.00 88.33           C
ATOM    530  O   GLY A  71       2.281  -0.797   9.742  1.00 83.75           O
ATOM    531  N   GLU A  72       1.971  -1.963   7.833  1.00 85.73           N
ATOM    532  CA  GLU A  72       0.797  -1.232   7.418  1.00 74.93           C
ATOM    533  CB  GLU A  72       1.186  -0.169   6.401  1.00 80.05           C
ATOM    534  CG  GLU A  72       0.200   1.009   6.333  1.00 82.89           C
ATOM    535  CD  GLU A  72       0.618   2.200   7.188  1.00 78.44           C
ATOM    536  OE1 GLU A  72      -0.252   3.031   7.501  1.00 71.65           O
ATOM    537  OE2 GLU A  72       1.812   2.336   7.537  1.00 75.09           O
ATOM    538  C   GLU A  72      -0.152  -2.261   6.814  1.00 67.28           C
ATOM    539  O   GLU A  72       0.251  -3.144   6.049  1.00 63.08           O
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ATOM    540  N   SER A  73      -1.417  -2.176   7.176  1.00 65.73           N
ATOM    541  CA  SER A  73      -2.366  -3.210   6.777  1.00 65.10           C
ATOM    542  CB  SER A  73      -3.763  -2.962   7.381  1.00 63.49           C
ATOM    543  OG  SER A  73      -4.375  -1.772   6.913  1.00 62.76           O
ATOM    544  C   SER A  73      -2.408  -3.324   5.266  1.00 66.51           C
ATOM    545  O   SER A  73      -2.382  -4.435   4.751  1.00 67.26           O
ATOM    546  N   LYS A  74      -2.372  -2.162   4.595  1.00 68.69           N
ATOM    547  CA  LYS A  74      -2.539  -2.026   3.150  1.00 69.16           C
ATOM    548  CB  LYS A  74      -3.974  -1.582   2.841  1.00 71.88           C
ATOM    549  CG  LYS A  74      -4.421  -0.331   3.572  1.00 75.71           C
ATOM    550  CD  LYS A  74      -5.870   0.008   3.241  1.00 76.35           C
ATOM    551  CE  LYS A  74      -6.317   1.175   4.098  1.00 79.39           C
ATOM    552  NZ  LYS A  74      -7.777   1.077   4.316  1.00 83.89           N
ATOM    553  C   LYS A  74      -1.517  -1.051   2.543  1.00 66.10           C
ATOM    554  O   LYS A  74      -0.760  -0.443   3.304  1.00 65.87           O
ATOM    555  N   ASP A  75      -1.501  -0.930   1.192  1.00 61.66           N
ATOM    556  CA  ASP A  75      -0.564  -0.058   0.450  1.00 57.96           C
ATOM    557  CB  ASP A  75      -0.405  -0.397  -1.050  1.00 60.78           C
ATOM    558  CG  ASP A  75       0.112  -1.839  -1.358  1.00 63.67           C
ATOM    559  OD1 ASP A  75       0.624  -2.548  -0.466  1.00 71.08           O
ATOM    560  OD2 ASP A  75       0.025  -2.248  -2.561  1.00 63.14           O
ATOM    561  C   ASP A  75      -0.961   1.430   0.506  1.00 56.34           C
ATOM    562  O   ASP A  75      -2.155   1.819   0.631  1.00 55.47           O
ATOM    563  N   LEU A  76       0.080   2.248   0.424  1.00 52.98           N
ATOM    564  CA  LEU A  76      -0.029   3.681   0.368  1.00 52.58           C
ATOM    565  CB  LEU A  76       0.851   4.382   1.409  1.00 52.31           C
ATOM    566  CG  LEU A  76       0.615   4.107   2.894  1.00 50.59           C
ATOM    567  CD1 LEU A  76       1.521   4.971   3.783  1.00 49.79           C
ATOM    568  CD2 LEU A  76      -0.838   4.368   3.181  1.00 50.85           C
ATOM    569  C   LEU A  76       0.499   4.049  -0.977  1.00 52.74           C
ATOM    570  O   LEU A  76       1.319   3.318  -1.562  1.00 49.73           O
ATOM    571  N   LEU A  77       0.063   5.223  -1.423  1.00 50.81           N
ATOM    572  CA  LEU A  77       0.317   5.693  -2.765  1.00 46.41           C
ATOM    573  CB  LEU A  77      -1.025   6.068  -3.375  1.00 42.83           C
ATOM    574  CG  LEU A  77      -0.975   6.668  -4.761  1.00 41.39           C
ATOM    575  CD1 LEU A  77      -0.340   5.706  -5.712  1.00 40.64           C
ATOM    576  CD2 LEU A  77      -2.377   7.009  -5.213  1.00 42.14           C
ATOM    577  C   LEU A  77       1.277   6.877  -2.693  1.00 46.13           C
ATOM    578  O   LEU A  77       1.040   7.809  -1.949  1.00 48.37           O
ATOM    579  N   PHE A  78       2.385   6.825  -3.412  1.00 46.03           N
ATOM    580  CA  PHE A  78       3.219   8.010  -3.563  1.00 48.98           C
ATOM    581  CB  PHE A  78       4.684   7.669  -3.614  1.00 49.04           C
ATOM    582  CG  PHE A  78       5.564   8.852  -3.848  1.00 47.89           C
ATOM    583  CD1 PHE A  78       5.640   9.839  -2.930  1.00 48.10           C
ATOM    584  CE1 PHE A  78       6.454  10.925  -3.123  1.00 50.75           C
ATOM    585  CZ  PHE A  78       7.227  11.022  -4.256  1.00 52.95           C
ATOM    586  CE2 PHE A  78       7.170  10.024  -5.186  1.00 52.94           C
ATOM    587  CD2 PHE A  78       6.324   8.947  -4.980  1.00 51.27           C
ATOM    588  C   PHE A  78       2.893   8.693  -4.857  1.00 49.56           C
ATOM    589  O   PHE A  78       2.834   8.018  -5.870  1.00 52.68           O
ATOM    590  N   ILE A  79       2.755  10.018  -4.824  1.00 47.61           N
ATOM    591  CA  ILE A  79       2.542  10.778  -6.027  1.00 48.61           C
ATOM    592  CB  ILE A  79       1.055  11.144  -6.175  1.00 49.48           C
ATOM    593  CG1 ILE A  79       0.317   9.932  -6.744  1.00 48.54           C
ATOM    594  CD1 ILE A  79      -1.106  10.229  -7.140  1.00 49.32           C
ATOM    595  CG2 ILE A  79       0.823  12.439  -6.996  1.00 48.93           C
ATOM    596  C   ILE A  79       3.387  12.001  -5.985  1.00 48.96           C
ATOM    597  O   ILE A  79       3.487  12.660  -4.943  1.00 55.42           O
ATOM    598  N   LEU A  80       3.970  12.325  -7.125  1.00 45.74           N
ATOM    599  CA  LEU A  80       4.684  13.583  -7.263  1.00 44.77           C
ATOM    600  CB  LEU A  80       6.156  13.297  -7.536  1.00 46.90           C
ATOM    601  CG  LEU A  80       7.053  14.517  -7.731  1.00 46.50           C
ATOM    602  CD1 LEU A  80       6.983  15.454  -6.532  1.00 46.17           C
ATOM    603  CD2 LEU A  80       8.469  14.044  -7.971  1.00 45.49           C
ATOM    604  C   LEU A  80       4.127  14.332  -8.429  1.00 39.83           C
ATOM    605  O   LEU A  80       4.019  13.763  -9.509  1.00 33.78           O
ATOM    606  N   THR A  81       3.815  15.604  -8.252  1.00 38.58           N
ATOM    607  CA  THR A  81       3.324  16.363  -9.416  1.00 42.56           C
ATOM    608  CB  THR A  81       2.413  17.517  -9.095  1.00 39.67           C
ATOM    609  OG1 THR A  81       3.238  18.519  -8.509  1.00 42.48           O
ATOM    610  CG2 THR A  81       1.324  17.073  -8.221  1.00 39.53           C
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ATOM    611  C   THR A  81       4.465  17.013 -10.189  1.00 43.50           C
ATOM    612  O   THR A  81       5.603  16.938  -9.778  1.00 44.79           O
ATOM    613  N   ALA A  82       4.111  17.678 -11.286  1.00 42.70           N
ATOM    614  CA  ALA A  82       5.048  18.416 -12.090  1.00 42.67           C
ATOM    615  CB  ALA A  82       4.460  18.786 -13.435  1.00 42.68           C
ATOM    616  C   ALA A  82       5.546  19.647 -11.412  1.00 40.95           C
ATOM    617  O   ALA A  82       6.643  20.059 -11.692  1.00 44.78           O
ATOM    618  N   LYS A  83       4.797  20.246 -10.521  1.00 39.76           N
ATOM    619  CA  LYS A  83       5.407  21.360  -9.770  1.00 40.13           C
ATOM    620  CB  LYS A  83       4.384  22.426  -9.430  1.00 37.50           C
ATOM    621  CG  LYS A  83       3.971  23.205 -10.619  1.00 35.06           C
ATOM    622  CD  LYS A  83       2.843  24.098 -10.237  1.00 36.05           C
ATOM    623  CE  LYS A  83       2.259  24.679 -11.509  1.00 39.90           C
ATOM    624  NZ  LYS A  83       1.616  26.040 -11.417  1.00 43.43           N
ATOM    625  C   LYS A  83       6.189  20.930  -8.525  1.00 42.19           C
ATOM    626  O   LYS A  83       6.609  21.775  -7.722  1.00 43.28           O
ATOM    627  N   TYR A  84       6.431  19.626  -8.408  1.00 44.89           N
ATOM    628  CA  TYR A  84       7.270  19.034  -7.354  1.00 45.59           C
ATOM    629  CB  TYR A  84       8.685  19.669  -7.273  1.00 45.95           C
ATOM    630  CG  TYR A  84       9.437  19.780  -8.627  1.00 47.28           C
ATOM    631  CD1 TYR A  84      10.181  18.719  -9.102  1.00 47.85           C
ATOM    632  CE1 TYR A  84      10.863  18.798 -10.295  1.00 49.95           C
ATOM    633  CZ  TYR A  84      10.837  19.953 -11.032  1.00 49.71           C
ATOM    634  OH  TYR A  84      11.537  19.930 -12.203  1.00 56.17           O
ATOM    635  CE2 TYR A  84      10.137  21.048 -10.598  1.00 45.99           C
ATOM    636  CD2 TYR A  84       9.439  20.963  -9.391  1.00 46.69           C
ATOM    637  C   TYR A  84       6.520  18.993  -6.017  1.00 45.78           C
ATOM    638  O   TYR A  84       7.123  18.950  -4.985  1.00 42.36           O
ATOM    639  N   ASN A  85       5.188  18.940  -6.093  1.00 49.82           N
ATOM    640  CA  ASN A  85       4.303  18.491  -4.994  1.00 50.13           C
ATOM    641  CB  ASN A  85       2.845  18.774  -5.373  1.00 48.18           C
ATOM    642  CG  ASN A  85       2.591  20.257  -5.599  1.00 51.30           C
ATOM    643  OD1 ASN A  85       2.227  20.704  -6.701  1.00 50.99           O
ATOM    644  ND2 ASN A  85       2.839  21.046  -4.552  1.00 52.99           N
ATOM    645  C   ASN A  85       4.437  16.999  -4.701  1.00 52.15           C
ATOM    646  O   ASN A  85       4.003  16.157  -5.488  1.00 57.59           O
ATOM    647  N   ALA A  86       5.055  16.647  -3.589  1.00 54.10           N
ATOM    648  CA  ALA A  86       5.056  15.236  -3.153  1.00 54.19           C
ATOM    649  CB  ALA A  86       6.375  14.881  -2.526  1.00 57.12           C
ATOM    650  C   ALA A  86       3.997  15.012  -2.146  1.00 48.88           C
ATOM    651  O   ALA A  86       3.815  15.843  -1.267  1.00 47.17           O
ATOM    652  N   CYS A  87       3.299  13.899  -2.272  1.00 47.72           N
ATOM    653  CA  CYS A  87       2.447  13.434  -1.181  1.00 48.95           C
ATOM    654  CB  CYS A  87       0.988  13.818  -1.396  1.00 49.03           C
ATOM    655  SG  CYS A  87       0.272  13.417  -2.989  1.00 48.82           S
ATOM    656  C   CYS A  87       2.509  11.966  -1.033  1.00 47.37           C
ATOM    657  O   CYS A  87       2.817  11.307  -2.005  1.00 51.39           O
ATOM    658  N   ILE A  88       2.208  11.481   0.175  1.00 44.32           N
ATOM    659  CA  ILE A  88       1.857  10.089   0.437  1.00 43.69           C
ATOM    660  CB  ILE A  88       2.671   9.513   1.577  1.00 45.16           C
ATOM    661  CG1 ILE A  88       4.102   9.260   1.075  1.00 46.07           C
ATOM    662  CD1 ILE A  88       5.088   8.765   2.110  1.00 44.30           C
ATOM    663  CG2 ILE A  88       2.053   8.206   2.051  1.00 47.69           C
ATOM    664  C   ILE A  88       0.398   9.999   0.819  1.00 45.27           C
ATOM    665  O   ILE A  88      -0.059  10.740   1.654  1.00 46.70           O
ATOM    666  N   LEU A  89      -0.342   9.077   0.223  1.00 48.45           N
ATOM    667  CA  LEU A  89      -1.798   9.103   0.324  1.00 49.79           C
ATOM    668  CB  LEU A  89      -2.448   9.418  -1.033  1.00 52.39           C
ATOM    669  CG  LEU A  89      -2.180  10.741  -1.750  1.00 56.42           C
ATOM    670  CD1 LEU A  89      -2.961  10.849  -3.049  1.00 60.31           C
ATOM    671  CD2 LEU A  89      -2.552  11.917  -0.885  1.00 58.04           C
ATOM    672  C   LEU A  89      -2.271   7.757   0.777  1.00 49.38           C
ATOM    673  O   LEU A  89      -1.640   6.756   0.451  1.00 48.59           O
ATOM    674  N   GLU A  90      -3.406   7.763   1.481  1.00 50.90           N
ATOM    675  CA  GLU A  90      -4.106   6.575   1.945  1.00 55.01           C
ATOM    676  CB  GLU A  90      -3.830   6.418   3.417  1.00 62.32           C
ATOM    677  CG  GLU A  90      -4.501   5.213   4.056  1.00 69.81           C
ATOM    678  CD  GLU A  90      -4.412   5.226   5.567  1.00 76.00           C
ATOM    679  OE1 GLU A  90      -3.896   6.234   6.167  1.00 73.83           O
ATOM    680  OE2 GLU A  90      -4.883   4.200   6.124  1.00 81.57           O
ATOM    681  C   GLU A  90      -5.640   6.616   1.753  1.00 55.70           C
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ATOM	682	O	GLU	A	90	-6.304	7.663	1.934	1.00	53.95	O
ATOM	683	N	TYR	A	91	-6.194	5.440	1.461	1.00	56.54	N
ATOM	684	CA	TYR	A	91	-7.625	5.264	1.194	1.00	57.20	C
ATOM	685	CB	TYR	A	91	-7.793	4.036	0.314	1.00	55.59	C
ATOM	686	CG	TYR	A	91	-9.136	3.780	-0.270	1.00	52.74	C
ATOM	687	CD1	TYR	A	91	-9.513	4.297	-1.485	1.00	56.14	C
ATOM	688	CE1	TYR	A	91	-10.757	4.014	-2.030	1.00	57.78	C
ATOM	689	CZ	TYR	A	91	-11.612	3.182	-1.350	1.00	57.30	C
ATOM	690	OH	TYR	A	91	-12.868	2.816	-1.781	1.00	57.05	O
ATOM	691	CE2	TYR	A	91	-11.234	2.676	-0.154	1.00	58.23	C
ATOM	692	CD2	TYR	A	91	-9.992	2.962	0.358	1.00	56.06	C
ATOM	693	C	TYR	A	91	-8.379	5.077	2.504	1.00	58.02	C
ATOM	694	O	TYR	A	91	-8.043	4.221	3.273	1.00	57.15	O
ATOM	695	N	LYS	A	92	-9.404	5.881	2.737	1.00	61.56	N
ATOM	696	CA	LYS	A	92	-10.154	5.845	3.959	1.00	65.18	C
ATOM	697	CB	LYS	A	92	-9.854	7.098	4.762	1.00	68.82	C
ATOM	698	CG	LYS	A	92	-8.933	6.820	5.914	1.00	78.32	C
ATOM	699	CD	LYS	A	92	-9.614	6.028	7.039	1.00	82.94	C
ATOM	700	CE	LYS	A	92	-8.880	6.244	8.374	1.00	87.48	C
ATOM	701	NZ	LYS	A	92	-7.406	5.980	8.282	1.00	85.82	N
ATOM	702	C	LYS	A	92	-11.655	5.704	3.732	1.00	68.50	C
ATOM	703	O	LYS	A	92	-12.361	6.683	3.458	1.00	64.60	O
ATOM	704	N	GLN	A	93	-12.152	4.478	3.893	1.00	71.90	N
ATOM	705	CA	GLN	A	93	-13.582	4.269	4.019	1.00	72.73	C
ATOM	706	CB	GLN	A	93	-13.928	2.871	3.626	1.00	78.18	C
ATOM	707	CG	GLN	A	93	-15.408	2.657	3.425	1.00	80.21	C
ATOM	708	CD	GLN	A	93	-15.666	2.077	2.063	1.00	86.46	C
ATOM	709	OE1	GLN	A	93	-14.803	1.377	1.486	1.00	87.95	O
ATOM	710	NE2	GLN	A	93	-16.843	2.387	1.510	1.00	89.41	N
ATOM	711	C	GLN	A	93	-13.962	4.481	5.464	1.00	76.38	C
ATOM	712	O	GLN	A	93	-13.467	3.778	6.354	1.00	81.86	O
ATOM	713	N	SER	A	94	-14.774	5.503	5.699	1.00	75.75	N
ATOM	714	CA	SER	A	94	-15.346	5.789	7.005	1.00	69.58	C
ATOM	715	CB	SER	A	94	-14.888	7.162	7.525	1.00	61.42	C
ATOM	716	C	SER	A	94	-16.855	5.668	6.708	1.00	71.86	C
ATOM	717	O	SER	A	94	-17.498	6.562	6.148	1.00	69.43	O
ATOM	718	N	GLY	A	95	-17.384	4.484	6.988	1.00	77.84	N
ATOM	719	CA	GLY	A	95	-18.811	4.217	6.887	1.00	77.67	C
ATOM	720	C	GLY	A	95	-19.220	3.923	5.478	1.00	77.11	C
ATOM	721	O	GLY	A	95	-18.718	2.978	4.883	1.00	79.28	O
ATOM	722	N	GLU	A	96	-20.143	4.729	4.958	1.00	79.14	N
ATOM	723	CA	GLU	A	96	-20.588	4.641	3.557	1.00	81.46	C
ATOM	724	CB	GLU	A	96	-22.142	4.585	3.456	1.00	79.12	C
ATOM	725	C	GLU	A	96	-19.985	5.811	2.730	1.00	74.77	C
ATOM	726	O	GLU	A	96	-20.496	6.144	1.673	1.00	74.22	O
ATOM	727	N	SER	A	97	-18.893	6.417	3.198	1.00	69.03	N
ATOM	728	CA	SER	A	97	-18.185	7.392	2.385	1.00	67.90	C
ATOM	729	CB	SER	A	97	-18.542	8.825	2.820	1.00	63.74	C
ATOM	730	OG	SER	A	97	-17.968	9.119	4.041	1.00	56.82	O
ATOM	731	C	SER	A	97	-16.661	7.094	2.311	1.00	68.17	C
ATOM	732	O	SER	A	97	-16.069	6.515	3.220	1.00	72.32	O
ATOM	733	N	ILE	A	98	-16.070	7.474	1.181	1.00	67.05	N
ATOM	734	CA	ILE	A	98	-14.742	7.045	0.742	1.00	64.47	C
ATOM	735	CB	ILE	A	98	-14.809	6.382	-0.672	1.00	66.14	C
ATOM	736	CG1	ILE	A	98	-15.917	5.328	-0.766	1.00	69.43	C
ATOM	737	CD1	ILE	A	98	-17.252	5.863	-1.310	1.00	78.70	C
ATOM	738	CG2	ILE	A	98	-13.476	5.790	-1.082	1.00	66.43	C
ATOM	739	C	ILE	A	98	-13.926	8.332	0.634	1.00	62.10	C
ATOM	740	O	ILE	A	98	-14.454	9.325	0.137	1.00	67.96	O
ATOM	741	N	ASP	A	99	-12.655	8.304	1.046	1.00	58.38	N
ATOM	742	CA	ASP	A	99	-11.805	9.508	1.164	1.00	58.36	C
ATOM	743	CB	ASP	A	99	-12.025	10.206	2.521	1.00	61.67	C
ATOM	744	CG	ASP	A	99	-13.153	11.232	2.504	1.00	64.23	C
ATOM	745	OD1	ASP	A	99	-13.754	11.569	1.458	1.00	67.72	O
ATOM	746	OD2	ASP	A	99	-13.424	11.747	3.588	1.00	76.12	O
ATOM	747	C	ASP	A	99	-10.317	9.222	1.058	1.00	56.57	C
ATOM	748	O	ASP	A	99	-9.834	8.240	1.589	1.00	61.19	O
ATOM	749	N	ILE	A	100	-9.579	10.117	0.414	1.00	56.01	N
ATOM	750	CA	ILE	A	100	-8.159	9.920	0.206	1.00	53.27	C
ATOM	751	CB	ILE	A	100	-7.806	9.984	-1.284	1.00	52.13	C
ATOM	752	CG1	ILE	A	100	-8.906	9.247	-2.066	1.00	52.79	C

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ATOM    753  CD1 ILE A 100      -8.436   8.369  -3.181  1.00 56.05           C
ATOM    754  CG2 ILE A 100      -6.368   9.490  -1.508  1.00 49.37           C
ATOM    755  C   ILE A 100      -7.438  10.970   1.034  1.00 53.05           C
ATOM    756  O   ILE A 100      -7.420  12.178   0.728  1.00 53.89           O
ATOM    757  N   ILE A 101      -6.839  10.479   2.096  1.00 51.06           N
ATOM    758  CA  ILE A 101      -6.298  11.334   3.111  1.00 53.96           C
ATOM    759  CB  ILE A 101      -6.697  10.851   4.532  1.00 56.54           C
ATOM    760  CG1 ILE A 101      -6.069   9.488   4.854  1.00 59.52           C
ATOM    761  CD1 ILE A 101      -6.137   9.078   6.291  1.00 61.61           C
ATOM    762  CG2 ILE A 101      -8.212  10.708   4.637  1.00 56.65           C
ATOM    763  C   ILE A 101      -4.804  11.327   2.888  1.00 53.61           C
ATOM    764  O   ILE A 101      -4.240  10.370   2.355  1.00 51.73           O
ATOM    765  N   THR A 102      -4.169  12.384   3.362  1.00 54.11           N
ATOM    766  CA  THR A 102      -2.801  12.697   3.039  1.00 49.59           C
ATOM    767  CB  THR A 102      -2.745  14.171   2.662  1.00 49.20           C
ATOM    768  OG1 THR A 102      -3.700  14.434   1.623  1.00 51.50           O
ATOM    769  CG2 THR A 102      -1.392  14.559   2.221  1.00 51.05           C
ATOM    770  C   THR A 102      -1.982  12.451   4.272  1.00 49.45           C
ATOM    771  O   THR A 102      -1.980  13.257   5.206  1.00 55.36           O
ATOM    772  N   ARG A 103      -1.310  11.323   4.294  1.00 47.26           N
ATOM    773  CA  ARG A 103      -0.372  11.012   5.352  1.00 48.19           C
ATOM    774  CB  ARG A 103       0.096   9.575   5.202  1.00 49.65           C
ATOM    775  CG  ARG A 103      -1.021   8.578   5.487  1.00 53.14           C
ATOM    776  CD  ARG A 103      -1.148   8.307   6.981  1.00 52.54           C
ATOM    777  NE  ARG A 103      -0.039   7.446   7.366  1.00 50.53           N
ATOM    778  CZ  ARG A 103      -0.032   6.121   7.236  1.00 50.77           C
ATOM    779  NH1 ARG A 103      -1.087   5.446   6.764  1.00 49.86           N
ATOM    780  NH2 ARG A 103       1.042   5.452   7.605  1.00 52.24           N
ATOM    781  C   ARG A 103       0.877  11.892   5.411  1.00 50.86           C
ATOM    782  O   ARG A 103       1.504  11.969   6.450  1.00 61.85           O
ATOM    783  N   ALA A 104       1.281  12.517   4.314  1.00 48.97           N
ATOM    784  CA  ALA A 104       2.528  13.282   4.262  1.00 45.79           C
ATOM    785  CB  ALA A 104       3.737  12.362   4.262  1.00 43.83           C
ATOM    786  C   ALA A 104       2.536  14.121   3.008  1.00 46.52           C
ATOM    787  O   ALA A 104       1.983  13.746   1.992  1.00 42.88           O
ATOM    788  N   HIS A 105       3.171  15.272   3.063  1.00 49.70           N
ATOM    789  CA  HIS A 105       3.251  16.073   1.869  1.00 50.89           C
ATOM    790  CB  HIS A 105       1.927  16.774   1.600  1.00 51.38           C
ATOM    791  CG  HIS A 105       1.692  17.913   2.523  1.00 53.93           C
ATOM    792  ND1 HIS A 105       1.406  17.726   3.860  1.00 57.72           N
ATOM    793  CE1 HIS A 105       1.313  18.900   4.452  1.00 56.98           C
ATOM    794  NE2 HIS A 105       1.542  19.837   3.545  1.00 55.84           N
ATOM    795  CD2 HIS A 105       1.806  19.246   2.339  1.00 51.71           C
ATOM    796  C   HIS A 105       4.303  17.112   2.040  1.00 48.43           C
ATOM    797  O   HIS A 105       4.422  17.700   3.099  1.00 50.73           O
ATOM    798  N   GLY A 106       5.048  17.346   0.978  1.00 47.91           N
ATOM    799  CA  GLY A 106       5.896  18.521   0.897  1.00 48.89           C
ATOM    800  C   GLY A 106       6.382  18.784  -0.509  1.00 47.17           C
ATOM    801  O   GLY A 106       6.326  17.891  -1.342  1.00 53.37           O
ATOM    802  N   ASN A 107       6.897  19.975  -0.763  1.00 43.94           N
ATOM    803  CA  ASN A 107       7.372  20.299  -2.079  1.00 47.06           C
ATOM    804  CB  ASN A 107       7.011  21.733  -2.434  1.00 50.09           C
ATOM    805  CG  ASN A 107       7.306  22.066  -3.866  1.00 53.77           C
ATOM    806  OD1 ASN A 107       8.384  21.790  -4.361  1.00 58.13           O
ATOM    807  ND2 ASN A 107       6.347  22.658  -4.543  1.00 59.29           N
ATOM    808  C   ASN A 107       8.864  20.059  -2.206  1.00 47.02           C
ATOM    809  O   ASN A 107       9.622  20.763  -1.608  1.00 51.85           O
ATOM    810  N   VAL A 108       9.285  19.148  -3.079  1.00 47.79           N
ATOM    811  CA  VAL A 108      10.669  18.666  -3.118  1.00 47.12           C
ATOM    812  CB  VAL A 108      10.703  17.165  -3.404  1.00 46.51           C
ATOM    813  CG1 VAL A 108       9.798  16.445  -2.439  1.00 46.42           C
ATOM    814  CG2 VAL A 108      10.226  16.848  -4.815  1.00 49.30           C
ATOM    815  C   VAL A 108      11.543  19.397  -4.112  1.00 51.22           C
ATOM    816  O   VAL A 108      12.609  18.917  -4.464  1.00 56.63           O
ATOM    817  N   GLN A 109      11.108  20.562  -4.559  1.00 53.35           N
ATOM    818  CA  GLN A 109      11.867  21.393  -5.490  1.00 58.39           C
ATOM    819  CB  GLN A 109      11.029  22.618  -5.682  1.00 62.94           C
ATOM    820  CG  GLN A 109      11.517  23.706  -6.577  1.00 68.36           C
ATOM    821  CD  GLN A 109      10.326  24.522  -7.025  1.00 75.56           C
ATOM    822  OE1 GLN A 109       9.331  24.684  -6.285  1.00 78.20           O
ATOM    823  NE2 GLN A 109      10.380  24.991  -8.256  1.00 79.30           N
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ATOM    824  C   GLN A 109      13.197  21.828  -4.933  1.00 60.61           C
ATOM    825  O   GLN A 109      13.286  21.967  -3.743  1.00 61.78           O
ATOM    826  N   ASP A 110      14.217  22.033  -5.778  1.00 65.43           N
ATOM    827  CA  ASP A 110      15.471  22.784  -5.429  1.00 67.40           C
ATOM    828  CB  ASP A 110      16.701  21.965  -5.843  1.00 66.15           C
ATOM    829  CG  ASP A 110      16.847  20.693  -5.055  1.00 62.70           C
ATOM    830  OD1 ASP A 110      16.405  20.706  -3.914  1.00 59.32           O
ATOM    831  OD2 ASP A 110      17.411  19.681  -5.536  1.00 65.85           O
ATOM    832  C   ASP A 110      15.559  24.187  -6.106  1.00 71.79           C
ATOM    833  O   ASP A 110      15.330  24.282  -7.311  1.00 78.30           O
ATOM    834  N   ARG A 111      15.911  25.253  -5.363  1.00 76.56           N
ATOM    835  CA  ARG A 111      15.990  26.641  -5.934  1.00 76.01           C
ATOM    836  CB  ARG A 111      16.425  27.666  -4.858  1.00 68.40           C
ATOM    837  C   ARG A 111      16.909  26.713  -7.204  1.00 79.48           C
ATOM    838  O   ARG A 111      16.474  27.169  -8.262  1.00 80.60           O
ATOM    839  N   ILE A 112      18.155  26.241  -7.073  1.00 79.58           N
ATOM    840  CA  ILE A 112      19.124  26.124  -8.157  1.00 75.26           C
ATOM    841  CB  ILE A 112      20.554  26.568  -7.666  1.00 61.20           C
ATOM    842  C   ILE A 112      19.048  24.637  -8.651  1.00 82.82           C
ATOM    843  O   ILE A 112      19.347  23.684  -7.882  1.00 90.40           O
ATOM    844  N   GLY A 113      18.595  24.440  -9.904  1.00 82.38           N
ATOM    845  CA  GLY A 113      18.653  23.113 -10.614  1.00 78.36           C
ATOM    846  C   GLY A 113      18.242  23.084 -12.118  1.00 77.60           C
ATOM    847  O   GLY A 113      17.204  23.676 -12.507  1.00 68.87           O
ATOM    848  N   ARG A 114      19.041  22.403 -12.973  1.00 77.96           N
ATOM    849  CA  ARG A 114      18.672  22.159 -14.417  1.00 78.28           C
ATOM    850  CB  ARG A 114      19.879  22.129 -15.404  1.00 73.48           C
ATOM    851  C   ARG A 114      17.877  20.840 -14.484  1.00 75.49           C
ATOM    852  O   ARG A 114      18.418  19.767 -14.168  1.00 79.51           O
ATOM    853  N   PRO A 115      16.581  20.911 -14.859  1.00 69.41           N
ATOM    854  CA  PRO A 115      15.778  19.667 -14.837  1.00 62.52           C
ATOM    855  CB  PRO A 115      14.359  20.153 -15.120  1.00 61.34           C
ATOM    856  CG  PRO A 115      14.390  21.649 -14.989  1.00 63.02           C
ATOM    857  CD  PRO A 115      15.785  22.082 -15.280  1.00 65.33           C
ATOM    858  C   PRO A 115      16.236  18.719 -15.907  1.00 56.91           C
ATOM    859  O   PRO A 115      16.488  19.151 -17.023  1.00 54.46           O
ATOM    860  N   SER A 116      16.363  17.455 -15.569  1.00 55.96           N
ATOM    861  CA  SER A 116      17.001  16.500 -16.471  1.00 66.16           C
ATOM    862  CB  SER A 116      17.128  15.158 -15.783  1.00 70.10           C
ATOM    863  OG  SER A 116      17.654  15.346 -14.490  1.00 76.88           O
ATOM    864  C   SER A 116      16.291  16.271 -17.795  1.00 70.62           C
ATOM    865  O   SER A 116      15.078  16.373 -17.861  1.00 76.73           O
ATOM    866  N   GLU A 117      17.043  15.907 -18.832  1.00 74.86           N
ATOM    867  CA  GLU A 117      16.471  15.733 -20.172  1.00 75.45           C
ATOM    868  CB  GLU A 117      17.540  15.693 -21.272  1.00 82.27           C
ATOM    869  CG  GLU A 117      18.069  17.049 -21.734  1.00 88.29           C
ATOM    870  CD  GLU A 117      19.143  16.929 -22.817  1.00 94.14           C
ATOM    871  OE1 GLU A 117      20.074  17.761 -22.858  1.00 99.09           O
ATOM    872  OE2 GLU A 117      19.069  15.996 -23.638  1.00101.87           O
ATOM    873  C   GLU A 117      15.632  14.502 -20.284  1.00 72.06           C
ATOM    874  O   GLU A 117      14.887  14.397 -21.237  1.00 80.37           O
ATOM    875  N   THR A 118      15.756  13.560 -19.356  1.00 72.67           N
ATOM    876  CA  THR A 118      14.833  12.403 -19.299  1.00 75.68           C
ATOM    877  CB  THR A 118      15.602  11.129 -18.969  1.00 78.26           C
ATOM    878  OG1 THR A 118      16.965  11.336 -19.322  1.00 80.04           O
ATOM    879  CG2 THR A 118      15.054   9.959 -19.735  1.00 83.14           C
ATOM    880  C   THR A 118      13.672  12.588 -18.296  1.00 70.30           C
ATOM    881  O   THR A 118      12.984  11.651 -17.863  1.00 63.75           O
ATOM    882  N   GLY A 119      13.448  13.830 -17.940  1.00 71.53           N
ATOM    883  CA  GLY A 119      12.362  14.168 -17.070  1.00 73.84           C
ATOM    884  C   GLY A 119      12.481  13.665 -15.653  1.00 67.38           C
ATOM    885  O   GLY A 119      13.512  13.155 -15.226  1.00 70.63           O
ATOM    886  N   ILE A 120      11.367  13.812 -14.954  1.00 61.25           N
ATOM    887  CA  ILE A 120      11.229  13.393 -13.594  1.00 54.05           C
ATOM    888  CB  ILE A 120       9.865  13.801 -13.059  1.00 52.55           C
ATOM    889  CG1 ILE A 120       9.685  15.332 -13.239  1.00 55.14           C
ATOM    890  CD1 ILE A 120       9.354  16.188 -12.010  1.00 56.56           C
ATOM    891  CG2 ILE A 120       9.711  13.266 -11.650  1.00 51.99           C
ATOM    892  C   ILE A 120      11.282  11.910 -13.633  1.00 50.93           C
ATOM    893  O   ILE A 120      10.658  11.353 -14.477  1.00 50.42           O
ATOM    894  N   ILE A 121      12.064  11.284 -12.770  1.00 49.35           N
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ATOM    895  CA  ILE A 121      11.943   9.856 -12.538  1.00 52.07           C
ATOM    896  CB  ILE A 121      13.172   9.089 -13.003  1.00 53.29           C
ATOM    897  CG1 ILE A 121      13.182   9.041 -14.534  1.00 54.83           C
ATOM    898  CD1 ILE A 121      14.529   8.705 -15.121  1.00 55.63           C
ATOM    899  CG2 ILE A 121      13.203   7.689 -12.397  1.00 51.51           C
ATOM    900  C   ILE A 121      11.883   9.713 -11.071  1.00 54.33           C
ATOM    901  O   ILE A 121      12.672  10.363 -10.409  1.00 56.66           O
ATOM    902  N   GLY A 122      11.001   8.818 -10.592  1.00 58.02           N
ATOM    903  CA  GLY A 122      10.735   8.558  -9.159  1.00 53.84           C
ATOM    904  C   GLY A 122      10.562   7.070  -8.848  1.00 53.08           C
ATOM    905  O   GLY A 122       9.849   6.362  -9.538  1.00 49.84           O
ATOM    906  N   ILE A 123      11.194   6.610  -7.773  1.00 56.03           N
ATOM    907  CA  ILE A 123      11.350   5.178  -7.484  1.00 57.82           C
ATOM    908  CB  ILE A 123      12.641   4.623  -8.130  1.00 57.79           C
ATOM    909  CG1 ILE A 123      13.822   5.552  -7.848  1.00 55.17           C
ATOM    910  CD1 ILE A 123      15.124   5.005  -8.342  1.00 56.03           C
ATOM    911  CG2 ILE A 123      12.463   4.418  -9.635  1.00 58.20           C
ATOM    912  C   ILE A 123      11.435   4.884  -5.987  1.00 60.01           C
ATOM    913  O   ILE A 123      11.892   5.725  -5.215  1.00 60.53           O
ATOM    914  N   ILE A 124      11.044   3.672  -5.591  1.00 60.36           N
ATOM    915  CA  ILE A 124      11.049   3.293  -4.198  1.00 61.06           C
ATOM    916  CB  ILE A 124       9.604   3.162  -3.717  1.00 63.31           C
ATOM    917  CG1 ILE A 124       8.814   4.427  -4.091  1.00 63.35           C
ATOM    918  CD1 ILE A 124       7.513   4.639  -3.345  1.00 63.23           C
ATOM    919  CG2 ILE A 124       9.546   2.888  -2.211  1.00 67.90           C
ATOM    920  C   ILE A 124      11.766   1.968  -4.025  1.00 64.99           C
ATOM    921  O   ILE A 124      11.475   1.030  -4.743  1.00 67.05           O
ATOM    922  N   ASP A 125      12.671   1.864  -3.055  1.00 72.94           N
ATOM    923  CA  ASP A 125      13.356   0.582  -2.820  1.00 79.86           C
ATOM    924  CB  ASP A 125      14.581   0.699  -1.867  1.00 84.31           C
ATOM    925  CG  ASP A 125      14.290   0.272  -0.427  1.00 85.41           C
ATOM    926  OD1 ASP A 125      13.733   1.099   0.330  1.00 90.46           O
ATOM    927  OD2 ASP A 125      14.663  -0.869  -0.052  1.00 80.49           O
ATOM    928  C   ASP A 125      12.347  -0.458  -2.339  1.00 79.18           C
ATOM    929  O   ASP A 125      11.370  -0.100  -1.680  1.00 75.13           O
ATOM    930  N   PRO A 126      12.579  -1.744  -2.667  1.00 81.41           N
ATOM    931  CA  PRO A 126      11.581  -2.753  -2.339  1.00 82.11           C
ATOM    932  CB  PRO A 126      12.048  -4.005  -3.089  1.00 81.06           C
ATOM    933  CG  PRO A 126      13.329  -3.643  -3.756  1.00 82.34           C
ATOM    934  CD  PRO A 126      13.816  -2.357  -3.169  1.00 82.21           C
ATOM    935  C   PRO A 126      11.462  -3.059  -0.866  1.00 84.35           C
ATOM    936  O   PRO A 126      10.485  -3.671  -0.500  1.00 85.14           O
ATOM    937  N   GLU A 127      12.438  -2.679  -0.036  1.00 91.04           N
ATOM    938  CA  GLU A 127      12.243  -2.708   1.423  1.00 93.78           C
ATOM    939  CB  GLU A 127      13.559  -2.584   2.184  1.00100.16           C
ATOM    940  CG  GLU A 127      14.584  -3.693   2.036  1.00102.60           C
ATOM    941  CD  GLU A 127      15.722  -3.479   3.041  1.00106.00           C
ATOM    942  OE1 GLU A 127      16.405  -2.412   2.957  1.00105.48           O
ATOM    943  OE2 GLU A 127      15.905  -4.353   3.931  1.00 95.68           O
ATOM    944  C   GLU A 127      11.327  -1.584   1.945  1.00 89.78           C
ATOM    945  O   GLU A 127      10.808  -1.721   3.054  1.00 91.00           O
ATOM    946  N   CYS A 128      11.170  -0.498   1.164  1.00 82.65           N
ATOM    947  CA  CYS A 128      10.444   0.754   1.521  1.00 73.84           C
ATOM    948  CB  CYS A 128       8.969   0.509   1.883  1.00 68.83           C
ATOM    949  SG  CYS A 128       8.016  -0.403   0.648  1.00 63.43           S
ATOM    950  C   CYS A 128      11.159   1.576   2.599  1.00 76.06           C
ATOM    951  O   CYS A 128      10.534   2.166   3.486  1.00 78.10           O
ATOM    952  N   ARG A 129      12.480   1.604   2.511  1.00 81.28           N
ATOM    953  CA  ARG A 129      13.284   2.495   3.322  1.00 87.79           C
ATOM    954  CB  ARG A 129      14.767   2.065   3.346  1.00 97.19           C
ATOM    955  CG  ARG A 129      15.090   0.721   4.012  1.00106.15           C
ATOM    956  CD  ARG A 129      14.243   0.445   5.260  1.00116.20           C
ATOM    957  NE  ARG A 129      14.997   0.042   6.455  1.00125.77           N
ATOM    958  CZ  ARG A 129      15.734   0.855   7.229  1.00126.72           C
ATOM    959  NH1 ARG A 129      15.905   2.151   6.928  1.00123.41           N
ATOM    960  NH2 ARG A 129      16.331   0.355   8.316  1.00124.06           N
ATOM    961  C   ARG A 129      13.175   3.899   2.787  1.00 81.98           C
ATOM    962  O   ARG A 129      13.117   4.847   3.556  1.00 82.54           O
ATOM    963  N   MET A 130      13.137   4.053   1.473  1.00 78.74           N
ATOM    964  CA  MET A 130      13.189   5.393   0.917  1.00 76.38           C
ATOM    965  CB  MET A 130      14.646   5.815   0.777  1.00 76.55           C
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ATOM    966  CG  MET A 130      15.296   5.327  -0.529  1.00 73.80           C
ATOM    967  SD  MET A 130      17.080   5.382  -0.526  1.00 63.88           S
ATOM    968  CE  MET A 130      17.273   4.156   0.760  1.00 70.24           C
ATOM    969  C   MET A 130      12.584   5.525  -0.448  1.00 71.67           C
ATOM    970  O   MET A 130      12.331   4.529  -1.116  1.00 72.90           O
ATOM    971  N   ILE A 131      12.492   6.786  -0.868  1.00 66.54           N
ATOM    972  CA  ILE A 131      12.080   7.184  -2.194  1.00 66.48           C
ATOM    973  CB  ILE A 131      10.892   8.153  -2.097  1.00 67.69           C
ATOM    974  CG1 ILE A 131       9.686   7.405  -1.543  1.00 71.76           C
ATOM    975  CD1 ILE A 131       8.482   8.288  -1.315  1.00 75.90           C
ATOM    976  CG2 ILE A 131      10.567   8.799  -3.448  1.00 67.54           C
ATOM    977  C   ILE A 131      13.207   7.916  -2.890  1.00 64.06           C
ATOM    978  O   ILE A 131      13.727   8.873  -2.336  1.00 66.49           O
ATOM    979  N   GLY A 132      13.556   7.485  -4.104  1.00 61.75           N
ATOM    980  CA  GLY A 132      14.445   8.245  -5.002  1.00 62.08           C
ATOM    981  C   GLY A 132      13.744   9.151  -6.041  1.00 61.44           C
ATOM    982  O   GLY A 132      12.796   8.736  -6.725  1.00 55.45           O
ATOM    983  N   LEU A 133      14.222  10.386  -6.174  1.00 58.51           N
ATOM    984  CA  LEU A 133      13.730  11.280  -7.209  1.00 58.80           C
ATOM    985  CB  LEU A 133      12.891  12.446  -6.631  1.00 58.35           C
ATOM    986  CG  LEU A 133      11.829  12.077  -5.594  1.00 58.28           C
ATOM    987  CD1 LEU A 133      11.202  13.278  -4.946  1.00 56.03           C
ATOM    988  CD2 LEU A 133      10.718  11.287  -6.234  1.00 62.47           C
ATOM    989  C   LEU A 133      14.920  11.819  -7.969  1.00 56.59           C
ATOM    990  O   LEU A 133      15.747  12.543  -7.396  1.00 58.20           O
ATOM    991  N   ARG A 134      14.998  11.475  -9.253  1.00 52.18           N
ATOM    992  CA  ARG A 134      15.910  12.140 -10.141  1.00 52.65           C
ATOM    993  CB  ARG A 134      16.379  11.193 -11.231  1.00 54.72           C
ATOM    994  CG  ARG A 134      17.621  11.694 -11.933  1.00 56.03           C
ATOM    995  CD  ARG A 134      17.452  12.963 -12.753  1.00 54.82           C
ATOM    996  NE  ARG A 134      17.683  12.626 -14.125  1.00 58.60           N
ATOM    997  CZ  ARG A 134      16.819  12.009 -14.912  1.00 66.06           C
ATOM    998  NH1 ARG A 134      15.609  11.689 -14.496  1.00 66.45           N
ATOM    999  NH2 ARG A 134      17.174  11.720 -16.155  1.00 74.13           N
ATOM   1000  C   ARG A 134      15.263  13.391 -10.716  1.00 54.38           C
ATOM   1001  O   ARG A 134      14.655  13.376 -11.776  1.00 53.55           O
ATOM   1002  N   LEU A 135      15.414  14.509 -10.033  1.00 59.13           N
ATOM   1003  CA  LEU A 135      14.765  15.718 -10.524  1.00 60.73           C
ATOM   1004  CB  LEU A 135      14.327  16.586  -9.351  1.00 60.08           C
ATOM   1005  CG  LEU A 135      13.377  15.801  -8.446  1.00 61.47           C
ATOM   1006  CD1 LEU A 135      12.927  16.657  -7.292  1.00 64.80           C
ATOM   1007  CD2 LEU A 135      12.166  15.243  -9.175  1.00 61.41           C
ATOM   1008  C   LEU A 135      15.675  16.459 -11.470  1.00 61.53           C
ATOM   1009  O   LEU A 135      15.268  16.877 -12.551  1.00 56.80           O
ATOM   1010  N   TYR A 136      16.925  16.601 -11.054  1.00 67.47           N
ATOM   1011  CA  TYR A 136      17.869  17.448 -11.753  1.00 65.12           C
ATOM   1012  CB  TYR A 136      18.195  18.600 -10.827  1.00 65.50           C
ATOM   1013  CG  TYR A 136      16.992  19.344 -10.234  1.00 63.22           C
ATOM   1014  CD1 TYR A 136      16.332  20.283 -10.987  1.00 62.35           C
ATOM   1015  CE1 TYR A 136      15.278  21.002 -10.475  1.00 63.81           C
ATOM   1016  CZ  TYR A 136      14.845  20.792  -9.198  1.00 64.36           C
ATOM   1017  OH  TYR A 136      13.750  21.573  -8.801  1.00 72.10           O
ATOM   1018  CE2 TYR A 136      15.485  19.849  -8.398  1.00 60.65           C
ATOM   1019  CD2 TYR A 136      16.554  19.133  -8.917  1.00 60.27           C
ATOM   1020  C   TYR A 136      19.149  16.690 -12.119  1.00 65.64           C
ATOM   1021  O   TYR A 136      19.482  15.629 -11.519  1.00 65.64           O
ATOM   1022  N   ASP A 137      19.851  17.233 -13.117  1.00 66.22           N
ATOM   1023  CA  ASP A 137      21.187  16.749 -13.506  1.00 66.54           C
ATOM   1024  CB  ASP A 137      21.733  17.487 -14.732  1.00 66.52           C
ATOM   1025  CG  ASP A 137      20.922  17.226 -16.012  1.00 66.60           C
ATOM   1026  OD1 ASP A 137      20.532  16.043 -16.240  1.00 58.70           O
ATOM   1027  OD2 ASP A 137      20.692  18.220 -16.774  1.00 64.00           O
ATOM   1028  C   ASP A 137      22.156  16.978 -12.357  1.00 69.16           C
ATOM   1029  O   ASP A 137      22.185  18.051 -11.712  1.00 61.90           O
ATOM   1030  N   GLY A 138      22.925  15.942 -12.065  1.00 75.46           N
ATOM   1031  CA  GLY A 138      23.926  16.031 -11.010  1.00 79.36           C
ATOM   1032  C   GLY A 138      23.438  15.746  -9.606  1.00 79.51           C
ATOM   1033  O   GLY A 138      24.254  15.691  -8.690  1.00 78.91           O
ATOM   1034  N   LEU A 139      22.133  15.519  -9.435  1.00 83.64           N
ATOM   1035  CA  LEU A 139      21.536  15.295  -8.103  1.00 84.32           C
ATOM   1036  CB  LEU A 139      20.766  16.550  -7.644  1.00 84.31           C
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ATOM   1037  CG  LEU A 139      21.641  17.769  -7.259  1.00 81.84           C
ATOM   1038  CD1 LEU A 139      21.052  19.150  -7.581  1.00 79.65           C
ATOM   1039  CD2 LEU A 139      21.986  17.686  -5.785  1.00 80.77           C
ATOM   1040  C   LEU A 139      20.640  14.035  -8.053  1.00 80.52           C
ATOM   1041  O   LEU A 139      20.120  13.557  -9.080  1.00 87.81           O
ATOM   1042  N   PHE A 140      20.529  13.501  -6.842  1.00 69.03           N
ATOM   1043  CA  PHE A 140      19.680  12.378  -6.526  1.00 64.45           C
ATOM   1044  CB  PHE A 140      20.483  11.086  -6.488  1.00 62.35           C
ATOM   1045  CG  PHE A 140      19.614   9.855  -6.411  1.00 61.08           C
ATOM   1046  CD1 PHE A 140      19.166   9.378  -5.203  1.00 59.83           C
ATOM   1047  CE1 PHE A 140      18.340   8.269  -5.155  1.00 60.68           C
ATOM   1048  CZ  PHE A 140      17.964   7.631  -6.309  1.00 57.18           C
ATOM   1049  CE2 PHE A 140      18.397   8.099  -7.515  1.00 56.23           C
ATOM   1050  CD2 PHE A 140      19.203   9.208  -7.566  1.00 58.83           C
ATOM   1051  C   PHE A 140      18.990  12.597  -5.162  1.00 64.32           C
ATOM   1052  O   PHE A 140      19.573  12.359  -4.103  1.00 65.35           O
ATOM   1053  N   LYS A 141      17.736  13.025  -5.190  1.00 59.44           N
ATOM   1054  CA  LYS A 141      17.044  13.345  -3.980  1.00 57.71           C
ATOM   1055  CB  LYS A 141      15.840  14.186  -4.309  1.00 60.22           C
ATOM   1056  CG  LYS A 141      15.273  14.898  -3.099  1.00 64.16           C
ATOM   1057  CD  LYS A 141      14.565  16.162  -3.544  1.00 67.94           C
ATOM   1058  CE  LYS A 141      15.529  17.309  -3.811  1.00 69.85           C
ATOM   1059  NZ  LYS A 141      14.928  18.629  -3.476  1.00 74.03           N
ATOM   1060  C   LYS A 141      16.607  12.089  -3.265  1.00 57.67           C
ATOM   1061  O   LYS A 141      16.251  11.116  -3.890  1.00 60.28           O
ATOM   1062  N   VAL A 142      16.623  12.103  -1.947  1.00 59.38           N
ATOM   1063  CA  VAL A 142      16.242  10.925  -1.185  1.00 60.23           C
ATOM   1064  CB  VAL A 142      17.468  10.211  -0.583  1.00 58.51           C
ATOM   1065  CG1 VAL A 142      17.033   9.081   0.356  1.00 55.55           C
ATOM   1066  CG2 VAL A 142      18.374   9.697  -1.708  1.00 58.28           C
ATOM   1067  C   VAL A 142      15.309  11.334  -0.076  1.00 62.21           C
ATOM   1068  O   VAL A 142      15.611  12.269   0.664  1.00 60.38           O
ATOM   1069  N   ILE A 143      14.213  10.589   0.056  1.00 64.23           N
ATOM   1070  CA  ILE A 143      13.193  10.835   1.075  1.00 67.18           C
ATOM   1071  CB  ILE A 143      11.814  11.113   0.416  1.00 65.57           C
ATOM   1072  CG1 ILE A 143      11.948  12.126  -0.729  1.00 61.69           C
ATOM   1073  CD1 ILE A 143      10.648  12.754  -1.181  1.00 60.70           C
ATOM   1074  CG2 ILE A 143      10.809  11.592   1.454  1.00 68.47           C
ATOM   1075  C   ILE A 143      13.114   9.617   2.016  1.00 70.61           C
ATOM   1076  O   ILE A 143      12.469   8.625   1.702  1.00 74.97           O
ATOM   1077  N   PRO A 144      13.774   9.674   3.179  1.00 76.12           N
ATOM   1078  CA  PRO A 144      13.714   8.476   4.026  1.00 75.78           C
ATOM   1079  CB  PRO A 144      14.604   8.844   5.223  1.00 78.95           C
ATOM   1080  CG  PRO A 144      14.697  10.326   5.233  1.00 78.60           C
ATOM   1081  CD  PRO A 144      14.497  10.788   3.820  1.00 78.11           C
ATOM   1082  C   PRO A 144      12.293   8.212   4.474  1.00 70.93           C
ATOM   1083  O   PRO A 144      11.571   9.176   4.688  1.00 68.51           O
ATOM   1084  N   LEU A 145      11.895   6.947   4.600  1.00 73.31           N
ATOM   1085  CA  LEU A 145      10.532   6.595   5.073  1.00 83.39           C
ATOM   1086  CB  LEU A 145       9.904   5.523   4.192  1.00 82.53           C
ATOM   1087  CG  LEU A 145       9.563   6.111   2.827  1.00 86.17           C
ATOM   1088  CD1 LEU A 145       9.086   5.030   1.851  1.00 87.94           C
ATOM   1089  CD2 LEU A 145       8.546   7.252   2.958  1.00 82.53           C
ATOM   1090  C   LEU A 145      10.425   6.214   6.548  1.00 93.01           C
ATOM   1091  O   LEU A 145       9.653   5.339   6.937  1.00 97.16           O
ATOM   1092  N   ASP A 146      11.198   6.922   7.361  1.00103.14           N
ATOM   1093  CA  ASP A 146      10.967   7.017   8.789  1.00104.92           C
ATOM   1094  CB  ASP A 146      12.023   7.960   9.438  1.00104.61           C
ATOM   1095  CG  ASP A 146      13.512   7.528   9.128  1.00105.44           C
ATOM   1096  OD1 ASP A 146      13.871   6.345   9.319  1.00101.41           O
ATOM   1097  OD2 ASP A 146      14.330   8.371   8.682  1.00101.94           O
ATOM   1098  C   ASP A 146       9.515   7.544   8.922  1.00106.46           C
ATOM   1099  O   ASP A 146       9.184   8.610   8.390  1.00110.71           O
ATOM   1100  N   ARG A 147       8.650   6.759   9.575  1.00106.28           N
ATOM   1101  CA  ARG A 147       7.218   7.102   9.808  1.00102.90           C
ATOM   1102  CB  ARG A 147       6.525   5.994  10.628  1.00103.05           C
ATOM   1103  CG  ARG A 147       5.006   5.927  10.486  1.00107.31           C
ATOM   1104  CD  ARG A 147       4.225   6.504  11.659  1.00116.11           C
ATOM   1105  NE  ARG A 147       4.407   5.769  12.927  1.00124.20           N
ATOM   1106  CZ  ARG A 147       5.235   6.098  13.938  1.00127.81           C
ATOM   1107  NH1 ARG A 147       6.039   7.170  13.877  1.00130.63           N
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ATOM   1108  NH2 ARG A 147       5.273   5.330  15.039  1.00120.64           N
ATOM   1109  C   ARG A 147       7.000   8.463  10.495  1.00100.71           C
ATOM   1110  O   ARG A 147       5.961   9.104  10.312  1.00 97.22           O
ATOM   1111  N   ASP A 148       7.988   8.898  11.280  1.00102.04           N
ATOM   1112  CA  ASP A 148       7.983  10.228  11.881  1.00 95.48           C
ATOM   1113  CB  ASP A 148       9.078  10.338  12.966  1.00 89.14           C
ATOM   1114  C   ASP A 148       8.103  11.367  10.837  1.00 88.69           C
ATOM   1115  O   ASP A 148       7.857  12.524  11.218  1.00 84.24           O
ATOM   1116  N   ASN A 149       8.447  11.051   9.562  1.00 81.37           N
ATOM   1117  CA  ASN A 149       8.644  12.063   8.454  1.00 74.51           C
ATOM   1118  CB  ASN A 149       9.711  11.588   7.434  1.00 69.84           C
ATOM   1119  CG  ASN A 149      10.177  12.702   6.468  1.00 66.99           C
ATOM   1120  OD1 ASN A 149       9.757  13.864   6.544  1.00 64.54           O
ATOM   1121  ND2 ASN A 149      11.043  12.327   5.533  1.00 65.10           N
ATOM   1122  C   ASN A 149       7.374  12.526   7.705  1.00 66.76           C
ATOM   1123  O   ASN A 149       7.212  12.303   6.501  1.00 64.69           O
ATOM   1124  N   LYS A 150       6.510  13.223   8.427  1.00 62.55           N
ATOM   1125  CA  LYS A 150       5.243  13.660   7.874  1.00 62.63           C
ATOM   1126  CB  LYS A 150       4.196  13.862   8.996  1.00 58.86           C
ATOM   1127  C   LYS A 150       5.383  14.876   6.912  1.00 62.19           C
ATOM   1128  O   LYS A 150       4.436  15.147   6.169  1.00 60.62           O
ATOM   1129  N   GLU A 151       6.547  15.559   6.885  1.00 62.30           N
ATOM   1130  CA  GLU A 151       6.795  16.742   5.995  1.00 61.41           C
ATOM   1131  CB  GLU A 151       7.428  17.879   6.788  1.00 62.71           C
ATOM   1132  CG  GLU A 151       6.481  18.560   7.749  1.00 67.16           C
ATOM   1133  CD  GLU A 151       7.170  19.611   8.616  1.00 73.40           C
ATOM   1134  OE1 GLU A 151       7.227  19.474   9.871  1.00 76.92           O
ATOM   1135  OE2 GLU A 151       7.670  20.589   8.033  1.00 78.92           O
ATOM   1136  C   GLU A 151       7.662  16.447   4.736  1.00 63.59           C
ATOM   1137  O   GLU A 151       8.006  17.370   3.955  1.00 53.77           O
ATOM   1138  N   LEU A 152       7.960  15.156   4.527  1.00 67.75           N
ATOM   1139  CA  LEU A 152       8.765  14.653   3.391  1.00 69.82           C
ATOM   1140  CB  LEU A 152       7.965  14.553   2.062  1.00 69.18           C
ATOM   1141  CG  LEU A 152       6.708  13.658   2.142  1.00 72.05           C
ATOM   1142  CD1 LEU A 152       5.914  13.501   0.841  1.00 73.55           C
ATOM   1143  CD2 LEU A 152       7.068  12.284   2.674  1.00 72.25           C
ATOM   1144  C   LEU A 152      10.047  15.456   3.268  1.00 71.32           C
ATOM   1145  O   LEU A 152      10.511  15.822   2.136  1.00 69.99           O
ATOM   1146  N   LYS A 153      10.617  15.705   4.463  1.00 66.49           N
ATOM   1147  CA  LYS A 153      11.912  16.352   4.577  1.00 63.93           C
ATOM   1148  CB  LYS A 153      12.197  16.773   6.035  1.00 58.05           C
ATOM   1149  C   LYS A 153      12.866  15.300   3.961  1.00 66.33           C
ATOM   1150  O   LYS A 153      12.633  14.087   4.065  1.00 70.86           O
ATOM   1151  N   ALA A 154      13.885  15.764   3.255  1.00 66.25           N
ATOM   1152  CA  ALA A 154      14.655  14.916   2.366  1.00 67.17           C
ATOM   1153  CB  ALA A 154      13.885  14.841   1.080  1.00 71.22           C
ATOM   1154  C   ALA A 154      16.055  15.485   2.092  1.00 68.84           C
ATOM   1155  O   ALA A 154      16.243  16.690   2.185  1.00 75.34           O
ATOM   1156  N   PHE A 155      17.025  14.644   1.718  1.00 68.22           N
ATOM   1157  CA  PHE A 155      18.380  15.133   1.304  1.00 65.45           C
ATOM   1158  CB  PHE A 155      19.501  14.605   2.238  1.00 61.17           C
ATOM   1159  CG  PHE A 155      19.612  13.105   2.276  1.00 59.83           C
ATOM   1160  CD1 PHE A 155      20.330  12.412   1.283  1.00 61.45           C
ATOM   1161  CE1 PHE A 155      20.427  11.021   1.301  1.00 61.14           C
ATOM   1162  CZ  PHE A 155      19.811  10.308   2.325  1.00 61.01           C
ATOM   1163  CE2 PHE A 155      19.109  10.990   3.333  1.00 59.05           C
ATOM   1164  CD2 PHE A 155      19.009  12.376   3.302  1.00 56.86           C
ATOM   1165  C   PHE A 155      18.729  14.873  -0.188  1.00 65.03           C
ATOM   1166  O   PHE A 155      18.074  14.107  -0.897  1.00 63.22           O
ATOM   1167  N   ASN A 156      19.781  15.539  -0.633  1.00 63.77           N
ATOM   1168  CA  ASN A 156      20.359  15.301  -1.930  1.00 64.42           C
ATOM   1169  CB  ASN A 156      20.539  16.646  -2.610  1.00 63.60           C
ATOM   1170  CG  ASN A 156      19.315  17.079  -3.371  1.00 66.25           C
ATOM   1171  OD1 ASN A 156      18.887  18.204  -3.236  1.00 70.96           O
ATOM   1172  ND2 ASN A 156      18.785  16.211  -4.230  1.00 69.22           N
ATOM   1173  C   ASN A 156      21.706  14.533  -1.852  1.00 65.12           C
ATOM   1174  O   ASN A 156      22.315  14.442  -0.796  1.00 68.69           O
ATOM   1175  N   ILE A 157      22.130  13.949  -2.964  1.00 63.30           N
ATOM   1176  CA  ILE A 157      23.432  13.298  -3.086  1.00 67.57           C
ATOM   1177  CB  ILE A 157      23.335  11.740  -2.983  1.00 65.69           C
ATOM   1178  CG1 ILE A 157      22.661  11.275  -1.685  1.00 64.99           C
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ATOM   1179  CD1 ILE A 157      22.465   9.761  -1.576  1.00 63.29           C
ATOM   1180  CG2 ILE A 157      24.712  11.098  -3.048  1.00 67.60           C
ATOM   1181  C   ILE A 157      23.962  13.679  -4.475  1.00 71.69           C
ATOM   1182  O   ILE A 157      23.318  13.338  -5.461  1.00 81.83           O
ATOM   1183  N   ARG A 158      25.108  14.365  -4.579  1.00 71.02           N
ATOM   1184  CA  ARG A 158      25.693  14.636  -5.902  1.00 68.43           C
ATOM   1185  CB  ARG A 158      26.893  15.616  -5.831  1.00 61.31           C
ATOM   1186  C   ARG A 158      26.029  13.262  -6.551  1.00 70.65           C
ATOM   1187  O   ARG A 158      26.596  12.383  -5.889  1.00 64.71           O
ATOM   1188  N   LEU A 159      25.545  13.044  -7.783  1.00 77.81           N
ATOM   1189  CA  LEU A 159      26.068  12.000  -8.686  1.00 82.59           C
ATOM   1190  CB  LEU A 159      25.080  11.590  -9.769  1.00 83.21           C
ATOM   1191  CG  LEU A 159      23.621  11.297  -9.509  1.00 89.86           C
ATOM   1192  CD1 LEU A 159      22.742  11.906 -10.617  1.00 93.61           C
ATOM   1193  CD2 LEU A 159      23.436   9.788  -9.397  1.00 90.89           C
ATOM   1194  C   LEU A 159      27.172  12.635  -9.486  1.00 90.29           C
ATOM   1195  O   LEU A 159      27.084  13.811  -9.841  1.00 95.60           O
ATOM   1196  N   GLU A 160      28.172  11.854  -9.861  1.00 99.61           N
ATOM   1197  CA  GLU A 160      29.114  12.316 -10.881  1.00105.09           C
ATOM   1198  CB  GLU A 160      30.323  11.353 -11.007  1.00110.18           C
ATOM   1199  CG  GLU A 160      31.315  11.383  -9.830  1.00108.14           C
ATOM   1200  CD  GLU A 160      31.883  12.776  -9.568  1.00103.57           C
ATOM   1201  OE1 GLU A 160      32.924  13.156 -10.176  1.00 97.79           O
ATOM   1202  OE2 GLU A 160      31.260  13.494  -8.759  1.00 91.14           O
ATOM   1203  C   GLU A 160      28.394  12.504 -12.233  1.00103.06           C
ATOM   1204  O   GLU A 160      28.495  13.571 -12.846  1.00102.28           O
ATOM   1205  N   GLU A 161      27.591  11.509 -12.616  1.00 98.59           N
ATOM   1206  CA  GLU A 161      27.161  11.306 -13.995  1.00 92.57           C
ATOM   1207  CB  GLU A 161      26.743   9.856 -14.218  1.00 90.13           C
ATOM   1208  CG  GLU A 161      27.855   8.851 -13.934  1.00 96.42           C
ATOM   1209  CD  GLU A 161      28.083   8.543 -12.448  1.00102.15           C
ATOM   1210  OE1 GLU A 161      27.501   9.209 -11.562  1.00102.32           O
ATOM   1211  OE2 GLU A 161      28.866   7.624 -12.145  1.00106.89           O
ATOM   1212  C   GLU A 161      26.015  12.244 -14.320  1.00 87.41           C
ATOM   1213  O   GLU A 161      24.926  12.105 -13.792  1.00 86.43           O
ATOM   1214  N   LEU A 162      26.279  13.210 -15.188  1.00 86.46           N
ATOM   1215  CA  LEU A 162      25.307  14.239 -15.510  1.00 84.62           C
ATOM   1216  CB  LEU A 162      26.011  15.497 -16.044  1.00 87.80           C
ATOM   1217  CG  LEU A 162      27.057  16.205 -15.168  1.00 91.35           C
ATOM   1218  CD1 LEU A 162      27.283  17.628 -15.689  1.00 90.66           C
ATOM   1219  CD2 LEU A 162      26.691  16.225 -13.680  1.00 91.70           C
ATOM   1220  C   LEU A 162      24.237  13.843 -16.511  1.00 81.47           C
ATOM   1221  O   LEU A 162      23.350  14.640 -16.729  1.00 86.07           O
ATOM   1222  N   HIS A 163      24.297  12.674 -17.146  1.00 79.73           N
ATOM   1223  CA  HIS A 163      23.324  12.358 -18.189  1.00 78.24           C
ATOM   1224  CB  HIS A 163      23.970  12.451 -19.564  1.00 85.57           C
ATOM   1225  CG  HIS A 163      24.428  13.826 -19.950  1.00 96.98           C
ATOM   1226  ND1 HIS A 163      23.871  14.986 -19.441  1.00105.83           N
ATOM   1227  CE1 HIS A 163      24.458  16.036 -19.987  1.00104.29           C
ATOM   1228  NE2 HIS A 163      25.361  15.601 -20.848  1.00106.11           N
ATOM   1229  CD2 HIS A 163      25.355  14.225 -20.853  1.00100.27           C
ATOM   1230  C   HIS A 163      22.685  10.994 -18.010  1.00 75.62           C
ATOM   1231  O   HIS A 163      22.723  10.174 -18.920  1.00 77.41           O
ATOM   1232  N   VAL A 164      22.048  10.782 -16.858  1.00 70.22           N
ATOM   1233  CA  VAL A 164      21.323   9.526 -16.557  1.00 68.83           C
ATOM   1234  CB  VAL A 164      20.826   9.482 -15.087  1.00 67.65           C
ATOM   1235  CG1 VAL A 164      20.204   8.109 -14.774  1.00 66.02           C
ATOM   1236  CG2 VAL A 164      21.943   9.825 -14.120  1.00 66.95           C
ATOM   1237  C   VAL A 164      20.061   9.273 -17.417  1.00 67.25           C
ATOM   1238  O   VAL A 164      19.173  10.110 -17.469  1.00 63.74           O
ATOM   1239  N   ILE A 165      19.933   8.077 -17.984  1.00 68.13           N
ATOM   1240  CA  ILE A 165      18.794   7.752 -18.843  1.00 69.27           C
ATOM   1241  CB  ILE A 165      19.206   6.845 -20.012  1.00 68.97           C
ATOM   1242  CG1 ILE A 165      20.431   7.420 -20.717  1.00 69.87           C
ATOM   1243  CD1 ILE A 165      20.289   8.873 -21.098  1.00 71.18           C
ATOM   1244  CG2 ILE A 165      18.079   6.719 -21.024  1.00 69.26           C
ATOM   1245  C   ILE A 165      17.588   7.200 -18.071  1.00 70.25           C
ATOM   1246  O   ILE A 165      16.608   7.913 -17.971  1.00 79.84           O
ATOM   1247  N   ASP A 166      17.636   5.966 -17.555  1.00 67.06           N
ATOM   1248  CA  ASP A 166      16.576   5.401 -16.659  1.00 68.43           C
ATOM   1249  CB  ASP A 166      15.825   4.241 -17.322  1.00 70.29           C
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ATOM   1250  CG  ASP A 166      14.467   3.959 -16.683  1.00 74.75           C
ATOM   1251  OD1 ASP A 166      13.572   4.819 -16.808  1.00 84.75           O
ATOM   1252  OD2 ASP A 166      14.285   2.887 -16.073  1.00 66.72           O
ATOM   1253  C   ASP A 166      17.248   4.955 -15.334  1.00 69.74           C
ATOM   1254  O   ASP A 166      18.458   5.170 -15.177  1.00 70.30           O
ATOM   1255  N   VAL A 167      16.483   4.410 -14.373  1.00 66.14           N
ATOM   1256  CA  VAL A 167      17.047   3.971 -13.079  1.00 66.10           C
ATOM   1257  CB  VAL A 167      17.651   5.139 -12.229  1.00 66.92           C
ATOM   1258  CG1 VAL A 167      16.676   6.279 -12.066  1.00 73.11           C
ATOM   1259  CG2 VAL A 167      18.083   4.690 -10.840  1.00 66.63           C
ATOM   1260  C   VAL A 167      16.033   3.239 -12.226  1.00 64.03           C
ATOM   1261  O   VAL A 167      14.878   3.618 -12.155  1.00 68.52           O
ATOM   1262  N   LYS A 168      16.482   2.200 -11.559  1.00 61.62           N
ATOM   1263  CA  LYS A 168      15.646   1.505 -10.632  1.00 63.59           C
ATOM   1264  CB  LYS A 168      15.253   0.178 -11.234  1.00 66.00           C
ATOM   1265  CG  LYS A 168      13.787   0.103 -11.598  1.00 69.47           C
ATOM   1266  CD  LYS A 168      13.539   0.591 -12.988  1.00 66.48           C
ATOM   1267  CE  LYS A 168      12.068   0.782 -13.224  1.00 67.53           C
ATOM   1268  NZ  LYS A 168      11.929   1.897 -14.194  1.00 73.55           N
ATOM   1269  C   LYS A 168      16.341   1.263  -9.325  1.00 63.94           C
ATOM   1270  O   LYS A 168      17.485   1.583  -9.166  1.00 69.45           O
ATOM   1271  N   PHE A 169      15.600   0.723  -8.383  1.00 66.36           N
ATOM   1272  CA  PHE A 169      16.153   0.101  -7.203  1.00 68.24           C
ATOM   1273  CB  PHE A 169      15.291   0.405  -5.950  1.00 70.91           C
ATOM   1274  CG  PHE A 169      15.649   1.683  -5.246  1.00 70.30           C
ATOM   1275  CD1 PHE A 169      15.113   2.876  -5.638  1.00 73.00           C
ATOM   1276  CE1 PHE A 169      15.459   4.048  -4.988  1.00 75.94           C
ATOM   1277  CZ  PHE A 169      16.332   4.028  -3.932  1.00 72.17           C
ATOM   1278  CE2 PHE A 169      16.857   2.834  -3.523  1.00 70.91           C
ATOM   1279  CD2 PHE A 169      16.527   1.678  -4.187  1.00 71.75           C
ATOM   1280  C   PHE A 169      16.100  -1.394  -7.506  1.00 70.64           C
ATOM   1281  O   PHE A 169      15.088  -1.899  -8.061  1.00 68.36           O
ATOM   1282  N   LEU A 170      17.163  -2.091  -7.097  1.00 71.99           N
ATOM   1283  CA  LEU A 170      17.312  -3.538  -7.318  1.00 72.42           C
ATOM   1284  CB  LEU A 170      18.784  -3.900  -7.556  1.00 72.80           C
ATOM   1285  CG  LEU A 170      19.464  -3.168  -8.743  1.00 74.90           C
ATOM   1286  CD1 LEU A 170      20.968  -3.033  -8.556  1.00 75.96           C
ATOM   1287  CD2 LEU A 170      19.161  -3.829 -10.079  1.00 75.75           C
ATOM   1288  C   LEU A 170      16.771  -4.318  -6.142  1.00 72.17           C
ATOM   1289  O   LEU A 170      16.609  -3.776  -5.047  1.00 70.71           O
ATOM   1290  N   TYR A 171      16.492  -5.595  -6.383  1.00 74.99           N
ATOM   1291  CA  TYR A 171      15.990  -6.486  -5.344  1.00 76.47           C
ATOM   1292  CB  TYR A 171      14.951  -7.466  -5.917  1.00 75.66           C
ATOM   1293  CG  TYR A 171      13.631  -6.809  -6.334  1.00 73.60           C
ATOM   1294  CD1 TYR A 171      13.586  -5.898  -7.389  1.00 72.17           C
ATOM   1295  CE1 TYR A 171      12.410  -5.296  -7.777  1.00 72.37           C
ATOM   1296  CZ  TYR A 171      11.235  -5.608  -7.121  1.00 76.46           C
ATOM   1297  OH  TYR A 171      10.058  -4.989  -7.530  1.00 80.71           O
ATOM   1298  CE2 TYR A 171      11.245  -6.515  -6.067  1.00 73.39           C
ATOM   1299  CD2 TYR A 171      12.434  -7.120  -5.690  1.00 72.56           C
ATOM   1300  C   TYR A 171      17.167  -7.227  -4.729  1.00 80.55           C
ATOM   1301  O   TYR A 171      18.270  -7.238  -5.285  1.00 82.05           O
ATOM   1302  N   GLY A 172      16.927  -7.809  -3.559  1.00 89.43           N
ATOM   1303  CA  GLY A 172      17.869  -8.736  -2.904  1.00 92.31           C
ATOM   1304  C   GLY A 172      19.275  -8.206  -2.701  1.00 92.96           C
ATOM   1305  O   GLY A 172      20.186  -8.627  -3.397  1.00 96.39           O
ATOM   1306  N   CYS A 173      19.443  -7.288  -1.750  1.00 95.72           N
ATOM   1307  CA  CYS A 173      20.749  -6.663  -1.444  1.00 94.99           C
ATOM   1308  CB  CYS A 173      20.870  -5.323  -2.186  1.00 92.09           C
ATOM   1309  SG  CYS A 173      20.688  -5.340  -3.983  1.00 88.80           S
ATOM   1310  C   CYS A 173      20.963  -6.429   0.085  1.00 97.24           C
ATOM   1311  O   CYS A 173      20.049  -5.969   0.786  1.00 89.97           O
ATOM   1312  N   GLN A 174      22.170  -6.723   0.595  1.00102.37           N
ATOM   1313  CA  GLN A 174      22.522  -6.437   2.010  1.00 99.99           C
ATOM   1314  CB  GLN A 174      24.011  -6.776   2.320  1.00 92.67           C
ATOM   1315  C   GLN A 174      22.152  -4.968   2.353  1.00 96.62           C
ATOM   1316  O   GLN A 174      21.755  -4.690   3.491  1.00 93.57           O
ATOM   1317  N   ALA A 175      22.253  -4.067   1.354  1.00 92.10           N
ATOM   1318  CA  ALA A 175      21.786  -2.668   1.447  1.00 93.37           C
ATOM   1319  CB  ALA A 175      22.965  -1.764   1.778  1.00 89.15           C
ATOM   1320  C   ALA A 175      21.042  -2.127   0.169  1.00 97.74           C
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ATOM   1321  O   ALA A 175      21.334  -2.552  -0.946  1.00 98.97           O
ATOM   1322  N   PRO A 176      20.073  -1.187   0.337  1.00 98.23           N
ATOM   1323  CA  PRO A 176      19.461  -0.360  -0.708  1.00 90.54           C
ATOM   1324  CB  PRO A 176      18.948   0.812   0.095  1.00 91.72           C
ATOM   1325  CG  PRO A 176      18.368   0.116   1.285  1.00 96.31           C
ATOM   1326  CD  PRO A 176      19.295  -1.035   1.584  1.00 99.65           C
ATOM   1327  C   PRO A 176      20.378   0.144  -1.793  1.00 85.16           C
ATOM   1328  O   PRO A 176      21.264   0.952  -1.534  1.00 90.91           O
ATOM   1329  N   THR A 177      20.101  -0.298  -3.010  1.00 80.61           N
ATOM   1330  CA  THR A 177      21.019  -0.187  -4.125  1.00 77.62           C
ATOM   1331  CB  THR A 177      21.719  -1.540  -4.316  1.00 81.21           C
ATOM   1332  OG1 THR A 177      22.590  -1.772  -3.199  1.00 82.06           O
ATOM   1333  CG2 THR A 177      22.526  -1.609  -5.615  1.00 80.58           C
ATOM   1334  C   THR A 177      20.287   0.165  -5.407  1.00 71.72           C
ATOM   1335  O   THR A 177      19.322  -0.498  -5.760  1.00 65.51           O
ATOM   1336  N   ILE A 178      20.808   1.175  -6.111  1.00 73.56           N
ATOM   1337  CA  ILE A 178      20.235   1.708  -7.378  1.00 74.82           C
ATOM   1338  CB  ILE A 178      19.972   3.244  -7.313  1.00 73.16           C
ATOM   1339  CG1 ILE A 178      21.274   4.046  -7.188  1.00 71.52           C
ATOM   1340  CD1 ILE A 178      21.513   5.011  -8.321  1.00 73.25           C
ATOM   1341  CG2 ILE A 178      18.995   3.585  -6.173  1.00 72.08           C
ATOM   1342  C   ILE A 178      21.071   1.421  -8.637  1.00 70.58           C
ATOM   1343  O   ILE A 178      22.286   1.481  -8.593  1.00 71.95           O
ATOM   1344  N   CYS A 179      20.403   1.139  -9.747  1.00 68.37           N
ATOM   1345  CA  CYS A 179      21.058   0.674 -10.961  1.00 74.38           C
ATOM   1346  CB  CYS A 179      20.576  -0.734 -11.276  1.00 76.18           C
ATOM   1347  SG  CYS A 179      21.081  -1.310 -12.918  1.00 82.74           S
ATOM   1348  C   CYS A 179      20.673   1.562 -12.111  1.00 72.57           C
ATOM   1349  O   CYS A 179      19.490   1.797 -12.244  1.00 78.14           O
ATOM   1350  N   PHE A 180      21.609   2.016 -12.963  1.00 68.85           N
ATOM   1351  CA  PHE A 180      21.237   3.000 -14.004  1.00 68.83           C
ATOM   1352  CB  PHE A 180      21.071   4.354 -13.360  1.00 70.12           C
ATOM   1353  CG  PHE A 180      22.345   4.942 -12.822  1.00 70.80           C
ATOM   1354  CD1 PHE A 180      22.819   4.568 -11.560  1.00 70.74           C
ATOM   1355  CE1 PHE A 180      23.969   5.146 -11.035  1.00 72.48           C
ATOM   1356  CZ  PHE A 180      24.662   6.103 -11.773  1.00 72.26           C
ATOM   1357  CE2 PHE A 180      24.196   6.477 -13.035  1.00 71.49           C
ATOM   1358  CD2 PHE A 180      23.043   5.908 -13.552  1.00 67.58           C
ATOM   1359  C   PHE A 180      22.122   3.256 -15.208  1.00 69.99           C
ATOM   1360  O   PHE A 180      23.304   3.429 -15.073  1.00 80.68           O
ATOM   1361  N   VAL A 181      21.509   3.437 -16.362  1.00 67.46           N
ATOM   1362  CA  VAL A 181      22.221   3.791 -17.570  1.00 68.07           C
ATOM   1363  CB  VAL A 181      21.363   3.448 -18.779  1.00 70.23           C
ATOM   1364  CG1 VAL A 181      22.041   3.908 -20.068  1.00 74.18           C
ATOM   1365  CG2 VAL A 181      21.063   1.954 -18.781  1.00 71.51           C
ATOM   1366  C   VAL A 181      22.517   5.290 -17.634  1.00 70.58           C
ATOM   1367  O   VAL A 181      21.643   6.094 -17.349  1.00 71.41           O
ATOM   1368  N   TYR A 182      23.723   5.656 -18.071  1.00 73.36           N
ATOM   1369  CA  TYR A 182      24.137   7.059 -18.211  1.00 74.65           C
ATOM   1370  CB  TYR A 182      25.016   7.514 -17.042  1.00 83.22           C
ATOM   1371  CG  TYR A 182      26.291   6.739 -16.815  1.00 89.44           C
ATOM   1372  CD1 TYR A 182      26.247   5.460 -16.268  1.00 95.74           C
ATOM   1373  CE1 TYR A 182      27.400   4.732 -16.024  1.00 98.76           C
ATOM   1374  CZ  TYR A 182      28.626   5.281 -16.289  1.00 97.02           C
ATOM   1375  OH  TYR A 182      29.714   4.490 -16.028  1.00 95.82           O
ATOM   1376  CE2 TYR A 182      28.717   6.572 -16.812  1.00 96.27           C
ATOM   1377  CD2 TYR A 182      27.546   7.298 -17.073  1.00 92.57           C
ATOM   1378  C   TYR A 182      24.847   7.294 -19.519  1.00 71.30           C
ATOM   1379  O   TYR A 182      24.988   6.363 -20.307  1.00 65.25           O
ATOM   1380  N   GLN A 183      25.239   8.547 -19.771  1.00 69.97           N
ATOM   1381  CA  GLN A 183      25.950   8.860 -20.979  1.00 72.79           C
ATOM   1382  CB  GLN A 183      24.997   9.085 -22.135  1.00 68.44           C
ATOM   1383  CG  GLN A 183      25.672   8.663 -23.415  1.00 71.13           C
ATOM   1384  CD  GLN A 183      24.967   9.121 -24.652  1.00 74.76           C
ATOM   1385  OE1 GLN A 183      24.843  10.330 -24.862  1.00 73.07           O
ATOM   1386  NE2 GLN A 183      24.548   8.167 -25.524  1.00 77.20           N
ATOM   1387  C   GLN A 183      26.940  10.016 -20.889  1.00 83.54           C
ATOM   1388  O   GLN A 183      26.556  11.184 -20.784  1.00 87.62           O
ATOM   1389  N   ASP A 184      28.226   9.662 -20.990  1.00 92.80           N
ATOM   1390  CA  ASP A 184      29.351  10.631 -21.056  1.00 92.20           C
ATOM   1391  CB  ASP A 184      30.442  10.307 -19.986  1.00 82.18           C
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ATOM   1392  CG  ASP A 184      30.817   8.847 -19.940  1.00 78.83           C
ATOM   1393  OD1 ASP A 184      30.779   8.199 -21.002  1.00 85.55           O
ATOM   1394  OD2 ASP A 184      31.154   8.332 -18.860  1.00 71.55           O
ATOM   1395  C   ASP A 184      29.890  10.732 -22.523  1.00 95.33           C
ATOM   1396  O   ASP A 184      29.440   9.968 -23.414  1.00 85.42           O
ATOM   1397  N   PRO A 185      30.833  11.681 -22.784  1.00 95.79           N
ATOM   1398  CA  PRO A 185      31.293  11.771 -24.179  1.00 94.16           C
ATOM   1399  CB  PRO A 185      32.075  13.104 -24.220  1.00 94.73           C
ATOM   1400  CG  PRO A 185      31.911  13.737 -22.854  1.00 93.00           C
ATOM   1401  CD  PRO A 185      31.533  12.651 -21.910  1.00 89.84           C
ATOM   1402  C   PRO A 185      32.172  10.579 -24.637  1.00 92.58           C
ATOM   1403  O   PRO A 185      32.682  10.640 -25.761  1.00 86.48           O
ATOM   1404  N   GLN A 186      32.372   9.553 -23.774  1.00 92.12           N
ATOM   1405  CA  GLN A 186      32.927   8.230 -24.168  1.00 90.88           C
ATOM   1406  CB  GLN A 186      33.742   7.576 -23.037  1.00 82.64           C
ATOM   1407  C   GLN A 186      31.815   7.293 -24.697  1.00 93.36           C
ATOM   1408  O   GLN A 186      31.953   6.770 -25.811  1.00 91.61           O
ATOM   1409  N   GLY A 187      30.713   7.111 -23.949  1.00 96.14           N
ATOM   1410  CA  GLY A 187      29.537   6.330 -24.457  1.00 96.40           C
ATOM   1411  C   GLY A 187      28.361   6.139 -23.495  1.00 92.97           C
ATOM   1412  O   GLY A 187      28.126   7.000 -22.657  1.00 85.56           O
ATOM   1413  N   ARG A 188      27.642   5.010 -23.615  1.00 91.25           N
ATOM   1414  CA  ARG A 188      26.528   4.648 -22.705  1.00 93.83           C
ATOM   1415  CB  ARG A 188      25.226   4.321 -23.472  1.00 99.71           C
ATOM   1416  CG  ARG A 188      24.223   5.449 -23.432  1.00102.89           C
ATOM   1417  CD  ARG A 188      22.773   5.121 -23.724  1.00 99.68           C
ATOM   1418  NE  ARG A 188      22.259   6.326 -24.360  1.00107.07           N
ATOM   1419  CZ  ARG A 188      21.142   6.434 -25.062  1.00113.62           C
ATOM   1420  NH1 ARG A 188      20.309   5.414 -25.187  1.00114.44           N
ATOM   1421  NH2 ARG A 188      20.845   7.608 -25.616  1.00117.13           N
ATOM   1422  C   ARG A 188      26.830   3.437 -21.865  1.00 90.36           C
ATOM   1423  O   ARG A 188      27.020   2.357 -22.418  1.00 91.08           O
ATOM   1424  N   HIS A 189      26.821   3.595 -20.542  1.00 86.14           N
ATOM   1425  CA  HIS A 189      27.211   2.510 -19.628  1.00 86.74           C
ATOM   1426  CB  HIS A 189      28.585   2.814 -19.000  1.00 94.47           C
ATOM   1427  CG  HIS A 189      29.404   3.799 -19.773  1.00 92.95           C
ATOM   1428  ND1 HIS A 189      29.668   3.650 -21.118  1.00 93.70           N
ATOM   1429  CE1 HIS A 189      30.405   4.660 -21.533  1.00 94.37           C
ATOM   1430  NE2 HIS A 189      30.634   5.456 -20.505  1.00 93.49           N
ATOM   1431  CD2 HIS A 189      30.027   4.935 -19.391  1.00 89.59           C
ATOM   1432  C   HIS A 189      26.229   2.318 -18.498  1.00 80.46           C
ATOM   1433  O   HIS A 189      25.521   3.244 -18.141  1.00 78.55           O
ATOM   1434  N   VAL A 190      26.235   1.136 -17.886  1.00 77.54           N
ATOM   1435  CA  VAL A 190      25.486   0.936 -16.621  1.00 74.97           C
ATOM   1436  CB  VAL A 190      24.426  -0.231 -16.660  1.00 73.17           C
ATOM   1437  CG1 VAL A 190      24.846  -1.384 -17.527  1.00 77.47           C
ATOM   1438  CG2 VAL A 190      24.052  -0.763 -15.284  1.00 72.17           C
ATOM   1439  C   VAL A 190      26.465   0.949 -15.419  1.00 76.37           C
ATOM   1440  O   VAL A 190      27.655   0.687 -15.558  1.00 78.31           O
ATOM   1441  N   LYS A 191      25.913   1.294 -14.267  1.00 79.89           N
ATOM   1442  CA  LYS A 191      26.643   1.453 -13.036  1.00 78.24           C
ATOM   1443  CB  LYS A 191      27.126   2.883 -12.975  1.00 78.08           C
ATOM   1444  CG  LYS A 191      28.017   3.218 -11.806  1.00 87.08           C
ATOM   1445  CD  LYS A 191      28.454   4.663 -11.929  1.00 93.49           C
ATOM   1446  CE  LYS A 191      29.686   4.978 -11.112  1.00 95.62           C
ATOM   1447  NZ  LYS A 191      29.943   6.440 -11.136  1.00 97.54           N
ATOM   1448  C   LYS A 191      25.661   1.248 -11.923  1.00 79.81           C
ATOM   1449  O   LYS A 191      24.483   1.172 -12.176  1.00 85.54           O
ATOM   1450  N   THR A 192      26.132   1.135 -10.691  1.00 74.10           N
ATOM   1451  CA  THR A 192      25.230   0.993  -9.562  1.00 71.39           C
ATOM   1452  CB  THR A 192      24.875  -0.460  -9.295  1.00 71.64           C
ATOM   1453  OG1 THR A 192      25.943  -1.086  -8.594  1.00 72.61           O
ATOM   1454  CG2 THR A 192      24.666  -1.160 -10.577  1.00 68.02           C
ATOM   1455  C   THR A 192      25.858   1.597  -8.332  1.00 70.94           C
ATOM   1456  O   THR A 192      27.055   1.722  -8.275  1.00 77.22           O
ATOM   1457  N   TYR A 193      25.053   1.966  -7.351  1.00 70.41           N
ATOM   1458  CA  TYR A 193      25.558   2.532  -6.109  1.00 74.98           C
ATOM   1459  CB  TYR A 193      25.427   4.037  -6.036  1.00 75.51           C
ATOM   1460  CG  TYR A 193      26.239   4.830  -6.996  1.00 81.31           C
ATOM   1461  CD1 TYR A 193      27.351   4.313  -7.589  1.00 86.21           C
ATOM   1462  CE1 TYR A 193      28.096   5.063  -8.470  1.00 91.79           C
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ATOM   1463  CZ  TYR A 193      27.734   6.354  -8.741  1.00 93.07           C
ATOM   1464  OH  TYR A 193      28.453   7.129  -9.615  1.00 89.51           O
ATOM   1465  CE2 TYR A 193      26.635   6.887  -8.148  1.00 96.48           C
ATOM   1466  CD2 TYR A 193      25.902   6.127  -7.274  1.00 91.27           C
ATOM   1467  C   TYR A 193      24.751   1.984  -4.970  1.00 74.93           C
ATOM   1468  O   TYR A 193      23.747   1.335  -5.169  1.00 80.70           O
ATOM   1469  N   GLU A 194      25.202   2.248  -3.764  1.00 76.32           N
ATOM   1470  CA  GLU A 194      24.489   1.818  -2.590  1.00 79.68           C
ATOM   1471  CB  GLU A 194      25.378   1.021  -1.668  1.00 87.98           C
ATOM   1472  CG  GLU A 194      25.550  -0.422  -2.073  1.00 91.79           C
ATOM   1473  CD  GLU A 194      25.926  -1.299  -0.907  1.00 94.25           C
ATOM   1474  OE1 GLU A 194      25.955  -0.806   0.232  1.00 87.06           O
ATOM   1475  OE2 GLU A 194      26.189  -2.488  -1.128  1.00 94.94           O
ATOM   1476  C   GLU A 194      24.059   3.093  -1.922  1.00 75.58           C
ATOM   1477  O   GLU A 194      24.657   4.134  -2.151  1.00 63.27           O
ATOM   1478  N   VAL A 195      23.013   3.025  -1.112  1.00 75.88           N
ATOM   1479  CA  VAL A 195      22.479   4.241  -0.457  1.00 76.97           C
ATOM   1480  CB  VAL A 195      21.089   4.626  -1.027  1.00 76.13           C
ATOM   1481  CG1 VAL A 195      20.527   5.840  -0.305  1.00 81.35           C
ATOM   1482  CG2 VAL A 195      21.189   4.961  -2.506  1.00 73.76           C
ATOM   1483  C   VAL A 195      22.435   4.151   1.085  1.00 75.06           C
ATOM   1484  O   VAL A 195      21.647   3.384   1.674  1.00 76.98           O
ATOM   1485  N   SER A 196      23.281   4.952   1.729  1.00 72.91           N
ATOM   1486  CA  SER A 196      23.273   5.040   3.167  1.00 79.27           C
ATOM   1487  CB  SER A 196      24.678   4.952   3.744  1.00 80.16           C
ATOM   1488  OG  SER A 196      24.592   4.956   5.165  1.00 80.00           O
ATOM   1489  C   SER A 196      22.630   6.358   3.574  1.00 84.94           C
ATOM   1490  O   SER A 196      23.193   7.452   3.355  1.00 78.44           O
ATOM   1491  N   LEU A 197      21.442   6.230   4.167  1.00 89.41           N
ATOM   1492  CA  LEU A 197      20.744   7.357   4.815  1.00 89.91           C
ATOM   1493  CB  LEU A 197      19.364   6.969   5.421  1.00 88.66           C
ATOM   1494  CG  LEU A 197      18.335   6.136   4.638  1.00 88.96           C
ATOM   1495  CD1 LEU A 197      18.319   6.589   3.181  1.00 94.78           C
ATOM   1496  CD2 LEU A 197      18.547   4.616   4.738  1.00 90.77           C
ATOM   1497  C   LEU A 197      21.628   7.768   5.938  1.00 87.49           C
ATOM   1498  O   LEU A 197      21.853   8.941   6.162  1.00 87.07           O
ATOM   1499  N   ARG A 198      22.121   6.740   6.616  1.00 90.26           N
ATOM   1500  CA  ARG A 198      22.947   6.835   7.786  1.00 92.81           C
ATOM   1501  CB  ARG A 198      23.365   5.401   8.132  1.00102.74           C
ATOM   1502  CG  ARG A 198      23.759   5.079   9.564  1.00110.90           C
ATOM   1503  CD  ARG A 198      24.113   3.585   9.626  1.00113.87           C
ATOM   1504  NE  ARG A 198      25.444   3.286  10.173  1.00120.95           N
ATOM   1505  CZ  ARG A 198      26.629   3.723   9.706  1.00124.17           C
ATOM   1506  NH1 ARG A 198      26.734   4.562   8.667  1.00123.64           N
ATOM   1507  NH2 ARG A 198      27.756   3.330  10.313  1.00123.18           N
ATOM   1508  C   ARG A 198      24.131   7.794   7.553  1.00 86.29           C
ATOM   1509  O   ARG A 198      24.501   8.515   8.476  1.00 84.10           O
ATOM   1510  N   GLU A 199      24.676   7.825   6.324  1.00 82.72           N
ATOM   1511  CA  GLU A 199      25.754   8.774   5.897  1.00 84.03           C
ATOM   1512  CB  GLU A 199      26.924   8.038   5.215  1.00 91.08           C
ATOM   1513  CG  GLU A 199      27.516   6.807   5.867  1.00 94.42           C
ATOM   1514  CD  GLU A 199      28.588   6.202   4.971  1.00 95.97           C
ATOM   1515  OE1 GLU A 199      28.256   5.382   4.071  1.00 90.86           O
ATOM   1516  OE2 GLU A 199      29.759   6.600   5.150  1.00 98.36           O
ATOM   1517  C   GLU A 199      25.360   9.831   4.854  1.00 79.60           C
ATOM   1518  O   GLU A 199      26.219  10.641   4.449  1.00 70.72           O
ATOM   1519  N   LYS A 200      24.119   9.763   4.351  1.00 79.07           N
ATOM   1520  CA  LYS A 200      23.570  10.708   3.345  1.00 73.57           C
ATOM   1521  CB  LYS A 200      23.322  12.110   3.911  1.00 72.12           C
ATOM   1522  CG  LYS A 200      22.265  12.190   5.010  1.00 73.63           C
ATOM   1523  CD  LYS A 200      21.828  13.643   5.187  1.00 76.71           C
ATOM   1524  CE  LYS A 200      20.813  13.819   6.289  1.00 76.60           C
ATOM   1525  NZ  LYS A 200      21.480  13.607   7.601  1.00 82.13           N
ATOM   1526  C   LYS A 200      24.509  10.775   2.186  1.00 69.92           C
ATOM   1527  O   LYS A 200      24.986  11.842   1.800  1.00 65.43           O
ATOM   1528  N   GLU A 201      24.890   9.603   1.734  1.00 71.91           N
ATOM   1529  CA  GLU A 201      25.845   9.533   0.676  1.00 78.64           C
ATOM   1530  CB  GLU A 201      27.228   9.816   1.228  1.00 91.86           C
ATOM   1531  CG  GLU A 201      28.311   9.807   0.179  1.00100.96           C
ATOM   1532  CD  GLU A 201      28.388  11.105  -0.590  1.00108.09           C
ATOM   1533  OE1 GLU A 201      28.560  12.161   0.049  1.00112.25           O
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ATOM   1534  OE2 GLU A 201      28.295  11.067  -1.835  1.00106.19           O
ATOM   1535  C   GLU A 201      25.834   8.203  -0.004  1.00 75.81           C
ATOM   1536  O   GLU A 201      25.286   7.239   0.492  1.00 71.35           O
ATOM   1537  N   PHE A 202      26.457   8.187  -1.164  1.00 78.06           N
ATOM   1538  CA  PHE A 202      26.590   7.016  -1.991  1.00 83.17           C
ATOM   1539  CB  PHE A 202      26.837   7.463  -3.412  1.00 86.53           C
ATOM   1540  CG  PHE A 202      25.604   7.724  -4.184  1.00 82.12           C
ATOM   1541  CD1 PHE A 202      24.540   6.883  -4.082  1.00 79.38           C
ATOM   1542  CE1 PHE A 202      23.403   7.116  -4.797  1.00 80.62           C
ATOM   1543  CZ  PHE A 202      23.338   8.191  -5.638  1.00 85.47           C
ATOM   1544  CE2 PHE A 202      24.406   9.033  -5.757  1.00 84.81           C
ATOM   1545  CD2 PHE A 202      25.533   8.792  -5.031  1.00 83.14           C
ATOM   1546  C   PHE A 202      27.777   6.163  -1.640  1.00 84.12           C
ATOM   1547  O   PHE A 202      28.829   6.661  -1.289  1.00 81.93           O
ATOM   1548  N   ASN A 203      27.615   4.864  -1.768  1.00 87.89           N
ATOM   1549  CA  ASN A 203      28.708   3.957  -1.543  1.00 89.06           C
ATOM   1550  CB  ASN A 203      28.402   2.990  -0.410  1.00 82.66           C
ATOM   1551  CG  ASN A 203      28.561   3.616   0.940  1.00 75.06           C
ATOM   1552  OD1 ASN A 203      29.029   4.734   1.052  1.00 71.41           O
ATOM   1553  ND2 ASN A 203      28.171   2.897   1.974  1.00 69.29           N
ATOM   1554  C   ASN A 203      28.807   3.200  -2.841  1.00 94.32           C
ATOM   1555  O   ASN A 203      27.804   2.718  -3.339  1.00 95.74           O
ATOM   1556  N   LYS A 204      29.990   3.090  -3.419  1.00 95.80           N
ATOM   1557  CA  LYS A 204      30.054   2.337  -4.655  1.00 93.65           C
ATOM   1558  CB  LYS A 204      31.477   2.367  -5.208  1.00101.22           C
ATOM   1559  CG  LYS A 204      31.601   1.986  -6.684  1.00113.30           C
ATOM   1560  CD  LYS A 204      32.587   0.829  -6.891  1.00117.80           C
ATOM   1561  CE  LYS A 204      32.109  -0.493  -6.276  1.00117.81           C
ATOM   1562  NZ  LYS A 204      33.214  -1.480  -6.087  1.00119.23           N
ATOM   1563  C   LYS A 204      29.526   0.904  -4.383  1.00 86.39           C
ATOM   1564  O   LYS A 204      29.488   0.418  -3.235  1.00 72.00           O
ATOM   1565  N   GLY A 205      29.069   0.251  -5.442  1.00 86.04           N
ATOM   1566  CA  GLY A 205      28.228  -0.903  -5.278  1.00 87.91           C
ATOM   1567  C   GLY A 205      28.389  -2.010  -6.285  1.00 88.77           C
ATOM   1568  O   GLY A 205      29.167  -1.886  -7.240  1.00 80.97           O
ATOM   1569  N   PRO A 206      27.605  -3.093  -6.083  1.00 95.88           N
ATOM   1570  CA  PRO A 206      27.808  -4.419  -6.635  1.00 97.25           C
ATOM   1571  CB  PRO A 206      26.400  -5.031  -6.587  1.00100.43           C
ATOM   1572  CG  PRO A 206      25.853  -4.509  -5.307  1.00 99.84           C
ATOM   1573  CD  PRO A 206      26.462  -3.122  -5.139  1.00 99.58           C
ATOM   1574  C   PRO A 206      28.415  -4.566  -8.013  1.00 92.16           C
ATOM   1575  O   PRO A 206      29.143  -5.528  -8.196  1.00 95.33           O
ATOM   1576  N   TRP A 207      28.148  -3.684  -8.976  1.00 88.56           N
ATOM   1577  CA  TRP A 207      28.685  -3.947 -10.325  1.00 93.77           C
ATOM   1578  CB  TRP A 207      28.009  -5.207 -10.943  1.00 95.32           C
ATOM   1579  CG  TRP A 207      26.496  -5.334 -10.879  1.00 93.50           C
ATOM   1580  CD1 TRP A 207      25.731  -5.986  -9.919  1.00 93.22           C
ATOM   1581  NE1 TRP A 207      24.405  -5.940 -10.261  1.00 87.26           N
ATOM   1582  CE2 TRP A 207      24.294  -5.281 -11.461  1.00 92.67           C
ATOM   1583  CD2 TRP A 207      25.593  -4.900 -11.874  1.00 89.25           C
ATOM   1584  CE3 TRP A 207      25.750  -4.197 -13.078  1.00 89.46           C
ATOM   1585  CZ3 TRP A 207      24.628  -3.893 -13.831  1.00 90.76           C
ATOM   1586  CH2 TRP A 207      23.345  -4.277 -13.397  1.00 99.05           C
ATOM   1587  CZ2 TRP A 207      23.157  -4.971 -12.216  1.00 99.70           C
ATOM   1588  C   TRP A 207      28.752  -2.751 -11.293  1.00 92.11           C
ATOM   1589  O   TRP A 207      28.644  -1.604 -10.847  1.00 90.25           O
ATOM   1590  N   LYS A 208      29.037  -3.035 -12.578  1.00 85.58           N
ATOM   1591  CA  LYS A 208      29.162  -2.025 -13.633  1.00 80.94           C
ATOM   1592  CB  LYS A 208      30.376  -1.087 -13.375  1.00 85.85           C
ATOM   1593  CG  LYS A 208      31.637  -1.822 -12.925  1.00 95.76           C
ATOM   1594  CD  LYS A 208      32.948  -1.191 -13.383  1.00 98.07           C
ATOM   1595  CE  LYS A 208      34.101  -2.151 -13.086  1.00102.45           C
ATOM   1596  NZ  LYS A 208      35.403  -1.711 -13.660  1.00105.02           N
ATOM   1597  C   LYS A 208      29.279  -2.679 -15.032  1.00 77.39           C
ATOM   1598  O   LYS A 208      29.247  -3.929 -15.183  1.00 73.41           O
ATOM   1599  N   GLN A 209      29.377  -1.791 -16.032  1.00 72.33           N
ATOM   1600  CA  GLN A 209      29.536  -2.110 -17.429  1.00 66.43           C
ATOM   1601  CB  GLN A 209      28.311  -2.906 -17.867  1.00 68.69           C
ATOM   1602  CG  GLN A 209      28.084  -2.971 -19.356  1.00 78.41           C
ATOM   1603  CD  GLN A 209      29.377  -3.157 -20.123  1.00 85.27           C
ATOM   1604  OE1 GLN A 209      29.719  -2.355 -21.023  1.00 86.31           O
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ATOM   1605  NE2 GLN A 209      30.145  -4.182 -19.724  1.00 85.39           N
ATOM   1606  C   GLN A 209      29.719  -0.797 -18.256  1.00 60.22           C
ATOM   1607  O   GLN A 209      30.733  -0.566 -18.951  1.00 47.90           O
ATOM   1608  N   ASN A 211      30.586   0.236 -21.662  1.00 71.25           N
ATOM   1609  CA  ASN A 211      29.990   0.481 -22.997  1.00 79.14           C
ATOM   1610  CB  ASN A 211      31.081   0.680 -24.109  1.00 67.09           C
ATOM   1611  C   ASN A 211      28.928  -0.618 -23.335  1.00 84.06           C
ATOM   1612  O   ASN A 211      29.278  -1.643 -23.926  1.00 93.04           O
ATOM   1613  N   VAL A 212      27.668  -0.420 -22.868  1.00 87.14           N
ATOM   1614  CA  VAL A 212      26.422  -1.186 -23.310  1.00 83.01           C
ATOM   1615  CB  VAL A 212      25.180  -1.293 -22.322  1.00 83.12           C
ATOM   1616  CG1 VAL A 212      24.804  -2.746 -22.012  1.00 81.01           C
ATOM   1617  CG2 VAL A 212      25.296  -0.414 -21.082  1.00 86.65           C
ATOM   1618  C   VAL A 212      25.867  -0.435 -24.492  1.00 79.51           C
ATOM   1619  O   VAL A 212      26.356   0.676 -24.779  1.00 73.35           O
ATOM   1620  N   GLU A 213      24.829  -1.021 -25.118  1.00 74.80           N
ATOM   1621  CA  GLU A 213      24.316  -0.582 -26.421  1.00 76.44           C
ATOM   1622  CB  GLU A 213      22.958  -1.224 -26.723  1.00 79.83           C
ATOM   1623  CG  GLU A 213      22.675  -1.322 -28.222  1.00 84.47           C
ATOM   1624  CD  GLU A 213      21.258  -0.924 -28.599  1.00 88.82           C
ATOM   1625  OE1 GLU A 213      20.308  -1.711 -28.317  1.00 87.57           O
ATOM   1626  OE2 GLU A 213      21.112   0.178 -29.196  1.00 89.82           O
ATOM   1627  C   GLU A 213      24.213   0.930 -26.635  1.00 76.05           C
ATOM   1628  O   GLU A 213      23.803   1.669 -25.745  1.00 70.95           O
ATOM   1629  N   ALA A 214      24.590   1.374 -27.835  1.00 83.46           N
ATOM   1630  CA  ALA A 214      24.505   2.796 -28.240  1.00 89.09           C
ATOM   1631  CB  ALA A 214      24.562   2.908 -29.769  1.00 91.56           C
ATOM   1632  C   ALA A 214      23.252   3.512 -27.720  1.00 87.51           C
ATOM   1633  O   ALA A 214      23.348   4.604 -27.133  1.00 93.83           O
ATOM   1634  N   GLU A 215      22.101   2.858 -27.932  1.00 81.32           N
ATOM   1635  CA  GLU A 215      20.774   3.419 -27.737  1.00 76.19           C
ATOM   1636  CB  GLU A 215      20.079   3.515 -29.139  1.00 83.31           C
ATOM   1637  CG  GLU A 215      18.941   4.558 -29.358  1.00 91.64           C
ATOM   1638  CD  GLU A 215      19.326   5.944 -29.934  1.00100.43           C
ATOM   1639  OE1 GLU A 215      18.439   6.864 -29.989  1.00107.70           O
ATOM   1640  OE2 GLU A 215      20.494   6.138 -30.339  1.00 99.30           O
ATOM   1641  C   GLU A 215      20.003   2.579 -26.671  1.00 69.44           C
ATOM   1642  O   GLU A 215      18.815   2.352 -26.773  1.00 70.21           O
ATOM   1643  N   ALA A 216      20.684   2.137 -25.618  1.00 71.41           N
ATOM   1644  CA  ALA A 216      19.996   1.582 -24.415  1.00 76.29           C
ATOM   1645  CB  ALA A 216      20.992   0.846 -23.489  1.00 71.92           C
ATOM   1646  C   ALA A 216      19.221   2.702 -23.623  1.00 79.85           C
ATOM   1647  O   ALA A 216      19.789   3.783 -23.334  1.00 79.22           O
ATOM   1648  N   SER A 217      17.952   2.427 -23.275  1.00 77.23           N
ATOM   1649  CA  SER A 217      17.064   3.408 -22.622  1.00 72.22           C
ATOM   1650  CB  SER A 217      16.074   3.908 -23.648  1.00 73.40           C
ATOM   1651  OG  SER A 217      15.155   2.875 -23.901  1.00 78.99           O
ATOM   1652  C   SER A 217      16.285   2.911 -21.380  1.00 67.82           C
ATOM   1653  O   SER A 217      16.184   3.617 -20.419  1.00 69.16           O
ATOM   1654  N   MET A 218      15.714   1.724 -21.393  1.00 66.69           N
ATOM   1655  CA  MET A 218      14.905   1.239 -20.263  1.00 68.22           C
ATOM   1656  CB  MET A 218      13.745   0.458 -20.853  1.00 70.91           C
ATOM   1657  CG  MET A 218      12.685  -0.026 -19.882  1.00 73.50           C
ATOM   1658  SD  MET A 218      11.235  -0.660 -20.760  1.00 78.06           S
ATOM   1659  CE  MET A 218      10.913   0.605 -22.008  1.00 74.64           C
ATOM   1660  C   MET A 218      15.695   0.356 -19.291  1.00 66.48           C
ATOM   1661  O   MET A 218      16.694  -0.217 -19.647  1.00 73.89           O
ATOM   1662  N   VAL A 219      15.236   0.228 -18.062  1.00 64.27           N
ATOM   1663  CA  VAL A 219      15.936  -0.545 -17.031  1.00 62.09           C
ATOM   1664  CB  VAL A 219      16.611   0.429 -16.063  1.00 64.85           C
ATOM   1665  CG1 VAL A 219      16.949  -0.235 -14.735  1.00 67.52           C
ATOM   1666  CG2 VAL A 219      17.839   1.030 -16.715  1.00 65.31           C
ATOM   1667  C   VAL A 219      14.921  -1.335 -16.249  1.00 57.92           C
ATOM   1668  O   VAL A 219      13.909  -0.803 -15.935  1.00 63.01           O
ATOM   1669  N   ILE A 220      15.168  -2.577 -15.887  1.00 55.30           N
ATOM   1670  CA  ILE A 220      14.129  -3.337 -15.184  1.00 56.33           C
ATOM   1671  CB  ILE A 220      13.408  -4.357 -16.105  1.00 53.98           C
ATOM   1672  CG1 ILE A 220      12.784  -3.633 -17.298  1.00 55.61           C
ATOM   1673  CD1 ILE A 220      12.094  -4.534 -18.306  1.00 56.98           C
ATOM   1674  CG2 ILE A 220      12.324  -5.152 -15.346  1.00 52.13           C
ATOM   1675  C   ILE A 220      14.702  -4.050 -13.981  1.00 58.62           C
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ATOM   1676  O   ILE A 220      15.521  -4.907 -14.136  1.00 59.02           O
ATOM   1677  N   ALA A 221      14.245  -3.721 -12.778  1.00 63.31           N
ATOM   1678  CA  ALA A 221      14.754  -4.392 -11.589  1.00 63.96           C
ATOM   1679  CB  ALA A 221      14.393  -3.624 -10.333  1.00 64.31           C
ATOM   1680  C   ALA A 221      14.142  -5.767 -11.579  1.00 66.71           C
ATOM   1681  O   ALA A 221      12.915  -5.903 -11.641  1.00 65.95           O
ATOM   1682  N   VAL A 222      14.970  -6.790 -11.512  1.00 72.18           N
ATOM   1683  CA  VAL A 222      14.439  -8.127 -11.477  1.00 71.65           C
ATOM   1684  CB  VAL A 222      15.384  -9.151 -12.092  1.00 70.53           C
ATOM   1685  CG1 VAL A 222      14.846 -10.546 -11.874  1.00 73.77           C
ATOM   1686  CG2 VAL A 222      15.496  -8.902 -13.573  1.00 68.90           C
ATOM   1687  C   VAL A 222      14.113  -8.478 -10.058  1.00 68.68           C
ATOM   1688  O   VAL A 222      14.771  -8.030  -9.147  1.00 68.14           O
ATOM   1689  N   PRO A 223      13.045  -9.336  -9.903  1.00 70.27           N
ATOM   1690  CA  PRO A 223      12.724  -9.668  -8.522  1.00 77.84           C
ATOM   1691  CB  PRO A 223      11.357 -10.327  -8.605  1.00 78.97           C
ATOM   1692  CG  PRO A 223      10.797  -9.889  -9.882  1.00 79.60           C
ATOM   1693  CD  PRO A 223      11.978 -10.006 -10.756  1.00 74.48           C
ATOM   1694  C   PRO A 223      13.726 -10.609  -7.935  1.00 82.26           C
ATOM   1695  O   PRO A 223      14.647 -11.039  -8.601  1.00 68.31           O
ATOM   1696  N   GLU A 224      13.527 -10.890  -6.660  1.00 96.03           N
ATOM   1697  CA  GLU A 224      14.423 -11.683  -5.837  1.00105.76           C
ATOM   1698  CB  GLU A 224      14.018 -11.616  -4.375  1.00112.89           C
ATOM   1699  CG  GLU A 224      15.128 -12.040  -3.443  1.00111.01           C
ATOM   1700  CD  GLU A 224      15.031 -11.343  -2.116  1.00109.99           C
ATOM   1701  OE1 GLU A 224      15.375 -11.954  -1.090  1.00114.23           O
ATOM   1702  OE2 GLU A 224      14.602 -10.177  -2.103  1.00106.82           O
ATOM   1703  C   GLU A 224      14.681 -13.112  -6.211  1.00 99.16           C
ATOM   1704  O   GLU A 224      15.677 -13.671  -5.752  1.00105.82           O
ATOM   1705  N   PRO A 225      13.770 -13.729  -7.055  1.00 99.08           N
ATOM   1706  CA  PRO A 225      14.118 -15.123  -7.373  1.00 99.88           C
ATOM   1707  CB  PRO A 225      13.082 -15.516  -8.406  1.00100.30           C
ATOM   1708  CG  PRO A 225      11.878 -14.792  -7.973  1.00104.55           C
ATOM   1709  CD  PRO A 225      12.420 -13.434  -7.701  1.00 99.73           C
ATOM   1710  C   PRO A 225      15.501 -15.158  -8.000  1.00 95.68           C
ATOM   1711  O   PRO A 225      16.292 -15.964  -7.557  1.00 87.73           O
ATOM   1712  N   PHE A 226      15.818 -14.284  -8.945  1.00100.62           N
ATOM   1713  CA  PHE A 226      17.171 -14.269  -9.469  1.00100.68           C
ATOM   1714  CB  PHE A 226      17.261 -14.286 -10.993  1.00112.47           C
ATOM   1715  CG  PHE A 226      16.040 -14.778 -11.709  1.00125.77           C
ATOM   1716  CD2 PHE A 226      16.161 -15.736 -12.696  1.00126.49           C
ATOM   1717  CE2 PHE A 226      15.062 -16.176 -13.398  1.00131.24           C
ATOM   1718  CZ  PHE A 226      13.823 -15.642 -13.136  1.00129.03           C
ATOM   1719  CE1 PHE A 226      13.690 -14.666 -12.172  1.00128.50           C
ATOM   1720  CD1 PHE A 226      14.798 -14.226 -11.475  1.00130.76           C
ATOM   1721  C   PHE A 226      17.810 -12.971  -9.040  1.00 92.08           C
ATOM   1722  O   PHE A 226      18.866 -12.949  -8.433  1.00 86.64           O
ATOM   1723  N   GLY A 227      17.132 -11.882  -9.360  1.00 86.12           N
ATOM   1724  CA  GLY A 227      17.614 -10.555  -9.063  1.00 82.57           C
ATOM   1725  C   GLY A 227      18.422 -10.071 -10.238  1.00 79.48           C
ATOM   1726  O   GLY A 227      18.702 -10.844 -11.131  1.00 81.33           O
ATOM   1727  N   GLY A 228      18.806  -8.801 -10.234  1.00 74.75           N
ATOM   1728  CA  GLY A 228      19.579  -8.224 -11.318  1.00 72.35           C
ATOM   1729  C   GLY A 228      18.786  -7.272 -12.182  1.00 70.89           C
ATOM   1730  O   GLY A 228      17.653  -6.970 -11.870  1.00 73.71           O
ATOM   1731  N   ALA A 229      19.386  -6.801 -13.265  1.00 65.70           N
ATOM   1732  CA  ALA A 229      18.725  -5.852 -14.185  1.00 64.72           C
ATOM   1733  CB  ALA A 229      19.328  -4.450 -14.002  1.00 65.44           C
ATOM   1734  C   ALA A 229      18.672  -6.224 -15.702  1.00 60.94           C
ATOM   1735  O   ALA A 229      19.668  -6.540 -16.303  1.00 61.38           O
ATOM   1736  N   ILE A 230      17.491  -6.146 -16.303  1.00 62.43           N
ATOM   1737  CA  ILE A 230      17.300  -6.131 -17.777  1.00 65.70           C
ATOM   1738  CB  ILE A 230      15.915  -6.682 -18.097  1.00 66.38           C
ATOM   1739  CG1 ILE A 230      15.940  -8.191 -17.926  1.00 70.77           C
ATOM   1740  CD1 ILE A 230      14.617  -8.700 -17.433  1.00 73.75           C
ATOM   1741  CG2 ILE A 230      15.438  -6.307 -19.477  1.00 65.32           C
ATOM   1742  C   ILE A 230      17.426  -4.718 -18.366  1.00 66.46           C
ATOM   1743  O   ILE A 230      17.068  -3.732 -17.731  1.00 74.33           O
ATOM   1744  N   ILE A 231      17.930  -4.601 -19.578  1.00 62.29           N
ATOM   1745  CA  ILE A 231      18.216  -3.287 -20.111  1.00 62.09           C
ATOM   1746  CB  ILE A 231      19.719  -2.927 -20.006  1.00 66.57           C
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ATOM   1747  CG1 ILE A 231      20.311  -3.151 -18.596  1.00 73.10           C
ATOM   1748  CD1 ILE A 231      19.988  -2.112 -17.548  1.00 77.34           C
ATOM   1749  CG2 ILE A 231      19.977  -1.493 -20.428  1.00 67.63           C
ATOM   1750  C   ILE A 231      17.824  -3.397 -21.559  1.00 61.02           C
ATOM   1751  O   ILE A 231      18.404  -4.179 -22.281  1.00 63.54           O
ATOM   1752  N   ILE A 232      16.852  -2.606 -21.986  1.00 58.99           N
ATOM   1753  CA  ILE A 232      16.326  -2.684 -23.322  1.00 58.91           C
ATOM   1754  CB  ILE A 232      14.796  -2.618 -23.310  1.00 62.72           C
ATOM   1755  CG1 ILE A 232      14.188  -3.442 -22.156  1.00 67.74           C
ATOM   1756  CD1 ILE A 232      14.396  -4.928 -22.243  1.00 67.11           C
ATOM   1757  CG2 ILE A 232      14.219  -3.095 -24.636  1.00 64.35           C
ATOM   1758  C   ILE A 232      16.843  -1.500 -24.121  1.00 61.53           C
ATOM   1759  O   ILE A 232      17.078  -0.432 -23.563  1.00 60.82           O
ATOM   1760  N   GLY A 233      17.017  -1.696 -25.429  1.00 64.67           N
ATOM   1761  CA  GLY A 233      17.363  -0.624 -26.374  1.00 66.21           C
ATOM   1762  C   GLY A 233      16.641  -0.900 -27.683  1.00 73.51           C
ATOM   1763  O   GLY A 233      15.554  -1.546 -27.670  1.00 71.28           O
ATOM   1764  N   GLN A 234      17.232  -0.429 -28.801  1.00 76.29           N
ATOM   1765  CA  GLN A 234      16.629  -0.555 -30.153  1.00 80.98           C
ATOM   1766  CB  GLN A 234      17.380   0.282 -31.215  1.00 89.07           C
ATOM   1767  CG  GLN A 234      17.514   1.800 -30.991  1.00 97.52           C
ATOM   1768  CD  GLN A 234      16.250   2.641 -31.240  1.00101.47           C
ATOM   1769  OE1 GLN A 234      16.110   3.758 -30.695  1.00 96.74           O
ATOM   1770  NE2 GLN A 234      15.325   2.113 -32.049  1.00102.00           N
ATOM   1771  C   GLN A 234      16.705  -1.992 -30.611  1.00 82.03           C
ATOM   1772  O   GLN A 234      15.714  -2.579 -31.108  1.00 76.05           O
ATOM   1773  N   GLU A 235      17.918  -2.525 -30.437  1.00 85.63           N
ATOM   1774  CA  GLU A 235      18.353  -3.771 -31.023  1.00 93.07           C
ATOM   1775  CB  GLU A 235      19.601  -3.465 -31.881  1.00101.00           C
ATOM   1776  CG  GLU A 235      20.087  -4.586 -32.815  1.00117.77           C
ATOM   1777  CD  GLU A 235      19.025  -5.212 -33.752  1.00123.52           C
ATOM   1778  OE1 GLU A 235      19.304  -6.322 -34.284  1.00126.79           O
ATOM   1779  OE2 GLU A 235      17.929  -4.630 -33.975  1.00122.02           O
ATOM   1780  C   GLU A 235      18.607  -4.912 -30.007  1.00 87.94           C
ATOM   1781  O   GLU A 235      18.502  -6.088 -30.363  1.00 82.84           O
ATOM   1782  N   SER A 236      18.888  -4.584 -28.747  1.00 85.46           N
ATOM   1783  CA  SER A 236      19.293  -5.596 -27.762  1.00 83.37           C
ATOM   1784  CB  SER A 236      20.751  -5.363 -27.336  1.00 89.55           C
ATOM   1785  OG  SER A 236      20.997  -4.011 -26.952  1.00 89.41           O
ATOM   1786  C   SER A 236      18.438  -5.631 -26.517  1.00 76.81           C
ATOM   1787  O   SER A 236      17.660  -4.744 -26.243  1.00 70.89           O
ATOM   1788  N   ILE A 237      18.616  -6.697 -25.765  1.00 77.70           N
ATOM   1789  CA  ILE A 237      17.969  -6.893 -24.477  1.00 74.16           C
ATOM   1790  CB  ILE A 237      16.667  -7.704 -24.588  1.00 70.66           C
ATOM   1791  CG1 ILE A 237      15.636  -6.961 -25.435  1.00 68.84           C
ATOM   1792  CD1 ILE A 237      14.304  -7.683 -25.549  1.00 69.77           C
ATOM   1793  CG2 ILE A 237      16.115  -8.037 -23.203  1.00 70.93           C
ATOM   1794  C   ILE A 237      18.970  -7.689 -23.674  1.00 74.96           C
ATOM   1795  O   ILE A 237      19.363  -8.783 -24.060  1.00 79.03           O
ATOM   1796  N   THR A 238      19.352  -7.145 -22.543  1.00 76.16           N
ATOM   1797  CA  THR A 238      20.549  -7.556 -21.865  1.00 77.91           C
ATOM   1798  CB  THR A 238      21.601  -6.453 -22.028  1.00 80.32           C
ATOM   1799  OG1 THR A 238      21.423  -5.822 -23.303  1.00 82.50           O
ATOM   1800  CG2 THR A 238      22.977  -7.032 -21.956  1.00 85.37           C
ATOM   1801  C   THR A 238      20.236  -7.744 -20.405  1.00 77.17           C
ATOM   1802  O   THR A 238      19.775  -6.820 -19.758  1.00 80.91           O
ATOM   1803  N   TYR A 239      20.431  -8.946 -19.889  1.00 75.06           N
ATOM   1804  CA  TYR A 239      20.420  -9.128 -18.449  1.00 73.15           C
ATOM   1805  CB  TYR A 239      20.001 -10.513 -18.112  1.00 69.22           C
ATOM   1806  CG  TYR A 239      20.052 -10.802 -16.668  1.00 71.97           C
ATOM   1807  CD1 TYR A 239      21.214 -11.216 -16.079  1.00 75.54           C
ATOM   1808  CE1 TYR A 239      21.264 -11.516 -14.741  1.00 78.22           C
ATOM   1809  CZ  TYR A 239      20.141 -11.408 -13.966  1.00 77.99           C
ATOM   1810  OH  TYR A 239      20.202 -11.735 -12.619  1.00 85.43           O
ATOM   1811  CE2 TYR A 239      18.970 -10.991 -14.536  1.00 75.91           C
ATOM   1812  CD2 TYR A 239      18.932 -10.696 -15.885  1.00 75.32           C
ATOM   1813  C   TYR A 239      21.825  -8.852 -17.948  1.00 77.25           C
ATOM   1814  O   TYR A 239      22.776  -8.989 -18.723  1.00 77.90           O
ATOM   1815  N   HIS A 240      21.920  -8.512 -16.676  1.00 79.22           N
ATOM   1816  CA  HIS A 240      23.177  -8.271 -16.014  1.00 81.11           C
ATOM   1817  CB  HIS A 240      23.560  -6.816 -16.049  1.00 74.91           C
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ATOM   1818  CG  HIS A 240      23.759  -6.278 -17.421  1.00 78.52           C
ATOM   1819  ND1 HIS A 240      24.938  -5.701 -17.826  1.00 81.06           N
ATOM   1820  CE1 HIS A 240      24.822  -5.296 -19.074  1.00 82.59           C
ATOM   1821  NE2 HIS A 240      23.610  -5.597 -19.496  1.00 83.12           N
ATOM   1822  CD2 HIS A 240      22.927  -6.215 -18.482  1.00 82.63           C
ATOM   1823  C   HIS A 240      22.997  -8.679 -14.582  1.00 89.26           C
ATOM   1824  O   HIS A 240      21.895  -8.706 -14.078  1.00 95.63           O
ATOM   1825  N   ASN A 241      24.096  -9.009 -13.937  1.00 94.35           N
ATOM   1826  CA  ASN A 241      24.117  -9.398 -12.546  1.00 91.07           C
ATOM   1827  CB  ASN A 241      23.582 -10.793 -12.312  1.00 85.20           C
ATOM   1828  CG  ASN A 241      22.757 -10.883 -11.049  1.00 79.72           C
ATOM   1829  OD1 ASN A 241      23.070 -10.249 -10.056  1.00 82.87           O
ATOM   1830  ND2 ASN A 241      21.692 -11.665 -11.087  1.00 73.92           N
ATOM   1831  C   ASN A 241      25.573  -9.255 -12.228  1.00 97.02           C
ATOM   1832  O   ASN A 241      26.337  -8.902 -13.119  1.00 98.08           O
ATOM   1833  N   GLY A 242      25.983  -9.516 -10.997  1.00106.23           N
ATOM   1834  CA  GLY A 242      27.372  -9.283 -10.664  1.00111.97           C
ATOM   1835  C   GLY A 242      28.295 -10.038 -11.584  1.00119.58           C
ATOM   1836  O   GLY A 242      29.229  -9.437 -12.123  1.00117.31           O
ATOM   1837  N   ASP A 243      28.040 -11.318 -11.811  1.00122.19           N
ATOM   1838  CA  ASP A 243      28.887 -12.039 -12.746  1.00119.91           C
ATOM   1839  CB  ASP A 243      29.917 -12.932 -12.066  1.00118.93           C
ATOM   1840  CG  ASP A 243      31.295 -12.282 -12.027  1.00116.30           C
ATOM   1841  OD1 ASP A 243      31.460 -11.217 -12.659  1.00113.12           O
ATOM   1842  OD2 ASP A 243      32.213 -12.826 -11.375  1.00105.81           O
ATOM   1843  C   ASP A 243      28.144 -12.717 -13.866  1.00115.09           C
ATOM   1844  O   ASP A 243      28.704 -12.939 -14.926  1.00114.47           O
ATOM   1845  N   LYS A 244      26.879 -13.038 -13.643  1.00111.55           N
ATOM   1846  CA  LYS A 244      26.107 -13.671 -14.696  1.00107.21           C
ATOM   1847  CB  LYS A 244      24.862 -14.380 -14.182  1.00105.27           C
ATOM   1848  CG  LYS A 244      23.913 -14.775 -15.297  1.00108.33           C
ATOM   1849  CD  LYS A 244      23.081 -15.989 -14.949  1.00109.58           C
ATOM   1850  CE  LYS A 244      23.546 -17.193 -15.739  1.00109.09           C
ATOM   1851  NZ  LYS A 244      23.599 -16.901 -17.196  1.00112.67           N
ATOM   1852  C   LYS A 244      25.734 -12.622 -15.692  1.00102.46           C
ATOM   1853  O   LYS A 244      25.722 -11.446 -15.385  1.00106.47           O
ATOM   1854  N   TYR A 245      25.458 -13.052 -16.903  1.00 95.33           N
ATOM   1855  CA  TYR A 245      25.080 -12.119 -17.924  1.00 94.94           C
ATOM   1856  CB  TYR A 245      26.352 -11.401 -18.361  1.00 91.35           C
ATOM   1857  CG  TYR A 245      26.333 -10.575 -19.626  1.00 94.57           C
ATOM   1858  CD1 TYR A 245      25.707 -11.004 -20.777  1.00 97.40           C
ATOM   1859  CE1 TYR A 245      25.723 -10.246 -21.924  1.00101.55           C
ATOM   1860  CZ  TYR A 245      26.402  -9.067 -21.940  1.00100.84           C
ATOM   1861  OH  TYR A 245      26.429  -8.313 -23.079  1.00 99.41           O
ATOM   1862  CE2 TYR A 245      27.051  -8.633 -20.824  1.00 99.38           C
ATOM   1863  CD2 TYR A 245      27.024  -9.391 -19.682  1.00 97.23           C
ATOM   1864  C   TYR A 245      24.457 -12.881 -19.066  1.00 99.69           C
ATOM   1865  O   TYR A 245      24.669 -14.071 -19.218  1.00109.80           O
ATOM   1866  N   LEU A 246      23.701 -12.173 -19.887  1.00 99.49           N
ATOM   1867  CA  LEU A 246      23.153 -12.745 -21.130  1.00 90.80           C
ATOM   1868  CB  LEU A 246      21.827 -13.457 -20.890  1.00 89.74           C
ATOM   1869  CG  LEU A 246      21.829 -14.854 -20.288  1.00 96.35           C
ATOM   1870  CD1 LEU A 246      22.772 -15.011 -19.091  1.00101.29           C
ATOM   1871  CD2 LEU A 246      20.391 -15.194 -19.910  1.00 97.73           C
ATOM   1872  C   LEU A 246      22.918 -11.571 -22.050  1.00 83.97           C
ATOM   1873  O   LEU A 246      23.105 -10.417 -21.673  1.00 85.61           O
ATOM   1874  N   ALA A 247      22.508 -11.867 -23.264  1.00 78.33           N
ATOM   1875  CA  ALA A 247      22.250 -10.836 -24.244  1.00 73.14           C
ATOM   1876  CB  ALA A 247      23.556 -10.172 -24.669  1.00 68.67           C
ATOM   1877  C   ALA A 247      21.533 -11.509 -25.415  1.00 72.46           C
ATOM   1878  O   ALA A 247      21.678 -12.716 -25.625  1.00 69.63           O
ATOM   1879  N   ILE A 248      20.709 -10.734 -26.112  1.00 73.59           N
ATOM   1880  CA  ILE A 248      19.956 -11.195 -27.280  1.00 74.30           C
ATOM   1881  CB  ILE A 248      18.604 -11.845 -26.897  1.00 72.03           C
ATOM   1882  CG1 ILE A 248      17.746 -10.836 -26.139  1.00 73.84           C
ATOM   1883  CD1 ILE A 248      16.304 -11.258 -26.046  1.00 77.81           C
ATOM   1884  CG2 ILE A 248      18.746 -13.107 -26.054  1.00 68.12           C
ATOM   1885  C   ILE A 248      19.643 -10.011 -28.222  1.00 77.82           C
ATOM   1886  O   ILE A 248      19.700  -8.827 -27.831  1.00 75.91           O
ATOM   1887  N   ALA A 249      19.261 -10.354 -29.446  1.00 79.83           N
ATOM   1888  CA  ALA A 249      18.871  -9.369 -30.448  1.00 81.16           C
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ATOM   1889  CB  ALA A 249      20.096  -8.976 -31.273  1.00 81.04           C
ATOM   1890  C   ALA A 249      17.756  -9.910 -31.359  1.00 82.46           C
ATOM   1891  O   ALA A 249      17.832  -9.755 -32.577  1.00 85.07           O
ATOM   1892  N   PRO A 250      16.704 -10.530 -30.782  1.00 81.27           N
ATOM   1893  CA  PRO A 250      15.710 -11.221 -31.627  1.00 83.45           C
ATOM   1894  CB  PRO A 250      14.509 -11.424 -30.693  1.00 81.50           C
ATOM   1895  CG  PRO A 250      14.824 -10.630 -29.450  1.00 78.96           C
ATOM   1896  CD  PRO A 250      16.309 -10.546 -29.368  1.00 77.21           C
ATOM   1897  C   PRO A 250      15.271 -10.427 -32.857  1.00 87.65           C
ATOM   1898  O   PRO A 250      15.156  -9.194 -32.792  1.00 77.75           O
ATOM   1899  N   PRO A 251      14.958 -11.137 -33.959  1.00 98.36           N
ATOM   1900  CA  PRO A 251      14.647 -10.391 -35.185  1.00 96.16           C
ATOM   1901  CB  PRO A 251      14.357 -11.510 -36.217  1.00 91.52           C
ATOM   1902  CG  PRO A 251      13.903 -12.689 -35.411  1.00 97.09           C
ATOM   1903  CD  PRO A 251      14.420 -12.522 -33.994  1.00 99.81           C
ATOM   1904  C   PRO A 251      13.431  -9.435 -34.999  1.00 95.36           C
ATOM   1905  O   PRO A 251      13.368  -8.354 -35.631  1.00 95.66           O
ATOM   1906  N   ILE A 252      12.513  -9.882 -34.168  1.00 89.79           N
ATOM   1907  CA  ILE A 252      11.230  -9.261 -33.962  1.00 80.94           C
ATOM   1908  CB  ILE A 252      10.400 -10.226 -33.108  1.00 78.37           C
ATOM   1909  CG1 ILE A 252       8.980 -10.321 -33.604  1.00 77.26           C
ATOM   1910  CD1 ILE A 252       8.334 -11.614 -33.192  1.00 78.03           C
ATOM   1911  CG2 ILE A 252      10.504  -9.916 -31.630  1.00 81.21           C
ATOM   1912  C   ILE A 252      11.136  -7.830 -33.454  1.00 79.27           C
ATOM   1913  O   ILE A 252      10.343  -7.068 -33.969  1.00 79.31           O
ATOM   1914  N   ILE A 253      11.919  -7.457 -32.457  1.00 74.03           N
ATOM   1915  CA  ILE A 253      11.854  -6.096 -31.953  1.00 73.90           C
ATOM   1916  CB  ILE A 253      12.482  -5.953 -30.583  1.00 73.12           C
ATOM   1917  CG1 ILE A 253      13.989  -6.055 -30.687  1.00 77.41           C
ATOM   1918  CD1 ILE A 253      14.711  -5.403 -29.534  1.00 79.21           C
ATOM   1919  CG2 ILE A 253      11.925  -7.013 -29.673  1.00 71.22           C
ATOM   1920  C   ILE A 253      12.326  -4.974 -32.862  1.00 76.90           C
ATOM   1921  O   ILE A 253      11.723  -3.915 -32.886  1.00 79.25           O
ATOM   1922  N   LYS A 254      13.401  -5.177 -33.612  1.00 86.68           N
ATOM   1923  CA  LYS A 254      13.889  -4.119 -34.481  1.00 87.21           C
ATOM   1924  CB  LYS A 254      15.119  -4.592 -35.228  1.00 83.13           C
ATOM   1925  C   LYS A 254      12.776  -3.912 -35.453  1.00 87.24           C
ATOM   1926  O   LYS A 254      12.341  -4.839 -36.098  1.00 73.29           O
ATOM   1927  N   GLN A 255      12.317  -2.687 -35.548  1.00 91.09           N
ATOM   1928  CA  GLN A 255      11.198  -2.355 -36.387  1.00 89.38           C
ATOM   1929  CB  GLN A 255      10.075  -3.361 -36.194  1.00 91.56           C
ATOM   1930  CG  GLN A 255       9.940  -4.426 -37.254  1.00 94.28           C
ATOM   1931  CD  GLN A 255       9.024  -4.015 -38.377  1.00 97.03           C
ATOM   1932  OE1 GLN A 255       7.970  -4.610 -38.579  1.00 89.06           O
ATOM   1933  NE2 GLN A 255       9.422  -2.995 -39.118  1.00 94.81           N
ATOM   1934  C   GLN A 255      10.814  -1.109 -35.682  1.00 88.76           C
ATOM   1935  O   GLN A 255      10.868  -0.017 -36.219  1.00 84.62           O
ATOM   1936  N   SER A 256      10.419  -1.307 -34.434  1.00 93.29           N
ATOM   1937  CA  SER A 256      10.037  -0.223 -33.565  1.00 91.41           C
ATOM   1938  CB  SER A 256       8.533  -0.120 -33.406  1.00 97.34           C
ATOM   1939  OG  SER A 256       8.229   1.042 -32.677  1.00 87.58           O
ATOM   1940  C   SER A 256      10.665  -0.413 -32.217  1.00 73.80           C
ATOM   1941  O   SER A 256      10.970  -1.508 -31.802  1.00 70.17           O
ATOM   1942  N   THR A 257      10.842   0.708 -31.562  1.00 62.60           N
ATOM   1943  CA  THR A 257      11.439   0.859 -30.236  1.00 65.20           C
ATOM   1944  CB  THR A 257      11.833   2.343 -30.026  1.00 66.31           C
ATOM   1945  OG1 THR A 257      12.154   2.958 -31.298  1.00 65.61           O
ATOM   1946  CG2 THR A 257      12.959   2.513 -29.010  1.00 65.45           C
ATOM   1947  C   THR A 257      10.501   0.460 -29.070  1.00 65.02           C
ATOM   1948  O   THR A 257       9.283   0.640 -29.141  1.00 70.51           O
ATOM   1949  N   ILE A 258      11.066  -0.059 -27.984  1.00 59.64           N
ATOM   1950  CA  ILE A 258      10.267  -0.456 -26.829  1.00 53.43           C
ATOM   1951  CB  ILE A 258      10.912  -1.632 -26.151  1.00 53.94           C
ATOM   1952  CG1 ILE A 258      10.961  -2.798 -27.142  1.00 55.06           C
ATOM   1953  CD1 ILE A 258       9.644  -3.466 -27.377  1.00 56.52           C
ATOM   1954  CG2 ILE A 258      10.232  -1.976 -24.829  1.00 53.73           C
ATOM   1955  C   ILE A 258      10.191   0.696 -25.858  1.00 53.48           C
ATOM   1956  O   ILE A 258      11.167   1.298 -25.539  1.00 53.51           O
ATOM   1957  N   VAL A 259       9.015   1.044 -25.392  1.00 57.12           N
ATOM   1958  CA  VAL A 259       8.894   2.242 -24.556  1.00 55.31           C
ATOM   1959  CB  VAL A 259       8.224   3.394 -25.346  1.00 59.28           C
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ATOM   1960  CG1 VAL A 259       9.125   3.857 -26.478  1.00 57.96           C
ATOM   1961  CG2 VAL A 259       6.840   2.992 -25.884  1.00 62.80           C
ATOM   1962  C   VAL A 259       8.176   2.053 -23.234  1.00 49.55           C
ATOM   1963  O   VAL A 259       8.229   2.956 -22.430  1.00 46.77           O
ATOM   1964  N   CYS A 260       7.511   0.918 -23.040  1.00 46.23           N
ATOM   1965  CA  CYS A 260       6.938   0.565 -21.769  1.00 51.57           C
ATOM   1966  CB  CYS A 260       5.492   1.059 -21.665  1.00 52.53           C
ATOM   1967  SG  CYS A 260       4.293   0.521 -22.922  1.00 51.40           S
ATOM   1968  C   CYS A 260       7.002  -0.937 -21.510  1.00 55.82           C
ATOM   1969  O   CYS A 260       6.987  -1.724 -22.454  1.00 60.20           O
ATOM   1970  N   HIS A 261       7.063  -1.308 -20.228  1.00 55.87           N
ATOM   1971  CA  HIS A 261       7.179  -2.685 -19.788  1.00 55.28           C
ATOM   1972  CB  HIS A 261       8.606  -2.948 -19.376  1.00 60.01           C
ATOM   1973  CG  HIS A 261       8.977  -2.375 -18.028  1.00 68.79           C
ATOM   1974  ND1 HIS A 261       8.848  -3.090 -16.851  1.00 70.72           N
ATOM   1975  CE1 HIS A 261       9.261  -2.346 -15.836  1.00 72.74           C
ATOM   1976  NE2 HIS A 261       9.667  -1.181 -16.312  1.00 73.47           N
ATOM   1977  CD2 HIS A 261       9.496  -1.168 -17.677  1.00 71.62           C
ATOM   1978  C   HIS A 261       6.324  -2.933 -18.567  1.00 54.59           C
ATOM   1979  O   HIS A 261       6.029  -2.027 -17.867  1.00 57.69           O
ATOM   1980  N   ASN A 262       5.992  -4.166 -18.251  1.00 57.51           N
ATOM   1981  CA  ASN A 262       5.369  -4.448 -16.980  1.00 59.13           C
ATOM   1982  CB  ASN A 262       3.881  -4.248 -17.059  1.00 63.36           C
ATOM   1983  CG  ASN A 262       3.280  -4.109 -15.687  1.00 69.34           C
ATOM   1984  OD1 ASN A 262       3.656  -3.179 -14.913  1.00 66.22           O
ATOM   1985  ND2 ASN A 262       2.398  -5.045 -15.336  1.00 67.95           N
ATOM   1986  C   ASN A 262       5.571  -5.838 -16.536  1.00 58.26           C
ATOM   1987  O   ASN A 262       5.435  -6.733 -17.331  1.00 67.74           O
ATOM   1988  N   ARG A 263       5.825  -6.039 -15.258  1.00 58.05           N
ATOM   1989  CA  ARG A 263       6.072  -7.386 -14.719  1.00 59.07           C
ATOM   1990  CB  ARG A 263       6.757  -7.281 -13.364  1.00 60.05           C
ATOM   1991  CG  ARG A 263       7.243  -8.606 -12.809  1.00 64.20           C
ATOM   1992  CD  ARG A 263       6.957  -8.649 -11.336  1.00 65.99           C
ATOM   1993  NE  ARG A 263       7.688  -7.569 -10.694  1.00 68.78           N
ATOM   1994  CZ  ARG A 263       7.400  -7.079  -9.504  1.00 70.85           C
ATOM   1995  NH1 ARG A 263       6.372  -7.552  -8.817  1.00 74.19           N
ATOM   1996  NH2 ARG A 263       8.139  -6.103  -9.002  1.00 73.91           N
ATOM   1997  C   ARG A 263       4.797  -8.245 -14.569  1.00 56.59           C
ATOM   1998  O   ARG A 263       3.895  -7.902 -13.817  1.00 53.70           O
ATOM   1999  N   VAL A 264       4.772  -9.405 -15.219  1.00 55.24           N
ATOM   2000  CA  VAL A 264       3.584 -10.213 -15.227  1.00 56.33           C
ATOM   2001  CB  VAL A 264       3.504 -11.084 -16.467  1.00 57.34           C
ATOM   2002  CG1 VAL A 264       2.196 -11.875 -16.482  1.00 56.82           C
ATOM   2003  CG2 VAL A 264       3.606 -10.193 -17.699  1.00 60.00           C
ATOM   2004  C   VAL A 264       3.400 -11.062 -13.989  1.00 59.07           C
ATOM   2005  O   VAL A 264       2.259 -11.233 -13.581  1.00 62.61           O
ATOM   2006  N   ASP A 265       4.485 -11.578 -13.433  1.00 64.02           N
ATOM   2007  CA  ASP A 265       4.429 -12.409 -12.251  1.00 69.84           C
ATOM   2008  CB  ASP A 265       4.704 -13.861 -12.593  1.00 76.86           C
ATOM   2009  CG  ASP A 265       6.029 -14.059 -13.251  1.00 85.65           C
ATOM   2010  OD1 ASP A 265       7.033 -13.530 -12.753  1.00 86.26           O
ATOM   2011  OD2 ASP A 265       6.078 -14.769 -14.267  1.00 83.37           O
ATOM   2012  C   ASP A 265       5.400 -11.936 -11.206  1.00 66.80           C
ATOM   2013  O   ASP A 265       6.441 -11.388 -11.516  1.00 65.56           O
ATOM   2014  N   PRO A 266       5.019 -12.191  -9.902  1.00 64.96           N
ATOM   2015  CA  PRO A 266       5.961 -11.708  -8.888  1.00 66.82           C
ATOM   2016  CB  PRO A 266       5.349 -12.171  -7.585  1.00 64.75           C
ATOM   2017  CG  PRO A 266       3.909 -12.209  -7.854  1.00 64.74           C
ATOM   2018  CD  PRO A 266       3.896 -12.900  -9.156  1.00 62.18           C
ATOM   2019  C   PRO A 266       7.275 -12.380  -9.070  1.00 71.28           C
ATOM   2020  O   PRO A 266       8.315 -11.870  -8.731  1.00 74.12           O
ATOM   2021  N   ASN A 267       7.198 -13.557  -9.637  1.00 80.76           N
ATOM   2022  CA  ASN A 267       8.325 -14.393  -9.887  1.00 86.22           C
ATOM   2023  CB  ASN A 267       7.817 -15.639 -10.595  1.00 91.48           C
ATOM   2024  CG  ASN A 267       8.906 -16.615 -10.886  1.00101.35           C
ATOM   2025  OD1 ASN A 267      10.070 -16.293 -10.739  1.00116.70           O
ATOM   2026  ND2 ASN A 267       8.541 -17.818 -11.302  1.00102.80           N
ATOM   2027  C   ASN A 267       9.313 -13.644 -10.755  1.00 87.48           C
ATOM   2028  O   ASN A 267      10.508 -13.785 -10.577  1.00 87.92           O
ATOM   2029  N   GLY A 268       8.827 -12.831 -11.685  1.00 85.29           N
ATOM   2030  CA  GLY A 268       9.727 -12.102 -12.559  1.00 76.97           C
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ATOM   2031  C   GLY A 268      10.021 -12.933 -13.778  1.00 77.60           C
ATOM   2032  O   GLY A 268      10.955 -12.704 -14.508  1.00 72.39           O
ATOM   2033  N   SER A 269       9.197 -13.938 -13.969  1.00 78.68           N
ATOM   2034  CA  SER A 269       9.322 -14.893 -15.076  1.00 81.52           C
ATOM   2035  CB  SER A 269       8.375 -16.067 -14.919  1.00 86.32           C
ATOM   2036  OG  SER A 269       8.821 -16.893 -13.883  1.00 99.32           O
ATOM   2037  C   SER A 269       9.003 -14.272 -16.399  1.00 78.84           C
ATOM   2038  O   SER A 269       9.665 -14.546 -17.395  1.00 77.83           O
ATOM   2039  N   ARG A 270       7.948 -13.473 -16.410  1.00 75.92           N
ATOM   2040  CA  ARG A 270       7.481 -12.851 -17.632  1.00 71.81           C
ATOM   2041  CB  ARG A 270       6.174 -13.536 -18.022  1.00 72.23           C
ATOM   2042  CG  ARG A 270       6.306 -15.045 -18.163  1.00 72.89           C
ATOM   2043  CD  ARG A 270       5.019 -15.670 -18.701  1.00 77.75           C
ATOM   2044  NE  ARG A 270       4.045 -15.883 -17.634  1.00 82.35           N
ATOM   2045  CZ  ARG A 270       2.712 -15.790 -17.738  1.00 89.94           C
ATOM   2046  NH1 ARG A 270       2.091 -15.468 -18.869  1.00 88.74           N
ATOM   2047  NH2 ARG A 270       1.969 -16.008 -16.660  1.00 98.50           N
ATOM   2048  C   ARG A 270       7.344 -11.309 -17.496  1.00 64.28           C
ATOM   2049  O   ARG A 270       7.090 -10.792 -16.397  1.00 66.03           O
ATOM   2050  N   TYR A 271       7.574 -10.593 -18.598  1.00 56.79           N
ATOM   2051  CA  TYR A 271       7.312  -9.155 -18.701  1.00 54.83           C
ATOM   2052  CB  TYR A 271       8.624  -8.395 -18.776  1.00 54.49           C
ATOM   2053  CG  TYR A 271       9.255  -8.375 -17.387  1.00 60.18           C
ATOM   2054  CD1 TYR A 271       9.949  -9.483 -16.897  1.00 64.17           C
ATOM   2055  CE1 TYR A 271      10.482  -9.503 -15.621  1.00 64.28           C
ATOM   2056  CZ  TYR A 271      10.319  -8.424 -14.815  1.00 65.48           C
ATOM   2057  OH  TYR A 271      10.856  -8.448 -13.556  1.00 66.15           O
ATOM   2058  CE2 TYR A 271       9.621  -7.317 -15.265  1.00 65.35           C
ATOM   2059  CD2 TYR A 271       9.083  -7.301 -16.531  1.00 61.02           C
ATOM   2060  C   TYR A 271       6.416  -8.880 -19.887  1.00 54.74           C
ATOM   2061  O   TYR A 271       6.375  -9.671 -20.803  1.00 56.76           O
ATOM   2062  N   LEU A 272       5.618  -7.813 -19.849  1.00 53.22           N
ATOM   2063  CA  LEU A 272       4.940  -7.334 -21.076  1.00 50.49           C
ATOM   2064  CB  LEU A 272       3.533  -6.865 -20.808  1.00 47.96           C
ATOM   2065  CG  LEU A 272       2.701  -8.064 -20.383  1.00 49.83           C
ATOM   2066  CD1 LEU A 272       1.376  -7.669 -19.782  1.00 50.22           C
ATOM   2067  CD2 LEU A 272       2.423  -8.958 -21.552  1.00 54.51           C
ATOM   2068  C   LEU A 272       5.797  -6.219 -21.602  1.00 48.76           C
ATOM   2069  O   LEU A 272       6.361  -5.512 -20.789  1.00 46.98           O
ATOM   2070  N   LEU A 273       5.990  -6.134 -22.928  1.00 45.55           N
ATOM   2071  CA  LEU A 273       6.634  -4.983 -23.521  1.00 44.98           C
ATOM   2072  CB  LEU A 273       7.937  -5.319 -24.184  1.00 45.54           C
ATOM   2073  CG  LEU A 273       8.955  -6.015 -23.313  1.00 48.64           C
ATOM   2074  CD1 LEU A 273      10.265  -6.170 -24.070  1.00 49.87           C
ATOM   2075  CD2 LEU A 273       9.192  -5.278 -22.016  1.00 50.27           C
ATOM   2076  C   LEU A 273       5.753  -4.289 -24.542  1.00 48.05           C
ATOM   2077  O   LEU A 273       4.915  -4.900 -25.249  1.00 46.24           O
ATOM   2078  N   GLY A 274       5.990  -2.987 -24.618  1.00 47.53           N
ATOM   2079  CA  GLY A 274       5.235  -2.135 -25.437  1.00 48.02           C
ATOM   2080  C   GLY A 274       6.141  -1.426 -26.388  1.00 50.64           C
ATOM   2081  O   GLY A 274       7.135  -0.834 -26.024  1.00 52.80           O
ATOM   2082  N   ASP A 275       5.697  -1.462 -27.618  1.00 55.65           N
ATOM   2083  CA  ASP A 275       6.284  -0.851 -28.783  1.00 55.34           C
ATOM   2084  CB  ASP A 275       5.585  -1.605 -29.887  1.00 63.23           C
ATOM   2085  CG  ASP A 275       6.138  -1.373 -31.184  1.00 77.21           C
ATOM   2086  OD1 ASP A 275       7.303  -0.925 -31.265  1.00 93.49           O
ATOM   2087  OD2 ASP A 275       5.386  -1.674 -32.141  1.00 91.57           O
ATOM   2088  C   ASP A 275       5.865   0.622 -28.850  1.00 50.56           C
ATOM   2089  O   ASP A 275       4.970   1.022 -28.144  1.00 55.88           O
ATOM   2090  N   MET A 276       6.454   1.425 -29.724  0.50 42.83           N
ATOM   2091  CA  MET A 276       6.028   2.797 -29.914  0.50 35.48           C
ATOM   2092  CB  MET A 276       7.210   3.610 -30.399  0.50 31.52           C
ATOM   2093  CG  MET A 276       6.989   5.098 -30.548  0.50 29.79           C
ATOM   2094  SD  MET A 276       8.611   5.856 -30.443  0.50 26.47           S
ATOM   2095  CE  MET A 276       9.281   4.458 -29.640  0.50 27.32           C
ATOM   2096  C   MET A 276       4.920   2.850 -30.915  0.50 36.18           C
ATOM   2097  O   MET A 276       4.430   3.887 -31.180  0.50 35.43           O
ATOM   2098  N   GLU A 277       4.532   1.725 -31.483  1.00 41.41           N
ATOM   2099  CA  GLU A 277       3.547   1.636 -32.625  1.00 49.21           C
ATOM   2100  CB  GLU A 277       4.186   1.242 -34.029  1.00 56.40           C
ATOM   2101  CG  GLU A 277       5.427   1.970 -34.624  1.00 65.77           C
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ATOM   2102  CD  GLU A 277       5.874   1.499 -36.064  1.00 73.16           C
ATOM   2103  OE1 GLU A 277       5.917   0.264 -36.360  1.00 76.67           O
ATOM   2104  OE2 GLU A 277       6.222   2.375 -36.913  1.00 73.60           O
ATOM   2105  C   GLU A 277       2.393   0.588 -32.411  1.00 47.51           C
ATOM   2106  O   GLU A 277       1.583   0.383 -33.353  1.00 45.06           O
ATOM   2107  N   GLY A 278       2.308  -0.073 -31.244  1.00 43.04           N
ATOM   2108  CA  GLY A 278       1.236  -1.055 -31.011  1.00 42.21           C
ATOM   2109  C   GLY A 278       1.666  -2.516 -30.755  1.00 40.44           C
ATOM   2110  O   GLY A 278       0.870  -3.331 -30.271  1.00 40.92           O
ATOM   2111  N   ARG A 279       2.889  -2.885 -31.071  0.50 35.36           N
ATOM   2112  CA  ARG A 279       3.245  -4.209 -30.752  0.50 33.66           C
ATOM   2113  CB  ARG A 279       4.506  -4.619 -31.459  0.50 31.88           C
ATOM   2114  CG  ARG A 279       4.346  -4.591 -32.958  0.50 29.07           C
ATOM   2115  CD  ARG A 279       5.678  -4.664 -33.603  0.50 27.42           C
ATOM   2116  NE  ARG A 279       5.522  -4.338 -34.975  0.50 27.35           N
ATOM   2117  CZ  ARG A 279       5.870  -3.161 -35.466  0.50 28.50           C
ATOM   2118  NH1 ARG A 279       6.392  -2.256 -34.661  0.50 28.84           N
ATOM   2119  NH2 ARG A 279       5.713  -2.873 -36.755  0.50 28.28           N
ATOM   2120  C   ARG A 279       3.300  -4.394 -29.252  0.50 35.88           C
ATOM   2121  O   ARG A 279       3.638  -3.510 -28.499  0.50 33.93           O
ATOM   2122  N   LEU A 280       2.831  -5.558 -28.855  1.00 42.22           N
ATOM   2123  CA  LEU A 280       2.852  -6.078 -27.477  1.00 49.22           C
ATOM   2124  CB  LEU A 280       1.416  -6.184 -26.915  1.00 48.50           C
ATOM   2125  CG  LEU A 280       1.186  -6.754 -25.500  1.00 47.45           C
ATOM   2126  CD1 LEU A 280       1.801  -5.859 -24.425  1.00 46.61           C
ATOM   2127  CD2 LEU A 280      -0.295  -6.989 -25.228  1.00 46.70           C
ATOM   2128  C   LEU A 280       3.532  -7.490 -27.416  1.00 56.12           C
ATOM   2129  O   LEU A 280       3.034  -8.496 -27.953  1.00 56.61           O
ATOM   2130  N   PHE A 281       4.656  -7.546 -26.721  1.00 61.96           N
ATOM   2131  CA  PHE A 281       5.441  -8.749 -26.581  1.00 64.26           C
ATOM   2132  CB  PHE A 281       6.904  -8.446 -26.897  1.00 69.09           C
ATOM   2133  CG  PHE A 281       7.139  -7.772 -28.210  1.00 71.68           C
ATOM   2134  CD1 PHE A 281       7.001  -6.404 -28.327  1.00 71.30           C
ATOM   2135  CE1 PHE A 281       7.243  -5.780 -29.526  1.00 70.25           C
ATOM   2136  CZ  PHE A 281       7.637  -6.510 -30.609  1.00 68.33           C
ATOM   2137  CE2 PHE A 281       7.790  -7.867 -30.505  1.00 68.62           C
ATOM   2138  CD2 PHE A 281       7.568  -8.496 -29.308  1.00 71.15           C
ATOM   2139  C   PHE A 281       5.451  -9.228 -25.128  1.00 67.12           C
ATOM   2140  O   PHE A 281       5.436  -8.390 -24.196  1.00 69.53           O
ATOM   2141  N   MET A 282       5.525 -10.559 -24.945  1.00 63.28           N
ATOM   2142  CA  MET A 282       6.035 -11.145 -23.726  1.00 56.46           C
ATOM   2143  CB  MET A 282       5.478 -12.478 -23.498  1.00 58.19           C
ATOM   2144  CG  MET A 282       5.557 -12.846 -22.059  1.00 64.37           C
ATOM   2145  SD  MET A 282       3.833 -12.722 -21.601  1.00 77.19           S
ATOM   2146  CE  MET A 282       3.450 -14.448 -22.033  1.00 74.00           C
ATOM   2147  C   MET A 282       7.501 -11.358 -23.899  1.00 53.16           C
ATOM   2148  O   MET A 282       7.958 -11.528 -25.012  1.00 49.66           O
ATOM   2149  N   LEU A 283       8.228 -11.328 -22.798  1.00 53.94           N
ATOM   2150  CA  LEU A 283       9.655 -11.613 -22.755  1.00 56.49           C
ATOM   2151  CB  LEU A 283      10.490 -10.337 -22.565  1.00 58.50           C
ATOM   2152  CG  LEU A 283      11.776 -10.345 -21.695  1.00 60.95           C
ATOM   2153  CD1 LEU A 283      12.788 -11.361 -22.189  1.00 63.99           C
ATOM   2154  CD2 LEU A 283      12.474  -8.983 -21.622  1.00 61.72           C
ATOM   2155  C   LEU A 283       9.742 -12.489 -21.556  1.00 59.31           C
ATOM   2156  O   LEU A 283       9.292 -12.066 -20.513  1.00 61.42           O
ATOM   2157  N   LEU A 284      10.305 -13.698 -21.696  1.00 66.28           N
ATOM   2158  CA  LEU A 284      10.276 -14.722 -20.633  1.00 64.05           C
ATOM   2159  CB  LEU A 284       9.635 -16.007 -21.071  1.00 58.25           C
ATOM   2160  CG  LEU A 284       8.310 -15.668 -21.707  1.00 59.04           C
ATOM   2161  CD1 LEU A 284       8.429 -15.362 -23.206  1.00 56.74           C
ATOM   2162  CD2 LEU A 284       7.363 -16.810 -21.435  1.00 62.58           C
ATOM   2163  C   LEU A 284      11.658 -15.043 -20.268  1.00 68.90           C
ATOM   2164  O   LEU A 284      12.505 -15.179 -21.164  1.00 70.06           O
ATOM   2165  N   LEU A 285      11.850 -15.204 -18.956  1.00 74.69           N
ATOM   2166  CA  LEU A 285      13.147 -15.442 -18.344  1.00 78.20           C
ATOM   2167  CB  LEU A 285      13.316 -14.597 -17.084  1.00 78.39           C
ATOM   2168  CG  LEU A 285      13.239 -13.071 -17.202  1.00 74.72           C
ATOM   2169  CD1 LEU A 285      14.085 -12.460 -16.098  1.00 73.80           C
ATOM   2170  CD2 LEU A 285      13.727 -12.557 -18.547  1.00 74.39           C
ATOM   2171  C   LEU A 285      13.284 -16.916 -18.024  1.00 80.97           C
ATOM   2172  O   LEU A 285      12.714 -17.434 -17.036  1.00 78.99           O
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ATOM   2173  N   GLU A 286      14.080 -17.565 -18.869  1.00 84.80           N
ATOM   2174  CA  GLU A 286      14.082 -18.995 -18.969  1.00 86.31           C
ATOM   2175  CB  GLU A 286      14.281 -19.413 -20.438  1.00 86.69           C
ATOM   2176  CG  GLU A 286      13.240 -18.681 -21.311  1.00 91.55           C
ATOM   2177  CD  GLU A 286      12.873 -19.329 -22.652  1.00 94.89           C
ATOM   2178  OE1 GLU A 286      13.745 -19.398 -23.553  1.00 96.88           O
ATOM   2179  OE2 GLU A 286      11.684 -19.707 -22.831  1.00 89.36           O
ATOM   2180  C   GLU A 286      15.079 -19.559 -17.952  1.00 86.16           C
ATOM   2181  O   GLU A 286      16.220 -19.105 -17.847  1.00 76.19           O
ATOM   2182  N   LYS A 287      14.568 -20.512 -17.171  1.00 92.29           N
ATOM   2183  CA  LYS A 287      15.277 -21.192 -16.096  1.00 94.26           C
ATOM   2184  CB  LYS A 287      14.761 -20.698 -14.732  1.00 94.49           C
ATOM   2185  CG  LYS A 287      13.242 -20.674 -14.569  1.00 99.99           C
ATOM   2186  CD  LYS A 287      12.833 -20.077 -13.226  1.00107.17           C
ATOM   2187  CE  LYS A 287      11.515 -19.301 -13.278  1.00114.07           C
ATOM   2188  NZ  LYS A 287      10.324 -20.168 -13.512  1.00117.26           N
ATOM   2189  C   LYS A 287      15.079 -22.711 -16.297  1.00 91.90           C
ATOM   2190  O   LYS A 287      14.945 -23.487 -15.351  1.00 86.91           O
ATOM   2191  N   THR A 296      19.115 -22.411 -13.834  1.00 89.30           N
ATOM   2192  CA  THR A 296      18.238 -21.316 -13.446  1.00104.34           C
ATOM   2193  CB  THR A 296      18.794 -20.519 -12.253  1.00 99.57           C
ATOM   2194  OG1 THR A 296      20.059 -19.949 -12.603  1.00 91.91           O
ATOM   2195  CG2 THR A 296      18.947 -21.410 -11.045  1.00 90.65           C
ATOM   2196  C   THR A 296      17.951 -20.343 -14.589  1.00111.84           C
ATOM   2197  O   THR A 296      17.016 -20.545 -15.371  1.00127.83           O
ATOM   2198  N   LEU A 297      18.745 -19.282 -14.682  1.00106.04           N
ATOM   2199  CA  LEU A 297      18.531 -18.303 -15.727  1.00104.47           C
ATOM   2200  CB  LEU A 297      19.002 -16.937 -15.266  1.00111.66           C
ATOM   2201  CG  LEU A 297      18.959 -15.897 -16.377  1.00119.13           C
ATOM   2202  CD1 LEU A 297      17.669 -15.994 -17.161  1.00120.62           C
ATOM   2203  CD2 LEU A 297      19.106 -14.509 -15.801  1.00123.16           C
ATOM   2204  C   LEU A 297      19.207 -18.666 -17.029  1.00 98.85           C
ATOM   2205  O   LEU A 297      20.201 -18.066 -17.403  1.00 95.36           O
ATOM   2206  N   LYS A 298      18.675 -19.656 -17.722  1.00 94.62           N
ATOM   2207  CA  LYS A 298      19.286 -20.069 -18.968  1.00 92.33           C
ATOM   2208  CB  LYS A 298      18.682 -21.397 -19.442  1.00 97.79           C
ATOM   2209  CG  LYS A 298      19.010 -21.777 -20.879  1.00104.02           C
ATOM   2210  CD  LYS A 298      19.182 -23.271 -21.065  1.00110.76           C
ATOM   2211  CE  LYS A 298      19.734 -23.580 -22.447  1.00112.36           C
ATOM   2212  NZ  LYS A 298      20.979 -22.816 -22.729  1.00109.12           N
ATOM   2213  C   LYS A 298      19.275 -19.059 -20.096  1.00 87.79           C
ATOM   2214  O   LYS A 298      20.291 -18.868 -20.738  1.00 78.83           O
ATOM   2215  N   ASP A 299      18.148 -18.407 -20.339  1.00 89.17           N
ATOM   2216  CA  ASP A 299      18.089 -17.485 -21.461  1.00 87.54           C
ATOM   2217  CB  ASP A 299      18.153 -18.308 -22.742  1.00 88.07           C
ATOM   2218  CG  ASP A 299      18.857 -17.600 -23.855  1.00 86.53           C
ATOM   2219  OD1 ASP A 299      19.268 -16.453 -23.663  1.00 80.29           O
ATOM   2220  OD2 ASP A 299      19.007 -18.189 -24.933  1.00 91.96           O
ATOM   2221  C   ASP A 299      16.848 -16.622 -21.495  1.00 82.17           C
ATOM   2222  O   ASP A 299      16.075 -16.617 -20.551  1.00 70.86           O
ATOM   2223  N   LEU A 300      16.665 -15.909 -22.607  1.00 79.44           N
ATOM   2224  CA  LEU A 300      15.510 -14.985 -22.796  1.00 74.97           C
ATOM   2225  CB  LEU A 300      16.047 -13.554 -22.790  1.00 70.29           C
ATOM   2226  CG  LEU A 300      17.139 -13.180 -21.792  1.00 70.91           C
ATOM   2227  CD1 LEU A 300      17.765 -11.825 -22.146  1.00 71.43           C
ATOM   2228  CD2 LEU A 300      16.605 -13.164 -20.368  1.00 69.87           C
ATOM   2229  C   LEU A 300      14.708 -15.174 -24.125  1.00 74.06           C
ATOM   2230  O   LEU A 300      15.179 -14.691 -25.160  1.00 80.91           O
ATOM   2231  N   ARG A 301      13.546 -15.860 -24.142  1.00 69.27           N
ATOM   2232  CA  ARG A 301      12.689 -15.874 -25.391  1.00 68.37           C
ATOM   2233  CB  ARG A 301      11.801 -17.175 -25.625  1.00 56.23           C
ATOM   2234  C   ARG A 301      11.880 -14.526 -25.320  1.00 70.05           C
ATOM   2235  O   ARG A 301      11.771 -13.936 -24.229  1.00 60.62           O
ATOM   2236  N   VAL A 302      11.388 -14.058 -26.489  1.00 72.49           N
ATOM   2237  CA  VAL A 302      10.551 -12.851 -26.682  1.00 69.54           C
ATOM   2238  CB  VAL A 302      11.424 -11.707 -27.235  1.00 67.15           C
ATOM   2239  CG1 VAL A 302      10.616 -10.522 -27.769  1.00 67.66           C
ATOM   2240  CG2 VAL A 302      12.358 -11.237 -26.159  1.00 70.97           C
ATOM   2241  C   VAL A 302       9.396 -13.124 -27.679  1.00 74.17           C
ATOM   2242  O   VAL A 302       9.580 -12.959 -28.876  1.00 80.43           O
ATOM   2243  N   GLU A 303       8.212 -13.533 -27.214  1.00 76.75           N
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ATOM   2244  CA  GLU A 303       7.084 -13.846 -28.140  1.00 76.95           C
ATOM   2245  CB  GLU A 303       6.063 -14.815 -27.508  1.00 77.28           C
ATOM   2246  CG  GLU A 303       5.372 -15.773 -28.472  1.00 80.88           C
ATOM   2247  CD  GLU A 303       4.884 -17.039 -27.762  1.00 91.72           C
ATOM   2248  OE1 GLU A 303       4.146 -16.936 -26.757  1.00 96.96           O
ATOM   2249  OE2 GLU A 303       5.246 -18.158 -28.182  1.00 96.79           O
ATOM   2250  C   GLU A 303       6.430 -12.525 -28.518  1.00 72.04           C
ATOM   2251  O   GLU A 303       6.554 -11.567 -27.789  1.00 67.62           O
ATOM   2252  N   LEU A 304       5.786 -12.471 -29.678  1.00 69.02           N
ATOM   2253  CA  LEU A 304       5.025 -11.298 -30.081  1.00 61.81           C
ATOM   2254  CB  LEU A 304       5.335 -10.882 -31.515  1.00 56.81           C
ATOM   2255  CG  LEU A 304       4.281 -10.011 -32.211  1.00 56.12           C
ATOM   2256  CD1 LEU A 304       3.924  -8.733 -31.462  1.00 57.66           C
ATOM   2257  CD2 LEU A 304       4.781  -9.676 -33.591  1.00 56.56           C
ATOM   2258  C   LEU A 304       3.574 -11.674 -29.954  1.00 62.46           C
ATOM   2259  O   LEU A 304       3.059 -12.478 -30.743  1.00 61.92           O
ATOM   2260  N   LEU A 305       2.897 -11.048 -29.003  1.00 62.91           N
ATOM   2261  CA  LEU A 305       1.558 -11.489 -28.638  1.00 62.60           C
ATOM   2262  CB  LEU A 305       1.258 -11.169 -27.188  1.00 64.21           C
ATOM   2263  CG  LEU A 305       2.388 -11.464 -26.188  1.00 64.35           C
ATOM   2264  CD1 LEU A 305       2.355 -10.407 -25.091  1.00 65.76           C
ATOM   2265  CD2 LEU A 305       2.286 -12.861 -25.617  1.00 62.78           C
ATOM   2266  C   LEU A 305       0.500 -10.900 -29.554  1.00 58.33           C
ATOM   2267  O   LEU A 305      -0.398 -11.612 -29.945  1.00 55.91           O
ATOM   2268  N   GLY A 306       0.597  -9.621 -29.909  1.00 57.08           N
ATOM   2269  CA  GLY A 306      -0.434  -9.022 -30.797  1.00 57.84           C
ATOM   2270  C   GLY A 306      -0.356  -7.523 -30.972  1.00 53.59           C
ATOM   2271  O   GLY A 306       0.704  -6.951 -30.803  1.00 49.88           O
ATOM   2272  N   GLU A 307      -1.484  -6.896 -31.305  1.00 54.12           N
ATOM   2273  CA  GLU A 307      -1.564  -5.426 -31.468  1.00 54.40           C
ATOM   2274  CB  GLU A 307      -2.090  -5.027 -32.843  1.00 55.55           C
ATOM   2275  CG  GLU A 307      -1.145  -4.154 -33.636  1.00 61.68           C
ATOM   2276  CD  GLU A 307      -1.808  -3.456 -34.830  1.00 67.74           C
ATOM   2277  OE1 GLU A 307      -1.013  -2.938 -35.682  1.00 74.56           O
ATOM   2278  OE2 GLU A 307      -3.083  -3.415 -34.907  1.00 60.11           O
ATOM   2279  C   GLU A 307      -2.515  -4.831 -30.440  1.00 55.39           C
ATOM   2280  O   GLU A 307      -3.626  -5.343 -30.185  1.00 53.11           O
ATOM   2281  N   THR A 308      -2.090  -3.716 -29.866  1.00 55.33           N
ATOM   2282  CA  THR A 308      -2.941  -2.967 -28.949  1.00 52.95           C
ATOM   2283  CB  THR A 308      -2.408  -3.051 -27.488  1.00 48.95           C
ATOM   2284  OG1 THR A 308      -1.057  -2.547 -27.377  1.00 43.93           O
ATOM   2285  CG2 THR A 308      -2.415  -4.530 -27.046  1.00 46.96           C
ATOM   2286  C   THR A 308      -2.974  -1.567 -29.495  1.00 53.89           C
ATOM   2287  O   THR A 308      -2.275  -1.223 -30.461  1.00 56.54           O
ATOM   2288  N   SER A 309      -3.809  -0.763 -28.887  1.00 53.04           N
ATOM   2289  CA  SER A 309      -3.646   0.653 -28.980  1.00 49.81           C
ATOM   2290  CB  SER A 309      -4.667   1.390 -28.087  1.00 50.79           C
ATOM   2291  OG  SER A 309      -6.005   1.118 -28.493  1.00 52.26           O
ATOM   2292  C   SER A 309      -2.227   0.948 -28.520  1.00 44.51           C
ATOM   2293  O   SER A 309      -1.633   0.227 -27.752  1.00 40.69           O
ATOM   2294  N   ILE A 310      -1.728   2.052 -28.996  1.00 43.39           N
ATOM   2295  CA  ILE A 310      -0.359   2.435 -28.867  1.00 44.04           C
ATOM   2296  CB  ILE A 310      -0.133   3.666 -29.783  1.00 46.28           C
ATOM   2297  CG1 ILE A 310      -0.542   3.345 -31.214  1.00 46.62           C
ATOM   2298  CD1 ILE A 310      -0.619   4.569 -32.068  1.00 49.50           C
ATOM   2299  CG2 ILE A 310       1.314   4.162 -29.769  1.00 47.00           C
ATOM   2300  C   ILE A 310      -0.167   2.795 -27.404  1.00 44.45           C
ATOM   2301  O   ILE A 310      -0.773   3.759 -26.871  1.00 47.31           O
ATOM   2302  N   ALA A 311       0.648   2.017 -26.729  1.00 44.02           N
ATOM   2303  CA  ALA A 311       0.613   2.033 -25.258  1.00 45.80           C
ATOM   2304  CB  ALA A 311       0.912   0.659 -24.681  1.00 44.81           C
ATOM   2305  C   ALA A 311       1.559   3.059 -24.641  1.00 47.00           C
ATOM   2306  O   ALA A 311       2.719   3.176 -25.045  1.00 48.42           O
ATOM   2307  N   GLU A 312       1.041   3.791 -23.659  1.00 46.47           N
ATOM   2308  CA  GLU A 312       1.839   4.654 -22.854  1.00 46.37           C
ATOM   2309  CB  GLU A 312       0.996   5.829 -22.408  1.00 46.43           C
ATOM   2310  CG  GLU A 312       1.728   6.820 -21.522  1.00 49.83           C
ATOM   2311  CD  GLU A 312       2.981   7.474 -22.129  1.00 53.14           C
ATOM   2312  OE1 GLU A 312       3.580   8.301 -21.383  1.00 55.56           O
ATOM   2313  OE2 GLU A 312       3.327   7.232 -23.324  1.00 51.85           O
ATOM   2314  C   GLU A 312       2.336   3.867 -21.673  1.00 48.11           C
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ATOM   2315  O   GLU A 312       3.487   4.053 -21.179  1.00 49.71           O
ATOM   2316  N   CYS A 313       1.459   3.001 -21.187  1.00 46.56           N
ATOM   2317  CA  CYS A 313       1.751   2.298 -20.000  1.00 46.51           C
ATOM   2318  CB  CYS A 313       1.439   3.242 -18.854  1.00 47.48           C
ATOM   2319  SG  CYS A 313      -0.308   3.382 -18.417  1.00 58.25           S
ATOM   2320  C   CYS A 313       0.879   1.053 -20.065  1.00 46.38           C
ATOM   2321  O   CYS A 313      -0.155   1.078 -20.771  1.00 43.47           O
ATOM   2322  N   LEU A 314       1.287  -0.009 -19.352  1.00 45.18           N
ATOM   2323  CA  LEU A 314       0.594  -1.319 -19.368  1.00 44.86           C
ATOM   2324  CB  LEU A 314       1.388  -2.306 -20.196  1.00 42.07           C
ATOM   2325  CG  LEU A 314       1.666  -2.100 -21.683  1.00 42.47           C
ATOM   2326  CD1 LEU A 314       3.026  -2.595 -22.158  1.00 42.82           C
ATOM   2327  CD2 LEU A 314       0.658  -2.846 -22.519  1.00 44.07           C
ATOM   2328  C   LEU A 314       0.512  -1.935 -17.974  1.00 50.52           C
ATOM   2329  O   LEU A 314       1.470  -1.889 -17.229  1.00 58.60           O
ATOM   2330  N   THR A 315      -0.589  -2.565 -17.640  1.00 53.74           N
ATOM   2331  CA  THR A 315      -0.673  -3.202 -16.356  1.00 56.89           C
ATOM   2332  CB  THR A 315      -1.523  -2.388 -15.414  1.00 62.77           C
ATOM   2333  OG1 THR A 315      -0.856  -1.165 -15.184  1.00 70.96           O
ATOM   2334  CG2 THR A 315      -1.638  -3.062 -14.128  1.00 68.61           C
ATOM   2335  C   THR A 315      -1.286  -4.546 -16.537  1.00 58.81           C
ATOM   2336  O   THR A 315      -2.227  -4.678 -17.276  1.00 63.44           O
ATOM   2337  N   TYR A 316      -0.769  -5.545 -15.852  1.00 58.00           N
ATOM   2338  CA  TYR A 316      -1.316  -6.861 -15.971  1.00 54.77           C
ATOM   2339  CB  TYR A 316      -0.219  -7.897 -15.898  1.00 56.89           C
ATOM   2340  CG  TYR A 316      -0.756  -9.285 -15.964  1.00 60.13           C
ATOM   2341  CD1 TYR A 316      -1.072  -9.855 -17.163  1.00 60.67           C
ATOM   2342  CE1 TYR A 316      -1.582 -11.122 -17.233  1.00 61.37           C
ATOM   2343  CZ  TYR A 316      -1.779 -11.826 -16.100  1.00 61.39           C
ATOM   2344  OH  TYR A 316      -2.286 -13.080 -16.187  1.00 55.59           O
ATOM   2345  CE2 TYR A 316      -1.473 -11.284 -14.888  1.00 60.22           C
ATOM   2346  CD2 TYR A 316      -0.966 -10.016 -14.826  1.00 60.82           C
ATOM   2347  C   TYR A 316      -2.205  -6.989 -14.791  1.00 52.01           C
ATOM   2348  O   TYR A 316      -1.767  -6.830 -13.688  1.00 51.65           O
ATOM   2349  N   LEU A 317      -3.469  -7.262 -15.024  1.00 51.59           N
ATOM   2350  CA  LEU A 317      -4.417  -7.376 -13.944  1.00 55.48           C
ATOM   2351  CB  LEU A 317      -5.754  -6.860 -14.418  1.00 51.90           C
ATOM   2352  CG  LEU A 317      -5.699  -5.499 -15.044  1.00 52.56           C
ATOM   2353  CD1 LEU A 317      -7.095  -5.042 -15.352  1.00 51.32           C
ATOM   2354  CD2 LEU A 317      -5.056  -4.594 -14.038  1.00 51.93           C
ATOM   2355  C   LEU A 317      -4.678  -8.740 -13.367  1.00 63.68           C
ATOM   2356  O   LEU A 317      -5.373  -8.833 -12.402  1.00 65.51           O
ATOM   2357  N   ASP A 318      -4.150  -9.788 -13.963  1.00 74.10           N
ATOM   2358  CA  ASP A 318      -4.373 -11.172 -13.541  1.00 80.65           C
ATOM   2359  CB  ASP A 318      -4.549 -11.358 -12.038  1.00 89.90           C
ATOM   2360  CG  ASP A 318      -3.461 -12.198 -11.432  1.00 95.92           C
ATOM   2361  OD1 ASP A 318      -3.452 -13.417 -11.683  1.00 95.22           O
ATOM   2362  OD2 ASP A 318      -2.619 -11.645 -10.700  1.00106.94           O
ATOM   2363  C   ASP A 318      -5.553 -11.750 -14.279  1.00 74.07           C
ATOM   2364  O   ASP A 318      -6.430 -11.033 -14.695  1.00 75.49           O
ATOM   2365  N   ASN A 319      -5.556 -13.066 -14.405  1.00 64.88           N
ATOM   2366  CA  ASN A 319      -6.571 -13.783 -15.131  1.00 57.55           C
ATOM   2367  CB  ASN A 319      -7.957 -13.257 -14.818  1.00 56.76           C
ATOM   2368  C   ASN A 319      -6.302 -13.664 -16.601  1.00 51.83           C
ATOM   2369  O   ASN A 319      -7.148 -13.977 -17.404  1.00 50.32           O
ATOM   2370  N   GLY A 320      -5.113 -13.207 -16.952  1.00 50.23           N
ATOM   2371  CA  GLY A 320      -4.745 -13.049 -18.339  1.00 54.38           C
ATOM   2372  C   GLY A 320      -5.195 -11.758 -18.966  1.00 55.95           C
ATOM   2373  O   GLY A 320      -5.089 -11.572 -20.158  1.00 53.42           O
ATOM   2374  N   VAL A 321      -5.701 -10.862 -18.141  1.00 59.97           N
ATOM   2375  CA  VAL A 321      -6.178  -9.587 -18.600  1.00 57.19           C
ATOM   2376  CB  VAL A 321      -7.449  -9.204 -17.884  1.00 59.80           C
ATOM   2377  CG1 VAL A 321      -7.932  -7.875 -18.388  1.00 62.54           C
ATOM   2378  CG2 VAL A 321      -8.497 -10.258 -18.114  1.00 60.11           C
ATOM   2379  C   VAL A 321      -5.152  -8.523 -18.355  1.00 54.75           C
ATOM   2380  O   VAL A 321      -4.493  -8.522 -17.341  1.00 50.12           O
ATOM   2381  N   VAL A 322      -5.021  -7.623 -19.316  1.00 53.86           N
ATOM   2382  CA  VAL A 322      -4.057  -6.544 -19.260  1.00 54.48           C
ATOM   2383  CB  VAL A 322      -3.022  -6.742 -20.345  1.00 56.87           C
ATOM   2384  CG1 VAL A 322      -1.959  -5.685 -20.262  1.00 56.55           C
ATOM   2385  CG2 VAL A 322      -2.399  -8.099 -20.201  1.00 56.84           C
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ATOM   2386  C   VAL A 322      -4.669  -5.200 -19.522  1.00 50.20           C
ATOM   2387  O   VAL A 322      -5.553  -5.081 -20.320  1.00 47.59           O
ATOM   2388  N   PHE A 323      -4.168  -4.179 -18.856  1.00 48.94           N
ATOM   2389  CA  PHE A 323      -4.694  -2.857 -19.059  1.00 49.42           C
ATOM   2390  CB  PHE A 323      -4.823  -2.077 -17.769  1.00 49.26           C
ATOM   2391  CG  PHE A 323      -5.307  -0.684 -17.981  1.00 47.81           C
ATOM   2392  CD1 PHE A 323      -6.604  -0.448 -18.311  1.00 46.07           C
ATOM   2393  CE1 PHE A 323      -7.051   0.817 -18.529  1.00 44.63           C
ATOM   2394  CZ  PHE A 323      -6.195   1.865 -18.422  1.00 48.23           C
ATOM   2395  CE2 PHE A 323      -4.892   1.646 -18.107  1.00 49.35           C
ATOM   2396  CD2 PHE A 323      -4.456   0.377 -17.885  1.00 48.22           C
ATOM   2397  C   PHE A 323      -3.751  -2.128 -19.940  1.00 45.81           C
ATOM   2398  O   PHE A 323      -2.582  -2.091 -19.685  1.00 46.38           O
ATOM   2399  N   VAL A 324      -4.270  -1.536 -20.987  1.00 44.02           N
ATOM   2400  CA  VAL A 324      -3.409  -0.813 -21.905  1.00 44.39           C
ATOM   2401  CB  VAL A 324      -3.565  -1.274 -23.365  1.00 46.23           C
ATOM   2402  CG1 VAL A 324      -2.622  -0.474 -24.241  1.00 47.91           C
ATOM   2403  CG2 VAL A 324      -3.279  -2.753 -23.498  1.00 46.22           C
ATOM   2404  C   VAL A 324      -3.859   0.629 -21.811  1.00 45.99           C
ATOM   2405  O   VAL A 324      -4.939   0.992 -22.315  1.00 45.88           O
ATOM   2406  N   GLY A 325      -3.046   1.445 -21.136  1.00 44.59           N
ATOM   2407  CA  GLY A 325      -3.258   2.876 -21.120  1.00 40.45           C
ATOM   2408  C   GLY A 325      -2.619   3.531 -22.327  1.00 36.19           C
ATOM   2409  O   GLY A 325      -1.486   3.258 -22.653  1.00 34.25           O
ATOM   2410  N   SER A 326      -3.315   4.462 -22.918  1.00 35.05           N
ATOM   2411  CA  SER A 326      -2.861   5.081 -24.132  1.00 38.89           C
ATOM   2412  CB  SER A 326      -3.686   4.542 -25.331  1.00 37.41           C
ATOM   2413  OG  SER A 326      -3.308   5.187 -26.531  1.00 35.64           O
ATOM   2414  C   SER A 326      -2.986   6.595 -24.072  1.00 41.14           C
ATOM   2415  O   SER A 326      -3.908   7.154 -23.470  1.00 42.10           O
ATOM   2416  N   ARG A 327      -2.097   7.263 -24.774  1.00 45.62           N
ATOM   2417  CA  ARG A 327      -2.262   8.691 -24.966  1.00 50.73           C
ATOM   2418  CB  ARG A 327      -0.988   9.435 -24.592  1.00 56.63           C
ATOM   2419  CG  ARG A 327      -0.828   9.401 -23.087  1.00 61.93           C
ATOM   2420  CD  ARG A 327       0.438  10.031 -22.532  1.00 69.79           C
ATOM   2421  NE  ARG A 327       0.651  11.382 -23.042  1.00 73.98           N
ATOM   2422  CZ  ARG A 327       0.125  12.488 -22.567  1.00 65.53           C
ATOM   2423  NH1 ARG A 327      -0.681  12.479 -21.525  1.00 75.01           N
ATOM   2424  NH2 ARG A 327       0.422  13.602 -23.163  1.00 62.80           N
ATOM   2425  C   ARG A 327      -2.728   9.054 -26.338  1.00 48.37           C
ATOM   2426  O   ARG A 327      -3.407  10.071 -26.498  1.00 51.02           O
ATOM   2427  N   LEU A 328      -2.414   8.215 -27.311  1.00 46.54           N
ATOM   2428  CA  LEU A 328      -2.705   8.546 -28.692  1.00 46.88           C
ATOM   2429  CB  LEU A 328      -1.537   8.135 -29.579  1.00 49.19           C
ATOM   2430  CG  LEU A 328      -0.305   8.889 -29.145  1.00 50.84           C
ATOM   2431  CD1 LEU A 328       0.888   8.495 -29.989  1.00 52.68           C
ATOM   2432  CD2 LEU A 328      -0.599  10.353 -29.280  1.00 49.64           C
ATOM   2433  C   LEU A 328      -3.948   7.926 -29.241  1.00 43.17           C
ATOM   2434  O   LEU A 328      -4.333   8.289 -30.336  1.00 43.87           O
ATOM   2435  N   GLY A 329      -4.548   6.978 -28.537  1.00 37.92           N
ATOM   2436  CA  GLY A 329      -5.859   6.521 -28.915  1.00 37.82           C
ATOM   2437  C   GLY A 329      -6.530   6.031 -27.678  1.00 38.21           C
ATOM   2438  O   GLY A 329      -5.991   6.226 -26.601  1.00 35.93           O
ATOM   2439  N   ASP A 330      -7.650   5.322 -27.860  1.00 39.65           N
ATOM   2440  CA  ASP A 330      -8.427   4.731 -26.762  1.00 39.56           C
ATOM   2441  CB  ASP A 330      -9.653   3.979 -27.319  1.00 40.95           C
ATOM   2442  CG  ASP A 330     -10.754   4.895 -27.934  1.00 42.90           C
ATOM   2443  OD1 ASP A 330     -10.731   6.157 -27.877  1.00 44.11           O
ATOM   2444  OD2 ASP A 330     -11.707   4.308 -28.482  1.00 43.57           O
ATOM   2445  C   ASP A 330      -7.578   3.760 -25.884  1.00 39.92           C
ATOM   2446  O   ASP A 330      -6.645   3.174 -26.366  1.00 41.07           O
ATOM   2447  N   SER A 331      -7.901   3.633 -24.590  1.00 42.53           N
ATOM   2448  CA  SER A 331      -7.321   2.614 -23.704  1.00 41.76           C
ATOM   2449  CB  SER A 331      -7.275   3.073 -22.247  1.00 41.37           C
ATOM   2450  OG  SER A 331      -6.234   4.014 -22.073  1.00 42.35           O
ATOM   2451  C   SER A 331      -8.123   1.344 -23.825  1.00 41.05           C
ATOM   2452  O   SER A 331      -9.174   1.312 -24.478  1.00 40.76           O
ATOM   2453  N   GLN A 332      -7.584   0.285 -23.239  1.00 40.67           N
ATOM   2454  CA  GLN A 332      -8.116  -1.029 -23.439  1.00 42.30           C
ATOM   2455  CB  GLN A 332      -7.443  -1.708 -24.621  1.00 44.97           C
ATOM   2456  CG  GLN A 332      -7.258  -0.844 -25.869  1.00 47.35           C
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ATOM   2457  CD  GLN A 332      -6.705  -1.675 -26.991  1.00 46.91           C
ATOM   2458  OE1 GLN A 332      -5.488  -1.932 -27.079  1.00 47.21           O
ATOM   2459  NE2 GLN A 332      -7.596  -2.150 -27.829  1.00 46.83           N
ATOM   2460  C   GLN A 332      -7.885  -1.922 -22.254  1.00 44.71           C
ATOM   2461  O   GLN A 332      -6.906  -1.757 -21.483  1.00 43.29           O
ATOM   2462  N   LEU A 333      -8.811  -2.881 -22.132  1.00 45.35           N
ATOM   2463  CA  LEU A 333      -8.564  -4.133 -21.472  1.00 43.13           C
ATOM   2464  CB  LEU A 333      -9.731  -4.479 -20.603  1.00 43.32           C
ATOM   2465  CG  LEU A 333      -9.783  -3.677 -19.319  1.00 46.24           C
ATOM   2466  CD1 LEU A 333     -11.149  -3.867 -18.724  1.00 48.06           C
ATOM   2467  CD2 LEU A 333      -8.745  -4.087 -18.290  1.00 48.30           C
ATOM   2468  C   LEU A 333      -8.405  -5.138 -22.605  1.00 43.82           C
ATOM   2469  O   LEU A 333      -9.195  -5.137 -23.535  1.00 42.93           O
ATOM   2470  N   VAL A 334      -7.355  -5.958 -22.553  1.00 45.88           N
ATOM   2471  CA  VAL A 334      -7.153  -7.061 -23.511  1.00 44.66           C
ATOM   2472  CB  VAL A 334      -5.945  -6.874 -24.427  1.00 43.39           C
ATOM   2473  CG1 VAL A 334      -6.108  -5.642 -25.271  1.00 43.47           C
ATOM   2474  CG2 VAL A 334      -4.661  -6.771 -23.632  1.00 45.15           C
ATOM   2475  C   VAL A 334      -6.927  -8.347 -22.778  1.00 46.32           C
ATOM   2476  O   VAL A 334      -6.336  -8.333 -21.694  1.00 41.50           O
ATOM   2477  N   LYS A 335      -7.375  -9.448 -23.400  1.00 54.52           N
ATOM   2478  CA  LYS A 335      -7.143 -10.821 -22.893  1.00 60.19           C
ATOM   2479  CB  LYS A 335      -8.383 -11.703 -23.087  1.00 66.02           C
ATOM   2480  CG  LYS A 335      -8.147 -13.168 -22.697  1.00 75.26           C
ATOM   2481  CD  LYS A 335      -9.372 -13.904 -22.165  1.00 79.06           C
ATOM   2482  CE  LYS A 335      -9.452 -13.776 -20.645  1.00 88.45           C
ATOM   2483  NZ  LYS A 335      -8.302 -14.408 -19.918  1.00 91.73           N
ATOM   2484  C   LYS A 335      -5.949 -11.424 -23.614  1.00 57.92           C
ATOM   2485  O   LYS A 335      -5.804 -11.186 -24.778  1.00 56.90           O
ATOM   2486  N   LEU A 336      -5.099 -12.170 -22.909  1.00 60.00           N
ATOM   2487  CA  LEU A 336      -4.011 -12.971 -23.503  1.00 62.72           C
ATOM   2488  CB  LEU A 336      -2.784 -12.825 -22.639  1.00 59.56           C
ATOM   2489  CG  LEU A 336      -2.426 -11.398 -22.326  1.00 59.99           C
ATOM   2490  CD1 LEU A 336      -1.047 -11.377 -21.659  1.00 60.06           C
ATOM   2491  CD2 LEU A 336      -2.443 -10.582 -23.613  1.00 62.03           C
ATOM   2492  C   LEU A 336      -4.303 -14.467 -23.584  1.00 69.81           C
ATOM   2493  O   LEU A 336      -5.131 -14.950 -22.831  1.00 70.16           O
ATOM   2494  N   ASN A 337      -3.579 -15.163 -24.433  1.00 83.01           N
ATOM   2495  CA  ASN A 337      -3.716 -16.588 -24.517  1.00 97.98           C
ATOM   2496  CB  ASN A 337      -4.491 -16.990 -25.750  1.00107.74           C
ATOM   2497  CG  ASN A 337      -5.884 -16.427 -25.725  1.00110.23           C
ATOM   2498  OD1 ASN A 337      -6.095 -15.350 -25.193  1.00 99.20           O
ATOM   2499  ND2 ASN A 337      -6.844 -17.161 -26.257  1.00110.43           N
ATOM   2500  C   ASN A 337      -2.346 -17.208 -24.424  1.00 98.16           C
ATOM   2501  O   ASN A 337      -1.378 -16.678 -24.932  1.00 87.30           O
ATOM   2502  N   VAL A 338      -2.276 -18.341 -23.756  1.00105.96           N
ATOM   2503  CA  VAL A 338      -1.024 -19.034 -23.566  1.00110.26           C
ATOM   2504  CB  VAL A 338      -1.200 -20.281 -22.694  1.00 97.73           C
ATOM   2505  C   VAL A 338      -0.690 -19.527 -24.922  1.00112.71           C
ATOM   2506  O   VAL A 338      -1.542 -19.507 -25.800  1.00110.35           O
ATOM   2507  N   ASP A 339       0.527 -20.011 -25.118  1.00122.42           N
ATOM   2508  CA  ASP A 339       0.889 -20.490 -26.436  1.00119.30           C
ATOM   2509  CB  ASP A 339       2.378 -20.787 -26.517  1.00108.45           C
ATOM   2510  C   ASP A 339       0.117 -21.770 -26.465  1.00119.97           C
ATOM   2511  O   ASP A 339       0.642 -22.859 -26.348  1.00108.75           O
ATOM   2512  N   SER A 340      -1.182 -21.578 -26.653  1.00124.92           N
ATOM   2513  CA  SER A 340      -2.160 -22.633 -26.656  1.00120.03           C
ATOM   2514  CB  SER A 340      -3.528 -22.074 -27.018  1.00114.30           C
ATOM   2515  C   SER A 340      -1.701 -23.564 -27.718  1.00114.51           C
ATOM   2516  O   SER A 340      -1.114 -23.138 -28.694  1.00125.94           O
ATOM   2517  N   ASN A 341      -1.938 -24.842 -27.508  1.00101.73           N
ATOM   2518  CA  ASN A 341      -1.463 -25.817 -28.439  1.00 91.03           C
ATOM   2519  CB  ASN A 341      -1.894 -27.196 -27.970  1.00 76.81           C
ATOM   2520  C   ASN A 341      -2.030 -25.536 -29.802  1.00 91.69           C
ATOM   2521  O   ASN A 341      -1.332 -25.620 -30.792  1.00 91.73           O
ATOM   2522  N   GLU A 342      -3.300 -25.195 -29.851  1.00 88.73           N
ATOM   2523  CA  GLU A 342      -3.943 -24.898 -31.111  1.00 88.31           C
ATOM   2524  CB  GLU A 342      -5.452 -24.848 -30.942  1.00 80.68           C
ATOM   2525  C   GLU A 342      -3.460 -23.656 -31.842  1.00 92.84           C
ATOM   2526  O   GLU A 342      -3.370 -23.657 -33.049  1.00 98.79           O
ATOM   2527  N   GLN A 343      -3.179 -22.582 -31.128  1.00 96.58           N
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ATOM   2528  CA  GLN A 343      -2.758 -21.351 -31.781  1.00 95.27           C
ATOM   2529  CB  GLN A 343      -3.961 -20.421 -31.960  1.00100.28           C
ATOM   2530  CG  GLN A 343      -3.662 -19.130 -32.707  1.00 99.81           C
ATOM   2531  CD  GLN A 343      -4.898 -18.517 -33.327  1.00 93.55           C
ATOM   2532  OE1 GLN A 343      -5.028 -18.476 -34.541  1.00 89.00           O
ATOM   2533  NE2 GLN A 343      -5.812 -18.049 -32.498  1.00 89.23           N
ATOM   2534  C   GLN A 343      -1.648 -20.614 -31.070  1.00 91.11           C
ATOM   2535  O   GLN A 343      -1.390 -20.815 -29.894  1.00 88.99           O
ATOM   2536  N   GLY A 344      -0.990 -19.741 -31.800  1.00 88.37           N
ATOM   2537  CA  GLY A 344       0.071 -18.968 -31.221  1.00 93.35           C
ATOM   2538  C   GLY A 344      -0.630 -18.085 -30.228  1.00102.31           C
ATOM   2539  O   GLY A 344      -1.816 -17.838 -30.351  1.00112.66           O
ATOM   2540  N   SER A 345       0.090 -17.623 -29.224  1.00104.66           N
ATOM   2541  CA  SER A 345      -0.509 -16.778 -28.228  1.00 96.76           C
ATOM   2542  CB  SER A 345       0.573 -16.326 -27.297  1.00 94.76           C
ATOM   2543  OG  SER A 345       1.631 -15.832 -28.078  1.00 91.15           O
ATOM   2544  C   SER A 345      -1.019 -15.566 -28.941  1.00 92.69           C
ATOM   2545  O   SER A 345      -0.333 -15.011 -29.772  1.00 85.91           O
ATOM   2546  N   TYR A 346      -2.227 -15.152 -28.600  1.00 94.19           N
ATOM   2547  CA  TYR A 346      -2.849 -13.998 -29.215  1.00 87.02           C
ATOM   2548  CB  TYR A 346      -3.787 -14.395 -30.341  1.00 88.66           C
ATOM   2549  CG  TYR A 346      -4.878 -15.306 -29.915  1.00 96.93           C
ATOM   2550  CD1 TYR A 346      -4.619 -16.373 -29.090  1.00100.42           C
ATOM   2551  CE1 TYR A 346      -5.621 -17.221 -28.693  1.00104.15           C
ATOM   2552  CZ  TYR A 346      -6.896 -17.013 -29.136  1.00108.30           C
ATOM   2553  OH  TYR A 346      -7.901 -17.861 -28.748  1.00108.30           O
ATOM   2554  CE2 TYR A 346      -7.176 -15.963 -29.970  1.00106.91           C
ATOM   2555  CD2 TYR A 346      -6.165 -15.118 -30.357  1.00102.63           C
ATOM   2556  C   TYR A 346      -3.533 -13.140 -28.179  1.00 75.13           C
ATOM   2557  O   TYR A 346      -3.711 -13.541 -27.053  1.00 71.17           O
ATOM   2558  N   VAL A 347      -3.878 -11.941 -28.600  1.00 69.66           N
ATOM   2559  CA  VAL A 347      -4.451 -10.905 -27.791  1.00 68.07           C
ATOM   2560  CB  VAL A 347      -3.574  -9.650 -27.907  1.00 72.57           C
ATOM   2561  CG1 VAL A 347      -4.227  -8.458 -27.217  1.00 76.82           C
ATOM   2562  CG2 VAL A 347      -2.170  -9.915 -27.377  1.00 72.10           C
ATOM   2563  C   VAL A 347      -5.829 -10.552 -28.334  1.00 64.27           C
ATOM   2564  O   VAL A 347      -5.992 -10.384 -29.519  1.00 65.70           O
ATOM   2565  N   VAL A 348      -6.810 -10.411 -27.464  1.00 64.12           N
ATOM   2566  CA  VAL A 348      -8.149 -10.003 -27.865  1.00 65.78           C
ATOM   2567  CB  VAL A 348      -9.158 -11.123 -27.629  1.00 63.09           C
ATOM   2568  CG1 VAL A 348     -10.500 -10.769 -28.261  1.00 64.52           C
ATOM   2569  CG2 VAL A 348      -8.610 -12.392 -28.208  1.00 64.72           C
ATOM   2570  C   VAL A 348      -8.574  -8.774 -27.055  1.00 67.54           C
ATOM   2571  O   VAL A 348      -8.309  -8.719 -25.834  1.00 68.93           O
ATOM   2572  N   ALA A 349      -9.253  -7.822 -27.717  1.00 61.05           N
ATOM   2573  CA  ALA A 349      -9.685  -6.625 -27.037  1.00 59.92           C
ATOM   2574  CB  ALA A 349      -9.777  -5.442 -27.963  1.00 60.69           C
ATOM   2575  C   ALA A 349     -11.013  -6.963 -26.417  1.00 62.37           C
ATOM   2576  O   ALA A 349     -11.974  -7.329 -27.111  1.00 58.75           O
ATOM   2577  N   MET A 350     -10.992  -6.913 -25.083  1.00 65.74           N
ATOM   2578  CA  MET A 350     -12.144  -7.111 -24.238  1.00 64.53           C
ATOM   2579  CB  MET A 350     -11.728  -7.473 -22.839  1.00 66.75           C
ATOM   2580  CG  MET A 350     -11.084  -8.814 -22.673  1.00 71.70           C
ATOM   2581  SD  MET A 350     -10.666  -8.963 -20.927  1.00 80.65           S
ATOM   2582  CE  MET A 350     -12.215  -8.606 -20.043  1.00 77.57           C
ATOM   2583  C   MET A 350     -12.955  -5.853 -24.089  1.00 60.99           C
ATOM   2584  O   MET A 350     -14.147  -5.911 -24.144  1.00 65.38           O
ATOM   2585  N   GLU A 351     -12.337  -4.721 -23.822  1.00 59.79           N
ATOM   2586  CA  GLU A 351     -13.116  -3.518 -23.599  1.00 59.85           C
ATOM   2587  CB  GLU A 351     -13.456  -3.423 -22.119  1.00 63.56           C
ATOM   2588  CG  GLU A 351     -14.909  -3.114 -21.833  1.00 70.04           C
ATOM   2589  CD  GLU A 351     -15.061  -2.220 -20.616  1.00 77.63           C
ATOM   2590  OE1 GLU A 351     -14.570  -2.625 -19.531  1.00 76.13           O
ATOM   2591  OE2 GLU A 351     -15.645  -1.105 -20.762  1.00 85.40           O
ATOM   2592  C   GLU A 351     -12.367  -2.280 -24.084  1.00 56.70           C
ATOM   2593  O   GLU A 351     -11.139  -2.268 -24.134  1.00 52.87           O
ATOM   2594  N   THR A 352     -13.117  -1.246 -24.440  1.00 54.88           N
ATOM   2595  CA  THR A 352     -12.531   0.038 -24.866  1.00 52.99           C
ATOM   2596  CB  THR A 352     -12.903   0.307 -26.318  1.00 52.40           C
ATOM   2597  OG1 THR A 352     -12.049  -0.468 -27.131  1.00 49.67           O
ATOM   2598  CG2 THR A 352     -12.718   1.740 -26.689  1.00 54.51           C
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ATOM   2599  C   THR A 352     -12.976   1.240 -24.048  1.00 49.29           C
ATOM   2600  O   THR A 352     -14.145   1.457 -23.845  1.00 51.07           O
ATOM   2601  N   PHE A 353     -12.042   2.075 -23.645  1.00 46.56           N
ATOM   2602  CA  PHE A 353     -12.431   3.334 -23.040  1.00 43.42           C
ATOM   2603  CB  PHE A 353     -11.839   3.417 -21.678  1.00 42.07           C
ATOM   2604  CG  PHE A 353     -11.771   2.132 -20.937  1.00 40.28           C
ATOM   2605  CD1 PHE A 353     -12.803   1.720 -20.193  1.00 38.83           C
ATOM   2606  CE1 PHE A 353     -12.713   0.598 -19.430  1.00 40.05           C
ATOM   2607  CZ  PHE A 353     -11.567  -0.137 -19.402  1.00 42.05           C
ATOM   2608  CE2 PHE A 353     -10.485   0.273 -20.135  1.00 42.61           C
ATOM   2609  CD2 PHE A 353     -10.595   1.415 -20.896  1.00 43.10           C
ATOM   2610  C   PHE A 353     -12.018   4.584 -23.898  1.00 42.49           C
ATOM   2611  O   PHE A 353     -10.876   4.676 -24.395  1.00 39.84           O
ATOM   2612  N   THR A 354     -12.943   5.537 -24.040  1.00 37.58           N
ATOM   2613  CA  THR A 354     -12.724   6.655 -24.899  1.00 36.21           C
ATOM   2614  CB  THR A 354     -13.961   7.527 -24.890  1.00 37.56           C
ATOM   2615  OG1 THR A 354     -15.053   6.785 -25.421  1.00 39.89           O
ATOM   2616  CG2 THR A 354     -13.793   8.778 -25.729  1.00 38.21           C
ATOM   2617  C   THR A 354     -11.544   7.535 -24.506  1.00 36.71           C
ATOM   2618  O   THR A 354     -11.316   7.869 -23.358  1.00 37.28           O
ATOM   2619  N   ASN A 355     -10.779   7.928 -25.502  1.00 39.06           N
ATOM   2620  CA  ASN A 355      -9.777   8.951 -25.347  1.00 38.25           C
ATOM   2621  CB  ASN A 355      -8.399   8.311 -25.403  1.00 37.90           C
ATOM   2622  CG  ASN A 355      -7.308   9.294 -25.111  1.00 40.81           C
ATOM   2623  OD1 ASN A 355      -7.534  10.258 -24.386  1.00 42.09           O
ATOM   2624  ND2 ASN A 355      -6.133   9.109 -25.712  1.00 43.34           N
ATOM   2625  C   ASN A 355      -9.972   9.955 -26.489  1.00 39.59           C
ATOM   2626  O   ASN A 355      -9.784   9.611 -27.646  1.00 46.17           O
ATOM   2627  N   LEU A 356     -10.369  11.172 -26.194  1.00 37.81           N
ATOM   2628  CA  LEU A 356     -10.488  12.165 -27.221  1.00 38.50           C
ATOM   2629  CB  LEU A 356     -11.313  13.318 -26.750  1.00 42.71           C
ATOM   2630  CG  LEU A 356     -12.603  12.976 -26.084  1.00 44.96           C
ATOM   2631  CD1 LEU A 356     -13.367  14.254 -25.952  1.00 46.46           C
ATOM   2632  CD2 LEU A 356     -13.330  12.036 -26.987  1.00 45.61           C
ATOM   2633  C   LEU A 356      -9.173  12.701 -27.712  1.00 38.60           C
ATOM   2634  O   LEU A 356      -8.997  12.975 -28.871  1.00 38.13           O
ATOM   2635  N   GLY A 357      -8.258  12.887 -26.789  1.00 40.54           N
ATOM   2636  CA  GLY A 357      -6.978  13.473 -27.085  1.00 43.83           C
ATOM   2637  C   GLY A 357      -6.052  12.622 -27.874  1.00 45.92           C
ATOM   2638  O   GLY A 357      -6.200  11.448 -27.799  1.00 65.67           O
ATOM   2639  N   PRO A 358      -5.049  13.178 -28.663  1.00 44.09           N
ATOM   2640  CA  PRO A 358      -4.935  14.635 -28.674  1.00 42.14           C
ATOM   2641  CB  PRO A 358      -3.648  14.876 -29.425  1.00 42.08           C
ATOM   2642  CG  PRO A 358      -2.898  13.626 -29.369  1.00 42.41           C
ATOM   2643  CD  PRO A 358      -3.963  12.665 -29.599  1.00 44.11           C
ATOM   2644  C   PRO A 358      -5.985  15.314 -29.470  1.00 43.75           C
ATOM   2645  O   PRO A 358      -6.323  14.793 -30.481  1.00 48.07           O
ATOM   2646  N   ILE A 359      -6.462  16.471 -29.055  1.00 43.15           N
ATOM   2647  CA  ILE A 359      -7.426  17.179 -29.842  1.00 39.85           C
ATOM   2648  CB  ILE A 359      -8.379  17.965 -28.999  1.00 39.23           C
ATOM   2649  CG1 ILE A 359      -9.223  17.002 -28.191  1.00 39.55           C
ATOM   2650  CD1 ILE A 359     -10.444  17.631 -27.596  1.00 40.77           C
ATOM   2651  CG2 ILE A 359      -9.236  18.827 -29.885  1.00 39.14           C
ATOM   2652  C   ILE A 359      -6.443  18.040 -30.529  1.00 38.12           C
ATOM   2653  O   ILE A 359      -5.661  18.711 -29.915  1.00 39.28           O
ATOM   2654  N   VAL A 360      -6.469  17.985 -31.832  1.00 38.33           N
ATOM   2655  CA  VAL A 360      -5.453  18.596 -32.657  1.00 37.10           C
ATOM   2656  CB  VAL A 360      -4.804  17.446 -33.488  1.00 36.52           C
ATOM   2657  CG1 VAL A 360      -4.541  17.821 -34.931  1.00 38.72           C
ATOM   2658  CG2 VAL A 360      -3.545  16.922 -32.805  1.00 34.28           C
ATOM   2659  C   VAL A 360      -6.105  19.688 -33.469  1.00 36.00           C
ATOM   2660  O   VAL A 360      -5.442  20.513 -33.991  1.00 37.24           O
ATOM   2661  N   ASP A 361      -7.404  19.606 -33.656  1.00 36.48           N
ATOM   2662  CA  ASP A 361      -8.169  20.673 -34.189  1.00 39.51           C
ATOM   2663  CB  ASP A 361      -7.989  20.767 -35.695  1.00 43.84           C
ATOM   2664  CG  ASP A 361      -8.640  22.012 -36.289  1.00 50.76           C
ATOM   2665  OD1 ASP A 361      -9.077  22.926 -35.517  1.00 50.70           O
ATOM   2666  OD2 ASP A 361      -8.680  22.090 -37.552  1.00 57.16           O
ATOM   2667  C   ASP A 361      -9.592  20.275 -33.854  1.00 39.87           C
ATOM   2668  O   ASP A 361      -9.814  19.101 -33.472  1.00 37.54           O
ATOM   2669  N   MET A 362     -10.531  21.228 -33.950  1.00 39.37           N
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ATOM   2670  CA  MET A 362     -11.932  20.925 -33.763  1.00 43.33           C
ATOM   2671  CB  MET A 362     -12.298  20.810 -32.272  1.00 50.53           C
ATOM   2672  CG  MET A 362     -12.326  22.090 -31.405  1.00 51.75           C
ATOM   2673  SD  MET A 362     -12.043  21.718 -29.649  1.00 52.40           S
ATOM   2674  CE  MET A 362     -12.592  23.233 -28.901  1.00 56.09           C
ATOM   2675  C   MET A 362     -12.771  21.963 -34.404  1.00 43.96           C
ATOM   2676  O   MET A 362     -12.250  22.924 -34.846  1.00 54.03           O
ATOM   2677  N   CYS A 363     -14.075  21.763 -34.479  1.00 44.09           N
ATOM   2678  CA  CYS A 363     -14.972  22.803 -34.931  1.00 44.37           C
ATOM   2679  CB  CYS A 363     -15.001  22.793 -36.431  1.00 46.09           C
ATOM   2680  SG  CYS A 363     -16.005  21.456 -37.078  1.00 49.90           S
ATOM   2681  C   CYS A 363     -16.358  22.544 -34.362  1.00 44.67           C
ATOM   2682  O   CYS A 363     -16.659  21.438 -33.912  1.00 39.70           O
ATOM   2683  N   VAL A 364     -17.193  23.579 -34.344  1.00 49.16           N
ATOM   2684  CA  VAL A 364     -18.525  23.473 -33.698  1.00 51.56           C
ATOM   2685  CB  VAL A 364     -18.850  24.615 -32.679  1.00 50.09           C
ATOM   2686  CG1 VAL A 364     -20.161  24.308 -31.931  1.00 49.21           C
ATOM   2687  CG2 VAL A 364     -17.724  24.812 -31.660  1.00 48.48           C
ATOM   2688  C   VAL A 364     -19.560  23.544 -34.761  1.00 52.31           C
ATOM   2689  O   VAL A 364     -19.527  24.467 -35.558  1.00 59.25           O
ATOM   2690  N   VAL A 365     -20.485  22.616 -34.762  1.00 51.40           N
ATOM   2691  CA  VAL A 365     -21.434  22.552 -35.827  1.00 57.18           C
ATOM   2692  CB  VAL A 365     -21.207  21.312 -36.729  1.00 59.23           C
ATOM   2693  CG1 VAL A 365     -22.373  21.101 -37.703  1.00 59.50           C
ATOM   2694  CG2 VAL A 365     -19.884  21.411 -37.483  1.00 58.17           C
ATOM   2695  C   VAL A 365     -22.715  22.338 -35.147  1.00 66.17           C
ATOM   2696  O   VAL A 365     -22.826  21.412 -34.332  1.00 74.90           O
ATOM   2697  N   ASP A 366     -23.697  23.148 -35.503  1.00 73.27           N
ATOM   2698  CA  ASP A 366     -25.088  22.842 -35.189  1.00 77.82           C
ATOM   2699  CB  ASP A 366     -25.834  24.157 -35.334  1.00 82.27           C
ATOM   2700  CG  ASP A 366     -27.244  24.090 -34.854  1.00 88.15           C
ATOM   2701  OD1 ASP A 366     -27.733  22.961 -34.504  1.00 87.29           O
ATOM   2702  OD2 ASP A 366     -27.860  25.197 -34.834  1.00 87.59           O
ATOM   2703  C   ASP A 366     -25.665  21.678 -36.116  1.00 84.13           C
ATOM   2704  O   ASP A 366     -26.476  21.910 -37.023  1.00 83.10           O
ATOM   2705  N   LEU A 367     -25.247  20.445 -35.873  1.00 91.96           N
ATOM   2706  CA  LEU A 367     -25.676  19.340 -36.723  1.00 84.19           C
ATOM   2707  CB  LEU A 367     -24.960  18.066 -36.306  1.00 76.55           C
ATOM   2708  CG  LEU A 367     -23.507  17.935 -36.696  1.00 69.60           C
ATOM   2709  CD1 LEU A 367     -23.005  16.609 -36.201  1.00 69.36           C
ATOM   2710  CD2 LEU A 367     -23.366  18.011 -38.191  1.00 63.88           C
ATOM   2711  C   LEU A 367     -27.140  18.997 -36.805  1.00 85.99           C
ATOM   2712  O   LEU A 367     -27.651  18.827 -37.892  1.00 90.77           O
ATOM   2713  N   GLU A 368     -27.830  18.908 -35.684  1.00 83.96           N
ATOM   2714  CA  GLU A 368     -29.240  18.553 -35.723  1.00 83.07           C
ATOM   2715  CB  GLU A 368     -29.711  18.018 -34.386  1.00 80.27           C
ATOM   2716  CG  GLU A 368     -28.859  16.872 -33.888  1.00 85.93           C
ATOM   2717  CD  GLU A 368     -29.055  15.604 -34.680  1.00 88.52           C
ATOM   2718  OE1 GLU A 368     -30.176  15.376 -35.144  1.00 97.45           O
ATOM   2719  OE2 GLU A 368     -28.098  14.828 -34.833  1.00 81.36           O
ATOM   2720  C   GLU A 368     -30.085  19.704 -36.201  1.00 86.80           C
ATOM   2721  O   GLU A 368     -31.254  19.551 -36.468  1.00 91.87           O
ATOM   2722  N   ARG A 369     -29.479  20.872 -36.285  1.00 94.00           N
ATOM   2723  CA  ARG A 369     -30.185  22.057 -36.722  1.00 94.30           C
ATOM   2724  CB  ARG A 369     -30.969  21.761 -37.991  1.00 83.04           C
ATOM   2725  C   ARG A 369     -31.122  22.496 -35.620  1.00 96.90           C
ATOM   2726  O   ARG A 369     -32.026  23.278 -35.843  1.00100.95           O
ATOM   2727  N   GLN A 370     -30.896  21.988 -34.423  1.00 92.97           N
ATOM   2728  CA  GLN A 370     -31.753  22.302 -33.310  1.00 95.37           C
ATOM   2729  CB  GLN A 370     -31.798  21.107 -32.357  1.00 96.51           C
ATOM   2730  CG  GLN A 370     -31.752  19.772 -33.080  1.00102.45           C
ATOM   2731  CD  GLN A 370     -32.229  18.593 -32.251  1.00103.60           C
ATOM   2732  OE1 GLN A 370     -31.646  18.261 -31.229  1.00100.79           O
ATOM   2733  NE2 GLN A 370     -33.280  17.935 -32.715  1.00101.75           N
ATOM   2734  C   GLN A 370     -31.338  23.546 -32.563  1.00 95.23           C
ATOM   2735  O   GLN A 370     -32.000  23.935 -31.622  1.00 97.85           O
ATOM   2736  N   GLY A 371     -30.245  24.175 -32.961  1.00 97.69           N
ATOM   2737  CA  GLY A 371     -29.760  25.377 -32.203  1.00 92.85           C
ATOM   2738  C   GLY A 371     -28.922  24.985 -30.979  1.00 87.75           C
ATOM   2739  O   GLY A 371     -29.048  25.563 -29.900  1.00 89.04           O
ATOM   2740  N   GLN A 372     -28.076  23.977 -31.184  1.00 83.99           N
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ATOM   2741  CA  GLN A 372     -27.375  23.200 -30.162  1.00 79.69           C
ATOM   2742  CB  GLN A 372     -28.246  21.979 -29.703  1.00 87.01           C
ATOM   2743  CG  GLN A 372     -27.566  20.681 -29.205  1.00 92.32           C
ATOM   2744  CD  GLN A 372     -26.702  20.819 -27.925  1.00 98.80           C
ATOM   2745  OE1 GLN A 372     -25.537  20.356 -27.876  1.00 90.53           O
ATOM   2746  NE2 GLN A 372     -27.277  21.429 -26.875  1.00103.41           N
ATOM   2747  C   GLN A 372     -26.127  22.778 -30.905  1.00 69.98           C
ATOM   2748  O   GLN A 372     -26.200  21.960 -31.815  1.00 78.42           O
ATOM   2749  N   GLY A 373     -25.003  23.394 -30.592  1.00 62.55           N
ATOM   2750  CA  GLY A 373     -23.713  22.994 -31.165  1.00 60.02           C
ATOM   2751  C   GLY A 373     -23.132  21.649 -30.714  1.00 55.40           C
ATOM   2752  O   GLY A 373     -23.336  21.189 -29.594  1.00 59.37           O
ATOM   2753  N   GLN A 374     -22.427  21.006 -31.624  1.00 52.61           N
ATOM   2754  CA  GLN A 374     -21.787  19.734 -31.394  1.00 50.82           C
ATOM   2755  CB  GLN A 374     -22.472  18.612 -32.210  1.00 52.84           C
ATOM   2756  CG  GLN A 374     -23.878  18.275 -31.707  1.00 58.19           C
ATOM   2757  CD  GLN A 374     -24.497  16.917 -32.166  1.00 67.74           C
ATOM   2758  OE1 GLN A 374     -24.533  16.578 -33.359  1.00 73.65           O
ATOM   2759  NE2 GLN A 374     -25.069  16.173 -31.205  1.00 73.18           N
ATOM   2760  C   GLN A 374     -20.334  19.992 -31.767  1.00 46.42           C
ATOM   2761  O   GLN A 374     -20.031  20.778 -32.655  1.00 46.18           O
ATOM   2762  N   LEU A 375     -19.423  19.398 -31.046  1.00 44.17           N
ATOM   2763  CA  LEU A 375     -18.035  19.671 -31.282  1.00 47.95           C
ATOM   2764  CB  LEU A 375     -17.253  19.741 -29.955  1.00 52.03           C
ATOM   2765  CG  LEU A 375     -15.974  20.591 -29.863  1.00 54.67           C
ATOM   2766  CD1 LEU A 375     -16.396  22.031 -30.083  1.00 56.56           C
ATOM   2767  CD2 LEU A 375     -15.220  20.423 -28.540  1.00 53.50           C
ATOM   2768  C   LEU A 375     -17.621  18.481 -32.093  1.00 46.56           C
ATOM   2769  O   LEU A 375     -18.135  17.400 -31.859  1.00 52.53           O
ATOM   2770  N   VAL A 376     -16.741  18.673 -33.060  1.00 42.64           N
ATOM   2771  CA  VAL A 376     -16.221  17.576 -33.830  1.00 43.47           C
ATOM   2772  CB  VAL A 376     -16.713  17.607 -35.302  1.00 44.77           C
ATOM   2773  CG1 VAL A 376     -16.144  16.392 -36.057  1.00 46.62           C
ATOM   2774  CG2 VAL A 376     -18.244  17.593 -35.391  1.00 42.74           C
ATOM   2775  C   VAL A 376     -14.722  17.725 -33.793  1.00 42.47           C
ATOM   2776  O   VAL A 376     -14.240  18.757 -34.174  1.00 44.90           O
ATOM   2777  N   THR A 377     -13.980  16.721 -33.367  1.00 39.90           N
ATOM   2778  CA  THR A 377     -12.557  16.917 -33.094  1.00 41.02           C
ATOM   2779  CB  THR A 377     -12.186  16.449 -31.646  1.00 40.30           C
ATOM   2780  OG1 THR A 377     -12.416  15.034 -31.472  1.00 38.91           O
ATOM   2781  CG2 THR A 377     -12.956  17.210 -30.644  1.00 39.17           C
ATOM   2782  C   THR A 377     -11.710  16.091 -34.012  1.00 42.15           C
ATOM   2783  O   THR A 377     -12.054  14.955 -34.251  1.00 48.51           O
ATOM   2784  N   CYS A 378     -10.596  16.608 -34.502  1.00 40.26           N
ATOM   2785  CA  CYS A 378      -9.571  15.711 -34.986  1.00 41.41           C
ATOM   2786  CB  CYS A 378      -8.586  16.463 -35.869  1.00 42.92           C
ATOM   2787  SG  CYS A 378      -9.370  17.123 -37.319  1.00 44.09           S
ATOM   2788  C   CYS A 378      -8.821  15.111 -33.782  1.00 41.84           C
ATOM   2789  O   CYS A 378      -7.999  15.797 -33.158  1.00 45.37           O
ATOM   2790  N   SER A 379      -9.057  13.839 -33.472  1.00 39.84           N
ATOM   2791  CA  SER A 379      -8.377  13.175 -32.335  1.00 38.82           C
ATOM   2792  CB  SER A 379      -9.409  12.654 -31.382  1.00 37.14           C
ATOM   2793  OG  SER A 379     -10.123  13.748 -30.917  1.00 38.65           O
ATOM   2794  C   SER A 379      -7.409  12.033 -32.683  1.00 38.08           C
ATOM   2795  O   SER A 379      -7.628  11.277 -33.616  1.00 43.04           O
ATOM   2796  N   GLY A 380      -6.381  11.886 -31.887  1.00 34.85           N
ATOM   2797  CA  GLY A 380      -5.469  10.795 -32.039  1.00 34.66           C
ATOM   2798  C   GLY A 380      -4.435  10.888 -33.092  1.00 37.46           C
ATOM   2799  O   GLY A 380      -4.279  11.894 -33.725  1.00 43.00           O
ATOM   2800  N   ALA A 381      -3.712   9.803 -33.266  1.00 39.92           N
ATOM   2801  CA  ALA A 381      -2.701   9.764 -34.259  1.00 42.37           C
ATOM   2802  CB  ALA A 381      -1.508  10.455 -33.687  1.00 42.11           C
ATOM   2803  C   ALA A 381      -2.312   8.363 -34.670  1.00 43.33           C
ATOM   2804  O   ALA A 381      -2.487   7.445 -33.923  1.00 45.50           O
ATOM   2805  N   PHE A 382      -1.774   8.205 -35.863  1.00 42.32           N
ATOM   2806  CA  PHE A 382      -1.206   6.956 -36.328  1.00 43.08           C
ATOM   2807  CB  PHE A 382       0.067   6.729 -35.506  1.00 48.59           C
ATOM   2808  CG  PHE A 382       0.995   7.871 -35.463  1.00 54.08           C
ATOM   2809  CD1 PHE A 382       1.100   8.724 -36.502  1.00 54.29           C
ATOM   2810  CE1 PHE A 382       1.984   9.767 -36.451  1.00 57.50           C
ATOM   2811  CZ  PHE A 382       2.789   9.941 -35.357  1.00 58.66           C
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ATOM   2812  CE2 PHE A 382       2.704   9.067 -34.319  1.00 61.85           C
ATOM   2813  CD2 PHE A 382       1.817   8.034 -34.385  1.00 59.79           C
ATOM   2814  C   PHE A 382      -1.963   5.615 -36.360  1.00 38.66           C
ATOM   2815  O   PHE A 382      -1.354   4.577 -36.175  1.00 35.23           O
ATOM   2816  N   LYS A 383      -3.236   5.616 -36.665  1.00 36.14           N
ATOM   2817  CA  LYS A 383      -4.119   4.433 -36.729  1.00 39.41           C
ATOM   2818  CB  LYS A 383      -3.486   3.060 -36.625  1.00 43.86           C
ATOM   2819  CG  LYS A 383      -3.027   2.672 -35.257  1.00 45.25           C
ATOM   2820  CD  LYS A 383      -1.932   1.647 -35.339  1.00 47.22           C
ATOM   2821  CE  LYS A 383      -1.810   0.891 -34.041  1.00 49.93           C
ATOM   2822  NZ  LYS A 383      -3.125   0.383 -33.603  1.00 51.99           N
ATOM   2823  C   LYS A 383      -5.047   4.644 -35.639  1.00 40.67           C
ATOM   2824  O   LYS A 383      -6.201   4.276 -35.724  1.00 41.56           O
ATOM   2825  N   GLU A 384      -4.588   5.318 -34.615  1.00 40.09           N
ATOM   2826  CA  GLU A 384      -5.623   5.711 -33.700  1.00 39.03           C
ATOM   2827  CB  GLU A 384      -5.002   5.953 -32.350  1.00 40.35           C
ATOM   2828  CG  GLU A 384      -4.008   4.889 -31.920  1.00 41.82           C
ATOM   2829  CD  GLU A 384      -4.689   3.602 -31.657  1.00 45.20           C
ATOM   2830  OE1 GLU A 384      -5.959   3.662 -31.518  1.00 47.96           O
ATOM   2831  OE2 GLU A 384      -3.954   2.563 -31.589  1.00 48.52           O
ATOM   2832  C   GLU A 384      -6.380   6.959 -34.134  1.00 37.87           C
ATOM   2833  O   GLU A 384      -7.317   7.373 -33.457  1.00 39.98           O
ATOM   2834  N   GLY A 385      -6.017   7.554 -35.241  1.00 35.98           N
ATOM   2835  CA  GLY A 385      -6.668   8.776 -35.626  1.00 36.91           C
ATOM   2836  C   GLY A 385      -8.138   8.584 -35.694  1.00 34.99           C
ATOM   2837  O   GLY A 385      -8.593   7.532 -36.008  1.00 38.57           O
ATOM   2838  N   SER A 386      -8.880   9.602 -35.332  1.00 33.17           N
ATOM   2839  CA  SER A 386     -10.303   9.514 -35.354  1.00 35.44           C
ATOM   2840  CB  SER A 386     -10.781   8.776 -34.141  1.00 36.69           C
ATOM   2841  OG  SER A 386     -10.045   9.148 -33.008  1.00 35.35           O
ATOM   2842  C   SER A 386     -10.917  10.855 -35.348  1.00 36.08           C
ATOM   2843  O   SER A 386     -10.255  11.830 -35.172  1.00 37.71           O
ATOM   2844  N   LEU A 387     -12.209  10.888 -35.551  1.00 37.39           N
ATOM   2845  CA  LEU A 387     -12.957  12.100 -35.504  1.00 38.75           C
ATOM   2846  CB  LEU A 387     -13.801  12.287 -36.737  1.00 41.50           C
ATOM   2847  CG  LEU A 387     -13.206  12.727 -38.058  1.00 44.78           C
ATOM   2848  CD1 LEU A 387     -14.325  13.008 -39.021  1.00 44.26           C
ATOM   2849  CD2 LEU A 387     -12.373  13.960 -37.893  1.00 46.34           C
ATOM   2850  C   LEU A 387     -13.867  11.738 -34.389  1.00 38.98           C
ATOM   2851  O   LEU A 387     -14.208  10.610 -34.260  1.00 40.01           O
ATOM   2852  N   ARG A 388     -14.246  12.680 -33.562  1.00 36.56           N
ATOM   2853  CA  ARG A 388     -15.123  12.427 -32.443  1.00 37.90           C
ATOM   2854  CB  ARG A 388     -14.374  12.589 -31.114  1.00 39.13           C
ATOM   2855  CG  ARG A 388     -13.186  11.669 -30.864  1.00 39.37           C
ATOM   2856  CD  ARG A 388     -13.550  10.163 -30.718  1.00 38.61           C
ATOM   2857  NE  ARG A 388     -12.323   9.363 -30.889  1.00 37.91           N
ATOM   2858  CZ  ARG A 388     -11.861   8.396 -30.072  1.00 37.09           C
ATOM   2859  NH1 ARG A 388     -12.464   7.957 -28.969  1.00 36.21           N
ATOM   2860  NH2 ARG A 388     -10.720   7.864 -30.381  1.00 36.63           N
ATOM   2861  C   ARG A 388     -16.233  13.451 -32.448  1.00 39.42           C
ATOM   2862  O   ARG A 388     -15.956  14.631 -32.560  1.00 43.94           O
ATOM   2863  N   ILE A 389     -17.478  13.031 -32.284  1.00 40.27           N
ATOM   2864  CA  ILE A 389     -18.599  13.936 -32.285  1.00 40.58           C
ATOM   2865  CB  ILE A 389     -19.704  13.437 -33.203  1.00 41.95           C
ATOM   2866  CG1 ILE A 389     -19.245  13.493 -34.660  1.00 43.20           C
ATOM   2867  CD1 ILE A 389     -18.736  12.167 -35.165  1.00 44.12           C
ATOM   2868  CG2 ILE A 389     -20.956  14.289 -33.063  1.00 44.46           C
ATOM   2869  C   ILE A 389     -19.124  14.021 -30.877  1.00 43.79           C
ATOM   2870  O   ILE A 389     -19.715  13.053 -30.367  1.00 47.61           O
ATOM   2871  N   ILE A 390     -18.954  15.190 -30.259  1.00 43.79           N
ATOM   2872  CA  ILE A 390     -19.303  15.380 -28.873  1.00 43.78           C
ATOM   2873  CB  ILE A 390     -18.135  16.032 -28.153  1.00 47.43           C
ATOM   2874  CG1 ILE A 390     -16.956  15.024 -28.049  1.00 49.50           C
ATOM   2875  CD1 ILE A 390     -15.579  15.565 -28.391  1.00 49.34           C
ATOM   2876  CG2 ILE A 390     -18.572  16.479 -26.770  1.00 48.94           C
ATOM   2877  C   ILE A 390     -20.566  16.216 -28.784  1.00 44.29           C
ATOM   2878  O   ILE A 390     -20.551  17.383 -29.138  1.00 44.68           O
ATOM   2879  N   ARG A 391     -21.670  15.565 -28.395  1.00 46.27           N
ATOM   2880  CA  ARG A 391     -22.967  16.182 -28.070  1.00 43.98           C
ATOM   2881  CB  ARG A 391     -24.188  15.360 -28.601  1.00 37.55           C
ATOM   2882  C   ARG A 391     -22.823  16.125 -26.548  1.00 46.17           C
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ATOM   2883  O   ARG A 391     -23.646  15.565 -25.810  1.00 50.00           O
ATOM   2884  N   ASN A 392     -23.935  17.912 -26.054  1.00 50.03           N
ATOM   2885  CA  ASN A 392     -24.393  17.904 -24.672  1.00 51.00           C
ATOM   2886  CB  ASN A 392     -24.425  19.336 -24.191  1.00 58.54           C
ATOM   2887  CG  ASN A 392     -24.510  19.452 -22.714  1.00 67.59           C
ATOM   2888  OD1 ASN A 392     -25.217  18.687 -22.069  1.00 79.77           O
ATOM   2889  ND2 ASN A 392     -23.786  20.420 -22.152  1.00 74.32           N
ATOM   2890  C   ASN A 392     -25.796  17.332 -24.633  1.00 47.21           C
ATOM   2891  O   ASN A 392     -26.570  17.605 -25.491  1.00 48.52           O
ATOM   2892  N   GLY A 393     -26.158  16.564 -23.635  1.00 47.29           N
ATOM   2893  CA  GLY A 393     -27.602  16.281 -23.397  1.00 47.62           C
ATOM   2894  C   GLY A 393     -27.925  15.073 -22.515  1.00 45.38           C
ATOM   2895  O   GLY A 393     -27.045  14.276 -22.200  1.00 48.06           O
ATOM   2896  N   ILE A 394     -29.182  14.914 -22.152  1.00 41.71           N
ATOM   2897  CA  ILE A 394     -29.613  13.644 -21.593  1.00 43.78           C
ATOM   2898  CB  ILE A 394     -31.007  13.714 -20.972  1.00 43.93           C
ATOM   2899  CG1 ILE A 394     -31.051  14.724 -19.851  1.00 48.45           C
ATOM   2900  CD1 ILE A 394     -32.463  15.165 -19.545  1.00 50.76           C
ATOM   2901  CG2 ILE A 394     -31.376  12.389 -20.365  1.00 41.32           C
ATOM   2902  C   ILE A 394     -29.715  12.558 -22.660  1.00 44.97           C
ATOM   2903  O   ILE A 394     -30.467  12.698 -23.629  1.00 43.54           O
ATOM   2904  N   GLY A 395     -29.054  11.429 -22.415  1.00 47.88           N
ATOM   2905  CA  GLY A 395     -29.134  10.280 -23.326  1.00 47.81           C
ATOM   2906  C   GLY A 395     -30.145   9.213 -22.959  1.00 46.75           C
ATOM   2907  O   GLY A 395     -30.520   9.091 -21.816  1.00 43.97           O
ATOM   2908  N   ILE A 396     -30.532   8.406 -23.948  1.00 49.98           N
ATOM   2909  CA  ILE A 396     -31.544   7.342 -23.797  1.00 49.88           C
ATOM   2910  CB  ILE A 396     -32.700   7.517 -24.827  1.00 48.95           C
ATOM   2911  CG1 ILE A 396     -33.411   8.839 -24.622  1.00 50.86           C
ATOM   2912  CD1 ILE A 396     -34.040   9.041 -23.257  1.00 54.66           C
ATOM   2913  CG2 ILE A 396     -33.705   6.378 -24.764  1.00 48.76           C
ATOM   2914  C   ILE A 396     -30.917   5.992 -24.049  1.00 47.36           C
ATOM   2915  O   ILE A 396     -30.493   5.743 -25.157  1.00 44.29           O
ATOM   2916  N   HIS A 397     -30.924   5.109 -23.055  1.00 49.01           N
ATOM   2917  CA  HIS A 397     -30.428   3.753 -23.260  1.00 54.12           C
ATOM   2918  CB  HIS A 397     -29.963   3.122 -21.952  1.00 57.44           C
ATOM   2919  CG  HIS A 397     -28.755   3.799 -21.353  1.00 65.47           C
ATOM   2920  ND1 HIS A 397     -27.525   3.828 -21.979  1.00 72.37           N
ATOM   2921  CE1 HIS A 397     -26.663   4.510 -21.239  1.00 70.49           C
ATOM   2922  NE2 HIS A 397     -27.290   4.928 -20.157  1.00 69.67           N
ATOM   2923  CD2 HIS A 397     -28.595   4.487 -20.196  1.00 68.48           C
ATOM   2924  C   HIS A 397     -31.507   2.923 -23.961  1.00 57.11           C
ATOM   2925  O   HIS A 397     -32.533   2.610 -23.371  1.00 58.21           O
ATOM   2926  N   GLU A 398     -31.295   2.585 -25.234  1.00 56.90           N
ATOM   2927  CA  GLU A 398     -32.367   1.978 -26.002  1.00 56.45           C
ATOM   2928  CB  GLU A 398     -32.230   2.332 -27.474  1.00 61.02           C
ATOM   2929  CG  GLU A 398     -32.508   3.794 -27.735  1.00 68.07           C
ATOM   2930  CD  GLU A 398     -32.634   4.122 -29.205  1.00 76.74           C
ATOM   2931  OE1 GLU A 398     -32.413   5.346 -29.536  1.00 76.24           O
ATOM   2932  OE2 GLU A 398     -32.963   3.158 -29.987  1.00 76.88           O
ATOM   2933  C   GLU A 398     -32.365   0.494 -25.856  1.00 51.56           C
ATOM   2934  O   GLU A 398     -31.414  -0.090 -26.237  1.00 47.59           O
ATOM   2935  N   HIS A 399     -33.446  -0.124 -25.387  1.00 52.81           N
ATOM   2936  CA  HIS A 399     -33.499  -1.592 -25.283  1.00 54.95           C
ATOM   2937  CB  HIS A 399     -33.947  -2.002 -23.888  1.00 57.72           C
ATOM   2938  CG  HIS A 399     -33.268  -1.225 -22.815  1.00 58.73           C
ATOM   2939  ND1 HIS A 399     -33.941  -0.701 -21.736  1.00 59.46           N
ATOM   2940  CE1 HIS A 399     -33.098  -0.047 -20.963  1.00 57.52           C
ATOM   2941  NE2 HIS A 399     -31.911  -0.081 -21.535  1.00 60.76           N
ATOM   2942  CD2 HIS A 399     -31.987  -0.819 -22.692  1.00 58.34           C
ATOM   2943  C   HIS A 399     -34.304  -2.331 -26.347  1.00 54.76           C
ATOM   2944  O   HIS A 399     -33.963  -3.474 -26.660  1.00 60.69           O
ATOM   2945  N   ALA A 400     -35.365  -1.730 -26.887  1.00 53.81           N
ATOM   2946  CA  ALA A 400     -36.048  -2.318 -28.069  1.00 54.26           C
ATOM   2947  CB  ALA A 400     -37.240  -3.117 -27.651  1.00 54.80           C
ATOM   2948  C   ALA A 400     -36.484  -1.325 -29.123  1.00 54.67           C
ATOM   2949  O   ALA A 400     -36.728  -0.168 -28.835  1.00 57.62           O
ATOM   2950  N   SER A 401     -36.605  -1.784 -30.356  1.00 54.95           N
ATOM   2951  CA  SER A 401     -37.100  -0.919 -31.406  1.00 54.51           C
ATOM   2952  CB  SER A 401     -35.952  -0.341 -32.226  1.00 56.43           C
ATOM   2953  OG  SER A 401     -36.324   0.941 -32.715  1.00 60.38           O
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ATOM   2954  C   SER A 401     -38.108  -1.646 -32.278  1.00 52.98           C
ATOM   2955  O   SER A 401     -38.049  -2.895 -32.453  1.00 54.21           O
ATOM   2956  N   ILE A 402     -39.058  -0.852 -32.776  1.00 48.73           N
ATOM   2957  CA  ILE A 402     -40.129  -1.351 -33.588  1.00 49.41           C
ATOM   2958  CB  ILE A 402     -41.356  -1.705 -32.726  1.00 51.90           C
ATOM   2959  CG1 ILE A 402     -41.020  -2.797 -31.668  1.00 53.28           C
ATOM   2960  CD1 ILE A 402     -42.220  -3.293 -30.865  1.00 51.94           C
ATOM   2961  CG2 ILE A 402     -42.511  -2.181 -33.592  1.00 49.50           C
ATOM   2962  C   ILE A 402     -40.521  -0.304 -34.596  1.00 51.01           C
ATOM   2963  O   ILE A 402     -40.945   0.772 -34.226  1.00 48.47           O
ATOM   2964  N   ASP A 403     -40.343  -0.638 -35.872  1.00 59.00           N
ATOM   2965  CA  ASP A 403     -40.975   0.017 -37.037  1.00 63.12           C
ATOM   2966  CB  ASP A 403     -40.353  -0.584 -38.327  1.00 65.78           C
ATOM   2967  CG  ASP A 403     -40.928   0.015 -39.634  1.00 75.46           C
ATOM   2968  OD1 ASP A 403     -41.555   1.129 -39.648  1.00 86.91           O
ATOM   2969  OD2 ASP A 403     -40.730  -0.647 -40.680  1.00 73.92           O
ATOM   2970  C   ASP A 403     -42.563  -0.099 -37.042  1.00 62.39           C
ATOM   2971  O   ASP A 403     -43.134  -1.204 -37.195  1.00 57.59           O
ATOM   2972  N   LEU A 404     -43.228   1.063 -36.867  1.00 60.49           N
ATOM   2973  CA  LEU A 404     -44.704   1.235 -36.911  1.00 59.08           C
ATOM   2974  CB  LEU A 404     -45.401   0.939 -35.592  1.00 61.80           C
ATOM   2975  CG  LEU A 404     -45.945  -0.452 -35.371  1.00 65.21           C
ATOM   2976  CD1 LEU A 404     -46.220  -0.643 -33.882  1.00 65.43           C
ATOM   2977  CD2 LEU A 404     -47.211  -0.619 -36.204  1.00 69.04           C
ATOM   2978  C   LEU A 404     -44.943   2.676 -37.184  1.00 56.00           C
ATOM   2979  O   LEU A 404     -44.858   3.518 -36.287  1.00 58.91           O
ATOM   2980  N   PRO A 405     -45.233   3.001 -38.422  1.00 55.64           N
ATOM   2981  CA  PRO A 405     -45.348   4.427 -38.707  1.00 55.37           C
ATOM   2982  CB  PRO A 405     -44.958   4.491 -40.156  1.00 53.93           C
ATOM   2983  CG  PRO A 405     -45.491   3.204 -40.684  1.00 55.95           C
ATOM   2984  CD  PRO A 405     -45.438   2.182 -39.611  1.00 54.26           C
ATOM   2985  C   PRO A 405     -46.758   4.984 -38.440  1.00 53.37           C
ATOM   2986  O   PRO A 405     -47.748   4.247 -38.432  1.00 51.76           O
ATOM   2987  N   GLY A 406     -46.803   6.273 -38.144  1.00 54.51           N
ATOM   2988  CA  GLY A 406     -48.045   7.017 -37.939  1.00 54.16           C
ATOM   2989  C   GLY A 406     -48.607   6.945 -36.548  1.00 56.11           C
ATOM   2990  O   GLY A 406     -49.821   7.047 -36.364  1.00 61.52           O
ATOM   2991  N   ILE A 407     -47.748   6.758 -35.557  1.00 57.14           N
ATOM   2992  CA  ILE A 407     -48.245   6.637 -34.223  1.00 57.90           C
ATOM   2993  CB  ILE A 407     -47.203   6.075 -33.274  1.00 57.56           C
ATOM   2994  CG1 ILE A 407     -46.950   4.612 -33.640  1.00 58.06           C
ATOM   2995  CD1 ILE A 407     -45.865   3.898 -32.850  1.00 57.98           C
ATOM   2996  CG2 ILE A 407     -47.712   6.214 -31.843  1.00 56.64           C
ATOM   2997  C   ILE A 407     -48.678   8.023 -33.782  1.00 62.41           C
ATOM   2998  O   ILE A 407     -47.962   9.003 -34.005  1.00 62.50           O
ATOM   2999  N   LYS A 408     -49.868   8.087 -33.183  1.00 64.52           N
ATOM   3000  CA  LYS A 408     -50.447   9.329 -32.665  1.00 62.29           C
ATOM   3001  CB  LYS A 408     -51.792   9.561 -33.324  1.00 64.00           C
ATOM   3002  CG  LYS A 408     -51.741   9.524 -34.842  1.00 64.34           C
ATOM   3003  CD  LYS A 408     -51.003  10.716 -35.437  1.00 64.86           C
ATOM   3004  CE  LYS A 408     -51.025  10.653 -36.959  1.00 70.24           C
ATOM   3005  NZ  LYS A 408     -50.250  11.751 -37.600  1.00 73.24           N
ATOM   3006  C   LYS A 408     -50.622   9.353 -31.157  1.00 58.81           C
ATOM   3007  O   LYS A 408     -50.826  10.422 -30.592  1.00 62.49           O
ATOM   3008  N   GLY A 409     -50.577   8.193 -30.512  1.00 54.61           N
ATOM   3009  CA  GLY A 409     -50.559   8.128 -29.067  1.00 54.73           C
ATOM   3010  C   GLY A 409     -50.099   6.794 -28.488  1.00 55.71           C
ATOM   3011  O   GLY A 409     -50.249   5.727 -29.078  1.00 60.14           O
ATOM   3012  N   LEU A 410     -49.534   6.888 -27.309  1.00 54.48           N
ATOM   3013  CA  LEU A 410     -49.054   5.786 -26.536  1.00 54.46           C
ATOM   3014  CB  LEU A 410     -47.587   6.021 -26.249  1.00 56.20           C
ATOM   3015  CG  LEU A 410     -46.480   5.413 -27.070  1.00 58.23           C
ATOM   3016  CD1 LEU A 410     -46.964   4.886 -28.407  1.00 59.71           C
ATOM   3017  CD2 LEU A 410     -45.355   6.444 -27.195  1.00 59.08           C
ATOM   3018  C   LEU A 410     -49.737   5.837 -25.182  1.00 55.15           C
ATOM   3019  O   LEU A 410     -49.839   6.913 -24.557  1.00 60.75           O
ATOM   3020  N   TRP A 411     -50.171   4.687 -24.702  1.00 51.76           N
ATOM   3021  CA  TRP A 411     -50.605   4.567 -23.334  1.00 51.24           C
ATOM   3022  CB  TRP A 411     -52.117   4.725 -23.215  1.00 54.17           C
ATOM   3023  CG  TRP A 411     -52.542   5.978 -23.728  1.00 53.71           C
ATOM   3024  CD1 TRP A 411     -52.665   7.131 -23.048  1.00 53.95           C
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ATOM   3025  NE1 TRP A 411     -53.026   8.132 -23.902  1.00 55.25           N
ATOM   3026  CE2 TRP A 411     -53.095   7.629 -25.172  1.00 54.25           C
ATOM   3027  CD2 TRP A 411     -52.797   6.266 -25.090  1.00 55.50           C
ATOM   3028  CE3 TRP A 411     -52.807   5.492 -26.258  1.00 58.15           C
ATOM   3029  CZ3 TRP A 411     -53.123   6.103 -27.447  1.00 57.42           C
ATOM   3030  CH2 TRP A 411     -53.427   7.475 -27.486  1.00 55.97           C
ATOM   3031  CZ2 TRP A 411     -53.420   8.245 -26.361  1.00 53.25           C
ATOM   3032  C   TRP A 411     -50.229   3.221 -22.813  1.00 51.17           C
ATOM   3033  O   TRP A 411     -50.533   2.194 -23.436  1.00 53.53           O
ATOM   3034  N   PRO A 412     -49.593   3.197 -21.655  1.00 49.64           N
ATOM   3035  CA  PRO A 412     -49.339   1.952 -21.004  1.00 50.84           C
ATOM   3036  CB  PRO A 412     -48.274   2.313 -20.008  1.00 52.76           C
ATOM   3037  CG  PRO A 412     -48.605   3.691 -19.606  1.00 51.82           C
ATOM   3038  CD  PRO A 412     -49.230   4.327 -20.810  1.00 50.73           C
ATOM   3039  C   PRO A 412     -50.533   1.606 -20.249  1.00 51.37           C
ATOM   3040  O   PRO A 412     -51.335   2.487 -19.977  1.00 50.50           O
ATOM   3041  N   LEU A 413     -50.605   0.362 -19.815  1.00 56.43           N
ATOM   3042  CA  LEU A 413     -51.824  -0.156 -19.179  1.00 59.26           C
ATOM   3043  CB  LEU A 413     -52.879  -0.221 -20.270  1.00 60.79           C
ATOM   3044  CG  LEU A 413     -54.138  -1.033 -20.326  1.00 63.74           C
ATOM   3045  CD1 LEU A 413     -54.963  -0.564 -21.530  1.00 64.44           C
ATOM   3046  CD2 LEU A 413     -53.836  -2.510 -20.466  1.00 67.55           C
ATOM   3047  C   LEU A 413     -51.519  -1.501 -18.557  1.00 59.24           C
ATOM   3048  O   LEU A 413     -50.609  -2.215 -19.030  1.00 63.45           O
ATOM   3049  N   ARG A 414     -52.265  -1.845 -17.509  1.00 58.43           N
ATOM   3050  CA  ARG A 414     -52.100  -3.128 -16.785  1.00 61.92           C
ATOM   3051  CB  ARG A 414     -51.969  -2.897 -15.287  1.00 66.03           C
ATOM   3052  CG  ARG A 414     -50.544  -2.511 -14.860  1.00 70.73           C
ATOM   3053  CD  ARG A 414     -50.409  -1.767 -13.527  1.00 72.03           C
ATOM   3054  NE  ARG A 414     -51.643  -1.835 -12.730  1.00 75.99           N
ATOM   3055  CZ  ARG A 414     -52.429  -0.798 -12.388  1.00 74.73           C
ATOM   3056  NH1 ARG A 414     -52.140   0.468 -12.700  1.00 70.45           N
ATOM   3057  NH2 ARG A 414     -53.533  -1.037 -11.687  1.00 76.39           N
ATOM   3058  C   ARG A 414     -53.289  -4.021 -17.094  1.00 61.51           C
ATOM   3059  O   ARG A 414     -54.365  -3.787 -16.574  1.00 61.49           O
ATOM   3060  N   SER A 415     -53.089  -4.998 -17.989  1.00 64.64           N
ATOM   3061  CA  SER A 415     -54.135  -5.919 -18.468  1.00 64.89           C
ATOM   3062  CB  SER A 415     -53.651  -6.669 -19.705  1.00 59.61           C
ATOM   3063  C   SER A 415     -54.587  -6.941 -17.414  1.00 67.07           C
ATOM   3064  O   SER A 415     -55.678  -7.491 -17.513  1.00 66.06           O
ATOM   3065  N   ASP A 416     -53.746  -7.195 -16.420  1.00 69.59           N
ATOM   3066  CA  ASP A 416     -54.052  -8.154 -15.386  1.00 75.14           C
ATOM   3067  CB  ASP A 416     -53.117  -9.353 -15.485  1.00 77.22           C
ATOM   3068  CG  ASP A 416     -53.136 -10.173 -14.254  1.00 79.90           C
ATOM   3069  OD1 ASP A 416     -54.225 -10.307 -13.677  1.00 87.24           O
ATOM   3070  OD2 ASP A 416     -52.073 -10.632 -13.820  1.00 83.34           O
ATOM   3071  C   ASP A 416     -53.945  -7.471 -14.016  1.00 77.41           C
ATOM   3072  O   ASP A 416     -52.854  -7.132 -13.562  1.00 72.50           O
ATOM   3073  N   PRO A 417     -55.084  -7.308 -13.338  1.00 84.17           N
ATOM   3074  CA  PRO A 417     -55.163  -6.426 -12.165  1.00 88.93           C
ATOM   3075  CB  PRO A 417     -56.671  -6.315 -11.917  1.00 92.21           C
ATOM   3076  CG  PRO A 417     -57.230  -7.581 -12.472  1.00 90.68           C
ATOM   3077  CD  PRO A 417     -56.392  -7.905 -13.666  1.00 87.03           C
ATOM   3078  C   PRO A 417     -54.472  -6.883 -10.886  1.00 88.51           C
ATOM   3079  O   PRO A 417     -54.210  -6.057 -10.018  1.00 80.00           O
ATOM   3080  N   ASN A 418     -54.220  -8.177 -10.740  1.00 97.93           N
ATOM   3081  CA  ASN A 418     -53.475  -8.660  -9.570  1.00101.90           C
ATOM   3082  CB  ASN A 418     -54.186  -9.880  -8.925  1.00 98.09           C
ATOM   3083  CG  ASN A 418     -54.234 -11.086  -9.843  1.00101.67           C
ATOM   3084  OD1 ASN A 418     -54.163 -10.957 -11.063  1.00104.47           O
ATOM   3085  ND2 ASN A 418     -54.345 -12.267  -9.261  1.00101.58           N
ATOM   3086  C   ASN A 418     -51.949  -8.880  -9.857  1.00 96.48           C
ATOM   3087  O   ASN A 418     -51.270  -9.500  -9.043  1.00100.21           O
ATOM   3088  N   ARG A 419     -51.427  -8.378 -10.994  1.00 88.55           N
ATOM   3089  CA  ARG A 419     -49.959  -8.139 -11.193  1.00 83.58           C
ATOM   3090  CB  ARG A 419     -49.393  -8.801 -12.470  1.00 79.54           C
ATOM   3091  C   ARG A 419     -49.723  -6.629 -11.227  1.00 79.54           C
ATOM   3092  O   ARG A 419     -50.572  -5.874 -11.689  1.00 79.56           O
ATOM   3093  N   GLU A 420     -48.561  -6.193 -10.765  1.00 79.83           N
ATOM   3094  CA  GLU A 420     -48.366  -4.803 -10.319  1.00 84.06           C
ATOM   3095  CB  GLU A 420     -47.612  -4.827  -8.968  1.00 95.40           C
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ATOM   3096  CG  GLU A 420     -47.923  -3.667  -8.012  1.00100.52           C
ATOM   3097  CD  GLU A 420     -48.540  -4.144  -6.693  1.00103.91           C
ATOM   3098  OE1 GLU A 420     -49.600  -3.609  -6.285  1.00 97.17           O
ATOM   3099  OE2 GLU A 420     -47.982  -5.082  -6.082  1.00107.73           O
ATOM   3100  C   GLU A 420     -47.594  -3.955 -11.322  1.00 79.30           C
ATOM   3101  O   GLU A 420     -46.897  -3.018 -10.933  1.00 80.81           O
ATOM   3102  N   THR A 421     -47.758  -4.250 -12.610  1.00 72.23           N
ATOM   3103  CA  THR A 421     -46.745  -3.941 -13.624  1.00 61.47           C
ATOM   3104  CB  THR A 421     -45.643  -5.033 -13.559  1.00 55.59           C
ATOM   3105  OG1 THR A 421     -44.427  -4.482 -14.052  1.00 52.25           O
ATOM   3106  CG2 THR A 421     -46.034  -6.361 -14.304  1.00 52.11           C
ATOM   3107  C   THR A 421     -47.338  -3.894 -15.031  1.00 58.84           C
ATOM   3108  O   THR A 421     -48.055  -4.798 -15.417  1.00 60.74           O
ATOM   3109  N   ASP A 422     -47.036  -2.872 -15.821  1.00 58.55           N
ATOM   3110  CA  ASP A 422     -47.611  -2.783 -17.183  1.00 59.10           C
ATOM   3111  CB  ASP A 422     -47.119  -1.564 -17.934  1.00 62.40           C
ATOM   3112  CG  ASP A 422     -47.451  -0.267 -17.232  1.00 66.95           C
ATOM   3113  OD1 ASP A 422     -48.657   0.039 -17.026  1.00 68.66           O
ATOM   3114  OD2 ASP A 422     -46.478   0.459 -16.910  1.00 71.52           O
ATOM   3115  C   ASP A 422     -47.302  -4.005 -18.040  1.00 56.80           C
ATOM   3116  O   ASP A 422     -46.220  -4.627 -17.919  1.00 55.84           O
ATOM   3117  N   ASP A 423     -48.283  -4.379 -18.851  1.00 50.55           N
ATOM   3118  CA  ASP A 423     -48.097  -5.456 -19.785  1.00 49.77           C
ATOM   3119  CB  ASP A 423     -48.615  -6.728 -19.149  1.00 50.68           C
ATOM   3120  CG  ASP A 423     -50.122  -6.775 -19.019  1.00 52.52           C
ATOM   3121  OD1 ASP A 423     -50.858  -5.835 -19.377  1.00 55.69           O
ATOM   3122  OD2 ASP A 423     -50.593  -7.816 -18.564  1.00 57.40           O
ATOM   3123  C   ASP A 423     -48.719  -5.170 -21.161  1.00 52.23           C
ATOM   3124  O   ASP A 423     -48.830  -6.045 -22.042  1.00 49.80           O
ATOM   3125  N   THR A 424     -49.095  -3.920 -21.371  1.00 51.45           N
ATOM   3126  CA  THR A 424     -49.706  -3.558 -22.593  1.00 49.36           C
ATOM   3127  CB  THR A 424     -51.188  -3.564 -22.380  1.00 50.19           C
ATOM   3128  OG1 THR A 424     -51.551  -4.887 -22.020  1.00 51.86           O
ATOM   3129  CG2 THR A 424     -51.945  -3.156 -23.647  1.00 51.71           C
ATOM   3130  C   THR A 424     -49.226  -2.190 -22.956  1.00 49.48           C
ATOM   3131  O   THR A 424     -48.903  -1.384 -22.126  1.00 52.86           O
ATOM   3132  N   LEU A 425     -49.157  -1.948 -24.230  1.00 50.63           N
ATOM   3133  CA  LEU A 425     -48.932  -0.639 -24.739  1.00 50.72           C
ATOM   3134  CB  LEU A 425     -47.589  -0.644 -25.430  1.00 49.30           C
ATOM   3135  CG  LEU A 425     -46.807   0.632 -25.486  1.00 48.41           C
ATOM   3136  CD1 LEU A 425     -46.842   1.350 -24.163  1.00 50.83           C
ATOM   3137  CD2 LEU A 425     -45.386   0.244 -25.803  1.00 49.49           C
ATOM   3138  C   LEU A 425     -50.034  -0.510 -25.739  1.00 52.01           C
ATOM   3139  O   LEU A 425     -50.310  -1.488 -26.441  1.00 53.28           O
ATOM   3140  N   VAL A 426     -50.689   0.645 -25.796  1.00 50.36           N
ATOM   3141  CA  VAL A 426     -51.773   0.834 -26.753  1.00 49.39           C
ATOM   3142  CB  VAL A 426     -53.113   1.103 -26.045  1.00 50.69           C
ATOM   3143  CG1 VAL A 426     -54.254   1.256 -27.057  1.00 50.77           C
ATOM   3144  CG2 VAL A 426     -53.423  -0.059 -25.096  1.00 50.38           C
ATOM   3145  C   VAL A 426     -51.369   1.937 -27.665  1.00 46.35           C
ATOM   3146  O   VAL A 426     -50.809   2.910 -27.203  1.00 47.52           O
ATOM   3147  N   LEU A 427     -51.593   1.766 -28.958  1.00 45.54           N
ATOM   3148  CA  LEU A 427     -51.101   2.740 -29.925  1.00 51.43           C
ATOM   3149  CB  LEU A 427     -50.051   2.138 -30.842  1.00 53.54           C
ATOM   3150  CG  LEU A 427     -48.674   1.957 -30.216  1.00 55.42           C
ATOM   3151  CD1 LEU A 427     -48.624   0.856 -29.159  1.00 54.95           C
ATOM   3152  CD2 LEU A 427     -47.672   1.657 -31.301  1.00 58.12           C
ATOM   3153  C   LEU A 427     -52.234   3.217 -30.771  1.00 54.11           C
ATOM   3154  O   LEU A 427     -52.953   2.378 -31.339  1.00 53.49           O
ATOM   3155  N   SER A 428     -52.397   4.541 -30.877  1.00 54.07           N
ATOM   3156  CA  SER A 428     -53.450   5.071 -31.718  1.00 55.42           C
ATOM   3157  CB  SER A 428     -54.253   6.202 -31.034  1.00 60.05           C
ATOM   3158  OG  SER A 428     -53.702   7.500 -31.229  1.00 65.05           O
ATOM   3159  C   SER A 428     -52.818   5.496 -33.013  1.00 51.60           C
ATOM   3160  O   SER A 428     -51.662   5.875 -33.050  1.00 49.29           O
ATOM   3161  N   PHE A 429     -53.598   5.382 -34.080  1.00 53.24           N
ATOM   3162  CA  PHE A 429     -53.224   5.805 -35.437  1.00 53.52           C
ATOM   3163  CB  PHE A 429     -52.922   4.581 -36.285  1.00 51.14           C
ATOM   3164  CG  PHE A 429     -51.762   3.767 -35.800  1.00 48.87           C
ATOM   3165  CD1 PHE A 429     -51.937   2.807 -34.828  1.00 48.67           C
ATOM   3166  CE1 PHE A 429     -50.879   2.051 -34.365  1.00 46.00           C
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ATOM   3167  CZ  PHE A 429     -49.640   2.235 -34.913  1.00 47.11           C
ATOM   3168  CE2 PHE A 429     -49.444   3.195 -35.891  1.00 46.94           C
ATOM   3169  CD2 PHE A 429     -50.499   3.948 -36.329  1.00 48.09           C
ATOM   3170  C   PHE A 429     -54.415   6.522 -36.066  1.00 54.62           C
ATOM   3171  O   PHE A 429     -55.520   6.465 -35.536  1.00 55.87           O
ATOM   3172  N   VAL A 430     -54.215   7.160 -37.209  1.00 55.59           N
ATOM   3173  CA  VAL A 430     -55.311   7.876 -37.847  1.00 57.39           C
ATOM   3174  CB  VAL A 430     -54.881   8.673 -39.112  1.00 63.19           C
ATOM   3175  CG1 VAL A 430     -55.076   7.877 -40.422  1.00 69.73           C
ATOM   3176  CG2 VAL A 430     -55.634   9.990 -39.185  1.00 64.68           C
ATOM   3177  C   VAL A 430     -56.436   6.879 -38.100  1.00 55.45           C
ATOM   3178  O   VAL A 430     -56.260   5.873 -38.754  1.00 53.13           O
ATOM   3179  N   GLY A 431     -57.566   7.173 -37.483  1.00 58.77           N
ATOM   3180  CA  GLY A 431     -58.730   6.308 -37.408  1.00 62.11           C
ATOM   3181  C   GLY A 431     -58.548   4.842 -37.102  1.00 59.37           C
ATOM   3182  O   GLY A 431     -59.141   4.018 -37.753  1.00 64.87           O
ATOM   3183  N   GLN A 432     -57.761   4.498 -36.112  1.00 57.86           N
ATOM   3184  CA  GLN A 432     -57.397   3.114 -35.970  1.00 61.05           C
ATOM   3185  CB  GLN A 432     -56.507   2.762 -37.163  1.00 68.60           C
ATOM   3186  CG  GLN A 432     -56.158   1.299 -37.380  1.00 79.20           C
ATOM   3187  CD  GLN A 432     -55.000   1.174 -38.373  1.00 85.61           C
ATOM   3188  OE1 GLN A 432     -55.090   1.683 -39.484  1.00 88.20           O
ATOM   3189  NE2 GLN A 432     -53.893   0.543 -37.958  1.00 87.94           N
ATOM   3190  C   GLN A 432     -56.668   2.956 -34.648  1.00 57.64           C
ATOM   3191  O   GLN A 432     -55.816   3.770 -34.335  1.00 56.53           O
ATOM   3192  N   THR A 433     -57.013   1.939 -33.862  1.00 55.68           N
ATOM   3193  CA  THR A 433     -56.337   1.673 -32.560  1.00 56.93           C
ATOM   3194  CB  THR A 433     -57.293   1.873 -31.372  1.00 53.95           C
ATOM   3195  OG1 THR A 433     -57.594   3.260 -31.272  1.00 54.80           O
ATOM   3196  CG2 THR A 433     -56.654   1.428 -30.072  1.00 52.33           C
ATOM   3197  C   THR A 433     -55.719   0.256 -32.536  1.00 56.09           C
ATOM   3198  O   THR A 433     -56.276  -0.651 -33.118  1.00 59.19           O
ATOM   3199  N   ARG A 434     -54.563   0.103 -31.891  1.00 53.78           N
ATOM   3200  CA  ARG A 434     -53.822  -1.151 -31.847  1.00 53.96           C
ATOM   3201  CB  ARG A 434     -52.623  -1.058 -32.727  1.00 54.86           C
ATOM   3202  CG  ARG A 434     -52.863  -0.900 -34.201  1.00 58.73           C
ATOM   3203  CD  ARG A 434     -51.602  -1.438 -34.884  1.00 61.56           C
ATOM   3204  NE  ARG A 434     -51.377  -1.000 -36.244  1.00 61.49           N
ATOM   3205  CZ  ARG A 434     -50.590  -1.631 -37.099  1.00 64.68           C
ATOM   3206  NH1 ARG A 434     -49.931  -2.750 -36.786  1.00 63.62           N
ATOM   3207  NH2 ARG A 434     -50.482  -1.134 -38.306  1.00 71.75           N
ATOM   3208  C   ARG A 434     -53.241  -1.464 -30.477  1.00 54.45           C
ATOM   3209  O   ARG A 434     -52.829  -0.553 -29.748  1.00 57.88           O
ATOM   3210  N   VAL A 435     -53.104  -2.745 -30.167  1.00 50.92           N
ATOM   3211  CA  VAL A 435     -52.731  -3.124 -28.837  1.00 50.43           C
ATOM   3212  CB  VAL A 435     -53.933  -3.690 -28.086  1.00 50.42           C
ATOM   3213  CG1 VAL A 435     -53.532  -4.081 -26.680  1.00 51.26           C
ATOM   3214  CG2 VAL A 435     -55.037  -2.638 -28.020  1.00 51.18           C
ATOM   3215  C   VAL A 435     -51.574  -4.105 -28.869  1.00 51.99           C
ATOM   3216  O   VAL A 435     -51.690  -5.166 -29.428  1.00 53.13           O
ATOM   3217  N   LEU A 436     -50.459  -3.723 -28.249  1.00 51.77           N
ATOM   3218  CA  LEU A 436     -49.290  -4.561 -28.111  1.00 50.41           C
ATOM   3219  CB  LEU A 436     -48.022  -3.731 -28.349  1.00 47.79           C
ATOM   3220  CG  LEU A 436     -48.033  -2.914 -29.634  1.00 45.89           C
ATOM   3221  CD1 LEU A 436     -46.719  -2.207 -29.855  1.00 44.19           C
ATOM   3222  CD2 LEU A 436     -48.334  -3.835 -30.778  1.00 47.79           C
ATOM   3223  C   LEU A 436     -49.260  -5.120 -26.703  1.00 54.01           C
ATOM   3224  O   LEU A 436     -49.204  -4.333 -25.746  1.00 53.76           O
ATOM   3225  N   MET A 437     -49.284  -6.457 -26.572  1.00 55.11           N
ATOM   3226  CA  MET A 437     -49.029  -7.089 -25.281  1.00 57.48           C
ATOM   3227  CB  MET A 437     -49.804  -8.387 -25.138  1.00 61.73           C
ATOM   3228  CG  MET A 437     -49.172  -9.548 -25.866  1.00 66.78           C
ATOM   3229  SD  MET A 437     -50.179 -11.022 -25.799  1.00 73.96           S
ATOM   3230  CE  MET A 437     -50.105 -11.399 -24.029  1.00 74.10           C
ATOM   3231  C   MET A 437     -47.540  -7.345 -25.119  1.00 54.51           C
ATOM   3232  O   MET A 437     -46.853  -7.533 -26.109  1.00 53.19           O
ATOM   3233  N   LEU A 438     -47.075  -7.380 -23.864  1.00 55.01           N
ATOM   3234  CA  LEU A 438     -45.669  -7.577 -23.510  1.00 55.60           C
ATOM   3235  CB  LEU A 438     -45.106  -6.300 -22.912  1.00 55.65           C
ATOM   3236  CG  LEU A 438     -45.087  -5.133 -23.875  1.00 54.32           C
ATOM   3237  CD1 LEU A 438     -46.406  -4.409 -23.859  1.00 58.02           C
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ATOM   3238  CD2 LEU A 438     -44.013  -4.155 -23.494  1.00 53.07           C
ATOM   3239  C   LEU A 438     -45.433  -8.698 -22.493  1.00 57.76           C
ATOM   3240  O   LEU A 438     -45.989  -8.703 -21.388  1.00 56.04           O
ATOM   3241  N   ASN A 439     -44.580  -9.639 -22.877  1.00 60.90           N
ATOM   3242  CA  ASN A 439     -44.086 -10.678 -21.964  1.00 65.31           C
ATOM   3243  CB  ASN A 439     -44.667 -12.060 -22.304  1.00 69.08           C
ATOM   3244  CG  ASN A 439     -46.167 -11.999 -22.539  1.00 77.42           C
ATOM   3245  OD1 ASN A 439     -46.969 -12.419 -21.696  1.00 90.07           O
ATOM   3246  ND2 ASN A 439     -46.557 -11.419 -23.668  1.00 79.65           N
ATOM   3247  C   ASN A 439     -42.572 -10.665 -22.045  1.00 60.15           C
ATOM   3248  O   ASN A 439     -42.012 -10.994 -23.079  1.00 57.04           O
ATOM   3249  N   GLY A 440     -41.926 -10.229 -20.968  1.00 56.67           N
ATOM   3250  CA  GLY A 440     -40.514 -10.004 -20.962  1.00 56.00           C
ATOM   3251  C   GLY A 440     -40.264  -9.007 -22.054  1.00 60.06           C
ATOM   3252  O   GLY A 440     -40.839  -7.884 -22.043  1.00 70.02           O
ATOM   3253  N   GLU A 441     -39.463  -9.443 -23.021  1.00 57.33           N
ATOM   3254  CA  GLU A 441     -39.027  -8.602 -24.102  1.00 59.09           C
ATOM   3255  CB  GLU A 441     -37.521  -8.740 -24.246  1.00 61.05           C
ATOM   3256  CG  GLU A 441     -36.721  -8.124 -23.119  1.00 60.60           C
ATOM   3257  CD  GLU A 441     -35.211  -8.222 -23.317  1.00 60.70           C
ATOM   3258  OE1 GLU A 441     -34.501  -7.940 -22.360  1.00 69.39           O
ATOM   3259  OE2 GLU A 441     -34.691  -8.582 -24.378  1.00 57.88           O
ATOM   3260  C   GLU A 441     -39.706  -8.923 -25.436  1.00 60.39           C
ATOM   3261  O   GLU A 441     -39.340  -8.306 -26.482  1.00 64.59           O
ATOM   3262  N   GLU A 442     -40.689  -9.845 -25.394  1.00 58.79           N
ATOM   3263  CA  GLU A 442     -41.506 -10.261 -26.569  1.00 57.16           C
ATOM   3264  CB  GLU A 442     -41.900 -11.740 -26.478  1.00 58.80           C
ATOM   3265  CG  GLU A 442     -40.735 -12.727 -26.445  1.00 62.87           C
ATOM   3266  CD  GLU A 442     -41.200 -14.130 -26.124  1.00 66.35           C
ATOM   3267  OE1 GLU A 442     -42.106 -14.625 -26.814  1.00 71.52           O
ATOM   3268  OE2 GLU A 442     -40.689 -14.731 -25.155  1.00 73.37           O
ATOM   3269  C   GLU A 442     -42.784  -9.434 -26.731  1.00 52.94           C
ATOM   3270  O   GLU A 442     -43.740  -9.548 -25.951  1.00 54.86           O
ATOM   3271  N   VAL A 443     -42.798  -8.611 -27.759  1.00 48.31           N
ATOM   3272  CA  VAL A 443     -43.948  -7.818 -28.090  1.00 48.44           C
ATOM   3273  CB  VAL A 443     -43.500  -6.443 -28.587  1.00 46.57           C
ATOM   3274  CG1 VAL A 443     -44.686  -5.529 -28.760  1.00 47.07           C
ATOM   3275  CG2 VAL A 443     -42.523  -5.819 -27.626  1.00 45.33           C
ATOM   3276  C   VAL A 443     -44.773  -8.560 -29.178  1.00 52.94           C
ATOM   3277  O   VAL A 443     -44.205  -9.164 -30.131  1.00 53.72           O
ATOM   3278  N   GLU A 444     -46.103  -8.537 -29.019  1.00 54.13           N
ATOM   3279  CA  GLU A 444     -47.047  -9.141 -29.979  1.00 53.78           C
ATOM   3280  CB  GLU A 444     -47.419 -10.580 -29.556  1.00 55.76           C
ATOM   3281  CG  GLU A 444     -48.064 -11.435 -30.663  1.00 57.86           C
ATOM   3282  CD  GLU A 444     -48.277 -12.924 -30.300  1.00 57.93           C
ATOM   3283  OE1 GLU A 444     -49.254 -13.544 -30.807  1.00 56.73           O
ATOM   3284  OE2 GLU A 444     -47.474 -13.496 -29.520  1.00 57.27           O
ATOM   3285  C   GLU A 444     -48.306  -8.281 -30.057  1.00 53.56           C
ATOM   3286  O   GLU A 444     -48.933  -8.004 -29.028  1.00 53.68           O
ATOM   3287  N   GLU A 445     -48.672  -7.846 -31.262  1.00 54.13           N
ATOM   3288  CA  GLU A 445     -49.916  -7.084 -31.445  1.00 54.03           C
ATOM   3289  CB  GLU A 445     -50.031  -6.434 -32.830  1.00 53.51           C
ATOM   3290  CG  GLU A 445     -51.306  -5.617 -33.007  1.00 54.79           C
ATOM   3291  CD  GLU A 445     -51.366  -4.828 -34.310  1.00 58.00           C
ATOM   3292  OE1 GLU A 445     -52.492  -4.643 -34.885  1.00 60.21           O
ATOM   3293  OE2 GLU A 445     -50.287  -4.369 -34.768  1.00 58.28           O
ATOM   3294  C   GLU A 445     -51.040  -8.048 -31.212  1.00 51.72           C
ATOM   3295  O   GLU A 445     -50.930  -9.171 -31.571  1.00 51.03           O
ATOM   3296  N   THR A 446     -52.097  -7.586 -30.576  1.00 55.50           N
ATOM   3297  CA  THR A 446     -53.188  -8.435 -30.115  1.00 59.27           C
ATOM   3298  CB  THR A 446     -52.783  -9.172 -28.799  1.00 57.95           C
ATOM   3299  OG1 THR A 446     -53.440 -10.433 -28.752  1.00 63.57           O
ATOM   3300  CG2 THR A 446     -53.138  -8.402 -27.551  1.00 56.45           C
ATOM   3301  C   THR A 446     -54.542  -7.657 -30.022  1.00 63.00           C
ATOM   3302  O   THR A 446     -54.607  -6.463 -30.335  1.00 66.09           O
ATOM   3303  N   GLU A 447     -55.617  -8.356 -29.654  1.00 68.01           N
ATOM   3304  CA  GLU A 447     -56.955  -7.755 -29.493  1.00 69.93           C
ATOM   3305  CB  GLU A 447     -58.045  -8.766 -29.926  1.00 69.48           C
ATOM   3306  C   GLU A 447     -57.056  -7.421 -28.004  1.00 72.84           C
ATOM   3307  O   GLU A 447     -56.452  -8.129 -27.189  1.00 69.69           O
ATOM   3308  N   LEU A 448     -57.743  -6.338 -27.627  1.00 75.59           N
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ATOM   3309  CA  LEU A 448     -58.141  -6.178 -26.213  1.00 73.27           C
ATOM   3310  CB  LEU A 448     -57.555  -4.917 -25.571  1.00 70.29           C
ATOM   3311  CG  LEU A 448     -57.852  -4.706 -24.065  1.00 72.12           C
ATOM   3312  CD1 LEU A 448     -57.611  -5.941 -23.211  1.00 73.39           C
ATOM   3313  CD2 LEU A 448     -57.035  -3.579 -23.476  1.00 71.07           C
ATOM   3314  C   LEU A 448     -59.662  -6.168 -26.194  1.00 80.11           C
ATOM   3315  O   LEU A 448     -60.258  -5.209 -26.695  1.00 79.17           O
ATOM   3316  N   MET A 449     -60.293  -7.235 -25.660  1.00 84.58           N
ATOM   3317  CA  MET A 449     -61.754  -7.374 -25.759  1.00 86.05           C
ATOM   3318  CB  MET A 449     -62.286  -8.714 -25.237  1.00 91.93           C
ATOM   3319  CG  MET A 449     -63.802  -8.970 -25.466  1.00 97.86           C
ATOM   3320  SD  MET A 449     -64.487  -9.063 -27.165  1.00103.28           S
ATOM   3321  CE  MET A 449     -65.484  -7.563 -27.375  1.00102.24           C
ATOM   3322  C   MET A 449     -62.403  -6.228 -25.014  1.00 83.75           C
ATOM   3323  O   MET A 449     -62.104  -5.987 -23.840  1.00 81.25           O
ATOM   3324  N   GLY A 450     -63.251  -5.499 -25.745  1.00 79.77           N
ATOM   3325  CA  GLY A 450     -63.996  -4.397 -25.192  1.00 74.77           C
ATOM   3326  C   GLY A 450     -63.489  -3.105 -25.748  1.00 69.70           C
ATOM   3327  O   GLY A 450     -64.250  -2.140 -25.825  1.00 67.69           O
ATOM   3328  N   PHE A 451     -62.206  -3.078 -26.109  1.00 64.22           N
ATOM   3329  CA  PHE A 451     -61.631  -1.937 -26.793  1.00 62.05           C
ATOM   3330  CB  PHE A 451     -60.107  -1.814 -26.583  1.00 62.57           C
ATOM   3331  CG  PHE A 451     -59.671  -1.178 -25.296  1.00 62.39           C
ATOM   3332  CD1 PHE A 451     -60.327  -1.398 -24.104  1.00 67.11           C
ATOM   3333  CE1 PHE A 451     -59.875  -0.820 -22.913  1.00 68.34           C
ATOM   3334  CZ  PHE A 451     -58.725  -0.056 -22.899  1.00 67.44           C
ATOM   3335  CE2 PHE A 451     -58.034   0.143 -24.086  1.00 66.05           C
ATOM   3336  CD2 PHE A 451     -58.510  -0.431 -25.267  1.00 64.36           C
ATOM   3337  C   PHE A 451     -61.886  -2.109 -28.289  1.00 60.02           C
ATOM   3338  O   PHE A 451     -61.596  -3.118 -28.902  1.00 64.88           O
ATOM   3339  N   VAL A 452     -62.435  -1.088 -28.872  1.00 61.02           N
ATOM   3340  CA  VAL A 452     -62.602  -0.997 -30.278  1.00 62.03           C
ATOM   3341  CB  VAL A 452     -63.640   0.111 -30.491  1.00 64.11           C
ATOM   3342  CG1 VAL A 452     -62.931   1.454 -30.574  1.00 66.83           C
ATOM   3343  CG2 VAL A 452     -64.578  -0.154 -31.660  1.00 66.75           C
ATOM   3344  C   VAL A 452     -61.243  -0.680 -30.952  1.00 63.88           C
ATOM   3345  O   VAL A 452     -60.370  -0.073 -30.355  1.00 68.17           O
ATOM   3346  N   ASP A 453     -61.120  -1.068 -32.216  1.00 68.36           N
ATOM   3347  CA  ASP A 453     -59.873  -1.050 -33.039  1.00 68.59           C
ATOM   3348  CB  ASP A 453     -59.530  -2.496 -33.429  1.00 72.33           C
ATOM   3349  CG  ASP A 453     -60.680  -3.172 -34.219  1.00 81.47           C
ATOM   3350  OD1 ASP A 453     -61.725  -3.629 -33.644  1.00 91.62           O
ATOM   3351  OD2 ASP A 453     -60.561  -3.198 -35.444  1.00 83.04           O
ATOM   3352  C   ASP A 453     -59.972  -0.223 -34.346  1.00 65.04           C
ATOM   3353  O   ASP A 453     -58.958   0.155 -34.926  1.00 58.22           O
ATOM   3354  N   ASP A 454     -61.195   0.044 -34.801  1.00 68.88           N
ATOM   3355  CA  ASP A 454     -61.467   0.840 -36.010  1.00 71.17           C
ATOM   3356  CB  ASP A 454     -62.700   0.273 -36.751  1.00 74.89           C
ATOM   3357  CG  ASP A 454     -63.963   0.157 -35.870  1.00 75.95           C
ATOM   3358  OD1 ASP A 454     -63.860   0.192 -34.627  1.00 73.27           O
ATOM   3359  OD2 ASP A 454     -65.072   0.027 -36.450  1.00 77.95           O
ATOM   3360  C   ASP A 454     -61.612   2.366 -35.754  1.00 73.44           C
ATOM   3361  O   ASP A 454     -61.905   3.151 -36.683  1.00 67.75           O
ATOM   3362  N   GLN A 455     -61.359   2.778 -34.504  1.00 76.50           N
ATOM   3363  CA  GLN A 455     -61.435   4.166 -34.089  1.00 75.17           C
ATOM   3364  CB  GLN A 455     -62.582   4.291 -33.093  1.00 75.59           C
ATOM   3365  CG  GLN A 455     -63.958   4.003 -33.699  1.00 78.47           C
ATOM   3366  CD  GLN A 455     -64.450   5.113 -34.632  1.00 82.23           C
ATOM   3367  OE1 GLN A 455     -63.789   6.143 -34.806  1.00 89.16           O
ATOM   3368  NE2 GLN A 455     -65.625   4.914 -35.222  1.00 80.72           N
ATOM   3369  C   GLN A 455     -60.115   4.669 -33.479  1.00 73.82           C
ATOM   3370  O   GLN A 455     -59.434   3.928 -32.770  1.00 70.89           O
ATOM   3371  N   GLN A 456     -59.769   5.930 -33.778  1.00 74.82           N
ATOM   3372  CA  GLN A 456     -58.569   6.608 -33.219  1.00 68.71           C
ATOM   3373  CB  GLN A 456     -58.232   7.900 -33.985  1.00 64.68           C
ATOM   3374  CG  GLN A 456     -57.464   8.921 -33.155  1.00 67.04           C
ATOM   3375  CD  GLN A 456     -56.459   9.770 -33.924  1.00 73.95           C
ATOM   3376  OE1 GLN A 456     -55.446  10.202 -33.349  1.00 77.29           O
ATOM   3377  NE2 GLN A 456     -56.723  10.032 -35.208  1.00 74.87           N
ATOM   3378  C   GLN A 456     -58.708   6.911 -31.719  1.00 64.86           C
ATOM   3379  O   GLN A 456     -59.487   7.774 -31.323  1.00 66.79           O
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ATOM   3380  N   THR A 457     -57.914   6.229 -30.903  1.00 58.17           N
ATOM   3381  CA  THR A 457     -57.893   6.483 -29.475  1.00 53.77           C
ATOM   3382  CB  THR A 457     -57.322   5.247 -28.739  1.00 46.86           C
ATOM   3383  OG1 THR A 457     -58.203   4.161 -28.998  1.00 43.00           O
ATOM   3384  CG2 THR A 457     -57.207   5.437 -27.221  1.00 42.63           C
ATOM   3385  C   THR A 457     -57.207   7.849 -29.120  1.00 56.21           C
ATOM   3386  O   THR A 457     -56.197   8.273 -29.768  1.00 48.43           O
ATOM   3387  N   PHE A 458     -57.840   8.536 -28.143  1.00 58.50           N
ATOM   3388  CA  PHE A 458     -57.344   9.792 -27.507  1.00 63.71           C
ATOM   3389  CB  PHE A 458     -58.404  10.942 -27.546  1.00 66.60           C
ATOM   3390  CG  PHE A 458     -58.690  11.481 -28.941  1.00 68.81           C
ATOM   3391  CD1 PHE A 458     -57.672  11.858 -29.785  1.00 72.65           C
ATOM   3392  CE1 PHE A 458     -57.931  12.326 -31.066  1.00 76.96           C
ATOM   3393  CZ  PHE A 458     -59.223  12.429 -31.513  1.00 79.83           C
ATOM   3394  CE2 PHE A 458     -60.253  12.066 -30.676  1.00 79.37           C
ATOM   3395  CD2 PHE A 458     -59.983  11.602 -29.399  1.00 75.30           C
ATOM   3396  C   PHE A 458     -56.860   9.603 -26.057  1.00 59.35           C
ATOM   3397  O   PHE A 458     -56.082  10.412 -25.527  1.00 58.20           O
ATOM   3398  N   PHE A 459     -57.336   8.565 -25.405  1.00 54.06           N
ATOM   3399  CA  PHE A 459     -56.763   8.172 -24.144  1.00 52.76           C
ATOM   3400  CB  PHE A 459     -57.161   9.158 -23.022  1.00 52.39           C
ATOM   3401  CG  PHE A 459     -56.781   8.678 -21.651  1.00 51.51           C
ATOM   3402  CD1 PHE A 459     -57.508   7.665 -21.020  1.00 51.81           C
ATOM   3403  CE1 PHE A 459     -57.107   7.167 -19.783  1.00 52.94           C
ATOM   3404  CZ  PHE A 459     -55.996   7.695 -19.154  1.00 50.03           C
ATOM   3405  CE2 PHE A 459     -55.270   8.683 -19.777  1.00 49.18           C
ATOM   3406  CD2 PHE A 459     -55.656   9.169 -21.017  1.00 50.02           C
ATOM   3407  C   PHE A 459     -57.226   6.752 -23.798  1.00 54.37           C
ATOM   3408  O   PHE A 459     -58.348   6.378 -24.056  1.00 58.85           O
ATOM   3409  N   CYS A 460     -56.356   5.953 -23.206  1.00 57.49           N
ATOM   3410  CA  CYS A 460     -56.800   4.795 -22.474  1.00 58.31           C
ATOM   3411  CB  CYS A 460     -56.859   3.590 -23.393  1.00 63.79           C
ATOM   3412  SG  CYS A 460     -55.264   3.174 -24.079  1.00 76.64           S
ATOM   3413  C   CYS A 460     -55.918   4.537 -21.265  1.00 56.34           C
ATOM   3414  O   CYS A 460     -54.885   5.196 -21.047  1.00 54.92           O
ATOM   3415  N   GLY A 461     -56.373   3.623 -20.438  1.00 55.51           N
ATOM   3416  CA  GLY A 461     -55.601   3.223 -19.303  1.00 62.01           C
ATOM   3417  C   GLY A 461     -56.449   2.649 -18.212  1.00 65.42           C
ATOM   3418  O   GLY A 461     -57.647   2.446 -18.391  1.00 61.81           O
ATOM   3419  N   ASN A 462     -55.804   2.429 -17.068  1.00 69.15           N
ATOM   3420  CA  ASN A 462     -56.491   1.959 -15.896  1.00 72.43           C
ATOM   3421  CB  ASN A 462     -55.530   1.398 -14.881  1.00 76.01           C
ATOM   3422  CG  ASN A 462     -54.733   0.268 -15.413  1.00 75.52           C
ATOM   3423  OD1 ASN A 462     -55.231  -0.845 -15.588  1.00 70.68           O
ATOM   3424  ND2 ASN A 462     -53.469   0.539 -15.657  1.00 81.51           N
ATOM   3425  C   ASN A 462     -57.241   3.078 -15.210  1.00 73.47           C
ATOM   3426  O   ASN A 462     -56.816   4.251 -15.211  1.00 68.37           O
ATOM   3427  N   VAL A 463     -58.331   2.675 -14.567  1.00 76.54           N
ATOM   3428  CA  VAL A 463     -59.189   3.601 -13.860  1.00 77.45           C
ATOM   3429  CB  VAL A 463     -60.251   4.200 -14.827  1.00 73.62           C
ATOM   3430  CG1 VAL A 463     -59.672   5.375 -15.641  1.00 70.05           C
ATOM   3431  CG2 VAL A 463     -60.802   3.125 -15.762  1.00 71.98           C
ATOM   3432  C   VAL A 463     -59.761   2.877 -12.639  1.00 78.42           C
ATOM   3433  O   VAL A 463     -59.678   1.645 -12.540  1.00 80.84           O
ATOM   3434  N   ALA A 464     -60.301   3.652 -11.704  1.00 82.57           N
ATOM   3435  CA  ALA A 464     -60.740   3.132 -10.397  1.00 88.14           C
ATOM   3436  CB  ALA A 464     -61.257   4.271  -9.522  1.00 86.99           C
ATOM   3437  C   ALA A 464     -61.783   2.006 -10.482  1.00 89.93           C
ATOM   3438  O   ALA A 464     -62.364   1.752 -11.542  1.00 85.64           O
ATOM   3439  N   HIS A 465     -62.005   1.340  -9.348  1.00 92.45           N
ATOM   3440  CA  HIS A 465     -62.883   0.175  -9.279  1.00 90.92           C
ATOM   3441  CB  HIS A 465     -64.396   0.566  -9.366  1.00 90.71           C
ATOM   3442  CG  HIS A 465     -64.766   1.915  -8.789  1.00 93.76           C
ATOM   3443  ND1 HIS A 465     -64.689   2.211  -7.442  1.00 94.95           N
ATOM   3444  CE1 HIS A 465     -65.108   3.449  -7.236  1.00 91.23           C
ATOM   3445  NE2 HIS A 465     -65.484   3.962  -8.396  1.00 87.66           N
ATOM   3446  CD2 HIS A 465     -65.297   3.020  -9.380  1.00 89.83           C
ATOM   3447  C   HIS A 465     -62.521  -0.820 -10.418  1.00 89.87           C
ATOM   3448  O   HIS A 465     -63.310  -0.988 -11.334  1.00 92.92           O
ATOM   3449  N   GLN A 466     -61.324  -1.413 -10.397  1.00 86.34           N
ATOM   3450  CA  GLN A 466     -60.926  -2.525 -11.327  1.00 86.05           C
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ATOM   3451  CB  GLN A 466     -61.311  -3.887 -10.734  1.00 90.40           C
ATOM   3452  CG  GLN A 466     -60.977  -4.104  -9.257  1.00 95.89           C
ATOM   3453  CD  GLN A 466     -59.659  -4.832  -9.043  1.00 96.46           C
ATOM   3454  OE1 GLN A 466     -59.631  -6.008  -8.650  1.00 88.58           O
ATOM   3455  NE2 GLN A 466     -58.559  -4.134  -9.294  1.00 96.20           N
ATOM   3456  C   GLN A 466     -61.426  -2.452 -12.806  1.00 82.21           C
ATOM   3457  O   GLN A 466     -62.078  -3.379 -13.324  1.00 76.09           O
ATOM   3458  N   GLN A 467     -61.084  -1.348 -13.477  1.00 81.73           N
ATOM   3459  CA  GLN A 467     -61.514  -1.066 -14.855  1.00 76.82           C
ATOM   3460  CB  GLN A 467     -62.729  -0.136 -14.854  1.00 83.56           C
ATOM   3461  CG  GLN A 467     -64.038  -0.839 -14.525  1.00 92.13           C
ATOM   3462  CD  GLN A 467     -65.185   0.109 -14.225  1.00 90.24           C
ATOM   3463  OE1 GLN A 467     -65.020   1.118 -13.537  1.00 87.11           O
ATOM   3464  NE2 GLN A 467     -66.367  -0.234 -14.726  1.00 92.54           N
ATOM   3465  C   GLN A 467     -60.455  -0.425 -15.740  1.00 69.88           C
ATOM   3466  O   GLN A 467     -59.466   0.163 -15.266  1.00 63.14           O
ATOM   3467  N   LEU A 468     -60.725  -0.568 -17.039  1.00 68.22           N
ATOM   3468  CA  LEU A 468     -59.992   0.025 -18.148  1.00 69.11           C
ATOM   3469  CB  LEU A 468     -59.616  -1.033 -19.201  1.00 69.21           C
ATOM   3470  CG  LEU A 468     -58.683  -2.143 -18.730  1.00 71.99           C
ATOM   3471  CD1 LEU A 468     -58.443  -3.222 -19.775  1.00 70.08           C
ATOM   3472  CD2 LEU A 468     -57.373  -1.505 -18.281  1.00 76.30           C
ATOM   3473  C   LEU A 468     -60.943   0.951 -18.820  1.00 67.99           C
ATOM   3474  O   LEU A 468     -62.108   0.609 -18.958  1.00 71.06           O
ATOM   3475  N   ILE A 469     -60.451   2.092 -19.271  1.00 66.25           N
ATOM   3476  CA  ILE A 469     -61.254   3.015 -20.060  1.00 70.78           C
ATOM   3477  CB  ILE A 469     -61.523   4.337 -19.276  1.00 73.05           C
ATOM   3478  CG1 ILE A 469     -62.712   5.087 -19.885  1.00 72.05           C
ATOM   3479  CD1 ILE A 469     -62.901   6.500 -19.389  1.00 72.86           C
ATOM   3480  CG2 ILE A 469     -60.271   5.225 -19.192  1.00 75.98           C
ATOM   3481  C   ILE A 469     -60.528   3.262 -21.384  1.00 68.40           C
ATOM   3482  O   ILE A 469     -59.337   3.349 -21.391  1.00 74.21           O
ATOM   3483  N   GLN A 470     -61.242   3.337 -22.496  1.00 68.72           N
ATOM   3484  CA  GLN A 470     -60.683   3.799 -23.772  1.00 67.86           C
ATOM   3485  CB  GLN A 470     -60.754   2.679 -24.805  1.00 69.50           C
ATOM   3486  CG  GLN A 470     -60.024   2.997 -26.112  1.00 70.87           C
ATOM   3487  CD  GLN A 470     -60.373   2.091 -27.291  1.00 71.09           C
ATOM   3488  OE1 GLN A 470     -59.909   2.319 -28.410  1.00 72.19           O
ATOM   3489  NE2 GLN A 470     -61.159   1.069 -27.060  1.00 68.45           N
ATOM   3490  C   GLN A 470     -61.530   4.949 -24.263  1.00 64.13           C
ATOM   3491  O   GLN A 470     -62.726   4.877 -24.213  1.00 72.46           O
ATOM   3492  N   ILE A 471     -60.938   5.994 -24.779  1.00 60.99           N
ATOM   3493  CA  ILE A 471     -61.723   7.127 -25.256  1.00 64.27           C
ATOM   3494  CB  ILE A 471     -61.432   8.378 -24.416  1.00 62.44           C
ATOM   3495  CG1 ILE A 471     -61.904   8.170 -22.987  1.00 62.39           C
ATOM   3496  CD1 ILE A 471     -61.346   9.200 -22.038  1.00 63.28           C
ATOM   3497  CG2 ILE A 471     -62.119   9.589 -25.007  1.00 63.59           C
ATOM   3498  C   ILE A 471     -61.433   7.393 -26.738  1.00 65.79           C
ATOM   3499  O   ILE A 471     -60.329   7.821 -27.089  1.00 67.88           O
ATOM   3500  N   THR A 472     -62.434   7.159 -27.584  1.00 66.46           N
ATOM   3501  CA  THR A 472     -62.283   7.256 -29.014  1.00 71.15           C
ATOM   3502  CB  THR A 472     -63.095   6.179 -29.738  1.00 79.58           C
ATOM   3503  OG1 THR A 472     -64.489   6.312 -29.410  1.00 90.03           O
ATOM   3504  CG2 THR A 472     -62.590   4.808 -29.336  1.00 81.15           C
ATOM   3505  C   THR A 472     -62.803   8.583 -29.426  1.00 69.90           C
ATOM   3506  O   THR A 472     -63.333   9.289 -28.597  1.00 67.70           O
ATOM   3507  N   SER A 473     -62.619   8.917 -30.713  1.00 74.95           N
ATOM   3508  CA  SER A 473     -63.275  10.076 -31.375  1.00 69.82           C
ATOM   3509  CB  SER A 473     -62.693  10.356 -32.778  1.00 66.25           C
ATOM   3510  OG  SER A 473     -62.446   9.146 -33.485  1.00 67.45           O
ATOM   3511  C   SER A 473     -64.770   9.800 -31.460  1.00 66.56           C
ATOM   3512  O   SER A 473     -65.573  10.711 -31.450  1.00 62.76           O
ATOM   3513  N   ALA A 474     -65.137   8.526 -31.509  1.00 65.03           N
ATOM   3514  CA  ALA A 474     -66.536   8.158 -31.490  1.00 62.64           C
ATOM   3515  CB  ALA A 474     -66.707   6.833 -32.208  1.00 65.15           C
ATOM   3516  C   ALA A 474     -67.196   8.096 -30.108  1.00 54.73           C
ATOM   3517  O   ALA A 474     -68.386   8.268 -30.029  1.00 58.36           O
ATOM   3518  N   SER A 475     -66.488   7.826 -29.035  0.50 47.34           N
ATOM   3519  CA  SER A 475     -67.201   7.465 -27.857  0.50 44.42           C
ATOM   3520  CB  SER A 475     -67.898   6.126 -28.060  0.50 41.91           C
ATOM   3521  OG  SER A 475     -66.942   5.089 -28.064  0.50 41.30           O
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ATOM   3522  C   SER A 475     -66.243   7.327 -26.747  0.50 46.77           C
ATOM   3523  O   SER A 475     -65.050   7.466 -26.927  0.50 44.61           O
ATOM   3524  N   VAL A 476     -66.806   7.059 -25.582  1.00 52.05           N
ATOM   3525  CA  VAL A 476     -66.060   6.734 -24.363  1.00 57.75           C
ATOM   3526  CB  VAL A 476     -66.329   7.779 -23.232  1.00 57.85           C
ATOM   3527  CG1 VAL A 476     -65.588   7.422 -21.949  1.00 58.87           C
ATOM   3528  CG2 VAL A 476     -65.943   9.180 -23.670  1.00 58.26           C
ATOM   3529  C   VAL A 476     -66.415   5.298 -23.864  1.00 59.13           C
ATOM   3530  O   VAL A 476     -67.336   5.097 -23.104  1.00 56.11           O
ATOM   3531  N   ARG A 477     -65.634   4.311 -24.267  1.00 63.70           N
ATOM   3532  CA  ARG A 477     -65.831   2.933 -23.818  1.00 64.48           C
ATOM   3533  CB  ARG A 477     -65.277   1.991 -24.878  1.00 66.03           C
ATOM   3534  CG  ARG A 477     -65.984   2.217 -26.228  1.00 70.03           C
ATOM   3535  CD  ARG A 477     -65.343   1.471 -27.375  1.00 71.35           C
ATOM   3536  NE  ARG A 477     -65.518   0.047 -27.177  1.00 75.69           N
ATOM   3537  CZ  ARG A 477     -66.561  -0.666 -27.583  1.00 80.43           C
ATOM   3538  NH1 ARG A 477     -67.572  -0.115 -28.251  1.00 84.67           N
ATOM   3539  NH2 ARG A 477     -66.589  -1.963 -27.310  1.00 84.80           N
ATOM   3540  C   ARG A 477     -65.248   2.709 -22.410  1.00 63.87           C
ATOM   3541  O   ARG A 477     -64.381   3.439 -21.983  1.00 59.82           O
ATOM   3542  N   LEU A 478     -65.793   1.752 -21.666  1.00 63.07           N
ATOM   3543  CA  LEU A 478     -65.366   1.526 -20.291  1.00 63.21           C
ATOM   3544  CB  LEU A 478     -66.185   2.382 -19.320  1.00 62.60           C
ATOM   3545  CG  LEU A 478     -66.028   2.112 -17.801  1.00 61.30           C
ATOM   3546  CD1 LEU A 478     -64.642   2.385 -17.241  1.00 60.32           C
ATOM   3547  CD2 LEU A 478     -67.016   2.981 -17.074  1.00 62.73           C
ATOM   3548  C   LEU A 478     -65.519   0.064 -19.972  1.00 63.57           C
ATOM   3549  O   LEU A 478     -66.596  -0.472 -20.095  1.00 63.70           O
ATOM   3550  N   VAL A 479     -64.439  -0.561 -19.520  1.00 68.27           N
ATOM   3551  CA  VAL A 479     -64.252  -2.011 -19.675  1.00 72.02           C
ATOM   3552  CB  VAL A 479     -63.235  -2.307 -20.839  1.00 69.26           C
ATOM   3553  CG1 VAL A 479     -62.916  -3.793 -20.955  1.00 69.10           C
ATOM   3554  CG2 VAL A 479     -63.761  -1.784 -22.188  1.00 67.20           C
ATOM   3555  C   VAL A 479     -63.820  -2.643 -18.349  1.00 73.33           C
ATOM   3556  O   VAL A 479     -63.089  -2.044 -17.566  1.00 76.56           O
ATOM   3557  N   SER A 480     -64.298  -3.847 -18.098  1.00 74.88           N
ATOM   3558  CA  SER A 480     -64.008  -4.538 -16.857  1.00 79.98           C
ATOM   3559  CB  SER A 480     -65.060  -5.623 -16.629  1.00 79.45           C
ATOM   3560  OG  SER A 480     -65.340  -6.299 -17.842  1.00 76.52           O
ATOM   3561  C   SER A 480     -62.657  -5.183 -16.981  1.00 85.87           C
ATOM   3562  O   SER A 480     -62.285  -5.577 -18.077  1.00 87.77           O
ATOM   3563  N   GLN A 481     -61.941  -5.311 -15.861  1.00 95.89           N
ATOM   3564  CA  GLN A 481     -60.740  -6.175 -15.779  1.00 97.16           C
ATOM   3565  CB  GLN A 481     -59.952  -5.880 -14.525  1.00100.28           C
ATOM   3566  CG  GLN A 481     -59.350  -4.496 -14.528  1.00105.20           C
ATOM   3567  CD  GLN A 481     -57.976  -4.461 -15.166  1.00103.65           C
ATOM   3568  OE1 GLN A 481     -57.755  -4.989 -16.267  1.00 93.06           O
ATOM   3569  NE2 GLN A 481     -57.032  -3.836 -14.462  1.00104.34           N
ATOM   3570  C   GLN A 481     -61.067  -7.655 -15.760  1.00 99.60           C
ATOM   3571  O   GLN A 481     -60.551  -8.401 -16.576  1.00 93.92           O
ATOM   3572  N   GLU A 482     -61.912  -8.061 -14.809  1.00109.91           N
ATOM   3573  CA  GLU A 482     -62.300  -9.464 -14.610  1.00111.86           C
ATOM   3574  CB  GLU A 482     -62.702  -9.661 -13.135  1.00119.75           C
ATOM   3575  CG  GLU A 482     -62.700 -11.097 -12.618  1.00127.42           C
ATOM   3576  CD  GLU A 482     -61.399 -11.840 -12.914  1.00128.99           C
ATOM   3577  OE1 GLU A 482     -60.367 -11.170 -13.147  1.00117.71           O
ATOM   3578  OE2 GLU A 482     -61.408 -13.094 -12.914  1.00128.98           O
ATOM   3579  C   GLU A 482     -63.435  -9.844 -15.582  1.00109.44           C
ATOM   3580  O   GLU A 482     -64.564  -9.390 -15.411  1.00100.16           O
ATOM   3581  N   PRO A 483     -63.161 -10.777 -16.533  1.00112.39           N
ATOM   3582  CA  PRO A 483     -63.480 -10.750 -17.963  1.00103.19           C
ATOM   3583  CB  PRO A 483     -64.782 -11.536 -18.021  1.00107.09           C
ATOM   3584  CG  PRO A 483     -64.494 -12.653 -17.030  1.00115.95           C
ATOM   3585  CD  PRO A 483     -63.364 -12.172 -16.095  1.00118.58           C
ATOM   3586  C   PRO A 483     -63.562  -9.387 -18.603  1.00 94.45           C
ATOM   3587  O   PRO A 483     -63.824  -8.380 -17.941  1.00 87.76           O
ATOM   3588  N   LYS A 484     -63.264  -9.347 -19.890  1.00 90.10           N
ATOM   3589  CA  LYS A 484     -63.239  -8.076 -20.588  1.00 86.65           C
ATOM   3590  CB  LYS A 484     -61.936  -7.891 -21.372  1.00 83.73           C
ATOM   3591  CG  LYS A 484     -60.762  -7.486 -20.485  1.00 81.56           C
ATOM   3592  CD  LYS A 484     -59.490  -8.246 -20.830  1.00 84.99           C
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ATOM   3593  CE  LYS A 484     -58.566  -8.422 -19.637  1.00 81.79           C
ATOM   3594  NZ  LYS A 484     -58.223  -7.100 -19.044  1.00 81.23           N
ATOM   3595  C   LYS A 484     -64.462  -7.992 -21.472  1.00 85.46           C
ATOM   3596  O   LYS A 484     -64.618  -8.770 -22.427  1.00 91.72           O
ATOM   3597  N   ALA A 485     -65.367  -7.097 -21.084  1.00 79.50           N
ATOM   3598  CA  ALA A 485     -66.332  -6.534 -22.015  1.00 79.39           C
ATOM   3599  CB  ALA A 485     -67.581  -7.399 -22.112  1.00 80.62           C
ATOM   3600  C   ALA A 485     -66.686  -5.088 -21.646  1.00 77.19           C
ATOM   3601  O   ALA A 485     -66.403  -4.601 -20.526  1.00 72.32           O
ATOM   3602  N   LEU A 486     -67.278  -4.407 -22.629  1.00 74.61           N
ATOM   3603  CA  LEU A 486     -67.900  -3.100 -22.425  1.00 74.26           C
ATOM   3604  CB  LEU A 486     -68.736  -2.708 -23.675  1.00 72.97           C
ATOM   3605  CG  LEU A 486     -68.891  -1.216 -24.026  1.00 74.79           C
ATOM   3606  CD1 LEU A 486     -67.496  -0.652 -24.284  1.00 82.22           C
ATOM   3607  CD2 LEU A 486     -69.786  -0.889 -25.225  1.00 71.33           C
ATOM   3608  C   LEU A 486     -68.806  -3.217 -21.198  1.00 78.02           C
ATOM   3609  O   LEU A 486     -69.595  -4.166 -21.128  1.00 87.07           O
ATOM   3610  N   VAL A 487     -68.664  -2.336 -20.205  1.00 75.30           N
ATOM   3611  CA  VAL A 487     -69.667  -2.261 -19.123  1.00 72.80           C
ATOM   3612  CB  VAL A 487     -69.115  -2.649 -17.698  1.00 74.60           C
ATOM   3613  CG1 VAL A 487     -68.662  -4.114 -17.634  1.00 73.18           C
ATOM   3614  CG2 VAL A 487     -67.982  -1.746 -17.242  1.00 77.36           C
ATOM   3615  C   VAL A 487     -70.410  -0.913 -19.145  1.00 69.50           C
ATOM   3616  O   VAL A 487     -71.245  -0.659 -18.273  1.00 71.87           O
ATOM   3617  N   SER A 488     -70.168  -0.103 -20.175  1.00 66.45           N
ATOM   3618  CA  SER A 488     -70.663   1.276 -20.241  1.00 73.61           C
ATOM   3619  CB  SER A 488     -70.095   2.122 -19.107  1.00 75.10           C
ATOM   3620  OG  SER A 488     -70.889   2.053 -17.951  1.00 85.22           O
ATOM   3621  C   SER A 488     -70.172   1.943 -21.492  1.00 76.45           C
ATOM   3622  O   SER A 488     -69.072   1.647 -21.917  1.00 87.45           O
ATOM   3623  N   GLU A 489     -70.937   2.884 -22.035  1.00 72.34           N
ATOM   3624  CA  GLU A 489     -70.469   3.720 -23.139  1.00 70.12           C
ATOM   3625  CB  GLU A 489     -70.575   2.986 -24.496  1.00 72.77           C
ATOM   3626  CG  GLU A 489     -70.153   3.822 -25.720  1.00 76.03           C
ATOM   3627  CD  GLU A 489     -69.747   3.004 -26.948  1.00 75.70           C
ATOM   3628  OE1 GLU A 489     -68.774   3.393 -27.643  1.00 72.20           O
ATOM   3629  OE2 GLU A 489     -70.393   1.973 -27.222  1.00 80.05           O
ATOM   3630  C   GLU A 489     -71.227   5.042 -23.128  1.00 68.87           C
ATOM   3631  O   GLU A 489     -72.354   5.118 -22.683  1.00 74.47           O
ATOM   3632  N   TRP A 490     -70.583   6.090 -23.593  1.00 68.64           N
ATOM   3633  CA  TRP A 490     -71.100   7.427 -23.509  1.00 68.15           C
ATOM   3634  CB  TRP A 490     -70.232   8.208 -22.529  1.00 65.75           C
ATOM   3635  CG  TRP A 490     -70.722   9.500 -22.305  1.00 68.72           C
ATOM   3636  CD1 TRP A 490     -71.548   9.866 -21.320  1.00 73.62           C
ATOM   3637  NE1 TRP A 490     -71.853  11.208 -21.439  1.00 80.51           N
ATOM   3638  CE2 TRP A 490     -71.205  11.726 -22.533  1.00 78.90           C
ATOM   3639  CD2 TRP A 490     -70.484  10.675 -23.113  1.00 75.99           C
ATOM   3640  CE3 TRP A 490     -69.716  10.942 -24.270  1.00 79.27           C
ATOM   3641  CZ3 TRP A 490     -69.704  12.246 -24.803  1.00 76.05           C
ATOM   3642  CH2 TRP A 490     -70.435  13.261 -24.198  1.00 79.73           C
ATOM   3643  CZ2 TRP A 490     -71.189  13.032 -23.064  1.00 80.00           C
ATOM   3644  C   TRP A 490     -70.983   7.986 -24.906  1.00 72.80           C
ATOM   3645  O   TRP A 490     -69.889   8.027 -25.444  1.00 77.47           O
ATOM   3646  N   LYS A 491     -72.081   8.403 -25.515  1.00 80.84           N
ATOM   3647  CA  LYS A 491     -72.013   8.971 -26.853  1.00 89.00           C
ATOM   3648  CB  LYS A 491     -73.000   8.250 -27.778  1.00102.16           C
ATOM   3649  CG  LYS A 491     -72.755   8.531 -29.260  1.00111.87           C
ATOM   3650  CD  LYS A 491     -73.396   7.506 -30.185  1.00113.83           C
ATOM   3651  CE  LYS A 491     -73.335   7.983 -31.630  1.00112.89           C
ATOM   3652  NZ  LYS A 491     -73.190   6.838 -32.570  1.00113.93           N
ATOM   3653  C   LYS A 491     -72.303  10.460 -26.800  1.00 89.29           C
ATOM   3654  O   LYS A 491     -72.926  10.952 -25.853  1.00 85.94           O
ATOM   3655  N   GLU A 492     -71.849  11.182 -27.819  1.00 91.24           N
ATOM   3656  CA  GLU A 492     -72.255  12.576 -27.982  1.00 94.12           C
ATOM   3657  CB  GLU A 492     -71.339  13.281 -28.972  1.00 97.74           C
ATOM   3658  CG  GLU A 492     -71.279  14.804 -28.789  1.00102.93           C
ATOM   3659  CD  GLU A 492     -72.443  15.597 -29.404  1.00 99.62           C
ATOM   3660  OE1 GLU A 492     -73.227  15.048 -30.226  1.00 88.25           O
ATOM   3661  OE2 GLU A 492     -72.542  16.808 -29.069  1.00 93.30           O
ATOM   3662  C   GLU A 492     -73.709  12.663 -28.483  1.00 92.42           C
ATOM   3663  O   GLU A 492     -74.021  12.050 -29.497  1.00 87.99           O
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ATOM   3664  N   PRO A 493     -74.588  13.441 -27.796  1.00 94.54           N
ATOM   3665  CA  PRO A 493     -76.002  13.608 -28.158  1.00 91.43           C
ATOM   3666  CB  PRO A 493     -76.336  14.977 -27.574  1.00 95.75           C
ATOM   3667  CG  PRO A 493     -75.550  14.996 -26.301  1.00100.25           C
ATOM   3668  CD  PRO A 493     -74.306  14.156 -26.531  1.00 99.11           C
ATOM   3669  C   PRO A 493     -76.348  13.513 -29.648  1.00 91.45           C
ATOM   3670  O   PRO A 493     -76.970  12.532 -30.031  1.00 90.86           O
ATOM   3671  N   GLN A 494     -75.927  14.457 -30.497  1.00 93.41           N
ATOM   3672  CA  GLN A 494     -76.245  14.386 -31.946  1.00 91.82           C
ATOM   3673  CB  GLN A 494     -76.544  15.796 -32.527  1.00 84.49           C
ATOM   3674  C   GLN A 494     -75.145  13.608 -32.738  1.00 93.36           C
ATOM   3675  O   GLN A 494     -74.852  13.949 -33.891  1.00 89.69           O
ATOM   3676  N   ALA A 495     -74.590  12.547 -32.109  1.00100.85           N
ATOM   3677  CA  ALA A 495     -73.475  11.656 -32.607  1.00102.09           C
ATOM   3678  CB  ALA A 495     -74.021  10.630 -33.606  1.00 99.89           C
ATOM   3679  C   ALA A 495     -72.167  12.304 -33.153  1.00 99.20           C
ATOM   3680  O   ALA A 495     -71.498  11.707 -34.005  1.00 94.90           O
ATOM   3681  N   LYS A 496     -71.790  13.482 -32.636  1.00 97.64           N
ATOM   3682  CA  LYS A 496     -70.618  14.239 -33.153  1.00 93.62           C
ATOM   3683  CB  LYS A 496     -70.691  15.794 -32.931  1.00102.05           C
ATOM   3684  CG  LYS A 496     -72.031  16.505 -32.603  1.00106.55           C
ATOM   3685  CD  LYS A 496     -72.343  17.731 -33.468  1.00109.99           C
ATOM   3686  CE  LYS A 496     -73.135  17.315 -34.717  1.00116.83           C
ATOM   3687  NZ  LYS A 496     -72.813  18.104 -35.937  1.00124.14           N
ATOM   3688  C   LYS A 496     -69.337  13.697 -32.502  1.00 84.20           C
ATOM   3689  O   LYS A 496     -69.375  13.215 -31.370  1.00 88.31           O
ATOM   3690  N   ASN A 497     -68.203  13.800 -33.183  1.00 72.73           N
ATOM   3691  CA  ASN A 497     -66.949  13.323 -32.600  1.00 70.33           C
ATOM   3692  CB  ASN A 497     -65.814  13.355 -33.623  1.00 72.29           C
ATOM   3693  CG  ASN A 497     -66.014  12.402 -34.771  1.00 74.24           C
ATOM   3694  OD1 ASN A 497     -66.547  11.277 -34.636  1.00 74.43           O
ATOM   3695  ND2 ASN A 497     -65.562  12.844 -35.928  1.00 73.26           N
ATOM   3696  C   ASN A 497     -66.423  14.122 -31.397  1.00 67.55           C
ATOM   3697  O   ASN A 497     -66.214  15.325 -31.518  1.00 63.69           O
ATOM   3698  N   ILE A 498     -66.157  13.425 -30.279  1.00 66.83           N
ATOM   3699  CA  ILE A 498     -65.149  13.842 -29.266  1.00 65.78           C
ATOM   3700  CB  ILE A 498     -64.729  12.678 -28.304  1.00 64.55           C
ATOM   3701  CG1 ILE A 498     -65.906  12.163 -27.451  1.00 61.88           C
ATOM   3702  CD1 ILE A 498     -66.054  10.655 -27.475  1.00 60.24           C
ATOM   3703  CG2 ILE A 498     -63.631  13.116 -27.332  1.00 65.36           C
ATOM   3704  C   ILE A 498     -63.899  14.389 -29.996  1.00 65.97           C
ATOM   3705  O   ILE A 498     -63.366  13.742 -30.908  1.00 64.21           O
ATOM   3706  N   SER A 499     -63.461  15.597 -29.629  1.00 69.37           N
ATOM   3707  CA  SER A 499     -62.348  16.268 -30.356  1.00 70.19           C
ATOM   3708  CB  SER A 499     -62.808  17.623 -30.979  1.00 70.69           C
ATOM   3709  OG  SER A 499     -62.139  18.777 -30.494  1.00 71.57           O
ATOM   3710  C   SER A 499     -61.044  16.365 -29.544  1.00 64.91           C
ATOM   3711  O   SER A 499     -59.980  16.310 -30.150  1.00 63.81           O
ATOM   3712  N   VAL A 500     -61.154  16.494 -28.210  1.00 60.37           N
ATOM   3713  CA  VAL A 500     -60.042  16.469 -27.263  1.00 59.06           C
ATOM   3714  CB  VAL A 500     -59.776  17.846 -26.682  1.00 65.63           C
ATOM   3715  CG1 VAL A 500     -58.783  17.775 -25.522  1.00 70.96           C
ATOM   3716  CG2 VAL A 500     -59.262  18.790 -27.768  1.00 69.69           C
ATOM   3717  C   VAL A 500     -60.457  15.669 -26.089  1.00 56.86           C
ATOM   3718  O   VAL A 500     -61.585  15.770 -25.700  1.00 56.23           O
ATOM   3719  N   ALA A 501     -59.541  14.919 -25.486  1.00 59.09           N
ATOM   3720  CA  ALA A 501     -59.883  14.120 -24.307  1.00 59.74           C
ATOM   3721  CB  ALA A 501     -60.104  12.687 -24.709  1.00 60.06           C
ATOM   3722  C   ALA A 501     -58.828  14.196 -23.224  1.00 59.76           C
ATOM   3723  O   ALA A 501     -57.675  14.475 -23.491  1.00 57.16           O
ATOM   3724  N   SER A 502     -59.244  13.948 -21.994  1.00 64.53           N
ATOM   3725  CA  SER A 502     -58.337  13.957 -20.845  1.00 70.79           C
ATOM   3726  CB  SER A 502     -57.929  15.384 -20.416  1.00 76.96           C
ATOM   3727  OG  SER A 502     -59.048  16.197 -20.031  1.00 85.43           O
ATOM   3728  C   SER A 502     -59.023  13.242 -19.694  1.00 67.80           C
ATOM   3729  O   SER A 502     -60.055  13.688 -19.201  1.00 68.62           O
ATOM   3730  N   CYS A 503     -58.438  12.128 -19.290  1.00 64.75           N
ATOM   3731  CA  CYS A 503     -58.965  11.325 -18.251  1.00 62.56           C
ATOM   3732  CB  CYS A 503     -59.415  10.017 -18.841  1.00 62.26           C
ATOM   3733  SG  CYS A 503     -59.530   8.681 -17.652  1.00 73.07           S
ATOM   3734  C   CYS A 503     -57.866  11.142 -17.222  1.00 65.83           C
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ATOM   3735  O   CYS A 503     -56.685  11.305 -17.510  1.00 66.73           O
ATOM   3736  N   ASN A 504     -58.298  10.882 -15.995  1.00 71.30           N
ATOM   3737  CA  ASN A 504     -57.428  10.579 -14.860  1.00 71.01           C
ATOM   3738  CB  ASN A 504     -57.232  11.836 -13.915  1.00 73.53           C
ATOM   3739  CG  ASN A 504     -58.416  12.135 -12.935  1.00 76.23           C
ATOM   3740  OD1 ASN A 504     -58.628  11.438 -11.929  1.00 80.87           O
ATOM   3741  ND2 ASN A 504     -59.117  13.250 -13.182  1.00 74.10           N
ATOM   3742  C   ASN A 504     -57.928   9.292 -14.165  1.00 69.28           C
ATOM   3743  O   ASN A 504     -58.714   8.538 -14.718  1.00 72.96           O
ATOM   3744  N   SER A 505     -57.414   9.023 -12.980  1.00 71.93           N
ATOM   3745  CA  SER A 505     -57.868   7.936 -12.103  1.00 71.16           C
ATOM   3746  CB  SER A 505     -57.449   8.313 -10.681  1.00 70.79           C
ATOM   3747  OG  SER A 505     -56.630   7.303 -10.183  1.00 74.95           O
ATOM   3748  C   SER A 505     -59.377   7.597 -12.098  1.00 75.17           C
ATOM   3749  O   SER A 505     -59.746   6.429 -12.157  1.00 71.95           O
ATOM   3750  N   SER A 506     -60.213   8.650 -12.029  1.00 83.38           N
ATOM   3751  CA  SER A 506     -61.639   8.605 -11.630  1.00 80.15           C
ATOM   3752  CB  SER A 506     -61.705   8.939 -10.130  1.00 79.96           C
ATOM   3753  OG  SER A 506     -61.284  10.292  -9.901  1.00 74.12           O
ATOM   3754  C   SER A 506     -62.563   9.623 -12.350  1.00 79.81           C
ATOM   3755  O   SER A 506     -63.704   9.802 -11.921  1.00 79.84           O
ATOM   3756  N   GLN A 507     -62.102  10.251 -13.442  1.00 80.58           N
ATOM   3757  CA  GLN A 507     -62.626  11.566 -13.896  1.00 77.76           C
ATOM   3758  CB  GLN A 507     -61.995  12.651 -13.025  1.00 78.21           C
ATOM   3759  CG  GLN A 507     -62.704  13.004 -11.751  1.00 79.11           C
ATOM   3760  CD  GLN A 507     -62.143  14.293 -11.190  1.00 77.48           C
ATOM   3761  OE1 GLN A 507     -61.042  14.319 -10.642  1.00 84.73           O
ATOM   3762  NE2 GLN A 507     -62.880  15.373 -11.353  1.00 70.09           N
ATOM   3763  C   GLN A 507     -62.323  11.966 -15.346  1.00 71.79           C
ATOM   3764  O   GLN A 507     -61.256  12.538 -15.615  1.00 66.06           O
ATOM   3765  N   VAL A 508     -63.271  11.732 -16.249  1.00 69.24           N
ATOM   3766  CA  VAL A 508     -63.103  12.094 -17.667  1.00 72.60           C
ATOM   3767  CB  VAL A 508     -64.017  11.264 -18.590  1.00 79.75           C
ATOM   3768  CG1 VAL A 508     -63.850  11.677 -20.062  1.00 83.13           C
ATOM   3769  CG2 VAL A 508     -63.795   9.758 -18.412  1.00 79.96           C
ATOM   3770  C   VAL A 508     -63.494  13.547 -17.856  1.00 70.13           C
ATOM   3771  O   VAL A 508     -64.250  14.047 -17.074  1.00 69.27           O
ATOM   3772  N   VAL A 509     -62.944  14.211 -18.868  1.00 68.53           N
ATOM   3773  CA  VAL A 509     -63.385  15.534 -19.319  1.00 71.69           C
ATOM   3774  CB  VAL A 509     -62.632  16.712 -18.635  1.00 74.99           C
ATOM   3775  CG1 VAL A 509     -63.235  18.067 -19.016  1.00 72.01           C
ATOM   3776  CG2 VAL A 509     -62.666  16.568 -17.142  1.00 78.59           C
ATOM   3777  C   VAL A 509     -63.086  15.619 -20.805  1.00 72.45           C
ATOM   3778  O   VAL A 509     -62.015  16.105 -21.209  1.00 68.54           O
ATOM   3779  N   VAL A 510     -64.011  15.102 -21.609  1.00 72.64           N
ATOM   3780  CA  VAL A 510     -63.942  15.245 -23.077  1.00 71.94           C
ATOM   3781  CB  VAL A 510     -64.798  14.210 -23.857  1.00 74.07           C
ATOM   3782  CG1 VAL A 510     -64.077  12.874 -23.990  1.00 73.20           C
ATOM   3783  CG2 VAL A 510     -66.180  14.068 -23.228  1.00 76.51           C
ATOM   3784  C   VAL A 510     -64.395  16.645 -23.449  1.00 70.68           C
ATOM   3785  O   VAL A 510     -64.727  17.447 -22.583  1.00 68.96           O
ATOM   3786  N   ALA A 511     -64.365  16.922 -24.744  1.00 72.63           N
ATOM   3787  CA  ALA A 511     -64.621  18.228 -25.291  1.00 76.13           C
ATOM   3788  CB  ALA A 511     -63.397  19.112 -25.141  1.00 72.42           C
ATOM   3789  C   ALA A 511     -64.950  18.015 -26.760  1.00 85.73           C
ATOM   3790  O   ALA A 511     -64.191  17.379 -27.504  1.00 84.09           O
ATOM   3791  N   VAL A 512     -66.104  18.525 -27.166  1.00 92.76           N
ATOM   3792  CA  VAL A 512     -66.588  18.374 -28.522  1.00 88.98           C
ATOM   3793  CB  VAL A 512     -67.969  17.707 -28.508  1.00 84.67           C
ATOM   3794  CG1 VAL A 512     -68.277  17.119 -29.869  1.00 84.55           C
ATOM   3795  CG2 VAL A 512     -68.026  16.612 -27.447  1.00 84.32           C
ATOM   3796  C   VAL A 512     -66.628  19.784 -29.121  1.00 93.45           C
ATOM   3797  O   VAL A 512     -67.331  20.653 -28.593  1.00 96.51           O
ATOM   3798  N   GLY A 513     -65.833  20.005 -30.179  1.00 93.03           N
ATOM   3799  CA  GLY A 513     -65.684  21.304 -30.862  1.00 94.29           C
ATOM   3800  C   GLY A 513     -65.484  22.529 -29.978  1.00 95.34           C
ATOM   3801  O   GLY A 513     -64.360  22.822 -29.594  1.00 91.49           O
ATOM   3802  N   ARG A 514     -66.580  23.253 -29.701  1.00 99.84           N
ATOM   3803  CA  ARG A 514     -66.630  24.356 -28.694  1.00102.40           C
ATOM   3804  CB  ARG A 514     -67.419  25.582 -29.250  1.00104.04           C
ATOM   3805  CG  ARG A 514     -66.648  26.464 -30.262  1.00103.36           C
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ATOM   3806  CD  ARG A 514     -67.516  27.344 -31.166  1.00 98.31           C
ATOM   3807  NE  ARG A 514     -68.453  28.116 -30.359  1.00101.61           N
ATOM   3808  CZ  ARG A 514     -69.722  27.783 -30.078  1.00102.60           C
ATOM   3809  NH1 ARG A 514     -70.282  26.672 -30.556  1.00100.55           N
ATOM   3810  NH2 ARG A 514     -70.461  28.592 -29.311  1.00100.16           N
ATOM   3811  C   ARG A 514     -67.198  23.904 -27.313  1.00 95.36           C
ATOM   3812  O   ARG A 514     -66.892  24.519 -26.276  1.00 85.61           O
ATOM   3813  N   ALA A 515     -67.996  22.828 -27.327  1.00 92.01           N
ATOM   3814  CA  ALA A 515     -68.682  22.276 -26.149  1.00 90.43           C
ATOM   3815  CB  ALA A 515     -69.896  21.479 -26.604  1.00 89.80           C
ATOM   3816  C   ALA A 515     -67.760  21.380 -25.331  1.00 90.00           C
ATOM   3817  O   ALA A 515     -66.802  20.825 -25.900  1.00 89.18           O
ATOM   3818  N   LEU A 516     -68.025  21.242 -24.017  1.00 84.50           N
ATOM   3819  CA  LEU A 516     -67.271  20.279 -23.187  1.00 82.11           C
ATOM   3820  CB  LEU A 516     -65.882  20.804 -22.786  1.00 82.78           C
ATOM   3821  CG  LEU A 516     -65.529  21.939 -21.805  1.00 90.10           C
ATOM   3822  CD1 LEU A 516     -65.637  21.621 -20.292  1.00 91.44           C
ATOM   3823  CD2 LEU A 516     -64.097  22.375 -22.150  1.00 92.01           C
ATOM   3824  C   LEU A 516     -67.993  19.696 -21.981  1.00 81.92           C
ATOM   3825  O   LEU A 516     -68.300  20.388 -21.035  1.00 84.97           O
ATOM   3826  N   TYR A 517     -68.191  18.382 -22.016  1.00 86.25           N
ATOM   3827  CA  TYR A 517     -68.903  17.632 -20.975  1.00 87.50           C
ATOM   3828  CB  TYR A 517     -69.667  16.441 -21.580  1.00 91.55           C
ATOM   3829  CG  TYR A 517     -70.495  16.809 -22.796  1.00101.13           C
ATOM   3830  CD1 TYR A 517     -69.929  16.796 -24.067  1.00108.62           C
ATOM   3831  CE1 TYR A 517     -70.669  17.137 -25.191  1.00115.17           C
ATOM   3832  CZ  TYR A 517     -71.991  17.507 -25.064  1.00113.92           C
ATOM   3833  OH  TYR A 517     -72.657  17.834 -26.223  1.00114.74           O
ATOM   3834  CE2 TYR A 517     -72.592  17.538 -23.811  1.00110.65           C
ATOM   3835  CD2 TYR A 517     -71.840  17.193 -22.683  1.00108.07           C
ATOM   3836  C   TYR A 517     -67.885  17.139 -19.963  1.00 80.78           C
ATOM   3837  O   TYR A 517     -66.690  17.104 -20.251  1.00 77.59           O
ATOM   3838  N   TYR A 518     -68.369  16.743 -18.788  1.00 78.22           N
ATOM   3839  CA  TYR A 518     -67.514  16.291 -17.686  1.00 74.79           C
ATOM   3840  CB  TYR A 518     -67.255  17.462 -16.697  1.00 71.65           C
ATOM   3841  CG  TYR A 518     -66.871  17.006 -15.311  1.00 74.75           C
ATOM   3842  CD1 TYR A 518     -65.889  16.072 -15.127  1.00 79.29           C
ATOM   3843  CE1 TYR A 518     -65.553  15.608 -13.863  1.00 79.97           C
ATOM   3844  CZ  TYR A 518     -66.185  16.085 -12.770  1.00 75.30           C
ATOM   3845  OH  TYR A 518     -65.808  15.620 -11.567  1.00 72.23           O
ATOM   3846  CE2 TYR A 518     -67.178  17.004 -12.904  1.00 79.34           C
ATOM   3847  CD2 TYR A 518     -67.525  17.459 -14.180  1.00 81.79           C
ATOM   3848  C   TYR A 518     -68.097  15.025 -16.995  1.00 72.37           C
ATOM   3849  O   TYR A 518     -68.889  15.114 -16.071  1.00 76.08           O
ATOM   3850  N   LEU A 519     -67.645  13.847 -17.409  1.00 70.81           N
ATOM   3851  CA  LEU A 519     -68.111  12.583 -16.824  1.00 70.42           C
ATOM   3852  CB  LEU A 519     -68.021  11.478 -17.863  1.00 73.22           C
ATOM   3853  CG  LEU A 519     -68.859  11.562 -19.147  1.00 77.42           C
ATOM   3854  CD1 LEU A 519     -69.177  12.966 -19.681  1.00 75.71           C
ATOM   3855  CD2 LEU A 519     -68.179  10.703 -20.213  1.00 80.14           C
ATOM   3856  C   LEU A 519     -67.266  12.144 -15.635  1.00 66.77           C
ATOM   3857  O   LEU A 519     -66.084  12.463 -15.570  1.00 61.74           O
ATOM   3858  N   GLN A 520     -67.858  11.364 -14.734  1.00 69.00           N
ATOM   3859  CA  GLN A 520     -67.090  10.630 -13.695  1.00 73.53           C
ATOM   3860  CB  GLN A 520     -67.466  11.056 -12.268  1.00 77.61           C
ATOM   3861  CG  GLN A 520     -67.206  12.524 -11.920  1.00 82.46           C
ATOM   3862  CD  GLN A 520     -67.400  12.813 -10.429  1.00 83.51           C
ATOM   3863  OE1 GLN A 520     -68.229  12.197  -9.744  1.00 87.64           O
ATOM   3864  NE2 GLN A 520     -66.622  13.738  -9.919  1.00 81.66           N
ATOM   3865  C   GLN A 520     -67.251   9.111 -13.799  1.00 72.90           C
ATOM   3866  O   GLN A 520     -68.271   8.621 -14.279  1.00 63.72           O
ATOM   3867  N   ILE A 521     -66.233   8.399 -13.298  1.00 77.64           N
ATOM   3868  CA  ILE A 521     -66.153   6.935 -13.348  1.00 82.90           C
ATOM   3869  CB  ILE A 521     -64.729   6.421 -13.766  1.00 88.24           C
ATOM   3870  CG1 ILE A 521     -64.403   6.854 -15.217  1.00 89.72           C
ATOM   3871  CD1 ILE A 521     -62.977   7.329 -15.424  1.00 90.86           C
ATOM   3872  CG2 ILE A 521     -64.591   4.886 -13.631  1.00 83.79           C
ATOM   3873  C   ILE A 521     -66.544   6.385 -11.987  1.00 81.54           C
ATOM   3874  O   ILE A 521     -65.951   6.750 -10.960  1.00 77.33           O
ATOM   3875  N   HIS A 522     -67.582   5.549 -12.008  1.00 84.50           N
ATOM   3876  CA  HIS A 522     -68.031   4.779 -10.848  1.00 90.44           C
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ATOM   3877  CB  HIS A 522     -69.317   5.397 -10.229  1.00 94.15           C
ATOM   3878  CG  HIS A 522     -69.170   6.847  -9.832  1.00 98.97           C
ATOM   3879  ND1 HIS A 522     -68.735   7.243  -8.582  1.00100.75           N
ATOM   3880  CE1 HIS A 522     -68.691   8.565  -8.526  1.00100.41           C
ATOM   3881  NE2 HIS A 522     -69.074   9.043  -9.696  1.00 99.16           N
ATOM   3882  CD2 HIS A 522     -69.380   7.992 -10.531  1.00 99.45           C
ATOM   3883  C   HIS A 522     -68.217   3.347 -11.377  1.00 83.18           C
ATOM   3884  O   HIS A 522     -68.106   3.144 -12.596  1.00 77.20           O
ATOM   3885  N   PRO A 523     -68.474   2.353 -10.486  1.00 75.96           N
ATOM   3886  CA  PRO A 523     -68.521   0.997 -11.014  1.00 72.38           C
ATOM   3887  CB  PRO A 523     -68.780   0.113  -9.766  1.00 70.83           C
ATOM   3888  CG  PRO A 523     -68.402   0.954  -8.615  1.00 73.30           C
ATOM   3889  CD  PRO A 523     -68.709   2.371  -9.030  1.00 75.91           C
ATOM   3890  C   PRO A 523     -69.596   0.858 -12.099  1.00 71.47           C
ATOM   3891  O   PRO A 523     -70.633   1.485 -12.033  1.00 68.82           O
ATOM   3892  N   GLN A 524     -69.269   0.085 -13.127  1.00 78.14           N
ATOM   3893  CA  GLN A 524     -70.118  -0.227 -14.287  1.00 78.23           C
ATOM   3894  CB  GLN A 524     -70.941  -1.480 -13.976  1.00 77.28           C
ATOM   3895  CG  GLN A 524     -70.068  -2.702 -13.746  1.00 77.64           C
ATOM   3896  CD  GLN A 524     -69.590  -2.881 -12.307  1.00 78.32           C
ATOM   3897  OE1 GLN A 524     -69.518  -1.947 -11.527  1.00 71.64           O
ATOM   3898  NE2 GLN A 524     -69.261  -4.116 -11.958  1.00 84.97           N
ATOM   3899  C   GLN A 524     -70.991   0.907 -14.846  1.00 78.54           C
ATOM   3900  O   GLN A 524     -72.031   0.652 -15.470  1.00 80.73           O
ATOM   3901  N   GLU A 525     -70.538   2.148 -14.674  1.00 78.26           N
ATOM   3902  CA  GLU A 525     -71.321   3.318 -15.081  1.00 80.75           C
ATOM   3903  CB  GLU A 525     -72.547   3.555 -14.152  1.00 86.78           C
ATOM   3904  CG  GLU A 525     -72.329   4.187 -12.762  1.00 84.23           C
ATOM   3905  CD  GLU A 525     -72.814   5.630 -12.664  1.00 76.79           C
ATOM   3906  OE1 GLU A 525     -74.011   5.863 -12.879  1.00 65.27           O
ATOM   3907  OE2 GLU A 525     -72.002   6.525 -12.353  1.00 78.67           O
ATOM   3908  C   GLU A 525     -70.437   4.538 -15.182  1.00 77.54           C
ATOM   3909  O   GLU A 525     -69.570   4.758 -14.326  1.00 71.85           O
ATOM   3910  N   LEU A 526     -70.625   5.284 -16.268  1.00 83.99           N
ATOM   3911  CA  LEU A 526     -69.955   6.577 -16.454  1.00 95.32           C
ATOM   3912  CB  LEU A 526     -68.923   6.636 -17.617  1.00 96.59           C
ATOM   3913  CG  LEU A 526     -68.873   5.607 -18.750  1.00100.01           C
ATOM   3914  CD1 LEU A 526     -70.077   5.668 -19.680  1.00103.94           C
ATOM   3915  CD2 LEU A 526     -67.599   5.858 -19.524  1.00100.98           C
ATOM   3916  C   LEU A 526     -71.040   7.637 -16.569  1.00 93.82           C
ATOM   3917  O   LEU A 526     -71.667   7.813 -17.638  1.00 87.46           O
ATOM   3918  N   ARG A 527     -71.232   8.345 -15.460  1.00 92.64           N
ATOM   3919  CA  ARG A 527     -72.241   9.373 -15.315  1.00 91.65           C
ATOM   3920  CB  ARG A 527     -72.714   9.387 -13.872  1.00 90.52           C
ATOM   3921  CG  ARG A 527     -71.576   9.393 -12.884  1.00 91.26           C
ATOM   3922  CD  ARG A 527     -72.084   9.441 -11.458  1.00 90.48           C
ATOM   3923  NE  ARG A 527     -72.717   8.196 -11.050  1.00 85.80           N
ATOM   3924  CZ  ARG A 527     -72.877   7.838  -9.785  1.00 77.95           C
ATOM   3925  NH1 ARG A 527     -72.434   8.619  -8.815  1.00 78.63           N
ATOM   3926  NH2 ARG A 527     -73.465   6.699  -9.491  1.00 68.78           N
ATOM   3927  C   ARG A 527     -71.806  10.771 -15.670  1.00 90.34           C
ATOM   3928  O   ARG A 527     -70.775  11.238 -15.239  1.00 88.51           O
ATOM   3929  N   GLN A 528     -72.627  11.433 -16.464  1.00 85.80           N
ATOM   3930  CA  GLN A 528     -72.385  12.790 -16.875  1.00 81.72           C
ATOM   3931  CB  GLN A 528     -73.424  13.157 -17.906  1.00 81.16           C
ATOM   3932  CG  GLN A 528     -73.022  14.260 -18.845  1.00 83.66           C
ATOM   3933  CD  GLN A 528     -73.742  14.149 -20.161  1.00 84.26           C
ATOM   3934  OE1 GLN A 528     -74.663  13.359 -20.299  1.00 81.69           O
ATOM   3935  NE2 GLN A 528     -73.322  14.933 -21.136  1.00 84.24           N
ATOM   3936  C   GLN A 528     -72.574  13.656 -15.660  1.00 78.71           C
ATOM   3937  O   GLN A 528     -73.458  13.403 -14.868  1.00 78.63           O
ATOM   3938  N   ILE A 529     -71.743  14.664 -15.486  1.00 75.06           N
ATOM   3939  CA  ILE A 529     -71.888  15.534 -14.341  1.00 72.22           C
ATOM   3940  CB  ILE A 529     -70.789  15.226 -13.309  1.00 71.75           C
ATOM   3941  CG1 ILE A 529     -71.142  13.946 -12.571  1.00 69.44           C
ATOM   3942  CD1 ILE A 529     -70.240  13.672 -11.395  1.00 66.78           C
ATOM   3943  CG2 ILE A 529     -70.578  16.354 -12.311  1.00 68.83           C
ATOM   3944  C   ILE A 529     -71.947  17.003 -14.705  1.00 72.27           C
ATOM   3945  O   ILE A 529     -72.243  17.812 -13.863  1.00 75.52           O
ATOM   3946  N   SER A 530     -71.634  17.351 -15.936  1.00 75.46           N
ATOM   3947  CA  SER A 530     -71.648  18.744 -16.325  1.00 79.25           C
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ATOM   3948  CB  SER A 530     -70.455  19.474 -15.736  1.00 79.31           C
ATOM   3949  OG  SER A 530     -70.307  19.128 -14.382  1.00 76.71           O
ATOM   3950  C   SER A 530     -71.608  18.895 -17.802  1.00 81.35           C
ATOM   3951  O   SER A 530     -71.375  17.953 -18.523  1.00 73.61           O
ATOM   3952  N   HIS A 531     -71.834  20.108 -18.247  1.00 90.67           N
ATOM   3953  CA  HIS A 531     -71.776  20.421 -19.648  1.00 99.36           C
ATOM   3954  CB  HIS A 531     -73.089  20.174 -20.370  1.00104.70           C
ATOM   3955  CG  HIS A 531     -74.295  20.326 -19.506  1.00115.45           C
ATOM   3956  ND1 HIS A 531     -75.448  19.602 -19.712  1.00119.07           N
ATOM   3957  CE1 HIS A 531     -76.342  19.931 -18.797  1.00115.77           C
ATOM   3958  NE2 HIS A 531     -75.808  20.839 -18.002  1.00118.22           N
ATOM   3959  CD2 HIS A 531     -74.526  21.101 -18.421  1.00119.98           C
ATOM   3960  C   HIS A 531     -71.464  21.864 -19.670  1.00 96.72           C
ATOM   3961  O   HIS A 531     -71.510  22.523 -18.651  1.00 97.53           O
ATOM   3962  N   THR A 532     -71.108  22.360 -20.829  1.00 94.34           N
ATOM   3963  CA  THR A 532     -70.811  23.760 -20.952  1.00 94.11           C
ATOM   3964  CB  THR A 532     -69.691  24.286 -20.024  1.00 90.97           C
ATOM   3965  OG1 THR A 532     -68.782  25.114 -20.757  1.00 86.60           O
ATOM   3966  CG2 THR A 532     -68.945  23.167 -19.377  1.00 92.91           C
ATOM   3967  C   THR A 532     -70.709  24.194 -22.379  1.00 94.12           C
ATOM   3968  O   THR A 532     -71.173  23.536 -23.287  1.00 96.05           O
ATOM   3969  N   GLU A 533     -70.120  25.352 -22.536  1.00 96.22           N
ATOM   3970  CA  GLU A 533     -69.992  26.002 -23.836  1.00101.72           C
ATOM   3971  CB  GLU A 533     -71.238  26.889 -24.128  1.00106.63           C
ATOM   3972  CG  GLU A 533     -72.475  26.196 -24.722  1.00105.12           C
ATOM   3973  CD  GLU A 533     -72.361  25.890 -26.220  1.00 98.61           C
ATOM   3974  OE1 GLU A 533     -71.351  25.276 -26.647  1.00 81.30           O
ATOM   3975  OE2 GLU A 533     -73.302  26.263 -26.965  1.00 96.95           O
ATOM   3976  C   GLU A 533     -68.741  26.889 -23.717  1.00 93.80           C
ATOM   3977  O   GLU A 533     -68.402  27.308 -22.612  1.00 97.51           O
ATOM   3978  N   MET A 534     -68.054  27.187 -24.811  1.00 83.90           N
ATOM   3979  CA  MET A 534     -66.779  27.862 -24.668  1.00 83.99           C
ATOM   3980  CB  MET A 534     -65.642  26.808 -24.653  1.00 88.39           C
ATOM   3981  CG  MET A 534     -64.475  27.116 -23.685  1.00 89.35           C
ATOM   3982  SD  MET A 534     -64.648  26.901 -21.881  1.00 85.83           S
ATOM   3983  CE  MET A 534     -65.547  28.372 -21.302  1.00 86.18           C
ATOM   3984  C   MET A 534     -66.591  28.964 -25.713  1.00 79.95           C
ATOM   3985  O   MET A 534     -66.915  28.770 -26.897  1.00 73.23           O
ATOM   3986  N   GLU A 535     -66.066  30.112 -25.244  1.00 76.76           N
ATOM   3987  CA  GLU A 535     -66.003  31.369 -26.021  1.00 78.63           C
ATOM   3988  CB  GLU A 535     -65.556  32.535 -25.082  1.00 68.71           C
ATOM   3989  C   GLU A 535     -65.222  31.290 -27.417  1.00 84.80           C
ATOM   3990  O   GLU A 535     -65.338  32.161 -28.276  1.00 97.33           O
ATOM   3991  N   HIS A 536     -64.444  30.244 -27.645  1.00 90.14           N
ATOM   3992  CA  HIS A 536     -63.953  29.895 -28.988  1.00 90.06           C
ATOM   3993  CB  HIS A 536     -62.743  30.788 -29.361  1.00 85.40           C
ATOM   3994  C   HIS A 536     -63.695  28.330 -28.934  1.00 92.35           C
ATOM   3995  O   HIS A 536     -63.948  27.712 -27.869  1.00 88.42           O
ATOM   3996  N   GLU A 537     -63.270  27.679 -30.037  1.00 89.40           N
ATOM   3997  CA  GLU A 537     -63.163  26.163 -30.105  1.00 85.24           C
ATOM   3998  CB  GLU A 537     -63.026  25.629 -31.571  1.00 80.16           C
ATOM   3999  C   GLU A 537     -62.058  25.560 -29.190  1.00 78.72           C
ATOM   4000  O   GLU A 537     -60.950  26.092 -29.113  1.00 74.06           O
ATOM   4001  N   VAL A 538     -62.357  24.459 -28.493  1.00 72.56           N
ATOM   4002  CA  VAL A 538     -61.375  23.926 -27.504  1.00 74.64           C
ATOM   4003  CB  VAL A 538     -61.991  23.197 -26.252  1.00 70.25           C
ATOM   4004  CG1 VAL A 538     -63.396  22.692 -26.507  1.00 75.32           C
ATOM   4005  CG2 VAL A 538     -61.101  22.071 -25.744  1.00 66.57           C
ATOM   4006  C   VAL A 538     -60.165  23.193 -28.170  1.00 75.21           C
ATOM   4007  O   VAL A 538     -60.281  22.564 -29.224  1.00 72.34           O
ATOM   4008  N   ALA A 539     -59.001  23.364 -27.535  1.00 73.21           N
ATOM   4009  CA  ALA A 539     -57.718  22.924 -28.039  1.00 67.64           C
ATOM   4010  CB  ALA A 539     -56.799  24.113 -28.224  1.00 64.43           C
ATOM   4011  C   ALA A 539     -57.039  21.871 -27.152  1.00 69.55           C
ATOM   4012  O   ALA A 539     -56.440  20.942 -27.711  1.00 65.29           O
ATOM   4013  N   CYS A 540     -57.077  22.008 -25.816  1.00 67.53           N
ATOM   4014  CA  CYS A 540     -56.361  21.049 -24.959  1.00 70.33           C
ATOM   4015  CB  CYS A 540     -54.822  21.151 -25.109  1.00 74.53           C
ATOM   4016  SG  CYS A 540     -54.002  22.774 -25.150  1.00 71.22           S
ATOM   4017  C   CYS A 540     -56.718  21.084 -23.503  1.00 70.73           C
ATOM   4018  O   CYS A 540     -56.960  22.128 -22.968  1.00 75.29           O
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ATOM   4019  N   LEU A 541     -56.700  19.920 -22.868  1.00 72.33           N
ATOM   4020  CA  LEU A 541     -57.218  19.766 -21.527  1.00 74.53           C
ATOM   4021  CB  LEU A 541     -58.459  18.908 -21.560  1.00 75.77           C
ATOM   4022  CG  LEU A 541     -59.541  19.406 -22.493  1.00 80.66           C
ATOM   4023  CD1 LEU A 541     -60.625  18.360 -22.723  1.00 82.63           C
ATOM   4024  CD2 LEU A 541     -60.114  20.682 -21.899  1.00 85.21           C
ATOM   4025  C   LEU A 541     -56.266  19.025 -20.669  1.00 78.38           C
ATOM   4026  O   LEU A 541     -55.592  18.141 -21.144  1.00 82.32           O
ATOM   4027  N   ASP A 542     -56.245  19.334 -19.386  1.00 85.01           N
ATOM   4028  CA  ASP A 542     -55.437  18.601 -18.438  1.00 86.67           C
ATOM   4029  CB  ASP A 542     -54.150  19.297 -18.064  1.00 88.02           C
ATOM   4030  CG  ASP A 542     -53.325  18.493 -17.092  1.00 89.90           C
ATOM   4031  OD1 ASP A 542     -53.815  17.461 -16.607  1.00 94.22           O
ATOM   4032  OD2 ASP A 542     -52.187  18.900 -16.798  1.00 85.56           O
ATOM   4033  C   ASP A 542     -56.337  18.435 -17.249  1.00 84.52           C
ATOM   4034  O   ASP A 542     -57.194  19.248 -17.018  1.00 78.18           O
ATOM   4035  N   ILE A 543     -56.182  17.351 -16.521  1.00 85.15           N
ATOM   4036  CA  ILE A 543     -57.045  17.093 -15.397  1.00 83.49           C
ATOM   4037  CB  ILE A 543     -58.194  16.223 -15.888  1.00 88.66           C
ATOM   4038  CG1 ILE A 543     -59.332  16.202 -14.904  1.00 88.96           C
ATOM   4039  CD1 ILE A 543     -60.436  17.133 -15.319  1.00 94.78           C
ATOM   4040  CG2 ILE A 543     -57.713  14.825 -16.195  1.00 97.33           C
ATOM   4041  C   ILE A 543     -56.295  16.396 -14.278  1.00 81.04           C
ATOM   4042  O   ILE A 543     -56.872  15.670 -13.491  1.00 73.93           O
ATOM   4043  N   THR A 544     -54.994  16.595 -14.230  1.00 78.68           N
ATOM   4044  CA  THR A 544     -54.148  15.934 -13.256  1.00 77.99           C
ATOM   4045  CB  THR A 544     -52.710  16.326 -13.552  1.00 72.84           C
ATOM   4046  OG1 THR A 544     -52.632  16.760 -14.905  1.00 68.65           O
ATOM   4047  CG2 THR A 544     -51.818  15.178 -13.376  1.00 74.59           C
ATOM   4048  C   THR A 544     -54.365  16.226 -11.780  1.00 85.95           C
ATOM   4049  O   THR A 544     -54.514  17.363 -11.382  1.00 93.77           O
ATOM   4050  N   PRO A 545     -54.336  15.124 -10.937  1.00 88.26           N
ATOM   4051  CA  PRO A 545     -54.474  15.416  -9.506  1.00 94.04           C
ATOM   4052  CB  PRO A 545     -54.733  14.055  -8.885  1.00 97.73           C
ATOM   4053  CG  PRO A 545     -55.417  13.312  -9.949  1.00 97.95           C
ATOM   4054  CD  PRO A 545     -54.474  13.611 -11.054  1.00 92.21           C
ATOM   4055  C   PRO A 545     -53.214  16.046  -8.917  1.00 96.13           C
ATOM   4056  O   PRO A 545     -52.229  16.203  -9.611  1.00100.02           O
ATOM   4057  N   LEU A 546     -53.271  16.452  -7.659  1.00 92.10           N
ATOM   4058  CA  LEU A 546     -52.190  17.205  -7.020  1.00 85.85           C
ATOM   4059  CB  LEU A 546     -52.073  18.526  -7.738  1.00 88.42           C
ATOM   4060  CG  LEU A 546     -51.693  18.519  -9.220  1.00 93.98           C
ATOM   4061  CD1 LEU A 546     -52.117  19.829  -9.881  1.00 97.29           C
ATOM   4062  CD2 LEU A 546     -50.193  18.274  -9.379  1.00 93.35           C
ATOM   4063  C   LEU A 546     -52.480  17.490  -5.538  1.00 80.95           C
ATOM   4064  O   LEU A 546     -52.045  16.768  -4.643  1.00 78.89           O
ATOM   4065  N   GLY A 551     -57.910  11.857  -3.782  1.00 83.35           N
ATOM   4066  CA  GLY A 551     -58.331  11.191  -5.047  1.00 91.36           C
ATOM   4067  C   GLY A 551     -58.537  12.034  -6.336  1.00 95.11           C
ATOM   4068  O   GLY A 551     -57.649  12.072  -7.202  1.00 87.97           O
ATOM   4069  N   LEU A 552     -59.710  12.694  -6.453  1.00 99.54           N
ATOM   4070  CA  LEU A 552     -60.202  13.423  -7.674  1.00 94.97           C
ATOM   4071  CB  LEU A 552     -61.740  13.281  -7.753  1.00 88.38           C
ATOM   4072  C   LEU A 552     -59.834  14.941  -7.786  1.00 93.26           C
ATOM   4073  O   LEU A 552     -60.056  15.707  -6.858  1.00 89.16           O
ATOM   4074  N   SER A 553     -59.313  15.378  -8.936  1.00 94.08           N
ATOM   4075  CA  SER A 553     -58.877  16.791  -9.125  1.00 95.98           C
ATOM   4076  CB  SER A 553     -58.193  17.015 -10.491  1.00 94.25           C
ATOM   4077  OG  SER A 553     -58.164  18.402 -10.891  1.00 88.59           O
ATOM   4078  C   SER A 553     -60.010  17.814  -9.037  1.00100.53           C
ATOM   4079  O   SER A 553     -60.986  17.695  -9.772  1.00 98.88           O
ATOM   4080  N   PRO A 554     -59.831  18.883  -8.228  1.00100.91           N
ATOM   4081  CA  PRO A 554     -60.939  19.808  -8.091  1.00 94.63           C
ATOM   4082  CB  PRO A 554     -60.584  20.560  -6.804  1.00 99.52           C
ATOM   4083  CG  PRO A 554     -59.104  20.340  -6.565  1.00 97.40           C
ATOM   4084  CD  PRO A 554     -58.594  19.455  -7.651  1.00 99.48           C
ATOM   4085  C   PRO A 554     -61.088  20.778  -9.270  1.00 89.51           C
ATOM   4086  O   PRO A 554     -62.033  21.550  -9.302  1.00 90.57           O
ATOM   4087  N   LEU A 555     -60.170  20.767 -10.226  1.00 87.98           N
ATOM   4088  CA  LEU A 555     -60.219  21.742 -11.320  1.00 89.57           C
ATOM   4089  CB  LEU A 555     -59.306  22.954 -11.001  1.00 89.70           C
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ATOM   4090  CG  LEU A 555     -58.073  22.798 -10.114  1.00 87.15           C
ATOM   4091  CD1 LEU A 555     -56.985  23.776 -10.531  1.00 84.19           C
ATOM   4092  CD2 LEU A 555     -58.425  23.003  -8.642  1.00 86.44           C
ATOM   4093  C   LEU A 555     -59.945  21.045 -12.669  1.00 82.68           C
ATOM   4094  O   LEU A 555     -60.229  19.865 -12.792  1.00 78.44           O
ATOM   4095  N   CYS A 556     -59.463  21.779 -13.667  1.00 75.76           N
ATOM   4096  CA  CYS A 556     -59.342  21.302 -15.023  1.00 77.34           C
ATOM   4097  CB  CYS A 556     -60.737  20.929 -15.569  1.00 75.65           C
ATOM   4098  SG  CYS A 556     -60.781  20.832 -17.390  1.00 87.29           S
ATOM   4099  C   CYS A 556     -58.732  22.426 -15.887  1.00 75.45           C
ATOM   4100  O   CYS A 556     -59.401  23.434 -16.098  1.00 81.45           O
ATOM   4101  N   ALA A 557     -57.498  22.294 -16.380  1.00 70.56           N
ATOM   4102  CA  ALA A 557     -56.934  23.359 -17.250  1.00 69.83           C
ATOM   4103  CB  ALA A 557     -55.423  23.287 -17.324  1.00 71.05           C
ATOM   4104  C   ALA A 557     -57.528  23.254 -18.643  1.00 68.00           C
ATOM   4105  O   ALA A 557     -58.057  22.192 -18.980  1.00 63.23           O
ATOM   4106  N   ILE A 558     -57.491  24.372 -19.398  1.00 65.95           N
ATOM   4107  CA  ILE A 558     -57.899  24.440 -20.835  1.00 65.01           C
ATOM   4108  CB  ILE A 558     -59.276  25.059 -21.121  1.00 62.65           C
ATOM   4109  CG1 ILE A 558     -60.228  24.895 -19.961  1.00 67.83           C
ATOM   4110  CD1 ILE A 558     -60.848  23.513 -19.888  1.00 76.53           C
ATOM   4111  CG2 ILE A 558     -59.843  24.486 -22.423  1.00 60.05           C
ATOM   4112  C   ILE A 558     -57.048  25.392 -21.634  1.00 64.48           C
ATOM   4113  O   ILE A 558     -56.569  26.373 -21.109  1.00 73.82           O
ATOM   4114  N   GLY A 559     -56.936  25.135 -22.922  1.00 61.01           N
ATOM   4115  CA  GLY A 559     -56.352  26.076 -23.859  1.00 63.23           C
ATOM   4116  C   GLY A 559     -57.360  26.139 -24.964  1.00 65.86           C
ATOM   4117  O   GLY A 559     -57.935  25.090 -25.270  1.00 67.90           O
ATOM   4118  N   LEU A 560     -57.584  27.332 -25.541  1.00 65.15           N
ATOM   4119  CA  LEU A 560     -58.646  27.546 -26.525  1.00 69.07           C
ATOM   4120  CB  LEU A 560     -59.781  28.336 -25.887  1.00 74.69           C
ATOM   4121  CG  LEU A 560     -60.429  27.663 -24.661  1.00 79.58           C
ATOM   4122  CD1 LEU A 560     -61.505  28.541 -24.064  1.00 80.82           C
ATOM   4123  CD2 LEU A 560     -61.070  26.309 -24.973  1.00 81.60           C
ATOM   4124  C   LEU A 560     -58.134  28.219 -27.794  1.00 74.07           C
ATOM   4125  O   LEU A 560     -57.008  28.733 -27.800  1.00 71.66           O
ATOM   4126  N   TRP A 561     -58.976  28.246 -28.844  1.00 79.75           N
ATOM   4127  CA  TRP A 561     -58.522  28.357 -30.274  1.00 84.58           C
ATOM   4128  CB  TRP A 561     -59.451  27.524 -31.196  1.00 84.52           C
ATOM   4129  CG  TRP A 561     -58.952  26.225 -31.773  1.00 80.02           C
ATOM   4130  CD1 TRP A 561     -58.983  24.990 -31.189  1.00 78.08           C
ATOM   4131  NE1 TRP A 561     -58.501  24.044 -32.061  1.00 77.84           N
ATOM   4132  CE2 TRP A 561     -58.175  24.643 -33.250  1.00 78.57           C
ATOM   4133  CD2 TRP A 561     -58.461  26.024 -33.114  1.00 83.29           C
ATOM   4134  CE3 TRP A 561     -58.221  26.882 -34.214  1.00 83.04           C
ATOM   4135  CZ3 TRP A 561     -57.693  26.325 -35.407  1.00 82.57           C
ATOM   4136  CH2 TRP A 561     -57.407  24.942 -35.497  1.00 77.78           C
ATOM   4137  CZ2 TRP A 561     -57.649  24.092 -34.442  1.00 75.47           C
ATOM   4138  C   TRP A 561     -58.423  29.753 -30.948  1.00 84.05           C
ATOM   4139  O   TRP A 561     -57.860  29.874 -32.048  1.00 84.26           O
ATOM   4140  N   THR A 562     -59.022  30.784 -30.392  1.00 78.71           N
ATOM   4141  CA  THR A 562     -58.959  32.041 -31.119  1.00 83.90           C
ATOM   4142  CB  THR A 562     -60.277  32.318 -31.830  1.00 92.62           C
ATOM   4143  OG1 THR A 562     -60.896  31.065 -32.164  1.00 94.86           O
ATOM   4144  CG2 THR A 562     -60.011  33.141 -33.104  1.00 93.87           C
ATOM   4145  C   THR A 562     -58.533  33.174 -30.237  1.00 83.39           C
ATOM   4146  O   THR A 562     -57.693  33.961 -30.660  1.00 77.29           O
ATOM   4147  N   ASP A 563     -59.090  33.233 -29.014  1.00 84.60           N
ATOM   4148  CA  ASP A 563     -58.484  33.944 -27.878  1.00 78.67           C
ATOM   4149  CB  ASP A 563     -59.354  33.809 -26.627  1.00 69.34           C
ATOM   4150  C   ASP A 563     -57.073  33.451 -27.530  1.00 85.33           C
ATOM   4151  O   ASP A 563     -56.477  34.024 -26.630  1.00 97.21           O
ATOM   4152  N   ILE A 564     -56.558  32.405 -28.219  1.00 89.15           N
ATOM   4153  CA  ILE A 564     -55.181  31.805 -28.068  1.00 87.66           C
ATOM   4154  CB  ILE A 564     -53.979  32.509 -28.859  1.00 92.84           C
ATOM   4155  CG1 ILE A 564     -53.655  33.968 -28.309  1.00103.14           C
ATOM   4156  CD1 ILE A 564     -54.041  35.221 -29.109  1.00101.41           C
ATOM   4157  CG2 ILE A 564     -54.111  32.332 -30.379  1.00 84.93           C
ATOM   4158  C   ILE A 564     -54.790  31.676 -26.611  1.00 80.75           C
ATOM   4159  O   ILE A 564     -53.631  31.872 -26.263  1.00 77.19           O
ATOM   4160  N   SER A 565     -55.753  31.342 -25.764  1.00 75.59           N
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ATOM   4161  CA  SER A 565     -55.577  31.574 -24.349  1.00 73.91           C
ATOM   4162  CB  SER A 565     -56.727  32.418 -23.895  1.00 76.73           C
ATOM   4163  OG  SER A 565     -57.350  31.783 -22.814  1.00 80.38           O
ATOM   4164  C   SER A 565     -55.521  30.331 -23.468  1.00 71.71           C
ATOM   4165  O   SER A 565     -56.281  29.398 -23.668  1.00 76.18           O
ATOM   4166  N   ALA A 566     -54.653  30.357 -22.460  1.00 70.25           N
ATOM   4167  CA  ALA A 566     -54.606  29.326 -21.394  1.00 66.33           C
ATOM   4168  CB  ALA A 566     -53.163  29.118 -20.916  1.00 59.68           C
ATOM   4169  C   ALA A 566     -55.546  29.737 -20.232  1.00 67.53           C
ATOM   4170  O   ALA A 566     -55.651  30.927 -19.938  1.00 64.30           O
ATOM   4171  N   ARG A 567     -56.252  28.773 -19.613  1.00 69.78           N
ATOM   4172  CA  ARG A 567     -57.326  29.051 -18.618  1.00 71.66           C
ATOM   4173  CB  ARG A 567     -58.693  29.277 -19.323  1.00 71.46           C
ATOM   4174  CG  ARG A 567     -58.782  30.336 -20.440  1.00 72.60           C
ATOM   4175  CD  ARG A 567     -60.096  30.239 -21.238  1.00 77.30           C
ATOM   4176  NE  ARG A 567     -60.624  31.455 -21.933  1.00 81.42           N
ATOM   4177  CZ  ARG A 567     -60.356  31.869 -23.195  1.00 85.92           C
ATOM   4178  NH1 ARG A 567     -59.494  31.230 -24.003  1.00 88.70           N
ATOM   4179  NH2 ARG A 567     -60.939  32.975 -23.663  1.00 85.51           N
ATOM   4180  C   ARG A 567     -57.491  27.891 -17.615  1.00 73.71           C
ATOM   4181  O   ARG A 567     -57.352  26.739 -18.017  1.00 78.32           O
ATOM   4182  N   ILE A 568     -57.799  28.191 -16.337  1.00 75.76           N
ATOM   4183  CA  ILE A 568     -58.241  27.170 -15.317  1.00 75.66           C
ATOM   4184  CB  ILE A 568     -57.692  27.426 -13.877  1.00 72.88           C
ATOM   4185  CG1 ILE A 568     -56.227  27.935 -13.853  1.00 73.83           C
ATOM   4186  CD1 ILE A 568     -55.221  27.143 -14.651  1.00 75.67           C
ATOM   4187  CG2 ILE A 568     -57.957  26.219 -12.959  1.00 68.10           C
ATOM   4188  C   ILE A 568     -59.770  27.189 -15.128  1.00 79.27           C
ATOM   4189  O   ILE A 568     -60.382  28.247 -15.259  1.00 78.02           O
ATOM   4190  N   LEU A 569     -60.370  26.037 -14.788  1.00 82.66           N
ATOM   4191  CA  LEU A 569     -61.828  25.909 -14.461  1.00 83.01           C
ATOM   4192  CB  LEU A 569     -62.551  25.222 -15.623  1.00 82.57           C
ATOM   4193  CG  LEU A 569     -62.901  26.049 -16.869  1.00 84.29           C
ATOM   4194  CD1 LEU A 569     -61.714  26.716 -17.543  1.00 82.49           C
ATOM   4195  CD2 LEU A 569     -63.627  25.164 -17.886  1.00 88.04           C
ATOM   4196  C   LEU A 569     -62.046  25.141 -13.117  1.00 83.52           C
ATOM   4197  O   LEU A 569     -61.047  24.786 -12.479  1.00 81.48           O
ATOM   4198  N   LYS A 570     -63.279  24.903 -12.718  1.00 82.50           N
ATOM   4199  CA  LYS A 570     -63.523  24.201 -11.482  1.00 83.93           C
ATOM   4200  CB  LYS A 570     -64.198  25.114 -10.475  1.00 75.30           C
ATOM   4201  C   LYS A 570     -64.453  23.098 -11.837  1.00 85.29           C
ATOM   4202  O   LYS A 570     -65.173  23.202 -12.806  1.00 77.15           O
ATOM   4203  N   LEU A 571     -64.438  22.029 -11.070  1.00 91.16           N
ATOM   4204  CA  LEU A 571     -65.318  20.928 -11.355  1.00 88.31           C
ATOM   4205  CB  LEU A 571     -64.531  19.642 -11.534  1.00 82.26           C
ATOM   4206  C   LEU A 571     -66.168  20.847 -10.131  1.00 87.85           C
ATOM   4207  O   LEU A 571     -65.619  20.962  -9.049  1.00 91.10           O
ATOM   4208  N   PRO A 572     -67.550  20.685 -10.241  1.00 91.98           N
ATOM   4209  CA  PRO A 572     -68.115  20.544 -11.583  1.00 85.74           C
ATOM   4210  CB  PRO A 572     -69.292  19.586 -11.376  1.00 87.22           C
ATOM   4211  CG  PRO A 572     -69.404  19.333  -9.911  1.00 88.13           C
ATOM   4212  CD  PRO A 572     -68.732  20.496  -9.297  1.00 92.96           C
ATOM   4213  C   PRO A 572     -68.638  21.830 -12.149  1.00 83.16           C
ATOM   4214  O   PRO A 572     -69.404  21.784 -13.074  1.00 74.93           O
ATOM   4215  N   SER A 573     -68.292  22.958 -11.567  1.00 87.58           N
ATOM   4216  CA  SER A 573     -68.782  24.229 -12.069  1.00 90.79           C
ATOM   4217  CB  SER A 573     -68.418  25.347 -11.104  1.00 86.76           C
ATOM   4218  OG  SER A 573     -67.137  25.851 -11.394  1.00 82.72           O
ATOM   4219  C   SER A 573     -68.335  24.618 -13.473  1.00 92.86           C
ATOM   4220  O   SER A 573     -69.114  25.149 -14.235  1.00 91.68           O
ATOM   4221  N   PHE A 574     -67.085  24.352 -13.819  1.00 97.97           N
ATOM   4222  CA  PHE A 574     -66.555  24.764 -15.115  1.00 94.82           C
ATOM   4223  C   PHE A 574     -66.636  26.276 -15.147  1.00 98.01           C
ATOM   4224  O   PHE A 574     -67.016  26.870 -16.146  1.00101.99           O
ATOM   4225  CB  PHE A 574     -67.337  24.139 -16.271  1.00 20.00           C
ATOM   4226  N   GLU A 575     -66.285  26.893 -14.024  1.00 97.59           N
ATOM   4227  CA  GLU A 575     -66.387  28.366 -13.859  1.00 88.91           C
ATOM   4228  CB  GLU A 575     -67.129  28.659 -12.553  1.00 87.72           C
ATOM   4229  C   GLU A 575     -64.996  29.038 -13.786  1.00 85.78           C
ATOM   4230  O   GLU A 575     -64.294  28.853 -12.765  1.00 85.97           O
ATOM   4231  N   LEU A 576     -64.643  29.844 -14.823  1.00 80.65           N
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ATOM   4232  CA  LEU A 576     -63.291  30.521 -15.004  1.00 76.41           C
ATOM   4233  CB  LEU A 576     -63.330  31.661 -16.022  1.00 66.17           C
ATOM   4234  C   LEU A 576     -62.667  31.066 -13.727  1.00 78.85           C
ATOM   4235  O   LEU A 576     -63.367  31.681 -12.936  1.00 78.56           O
ATOM   4236  N   ALA A 577     -61.361  30.842 -13.539  1.00 81.22           N
ATOM   4237  CA  ALA A 577     -60.745  30.928 -12.202  1.00 81.36           C
ATOM   4238  CB  ALA A 577     -60.915  29.580 -11.444  1.00 70.61           C
ATOM   4239  C   ALA A 577     -59.270  31.510 -12.152  1.00 92.92           C
ATOM   4240  O   ALA A 577     -58.831  31.914 -11.069  1.00102.01           O
ATOM   4241  N   HIS A 578     -58.682  31.599 -13.342  1.00 96.58           N
ATOM   4242  CA  HIS A 578     -57.438  32.257 -13.696  1.00 90.79           C
ATOM   4243  CB  HIS A 578     -56.227  31.453 -13.291  1.00 84.74           C
ATOM   4244  C   HIS A 578     -57.616  32.319 -15.209  1.00 84.02           C
ATOM   4245  O   HIS A 578     -58.299  31.472 -15.746  1.00 80.87           O
ATOM   4246  N   LYS A 579     -57.068  33.301 -15.904  1.00 77.60           N
ATOM   4247  CA  LYS A 579     -57.240  33.348 -17.354  1.00 84.58           C
ATOM   4248  CB  LYS A 579     -58.616  33.881 -17.685  1.00 90.36           C
ATOM   4249  C   LYS A 579     -56.228  34.219 -18.014  1.00 78.52           C
ATOM   4250  O   LYS A 579     -56.394  35.421 -17.957  1.00 68.13           O
ATOM   4251  N   GLU A 580     -55.210  33.667 -18.660  1.00 78.87           N
ATOM   4252  CA  GLU A 580     -54.216  34.536 -19.265  1.00 75.89           C
ATOM   4253  CB  GLU A 580     -52.840  34.341 -18.617  1.00 76.41           C
ATOM   4254  CG  GLU A 580     -51.770  35.192 -19.286  1.00 78.49           C
ATOM   4255  CD  GLU A 580     -50.528  35.397 -18.460  1.00 83.87           C
ATOM   4256  OE1 GLU A 580     -49.458  35.653 -19.055  1.00 80.91           O
ATOM   4257  OE2 GLU A 580     -50.629  35.307 -17.227  1.00 87.03           O
ATOM   4258  C   GLU A 580     -54.102  34.483 -20.760  1.00 72.40           C
ATOM   4259  O   GLU A 580     -53.973  33.433 -21.328  1.00 67.79           O
ATOM   4260  N   MET A 581     -54.144  35.644 -21.395  1.00 76.45           N
ATOM   4261  CA  MET A 581     -53.986  35.695 -22.825  1.00 75.16           C
ATOM   4262  CB  MET A 581     -54.392  37.031 -23.408  1.00 79.96           C
ATOM   4263  CG  MET A 581     -55.703  36.962 -24.160  1.00 80.54           C
ATOM   4264  SD  MET A 581     -56.888  35.944 -23.293  1.00 83.86           S
ATOM   4265  CE  MET A 581     -56.698  36.571 -21.645  1.00 83.07           C
ATOM   4266  C   MET A 581     -52.544  35.362 -23.064  1.00 70.68           C
ATOM   4267  O   MET A 581     -51.662  35.798 -22.359  1.00 64.20           O
ATOM   4268  N   LEU A 582     -52.338  34.577 -24.089  1.00 71.02           N
ATOM   4269  CA  LEU A 582     -51.055  33.976 -24.452  1.00 68.98           C
ATOM   4270  CB  LEU A 582     -51.288  32.489 -24.636  1.00 66.54           C
ATOM   4271  CG  LEU A 582     -50.383  31.550 -23.870  1.00 70.71           C
ATOM   4272  CD1 LEU A 582     -50.269  31.938 -22.400  1.00 72.47           C
ATOM   4273  CD2 LEU A 582     -50.890  30.114 -24.017  1.00 72.46           C
ATOM   4274  C   LEU A 582     -50.336  34.584 -25.672  1.00 70.13           C
ATOM   4275  O   LEU A 582     -49.128  34.337 -25.877  1.00 66.38           O
ATOM   4276  N   GLY A 583     -51.067  35.363 -26.472  1.00 72.07           N
ATOM   4277  CA  GLY A 583     -50.475  36.126 -27.554  1.00 75.16           C
ATOM   4278  C   GLY A 583     -50.377  35.386 -28.885  1.00 84.44           C
ATOM   4279  O   GLY A 583     -50.152  34.146 -28.940  1.00 91.81           O
ATOM   4280  N   GLY A 584     -50.574  36.159 -29.962  1.00 84.75           N
ATOM   4281  CA  GLY A 584     -50.143  35.786 -31.312  1.00 78.99           C
ATOM   4282  C   GLY A 584     -51.184  35.022 -32.076  1.00 77.06           C
ATOM   4283  O   GLY A 584     -52.328  34.916 -31.643  1.00 79.70           O
ATOM   4284  N   GLU A 585     -50.780  34.473 -33.212  1.00 76.14           N
ATOM   4285  CA  GLU A 585     -51.705  33.772 -34.079  1.00 76.89           C
ATOM   4286  CB  GLU A 585     -51.464  34.130 -35.548  1.00 77.79           C
ATOM   4287  CG  GLU A 585     -51.903  35.551 -35.884  1.00 80.77           C
ATOM   4288  CD  GLU A 585     -52.631  35.651 -37.205  1.00 87.60           C
ATOM   4289  OE1 GLU A 585     -52.497  36.706 -37.856  1.00 90.71           O
ATOM   4290  OE2 GLU A 585     -53.342  34.690 -37.596  1.00 89.17           O
ATOM   4291  C   GLU A 585     -51.722  32.271 -33.905  1.00 79.53           C
ATOM   4292  O   GLU A 585     -52.653  31.680 -34.407  1.00 85.34           O
ATOM   4293  N   ILE A 586     -50.756  31.645 -33.208  1.00 82.57           N
ATOM   4294  CA  ILE A 586     -50.739  30.156 -33.091  1.00 83.94           C
ATOM   4295  CB  ILE A 586     -49.330  29.536 -33.365  1.00 87.24           C
ATOM   4296  CG1 ILE A 586     -48.735  30.050 -34.708  1.00 86.57           C
ATOM   4297  CD1 ILE A 586     -47.540  30.966 -34.563  1.00 88.87           C
ATOM   4298  CG2 ILE A 586     -49.415  28.009 -33.468  1.00 87.83           C
ATOM   4299  C   ILE A 586     -51.453  29.586 -31.813  1.00 79.71           C
ATOM   4300  O   ILE A 586     -51.366  30.141 -30.709  1.00 76.86           O
ATOM   4301  N   ILE A 587     -52.188  28.492 -32.035  1.00 73.27           N
ATOM   4302  CA  ILE A 587     -53.047  27.837 -31.040  1.00 75.80           C
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ATOM   4303  CB  ILE A 587     -54.008  26.805 -31.710  1.00 79.93           C
ATOM   4304  CG1 ILE A 587     -53.381  25.963 -32.860  1.00 87.16           C
ATOM   4305  CD1 ILE A 587     -52.092  25.162 -32.602  1.00 92.94           C
ATOM   4306  CG2 ILE A 587     -55.171  27.514 -32.344  1.00 82.76           C
ATOM   4307  C   ILE A 587     -52.264  27.089 -29.946  1.00 75.45           C
ATOM   4308  O   ILE A 587     -51.097  26.775 -30.142  1.00 78.56           O
ATOM   4309  N   PRO A 588     -52.885  26.807 -28.784  1.00 71.21           N
ATOM   4310  CA  PRO A 588     -52.353  25.770 -27.907  1.00 70.81           C
ATOM   4311  CB  PRO A 588     -53.351  25.792 -26.747  1.00 71.11           C
ATOM   4312  CG  PRO A 588     -53.544  27.247 -26.549  1.00 71.02           C
ATOM   4313  CD  PRO A 588     -53.566  27.827 -27.970  1.00 73.10           C
ATOM   4314  C   PRO A 588     -52.290  24.382 -28.519  1.00 67.03           C
ATOM   4315  O   PRO A 588     -53.172  24.056 -29.283  1.00 66.73           O
ATOM   4316  N   ARG A 589     -51.247  23.596 -28.191  1.00 66.36           N
ATOM   4317  CA  ARG A 589     -51.165  22.150 -28.554  1.00 64.13           C
ATOM   4318  CB  ARG A 589     -50.029  21.856 -29.577  1.00 59.62           C
ATOM   4319  C   ARG A 589     -51.193  21.175 -27.319  1.00 59.82           C
ATOM   4320  O   ARG A 589     -51.721  20.078 -27.416  1.00 61.58           O
ATOM   4321  N   SER A 590     -50.676  21.555 -26.167  1.00 57.95           N
ATOM   4322  CA  SER A 590     -50.838  20.723 -24.964  1.00 58.70           C
ATOM   4323  CB  SER A 590     -49.812  19.572 -24.824  1.00 56.64           C
ATOM   4324  C   SER A 590     -50.707  21.638 -23.786  1.00 61.70           C
ATOM   4325  O   SER A 590     -50.017  22.682 -23.833  1.00 56.13           O
ATOM   4326  N   ILE A 591     -51.385  21.224 -22.724  1.00 64.61           N
ATOM   4327  CA  ILE A 591     -51.420  21.982 -21.509  1.00 64.14           C
ATOM   4328  CB  ILE A 591     -52.713  22.786 -21.398  1.00 69.41           C
ATOM   4329  CG1 ILE A 591     -52.518  23.858 -20.323  1.00 76.97           C
ATOM   4330  CD1 ILE A 591     -53.498  24.997 -20.446  1.00 81.53           C
ATOM   4331  CG2 ILE A 591     -53.959  21.896 -21.159  1.00 67.46           C
ATOM   4332  C   ILE A 591     -51.303  20.998 -20.408  1.00 60.79           C
ATOM   4333  O   ILE A 591     -51.825  19.930 -20.544  1.00 63.71           O
ATOM   4334  N   LEU A 592     -50.602  21.351 -19.346  1.00 62.09           N
ATOM   4335  CA  LEU A 592     -50.238  20.401 -18.303  1.00 68.64           C
ATOM   4336  CB  LEU A 592     -48.890  19.741 -18.638  1.00 66.48           C
ATOM   4337  CG  LEU A 592     -48.318  18.629 -17.708  1.00 68.09           C
ATOM   4338  CD1 LEU A 592     -49.321  17.727 -16.966  1.00 64.40           C
ATOM   4339  CD2 LEU A 592     -47.347  17.752 -18.493  1.00 69.87           C
ATOM   4340  C   LEU A 592     -50.166  21.078 -16.924  1.00 76.53           C
ATOM   4341  O   LEU A 592     -49.398  22.058 -16.748  1.00 76.84           O
ATOM   4342  N   MET A 593     -50.972  20.560 -15.975  1.00 75.46           N
ATOM   4343  CA  MET A 593     -50.955  20.987 -14.574  1.00 78.71           C
ATOM   4344  CB  MET A 593     -52.331  20.851 -13.889  1.00 83.10           C
ATOM   4345  CG  MET A 593     -53.175  22.114 -13.720  1.00 81.80           C
ATOM   4346  SD  MET A 593     -54.945  21.754 -13.498  1.00 83.56           S
ATOM   4347  CE  MET A 593     -54.943  20.453 -12.236  1.00 83.78           C
ATOM   4348  C   MET A 593     -50.037  19.991 -13.946  1.00 77.58           C
ATOM   4349  O   MET A 593     -50.370  18.797 -13.923  1.00 84.06           O
ATOM   4350  N   THR A 594     -48.905  20.464 -13.434  1.00 73.39           N
ATOM   4351  CA  THR A 594     -47.955  19.570 -12.816  1.00 73.95           C
ATOM   4352  CB  THR A 594     -46.867  19.188 -13.815  1.00 70.25           C
ATOM   4353  OG1 THR A 594     -46.827  17.761 -13.895  1.00 71.88           O
ATOM   4354  CG2 THR A 594     -45.472  19.764 -13.477  1.00 69.82           C
ATOM   4355  C   THR A 594     -47.405  20.111 -11.515  1.00 84.18           C
ATOM   4356  O   THR A 594     -47.607  21.283 -11.208  1.00 98.08           O
ATOM   4357  N   THR A 595     -46.657  19.289 -10.791  1.00 90.77           N
ATOM   4358  CA  THR A 595     -46.010  19.706  -9.551  1.00 86.88           C
ATOM   4359  CB  THR A 595     -46.707  19.105  -8.304  1.00 85.96           C
ATOM   4360  OG1 THR A 595     -45.759  18.864  -7.265  1.00 80.22           O
ATOM   4361  CG2 THR A 595     -47.386  17.813  -8.622  1.00 91.02           C
ATOM   4362  C   THR A 595     -44.507  19.402  -9.581  1.00 80.10           C
ATOM   4363  O   THR A 595     -44.111  18.270  -9.708  1.00 76.17           O
ATOM   4364  N   PHE A 596     -43.684  20.421  -9.417  1.00 82.51           N
ATOM   4365  CA  PHE A 596     -42.246  20.257  -9.418  1.00 89.45           C
ATOM   4366  CB  PHE A 596     -41.598  21.111 -10.477  1.00 93.61           C
ATOM   4367  CG  PHE A 596     -41.671  20.534 -11.848  1.00 96.20           C
ATOM   4368  CD1 PHE A 596     -41.485  19.198 -12.052  1.00 93.56           C
ATOM   4369  CE1 PHE A 596     -41.538  18.674 -13.313  1.00 93.45           C
ATOM   4370  CZ  PHE A 596     -41.768  19.489 -14.384  1.00 90.32           C
ATOM   4371  CE2 PHE A 596     -41.952  20.826 -14.191  1.00 89.10           C
ATOM   4372  CD2 PHE A 596     -41.896  21.343 -12.929  1.00 94.37           C
ATOM   4373  C   PHE A 596     -41.762  20.714  -8.075  1.00 95.95           C
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ATOM   4374  O   PHE A 596     -42.361  21.582  -7.456  1.00 90.97           O
ATOM   4375  N   GLU A 597     -40.686  20.110  -7.573  1.00103.55           N
ATOM   4376  CA  GLU A 597     -40.182  20.441  -6.244  1.00105.68           C
ATOM   4377  CB  GLU A 597     -39.905  21.928  -6.168  1.00108.45           C
ATOM   4378  CG  GLU A 597     -38.823  22.306  -5.186  1.00107.72           C
ATOM   4379  CD  GLU A 597     -37.443  22.120  -5.758  1.00103.22           C
ATOM   4380  OE1 GLU A 597     -37.088  20.970  -6.043  1.00103.58           O
ATOM   4381  OE2 GLU A 597     -36.716  23.121  -5.913  1.00 99.39           O
ATOM   4382  C   GLU A 597     -41.358  20.062  -5.372  1.00104.58           C
ATOM   4383  O   GLU A 597     -41.895  18.979  -5.546  1.00108.63           O
ATOM   4384  N   SER A 598     -41.787  20.931  -4.483  1.00 98.35           N
ATOM   4385  CA  SER A 598     -42.986  20.647  -3.738  1.00 91.10           C
ATOM   4386  CB  SER A 598     -42.733  20.590  -2.259  1.00 88.33           C
ATOM   4387  OG  SER A 598     -43.490  19.530  -1.720  1.00 88.20           O
ATOM   4388  C   SER A 598     -44.049  21.667  -4.125  1.00 90.80           C
ATOM   4389  O   SER A 598     -45.065  21.786  -3.476  1.00 85.25           O
ATOM   4390  N   SER A 599     -43.785  22.403  -5.195  1.00 97.99           N
ATOM   4391  CA  SER A 599     -44.655  23.437  -5.712  1.00 95.92           C
ATOM   4392  CB  SER A 599     -43.809  24.480  -6.414  1.00 98.82           C
ATOM   4393  OG  SER A 599     -42.620  24.708  -5.689  1.00 99.77           O
ATOM   4394  C   SER A 599     -45.678  22.909  -6.685  1.00 88.97           C
ATOM   4395  O   SER A 599     -45.776  21.721  -6.895  1.00 77.01           O
ATOM   4396  N   HIS A 600     -46.467  23.817  -7.243  1.00 91.39           N
ATOM   4397  CA  HIS A 600     -47.469  23.487  -8.239  1.00 92.74           C
ATOM   4398  CB  HIS A 600     -48.851  23.602  -7.660  1.00 92.16           C
ATOM   4399  CG  HIS A 600     -49.126  22.604  -6.599  1.00 95.67           C
ATOM   4400  ND1 HIS A 600     -48.280  21.551  -6.351  1.00 96.55           N
ATOM   4401  CE1 HIS A 600     -48.774  20.822  -5.370  1.00 96.70           C
ATOM   4402  NE2 HIS A 600     -49.909  21.366  -4.975  1.00 95.39           N
ATOM   4403  CD2 HIS A 600     -50.155  22.479  -5.734  1.00 96.19           C
ATOM   4404  C   HIS A 600     -47.382  24.439  -9.399  1.00 95.63           C
ATOM   4405  O   HIS A 600     -47.393  25.641  -9.203  1.00104.87           O
ATOM   4406  N   TYR A 601     -47.325  23.919 -10.613  1.00 95.55           N
ATOM   4407  CA  TYR A 601     -47.239  24.792 -11.764  1.00 90.47           C
ATOM   4408  CB  TYR A 601     -45.810  24.850 -12.300  1.00 87.84           C
ATOM   4409  CG  TYR A 601     -44.676  24.947 -11.309  1.00 89.85           C
ATOM   4410  CD1 TYR A 601     -44.652  24.187 -10.161  1.00 93.09           C
ATOM   4411  CE1 TYR A 601     -43.599  24.265  -9.276  1.00 97.48           C
ATOM   4412  CZ  TYR A 601     -42.532  25.084  -9.554  1.00 93.89           C
ATOM   4413  OH  TYR A 601     -41.474  25.160  -8.681  1.00 85.92           O
ATOM   4414  CE2 TYR A 601     -42.521  25.831 -10.700  1.00 89.00           C
ATOM   4415  CD2 TYR A 601     -43.586  25.753 -11.571  1.00 89.88           C
ATOM   4416  C   TYR A 601     -48.101  24.328 -12.913  1.00 86.12           C
ATOM   4417  O   TYR A 601     -48.481  23.177 -12.990  1.00 80.44           O
ATOM   4418  N   LEU A 602     -48.396  25.262 -13.803  1.00 85.06           N
ATOM   4419  CA  LEU A 602     -49.088  25.011 -15.068  1.00 75.71           C
ATOM   4420  CB  LEU A 602     -50.236  25.954 -15.236  1.00 71.78           C
ATOM   4421  CG  LEU A 602     -51.077  25.633 -16.460  1.00 75.58           C
ATOM   4422  CD1 LEU A 602     -52.526  25.408 -16.046  1.00 77.66           C
ATOM   4423  CD2 LEU A 602     -50.962  26.738 -17.500  1.00 74.25           C
ATOM   4424  C   LEU A 602     -48.129  25.263 -16.221  1.00 75.57           C
ATOM   4425  O   LEU A 602     -47.482  26.329 -16.296  1.00 68.67           O
ATOM   4426  N   LEU A 603     -48.030  24.267 -17.103  1.00 74.54           N
ATOM   4427  CA  LEU A 603     -47.282  24.400 -18.353  1.00 73.64           C
ATOM   4428  CB  LEU A 603     -46.253  23.262 -18.552  1.00 77.60           C
ATOM   4429  CG  LEU A 603     -44.964  23.179 -17.705  1.00 77.15           C
ATOM   4430  CD1 LEU A 603     -45.291  23.112 -16.229  1.00 81.74           C
ATOM   4431  CD2 LEU A 603     -44.144  21.962 -18.072  1.00 78.37           C
ATOM   4432  C   LEU A 603     -48.323  24.421 -19.464  1.00 68.16           C
ATOM   4433  O   LEU A 603     -49.419  23.886 -19.288  1.00 64.38           O
ATOM   4434  N   CYS A 604     -47.985  25.128 -20.546  1.00 67.04           N
ATOM   4435  CA  CYS A 604     -48.800  25.248 -21.746  1.00 64.89           C
ATOM   4436  CB  CYS A 604     -49.711  26.460 -21.695  1.00 63.06           C
ATOM   4437  SG  CYS A 604     -50.952  26.252 -22.989  1.00 69.00           S
ATOM   4438  C   CYS A 604     -47.900  25.397 -22.950  1.00 64.50           C
ATOM   4439  O   CYS A 604     -47.002  26.244 -22.922  1.00 64.70           O
ATOM   4440  N   ALA A 605     -48.135  24.590 -23.995  1.00 65.48           N
ATOM   4441  CA  ALA A 605     -47.300  24.623 -25.216  1.00 67.14           C
ATOM   4442  CB  ALA A 605     -46.682  23.263 -25.458  1.00 63.85           C
ATOM   4443  C   ALA A 605     -48.040  25.135 -26.484  1.00 70.72           C
ATOM   4444  O   ALA A 605     -49.210  24.807 -26.715  1.00 66.96           O
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ATOM   4445  N   LEU A 606     -47.340  25.956 -27.273  1.00 74.10           N
ATOM   4446  CA  LEU A 606     -47.859  26.507 -28.523  1.00 77.22           C
ATOM   4447  CB  LEU A 606     -47.494  27.991 -28.689  1.00 77.73           C
ATOM   4448  CG  LEU A 606     -47.902  29.034 -27.624  1.00 81.91           C
ATOM   4449  CD1 LEU A 606     -48.136  30.419 -28.250  1.00 80.03           C
ATOM   4450  CD2 LEU A 606     -49.105  28.583 -26.777  1.00 81.52           C
ATOM   4451  C   LEU A 606     -47.281  25.737 -29.690  1.00 81.89           C
ATOM   4452  O   LEU A 606     -46.202  25.134 -29.570  1.00 88.20           O
ATOM   4453  N   GLY A 607     -48.004  25.781 -30.817  1.00 84.48           N
ATOM   4454  CA  GLY A 607     -47.640  25.103 -32.066  1.00 85.05           C
ATOM   4455  C   GLY A 607     -46.297  25.521 -32.646  1.00 88.67           C
ATOM   4456  O   GLY A 607     -45.571  24.686 -33.191  1.00 93.71           O
ATOM   4457  N   ASP A 608     -45.957  26.804 -32.512  1.00 88.05           N
ATOM   4458  CA  ASP A 608     -44.627  27.305 -32.897  1.00 87.10           C
ATOM   4459  CB  ASP A 608     -44.602  28.848 -32.960  1.00 90.29           C
ATOM   4460  CG  ASP A 608     -44.833  29.519 -31.593  1.00 89.69           C
ATOM   4461  OD1 ASP A 608     -45.366  28.864 -30.675  1.00 84.75           O
ATOM   4462  OD2 ASP A 608     -44.501  30.717 -31.452  1.00 93.34           O
ATOM   4463  C   ASP A 608     -43.443  26.827 -32.044  1.00 84.59           C
ATOM   4464  O   ASP A 608     -42.313  27.077 -32.444  1.00 90.74           O
ATOM   4465  N   GLY A 609     -43.672  26.189 -30.888  1.00 78.51           N
ATOM   4466  CA  GLY A 609     -42.564  25.804 -29.969  1.00 80.68           C
ATOM   4467  C   GLY A 609     -42.567  26.406 -28.553  1.00 77.60           C
ATOM   4468  O   GLY A 609     -42.107  25.785 -27.598  1.00 73.18           O
ATOM   4469  N   ALA A 610     -43.088  27.623 -28.437  1.00 79.21           N
ATOM   4470  CA  ALA A 610     -43.288  28.342 -27.163  1.00 74.27           C
ATOM   4471  CB  ALA A 610     -44.120  29.620 -27.410  1.00 74.04           C
ATOM   4472  C   ALA A 610     -43.905  27.523 -26.002  1.00 69.79           C
ATOM   4473  O   ALA A 610     -44.976  26.915 -26.104  1.00 60.94           O
ATOM   4474  N   LEU A 611     -43.198  27.544 -24.887  1.00 69.85           N
ATOM   4475  CA  LEU A 611     -43.663  26.931 -23.686  1.00 74.21           C
ATOM   4476  CB  LEU A 611     -42.676  25.842 -23.282  1.00 78.04           C
ATOM   4477  CG  LEU A 611     -43.001  24.857 -22.153  1.00 80.92           C
ATOM   4478  CD1 LEU A 611     -42.269  25.246 -20.888  1.00 86.76           C
ATOM   4479  CD2 LEU A 611     -44.481  24.747 -21.853  1.00 81.41           C
ATOM   4480  C   LEU A 611     -43.733  28.050 -22.667  1.00 76.73           C
ATOM   4481  O   LEU A 611     -42.730  28.750 -22.451  1.00 75.56           O
ATOM   4482  N   PHE A 612     -44.930  28.249 -22.106  1.00 77.44           N
ATOM   4483  CA  PHE A 612     -45.177  29.227 -21.045  1.00 80.41           C
ATOM   4484  CB  PHE A 612     -46.445  30.078 -21.313  1.00 85.15           C
ATOM   4485  CG  PHE A 612     -46.293  31.089 -22.431  1.00 87.90           C
ATOM   4486  CD1 PHE A 612     -45.560  32.267 -22.238  1.00 87.59           C
ATOM   4487  CE1 PHE A 612     -45.409  33.179 -23.269  1.00 85.72           C
ATOM   4488  CZ  PHE A 612     -45.992  32.932 -24.505  1.00 87.13           C
ATOM   4489  CE2 PHE A 612     -46.711  31.768 -24.720  1.00 84.79           C
ATOM   4490  CD2 PHE A 612     -46.871  30.861 -23.684  1.00 85.33           C
ATOM   4491  C   PHE A 612     -45.398  28.427 -19.774  1.00 79.86           C
ATOM   4492  O   PHE A 612     -46.193  27.483 -19.786  1.00 74.35           O
ATOM   4493  N   TYR A 613     -44.733  28.820 -18.682  1.00 77.95           N
ATOM   4494  CA  TYR A 613     -45.087  28.301 -17.358  1.00 75.32           C
ATOM   4495  CB  TYR A 613     -43.967  27.459 -16.770  1.00 71.71           C
ATOM   4496  CG  TYR A 613     -42.571  28.042 -16.711  1.00 67.52           C
ATOM   4497  CD1 TYR A 613     -41.789  28.133 -17.858  1.00 65.63           C
ATOM   4498  CE1 TYR A 613     -40.471  28.603 -17.801  1.00 65.27           C
ATOM   4499  CZ  TYR A 613     -39.907  28.980 -16.570  1.00 64.53           C
ATOM   4500  OH  TYR A 613     -38.606  29.461 -16.548  1.00 56.40           O
ATOM   4501  CE2 TYR A 613     -40.663  28.865 -15.402  1.00 66.58           C
ATOM   4502  CD2 TYR A 613     -41.977  28.385 -15.475  1.00 67.89           C
ATOM   4503  C   TYR A 613     -45.615  29.328 -16.330  1.00 78.43           C
ATOM   4504  O   TYR A 613     -45.327  30.527 -16.410  1.00 76.05           O
ATOM   4505  N   PHE A 614     -46.412  28.822 -15.386  1.00 78.40           N
ATOM   4506  CA  PHE A 614     -47.058  29.615 -14.341  1.00 83.02           C
ATOM   4507  CB  PHE A 614     -48.512  29.875 -14.742  1.00 87.38           C
ATOM   4508  CG  PHE A 614     -48.666  30.683 -15.998  1.00 91.32           C
ATOM   4509  CD1 PHE A 614     -48.552  30.079 -17.260  1.00 91.87           C
ATOM   4510  CE1 PHE A 614     -48.691  30.820 -18.428  1.00 88.66           C
ATOM   4511  CZ  PHE A 614     -48.949  32.181 -18.339  1.00 93.34           C
ATOM   4512  CE2 PHE A 614     -49.066  32.795 -17.087  1.00 93.51           C
ATOM   4513  CD2 PHE A 614     -48.930  32.046 -15.931  1.00 93.67           C
ATOM   4514  C   PHE A 614     -47.053  28.836 -13.006  1.00 85.77           C
ATOM   4515  O   PHE A 614     -47.275  27.628 -13.030  1.00 93.65           O
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ATOM   4516  N   GLY A 615     -46.816  29.500 -11.858  1.00 77.80           N
ATOM   4517  CA  GLY A 615     -46.992  28.862 -10.534  1.00 72.98           C
ATOM   4518  C   GLY A 615     -48.473  28.605 -10.303  1.00 72.64           C
ATOM   4519  O   GLY A 615     -49.275  29.403 -10.728  1.00 73.28           O
ATOM   4520  N   LEU A 616     -48.864  27.518  -9.648  1.00 72.56           N
ATOM   4521  CA  LEU A 616     -50.285  27.218  -9.508  1.00 80.57           C
ATOM   4522  CB  LEU A 616     -50.632  25.891 -10.169  1.00 87.89           C
ATOM   4523  CG  LEU A 616     -52.141  25.597 -10.371  1.00 95.58           C
ATOM   4524  CD1 LEU A 616     -52.732  26.481 -11.467  1.00100.27           C
ATOM   4525  CD2 LEU A 616     -52.439  24.136 -10.670  1.00 98.76           C
ATOM   4526  C   LEU A 616     -50.758  27.184  -8.074  1.00 87.84           C
ATOM   4527  O   LEU A 616     -50.027  26.827  -7.164  1.00 96.81           O
ATOM   4528  N   ASN A 617     -51.979  27.626  -7.868  1.00 94.21           N
ATOM   4529  CA  ASN A 617     -52.535  27.627  -6.546  1.00 98.71           C
ATOM   4530  CB  ASN A 617     -53.035  29.019  -6.226  1.00 99.72           C
ATOM   4531  CG  ASN A 617     -53.683  29.099  -4.878  1.00101.08           C
ATOM   4532  OD1 ASN A 617     -53.343  29.953  -4.075  1.00108.72           O
ATOM   4533  ND2 ASN A 617     -54.613  28.200  -4.613  1.00101.68           N
ATOM   4534  C   ASN A 617     -53.687  26.696  -6.688  1.00101.16           C
ATOM   4535  O   ASN A 617     -54.709  27.079  -7.229  1.00102.17           O
ATOM   4536  N   ILE A 618     -53.552  25.481  -6.185  1.00 99.91           N
ATOM   4537  CA  ILE A 618     -54.619  24.528  -6.360  1.00102.01           C
ATOM   4538  CB  ILE A 618     -54.253  23.136  -5.833  1.00100.01           C
ATOM   4539  CG1 ILE A 618     -54.255  23.101  -4.313  1.00100.40           C
ATOM   4540  CD1 ILE A 618     -53.959  21.731  -3.748  1.00 93.86           C
ATOM   4541  CG2 ILE A 618     -52.895  22.726  -6.344  1.00100.40           C
ATOM   4542  C   ILE A 618     -55.911  24.946  -5.723  1.00111.07           C
ATOM   4543  O   ILE A 618     -56.959  24.800  -6.326  1.00120.34           O
ATOM   4544  N   GLU A 619     -55.855  25.469  -4.510  1.00106.01           N
ATOM   4545  CA  GLU A 619     -57.085  25.839  -3.838  1.00 96.25           C
ATOM   4546  CB  GLU A 619     -56.776  26.257  -2.410  1.00 96.37           C
ATOM   4547  C   GLU A 619     -57.870  26.933  -4.524  1.00 88.63           C
ATOM   4548  O   GLU A 619     -59.071  26.835  -4.672  1.00 71.44           O
ATOM   4549  N   THR A 620     -57.181  27.973  -4.951  1.00 90.41           N
ATOM   4550  CA  THR A 620     -57.830  29.100  -5.583  1.00 90.17           C
ATOM   4551  CB  THR A 620     -57.148  30.393  -5.142  1.00 81.28           C
ATOM   4552  C   THR A 620     -57.826  29.144  -7.091  1.00 95.63           C
ATOM   4553  O   THR A 620     -58.811  29.494  -7.713  1.00 96.18           O
ATOM   4554  N   GLY A 621     -56.699  28.802  -7.674  1.00 97.39           N
ATOM   4555  CA  GLY A 621     -56.513  28.862  -9.137  1.00 96.30           C
ATOM   4556  C   GLY A 621     -55.500  29.910  -9.617  1.00 99.98           C
ATOM   4557  O   GLY A 621     -55.190  29.970 -10.816  1.00 94.56           O
ATOM   4558  N   LEU A 622     -54.994  30.748  -8.703  1.00105.31           N
ATOM   4559  CA  LEU A 622     -54.068  31.829  -9.069  1.00103.24           C
ATOM   4560  CB  LEU A 622     -53.759  32.756  -7.858  1.00 98.15           C
ATOM   4561  C   LEU A 622     -52.796  31.288  -9.802  1.00 95.15           C
ATOM   4562  O   LEU A 622     -51.860  30.718  -9.211  1.00 80.42           O
ATOM   4563  N   LEU A 623     -52.845  31.430 -11.127  1.00 95.50           N
ATOM   4564  CA  LEU A 623     -51.662  31.342 -11.987  1.00 96.38           C
ATOM   4565  CB  LEU A 623     -52.046  31.041 -13.475  1.00 97.26           C
ATOM   4566  C   LEU A 623     -50.835  32.649 -11.808  1.00 86.10           C
ATOM   4567  O   LEU A 623     -51.360  33.744 -11.970  1.00 77.35           O
ATOM   4568  N   SER A 624     -49.555  32.494 -11.449  1.00 83.18           N
ATOM   4569  CA  SER A 624     -48.604  33.593 -11.186  1.00 79.78           C
ATOM   4570  CB  SER A 624     -48.312  33.632  -9.672  1.00 78.15           C
ATOM   4571  OG  SER A 624     -47.345  32.661  -9.265  1.00 73.43           O
ATOM   4572  C   SER A 624     -47.264  33.472 -11.980  1.00 78.93           C
ATOM   4573  O   SER A 624     -46.916  32.400 -12.449  1.00 83.33           O
ATOM   4574  N   ASP A 625     -46.525  34.573 -12.109  1.00 80.84           N
ATOM   4575  CA  ASP A 625     -45.152  34.608 -12.676  1.00 84.69           C
ATOM   4576  CB  ASP A 625     -44.147  34.038 -11.680  1.00 90.68           C
ATOM   4577  CG  ASP A 625     -43.978  34.907 -10.477  1.00 99.65           C
ATOM   4578  OD1 ASP A 625     -43.917  36.149 -10.633  1.00104.12           O
ATOM   4579  OD2 ASP A 625     -43.890  34.346  -9.368  1.00111.73           O
ATOM   4580  C   ASP A 625     -44.949  33.932 -14.026  1.00 84.04           C
ATOM   4581  O   ASP A 625     -44.254  32.899 -14.136  1.00 91.01           O
ATOM   4582  N   ARG A 626     -45.535  34.530 -15.058  1.00 77.22           N
ATOM   4583  CA  ARG A 626     -45.403  33.996 -16.399  1.00 72.04           C
ATOM   4584  CB  ARG A 626     -46.370  34.685 -17.396  1.00 73.60           C
ATOM   4585  CG  ARG A 626     -45.884  35.880 -18.263  1.00 74.29           C
ATOM   4586  CD  ARG A 626     -45.643  35.520 -19.749  1.00 70.04           C
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ATOM   4587  NE  ARG A 626     -46.680  35.840 -20.766  1.00 66.20           N
ATOM   4588  CZ  ARG A 626     -48.028  35.823 -20.642  1.00 66.81           C
ATOM   4589  NH1 ARG A 626     -48.684  35.526 -19.511  1.00 65.58           N
ATOM   4590  NH2 ARG A 626     -48.776  36.109 -21.715  1.00 64.54           N
ATOM   4591  C   ARG A 626     -43.931  34.089 -16.785  1.00 68.01           C
ATOM   4592  O   ARG A 626     -43.288  35.096 -16.529  1.00 64.31           O
ATOM   4593  N   LYS A 627     -43.378  32.986 -17.270  1.00 65.55           N
ATOM   4594  CA  LYS A 627     -42.154  33.045 -18.042  1.00 65.20           C
ATOM   4595  CB  LYS A 627     -40.944  32.609 -17.193  1.00 61.46           C
ATOM   4596  C   LYS A 627     -42.380  32.236 -19.353  1.00 67.19           C
ATOM   4597  O   LYS A 627     -43.321  31.424 -19.473  1.00 62.01           O
ATOM   4598  N   LYS A 628     -41.555  32.539 -20.352  1.00 70.75           N
ATOM   4599  CA  LYS A 628     -41.614  31.914 -21.668  1.00 74.16           C
ATOM   4600  CB  LYS A 628     -41.841  32.972 -22.755  1.00 77.10           C
ATOM   4601  CG  LYS A 628     -41.678  32.487 -24.195  1.00 79.09           C
ATOM   4602  CD  LYS A 628     -42.371  33.400 -25.193  1.00 81.97           C
ATOM   4603  CE  LYS A 628     -41.798  33.218 -26.590  1.00 85.22           C
ATOM   4604  NZ  LYS A 628     -42.596  33.973 -27.583  1.00 87.33           N
ATOM   4605  C   LYS A 628     -40.298  31.266 -21.949  1.00 73.77           C
ATOM   4606  O   LYS A 628     -39.283  31.703 -21.454  1.00 73.86           O
ATOM   4607  N   VAL A 629     -40.324  30.307 -22.850  1.00 76.66           N
ATOM   4608  CA  VAL A 629     -39.127  29.694 -23.342  1.00 78.17           C
ATOM   4609  CB  VAL A 629     -38.648  28.582 -22.445  1.00 82.90           C
ATOM   4610  CG1 VAL A 629     -39.726  27.536 -22.325  1.00 84.33           C
ATOM   4611  CG2 VAL A 629     -37.387  27.991 -23.022  1.00 88.27           C
ATOM   4612  C   VAL A 629     -39.535  29.141 -24.678  1.00 75.87           C
ATOM   4613  O   VAL A 629     -40.698  28.849 -24.872  1.00 75.54           O
ATOM   4614  N   THR A 630     -38.599  28.985 -25.596  1.00 74.24           N
ATOM   4615  CA  THR A 630     -38.951  28.458 -26.894  1.00 78.00           C
ATOM   4616  CB  THR A 630     -38.677  29.486 -28.003  1.00 80.70           C
ATOM   4617  OG1 THR A 630     -37.313  29.413 -28.416  1.00 81.31           O
ATOM   4618  CG2 THR A 630     -38.950  30.885 -27.515  1.00 81.59           C
ATOM   4619  C   THR A 630     -38.175  27.187 -27.159  1.00 79.08           C
ATOM   4620  O   THR A 630     -36.963  27.197 -27.146  1.00 74.30           O
ATOM   4621  N   LEU A 631     -38.873  26.092 -27.406  1.00 81.37           N
ATOM   4622  CA  LEU A 631     -38.206  24.834 -27.660  1.00 81.88           C
ATOM   4623  CB  LEU A 631     -38.477  23.907 -26.489  1.00 81.85           C
ATOM   4624  CG  LEU A 631     -39.039  24.498 -25.206  1.00 80.43           C
ATOM   4625  CD1 LEU A 631     -39.807  23.471 -24.407  1.00 73.92           C
ATOM   4626  CD2 LEU A 631     -37.929  25.108 -24.386  1.00 79.49           C
ATOM   4627  C   LEU A 631     -38.764  24.117 -28.849  1.00 87.41           C
ATOM   4628  O   LEU A 631     -39.914  23.768 -28.817  1.00 99.19           O
ATOM   4629  N   GLY A 632     -37.974  23.833 -29.871  1.00 92.91           N
ATOM   4630  CA  GLY A 632     -38.486  23.075 -31.002  1.00102.38           C
ATOM   4631  C   GLY A 632     -39.657  23.691 -31.721  1.00105.65           C
ATOM   4632  O   GLY A 632     -40.764  23.680 -31.213  1.00110.59           O
ATOM   4633  N   THR A 633     -39.437  24.201 -32.920  1.00102.36           N
ATOM   4634  CA  THR A 633     -40.517  24.860 -33.629  1.00100.41           C
ATOM   4635  CB  THR A 633     -40.037  25.443 -34.947  1.00100.29           C
ATOM   4636  OG1 THR A 633     -39.939  24.394 -35.902  1.00 95.66           O
ATOM   4637  CG2 THR A 633     -38.688  26.063 -34.767  1.00100.19           C
ATOM   4638  C   THR A 633     -41.727  23.985 -33.896  1.00 91.79           C
ATOM   4639  O   THR A 633     -42.839  24.453 -33.751  1.00 82.22           O
ATOM   4640  N   GLN A 634     -41.565  22.729 -34.273  1.00 88.95           N
ATOM   4641  CA  GLN A 634     -42.818  21.972 -34.502  1.00 86.91           C
ATOM   4642  CB  GLN A 634     -42.530  20.553 -35.062  1.00 77.10           C
ATOM   4643  C   GLN A 634     -43.679  22.042 -33.154  1.00 85.93           C
ATOM   4644  O   GLN A 634     -43.178  22.440 -32.096  1.00 78.31           O
ATOM   4645  N   PRO A 635     -44.998  21.751 -33.197  1.00 87.23           N
ATOM   4646  CA  PRO A 635     -45.805  21.825 -31.952  1.00 83.93           C
ATOM   4647  CB  PRO A 635     -47.216  21.416 -32.405  1.00 87.39           C
ATOM   4648  CG  PRO A 635     -47.241  21.677 -33.871  1.00 90.23           C
ATOM   4649  CD  PRO A 635     -45.833  21.469 -34.377  1.00 89.86           C
ATOM   4650  C   PRO A 635     -45.327  20.852 -30.900  1.00 81.61           C
ATOM   4651  O   PRO A 635     -44.676  19.867 -31.252  1.00 79.88           O
ATOM   4652  N   THR A 636     -45.701  21.089 -29.641  1.00 78.27           N
ATOM   4653  CA  THR A 636     -45.052  20.426 -28.494  1.00 77.77           C
ATOM   4654  CB  THR A 636     -44.139  21.445 -27.746  1.00 81.54           C
ATOM   4655  OG1 THR A 636     -43.281  22.108 -28.694  1.00 89.80           O
ATOM   4656  CG2 THR A 636     -43.263  20.779 -26.642  1.00 80.08           C
ATOM   4657  C   THR A 636     -46.011  19.731 -27.502  1.00 73.89           C
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ATOM   4658  O   THR A 636     -46.723  20.412 -26.771  1.00 72.56           O
ATOM   4659  N   VAL A 637     -45.981  18.383 -27.456  1.00 71.24           N
ATOM   4660  CA  VAL A 637     -46.789  17.569 -26.511  1.00 68.23           C
ATOM   4661  CB  VAL A 637     -47.130  16.178 -27.083  1.00 69.43           C
ATOM   4662  CG1 VAL A 637     -48.055  15.390 -26.133  1.00 69.62           C
ATOM   4663  CG2 VAL A 637     -47.749  16.324 -28.465  1.00 71.51           C
ATOM   4664  C   VAL A 637     -46.061  17.335 -25.194  1.00 63.81           C
ATOM   4665  O   VAL A 637     -44.929  16.865 -25.205  1.00 60.73           O
ATOM   4666  N   LEU A 638     -46.740  17.610 -24.075  1.00 60.89           N
ATOM   4667  CA  LEU A 638     -46.152  17.465 -22.742  1.00 59.71           C
ATOM   4668  CB  LEU A 638     -46.375  18.722 -21.950  1.00 59.60           C
ATOM   4669  CG  LEU A 638     -45.764  20.016 -22.491  1.00 57.33           C
ATOM   4670  CD1 LEU A 638     -46.479  21.215 -21.899  1.00 55.72           C
ATOM   4671  CD2 LEU A 638     -44.297  20.091 -22.161  1.00 56.90           C
ATOM   4672  C   LEU A 638     -46.715  16.285 -21.976  1.00 60.73           C
ATOM   4673  O   LEU A 638     -47.853  15.955 -22.110  1.00 62.11           O
ATOM   4674  N   ARG A 639     -45.893  15.670 -21.145  1.00 67.47           N
ATOM   4675  CA  ARG A 639     -46.136  14.309 -20.667  1.00 68.68           C
ATOM   4676  CB  ARG A 639     -45.790  13.334 -21.776  1.00 75.83           C
ATOM   4677  CG  ARG A 639     -47.002  12.935 -22.604  1.00 87.96           C
ATOM   4678  CD  ARG A 639     -47.632  11.594 -22.181  1.00 93.91           C
ATOM   4679  NE  ARG A 639     -47.467  11.186 -20.770  1.00 94.83           N
ATOM   4680  CZ  ARG A 639     -48.019  10.090 -20.225  1.00 94.26           C
ATOM   4681  NH1 ARG A 639     -48.800   9.244 -20.956  1.00 89.24           N
ATOM   4682  NH2 ARG A 639     -47.802   9.851 -18.919  1.00 89.67           N
ATOM   4683  C   ARG A 639     -45.325  13.987 -19.424  1.00 64.92           C
ATOM   4684  O   ARG A 639     -44.114  14.218 -19.355  1.00 63.69           O
ATOM   4685  N   THR A 640     -46.002  13.465 -18.427  1.00 59.81           N
ATOM   4686  CA  THR A 640     -45.397  13.342 -17.139  1.00 58.63           C
ATOM   4687  CB  THR A 640     -46.495  13.549 -16.073  1.00 60.33           C
ATOM   4688  OG1 THR A 640     -46.767  14.962 -15.963  1.00 59.03           O
ATOM   4689  CG2 THR A 640     -46.131  12.913 -14.680  1.00 60.38           C
ATOM   4690  C   THR A 640     -44.734  11.973 -17.076  1.00 58.28           C
ATOM   4691  O   THR A 640     -45.285  11.024 -17.614  1.00 55.87           O
ATOM   4692  N   PHE A 641     -43.545  11.906 -16.455  1.00 59.93           N
ATOM   4693  CA  PHE A 641     -42.906  10.651 -15.963  1.00 61.58           C
ATOM   4694  CB  PHE A 641     -41.867  10.124 -16.976  1.00 61.81           C
ATOM   4695  CG  PHE A 641     -40.620  10.996 -17.209  1.00 54.54           C
ATOM   4696  CD1 PHE A 641     -40.680  12.200 -17.873  1.00 56.26           C
ATOM   4697  CE1 PHE A 641     -39.533  12.934 -18.147  1.00 54.94           C
ATOM   4698  CZ  PHE A 641     -38.306  12.441 -17.807  1.00 52.27           C
ATOM   4699  CE2 PHE A 641     -38.237  11.230 -17.204  1.00 52.49           C
ATOM   4700  CD2 PHE A 641     -39.384  10.514 -16.919  1.00 51.85           C
ATOM   4701  C   PHE A 641     -42.241  10.745 -14.575  1.00 68.80           C
ATOM   4702  O   PHE A 641     -41.992  11.849 -14.107  1.00 65.95           O
ATOM   4703  N   ARG A 642     -41.922   9.601 -13.944  1.00 77.35           N
ATOM   4704  CA  ARG A 642     -41.061   9.578 -12.712  1.00 82.93           C
ATOM   4705  CB  ARG A 642     -41.518   8.488 -11.730  1.00 89.57           C
ATOM   4706  CG  ARG A 642     -43.029   8.216 -11.694  1.00100.96           C
ATOM   4707  CD  ARG A 642     -43.614   8.130 -10.284  1.00108.08           C
ATOM   4708  NE  ARG A 642     -43.380   9.384  -9.549  1.00119.92           N
ATOM   4709  CZ  ARG A 642     -44.079   9.817  -8.500  1.00123.09           C
ATOM   4710  NH1 ARG A 642     -45.118   9.125  -8.025  1.00123.32           N
ATOM   4711  NH2 ARG A 642     -43.737  10.978  -7.927  1.00124.59           N
ATOM   4712  C   ARG A 642     -39.571   9.330 -13.061  1.00 85.76           C
ATOM   4713  O   ARG A 642     -39.306   8.477 -13.897  1.00 89.89           O
ATOM   4714  N   SER A 643     -38.608  10.047 -12.450  1.00 90.79           N
ATOM   4715  CA  SER A 643     -37.142   9.703 -12.562  1.00 96.55           C
ATOM   4716  CB  SER A 643     -36.386  10.564 -13.609  1.00 87.90           C
ATOM   4717  C   SER A 643     -36.410   9.776 -11.205  1.00101.55           C
ATOM   4718  O   SER A 643     -35.829  10.822 -10.885  1.00110.05           O
ATOM   4719  N   LEU A 644     -36.411   8.655 -10.454  1.00 95.96           N
ATOM   4720  CA  LEU A 644     -35.899   8.571  -9.055  1.00 95.11           C
ATOM   4721  CB  LEU A 644     -34.404   8.996  -8.918  1.00 80.47           C
ATOM   4722  C   LEU A 644     -36.815   9.321  -8.040  1.00 97.62           C
ATOM   4723  O   LEU A 644     -36.498  10.439  -7.616  1.00 95.22           O
ATOM   4724  N   SER A 645     -37.935   8.668  -7.669  1.00100.62           N
ATOM   4725  CA  SER A 645     -38.939   9.111  -6.629  1.00103.52           C
ATOM   4726  CB  SER A 645     -38.487   8.756  -5.187  1.00 99.83           C
ATOM   4727  C   SER A 645     -39.381  10.577  -6.706  1.00103.29           C
ATOM   4728  O   SER A 645     -39.641  11.214  -5.690  1.00101.72           O
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ATOM   4729  N   THR A 646     -39.496  11.071  -7.933  1.00108.06           N
ATOM   4730  CA  THR A 646     -39.762  12.484  -8.240  1.00108.07           C
ATOM   4731  CB  THR A 646     -38.483  13.366  -8.052  1.00110.10           C
ATOM   4732  OG1 THR A 646     -38.791  14.743  -8.313  1.00110.13           O
ATOM   4733  CG2 THR A 646     -37.306  12.936  -8.967  1.00106.37           C
ATOM   4734  C   THR A 646     -40.257  12.549  -9.696  1.00103.93           C
ATOM   4735  O   THR A 646     -39.874  11.692 -10.498  1.00110.41           O
ATOM   4736  N   THR A 647     -41.094  13.536 -10.037  1.00 94.13           N
ATOM   4737  CA  THR A 647     -41.638  13.661 -11.409  1.00 83.28           C
ATOM   4738  CB  THR A 647     -43.157  14.005 -11.461  1.00 83.97           C
ATOM   4739  OG1 THR A 647     -43.364  15.423 -11.299  1.00 81.66           O
ATOM   4740  CG2 THR A 647     -43.973  13.191 -10.435  1.00 82.28           C
ATOM   4741  C   THR A 647     -40.934  14.708 -12.263  1.00 73.49           C
ATOM   4742  O   THR A 647     -40.680  15.799 -11.815  1.00 69.72           O
ATOM   4743  N   ASN A 648     -40.663  14.353 -13.508  1.00 71.47           N
ATOM   4744  CA  ASN A 648     -40.339  15.300 -14.575  1.00 71.46           C
ATOM   4745  CB  ASN A 648     -39.061  14.867 -15.234  1.00 71.58           C
ATOM   4746  CG  ASN A 648     -37.958  14.804 -14.255  1.00 75.71           C
ATOM   4747  OD1 ASN A 648     -38.078  15.393 -13.182  1.00 71.47           O
ATOM   4748  ND2 ASN A 648     -36.871  14.101 -14.597  1.00 82.33           N
ATOM   4749  C   ASN A 648     -41.423  15.397 -15.626  1.00 70.40           C
ATOM   4750  O   ASN A 648     -42.478  14.746 -15.524  1.00 75.87           O
ATOM   4751  N   VAL A 649     -41.170  16.250 -16.611  1.00 63.36           N
ATOM   4752  CA  VAL A 649     -42.035  16.399 -17.744  1.00 59.26           C
ATOM   4753  CB  VAL A 649     -42.617  17.798 -17.791  1.00 55.44           C
ATOM   4754  CG1 VAL A 649     -42.896  18.249 -19.208  1.00 56.43           C
ATOM   4755  CG2 VAL A 649     -43.884  17.841 -16.967  1.00 56.33           C
ATOM   4756  C   VAL A 649     -41.175  16.148 -18.932  1.00 61.23           C
ATOM   4757  O   VAL A 649     -40.018  16.581 -18.964  1.00 67.34           O
ATOM   4758  N   PHE A 650     -41.734  15.437 -19.899  1.00 58.26           N
ATOM   4759  CA  PHE A 650     -41.043  15.184 -21.134  1.00 57.22           C
ATOM   4760  CB  PHE A 650     -41.090  13.696 -21.490  1.00 56.08           C
ATOM   4761  CG  PHE A 650     -40.182  13.333 -22.629  1.00 56.36           C
ATOM   4762  CD1 PHE A 650     -40.571  13.551 -23.934  1.00 58.58           C
ATOM   4763  CE1 PHE A 650     -39.734  13.209 -24.988  1.00 62.13           C
ATOM   4764  CZ  PHE A 650     -38.482  12.698 -24.737  1.00 59.65           C
ATOM   4765  CE2 PHE A 650     -38.081  12.523 -23.427  1.00 57.47           C
ATOM   4766  CD2 PHE A 650     -38.924  12.830 -22.393  1.00 54.69           C
ATOM   4767  C   PHE A 650     -41.741  15.988 -22.191  1.00 53.82           C
ATOM   4768  O   PHE A 650     -42.935  15.856 -22.344  1.00 55.52           O
ATOM   4769  N   ALA A 651     -41.010  16.789 -22.941  1.00 49.79           N
ATOM   4770  CA  ALA A 651     -41.641  17.642 -23.906  1.00 49.04           C
ATOM   4771  CB  ALA A 651     -41.147  19.060 -23.739  1.00 47.77           C
ATOM   4772  C   ALA A 651     -41.286  17.098 -25.238  1.00 49.06           C
ATOM   4773  O   ALA A 651     -40.189  17.301 -25.694  1.00 50.26           O
ATOM   4774  N   CYS A 652     -42.205  16.374 -25.852  1.00 53.14           N
ATOM   4775  CA  CYS A 652     -41.965  15.770 -27.185  1.00 56.51           C
ATOM   4776  CB  CYS A 652     -42.971  14.634 -27.480  1.00 56.00           C
ATOM   4777  SG  CYS A 652     -43.349  13.555 -26.072  1.00 56.84           S
ATOM   4778  C   CYS A 652     -42.046  16.845 -28.255  1.00 58.19           C
ATOM   4779  O   CYS A 652     -43.034  17.514 -28.338  1.00 54.03           O
ATOM   4780  N   SER A 653     -41.001  17.015 -29.063  1.00 71.35           N
ATOM   4781  CA  SER A 653     -40.949  18.078 -30.113  1.00 80.73           C
ATOM   4782  CB  SER A 653     -40.756  19.506 -29.489  1.00 88.29           C
ATOM   4783  OG  SER A 653     -39.406  19.869 -29.158  1.00 88.07           O
ATOM   4784  C   SER A 653     -39.868  17.793 -31.168  1.00 84.73           C
ATOM   4785  O   SER A 653     -39.338  16.692 -31.231  1.00 89.49           O
ATOM   4786  N   ASP A 654     -39.617  18.783 -32.021  1.00 87.24           N
ATOM   4787  CA  ASP A 654     -38.409  18.917 -32.844  1.00 87.91           C
ATOM   4788  CB  ASP A 654     -38.489  20.338 -33.512  1.00 98.92           C
ATOM   4789  CG  ASP A 654     -37.266  20.727 -34.408  1.00109.69           C
ATOM   4790  OD1 ASP A 654     -36.135  20.170 -34.319  1.00119.68           O
ATOM   4791  OD2 ASP A 654     -37.453  21.675 -35.205  1.00106.65           O
ATOM   4792  C   ASP A 654     -37.157  18.713 -31.945  1.00 77.72           C
ATOM   4793  O   ASP A 654     -36.261  17.933 -32.286  1.00 77.62           O
ATOM   4794  N   ARG A 655     -37.129  19.389 -30.796  1.00 68.58           N
ATOM   4795  CA  ARG A 655     -36.006  19.357 -29.854  1.00 68.47           C
ATOM   4796  CB  ARG A 655     -35.391  20.787 -29.689  1.00 67.66           C
ATOM   4797  C   ARG A 655     -36.523  18.781 -28.515  1.00 65.30           C
ATOM   4798  O   ARG A 655     -36.958  19.536 -27.634  1.00 68.63           O
ATOM   4799  N   PRO A 656     -36.541  17.442 -28.367  1.00 60.64           N
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ATOM   4800  CA  PRO A 656     -37.106  16.892 -27.121  1.00 58.54           C
ATOM   4801  CB  PRO A 656     -37.078  15.387 -27.320  1.00 57.58           C
ATOM   4802  CG  PRO A 656     -36.293  15.158 -28.565  1.00 59.72           C
ATOM   4803  CD  PRO A 656     -36.376  16.403 -29.383  1.00 60.73           C
ATOM   4804  C   PRO A 656     -36.309  17.285 -25.916  1.00 55.51           C
ATOM   4805  O   PRO A 656     -35.112  17.486 -26.020  1.00 55.58           O
ATOM   4806  N   THR A 657     -37.006  17.397 -24.797  1.00 53.39           N
ATOM   4807  CA  THR A 657     -36.574  18.180 -23.656  1.00 54.71           C
ATOM   4808  CB  THR A 657     -37.105  19.628 -23.794  1.00 56.27           C
ATOM   4809  OG1 THR A 657     -36.967  20.080 -25.151  1.00 58.91           O
ATOM   4810  CG2 THR A 657     -36.371  20.574 -22.901  1.00 56.70           C
ATOM   4811  C   THR A 657     -37.180  17.583 -22.400  1.00 56.39           C
ATOM   4812  O   THR A 657     -38.393  17.346 -22.353  1.00 61.12           O
ATOM   4813  N   VAL A 658     -36.359  17.324 -21.384  1.00 58.71           N
ATOM   4814  CA  VAL A 658     -36.869  16.970 -20.024  1.00 59.06           C
ATOM   4815  CB  VAL A 658     -35.986  15.900 -19.311  1.00 56.52           C
ATOM   4816  CG1 VAL A 658     -36.319  15.775 -17.839  1.00 58.49           C
ATOM   4817  CG2 VAL A 658     -36.188  14.542 -19.945  1.00 55.30           C
ATOM   4818  C   VAL A 658     -37.007  18.264 -19.193  1.00 56.81           C
ATOM   4819  O   VAL A 658     -36.281  19.228 -19.403  1.00 52.15           O
ATOM   4820  N   ILE A 659     -37.956  18.284 -18.276  1.00 56.07           N
ATOM   4821  CA  ILE A 659     -38.174  19.460 -17.498  1.00 64.05           C
ATOM   4822  CB  ILE A 659     -39.520  20.136 -17.934  1.00 68.95           C
ATOM   4823  CG1 ILE A 659     -39.484  20.480 -19.448  1.00 67.64           C
ATOM   4824  CD1 ILE A 659     -40.651  21.324 -19.952  1.00 65.99           C
ATOM   4825  CG2 ILE A 659     -39.875  21.388 -17.098  1.00 67.14           C
ATOM   4826  C   ILE A 659     -38.122  19.073 -16.026  1.00 68.58           C
ATOM   4827  O   ILE A 659     -39.117  18.560 -15.522  1.00 68.06           O
ATOM   4828  N   TYR A 660     -36.972  19.304 -15.351  1.00 76.99           N
ATOM   4829  CA  TYR A 660     -36.880  19.173 -13.851  1.00 84.41           C
ATOM   4830  CB  TYR A 660     -35.672  18.334 -13.359  1.00 84.25           C
ATOM   4831  CG  TYR A 660     -34.328  18.524 -14.052  1.00 90.22           C
ATOM   4832  CD1 TYR A 660     -33.548  19.683 -13.874  1.00 86.76           C
ATOM   4833  CE1 TYR A 660     -32.305  19.821 -14.513  1.00 91.20           C
ATOM   4834  CZ  TYR A 660     -31.806  18.764 -15.326  1.00103.59           C
ATOM   4835  OH  TYR A 660     -30.583  18.802 -16.006  1.00104.30           O
ATOM   4836  CE2 TYR A 660     -32.560  17.602 -15.479  1.00105.58           C
ATOM   4837  CD2 TYR A 660     -33.797  17.485 -14.840  1.00101.76           C
ATOM   4838  C   TYR A 660     -36.937  20.524 -13.115  1.00 84.19           C
ATOM   4839  O   TYR A 660     -36.896  21.566 -13.759  1.00 82.53           O
ATOM   4840  N   SER A 661     -37.087  20.480 -11.781  1.00 85.46           N
ATOM   4841  CA  SER A 661     -36.863  21.640 -10.876  1.00 85.13           C
ATOM   4842  CB  SER A 661     -38.142  22.002 -10.096  1.00 88.65           C
ATOM   4843  OG  SER A 661     -38.024  23.283  -9.444  1.00 93.92           O
ATOM   4844  C   SER A 661     -35.679  21.464  -9.882  1.00 81.87           C
ATOM   4845  O   SER A 661     -35.807  20.854  -8.816  1.00 73.31           O
ATOM   4846  N   SER A 662     -34.531  22.011 -10.262  1.00 87.15           N
ATOM   4847  CA  SER A 662     -33.408  22.273  -9.342  1.00 90.26           C
ATOM   4848  CB  SER A 662     -32.083  22.285 -10.130  1.00 89.97           C
ATOM   4849  OG  SER A 662     -31.014  22.696  -9.316  1.00 86.37           O
ATOM   4850  C   SER A 662     -33.625  23.607  -8.553  1.00 89.03           C
ATOM   4851  O   SER A 662     -33.557  24.711  -9.125  1.00 77.65           O
ATOM   4852  N   ASN A 663     -33.856  23.457  -7.237  1.00 96.70           N
ATOM   4853  CA  ASN A 663     -34.270  24.530  -6.251  1.00 95.76           C
ATOM   4854  CB  ASN A 663     -33.090  25.163  -5.437  1.00 93.82           C
ATOM   4855  CG  ASN A 663     -31.873  25.516  -6.291  1.00 93.44           C
ATOM   4856  OD1 ASN A 663     -31.799  26.598  -6.881  1.00 87.66           O
ATOM   4857  ND2 ASN A 663     -30.891  24.609  -6.331  1.00 93.65           N
ATOM   4858  C   ASN A 663     -35.262  25.579  -6.750  1.00 92.61           C
ATOM   4859  O   ASN A 663     -34.904  26.730  -6.946  1.00 84.96           O
ATOM   4860  N   HIS A 664     -36.501  25.149  -6.988  1.00 95.91           N
ATOM   4861  CA  HIS A 664     -37.655  26.053  -7.157  1.00 99.99           C
ATOM   4862  CB  HIS A 664     -37.975  26.805  -5.831  1.00100.50           C
ATOM   4863  CG  HIS A 664     -38.021  25.935  -4.595  1.00104.51           C
ATOM   4864  ND1 HIS A 664     -39.203  25.510  -4.020  1.00108.35           N
ATOM   4865  CE1 HIS A 664     -38.942  24.784  -2.945  1.00104.96           C
ATOM   4866  NE2 HIS A 664     -37.631  24.728  -2.796  1.00103.91           N
ATOM   4867  CD2 HIS A 664     -37.032  25.453  -3.801  1.00103.52           C
ATOM   4868  C   HIS A 664     -37.532  27.077  -8.330  1.00100.86           C
ATOM   4869  O   HIS A 664     -38.371  27.972  -8.439  1.00 98.22           O
ATOM   4870  N   LYS A 665     -36.474  26.979  -9.155  1.00 97.98           N
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ATOM   4871  CA  LYS A 665     -36.417  27.558 -10.503  1.00 90.24           C
ATOM   4872  CB  LYS A 665     -35.187  28.463 -10.680  1.00 74.50           C
ATOM   4873  C   LYS A 665     -36.372  26.299 -11.417  1.00 98.09           C
ATOM   4874  O   LYS A 665     -35.722  25.303 -11.052  1.00 98.79           O
ATOM   4875  N   LEU A 666     -37.100  26.323 -12.554  1.00 99.17           N
ATOM   4876  CA  LEU A 666     -37.184  25.181 -13.519  1.00 89.34           C
ATOM   4877  CB  LEU A 666     -38.480  25.226 -14.335  1.00 85.75           C
ATOM   4878  CG  LEU A 666     -39.842  25.195 -13.632  1.00 88.23           C
ATOM   4879  CD1 LEU A 666     -40.891  24.687 -14.609  1.00 91.44           C
ATOM   4880  CD2 LEU A 666     -39.896  24.343 -12.376  1.00 86.29           C
ATOM   4881  C   LEU A 666     -36.033  25.136 -14.514  1.00 85.43           C
ATOM   4882  O   LEU A 666     -35.415  26.140 -14.807  1.00 91.41           O
ATOM   4883  N   VAL A 667     -35.777  23.963 -15.066  1.00 81.21           N
ATOM   4884  CA  VAL A 667     -34.634  23.755 -15.941  1.00 81.83           C
ATOM   4885  CB  VAL A 667     -33.522  23.057 -15.163  1.00 94.54           C
ATOM   4886  CG1 VAL A 667     -32.299  22.735 -16.048  1.00 95.69           C
ATOM   4887  CG2 VAL A 667     -33.176  23.899 -13.933  1.00 97.56           C
ATOM   4888  C   VAL A 667     -35.045  22.870 -17.088  1.00 75.61           C
ATOM   4889  O   VAL A 667     -35.942  22.046 -16.940  1.00 70.64           O
ATOM   4890  N   PHE A 668     -34.365  23.044 -18.217  1.00 69.17           N
ATOM   4891  CA  PHE A 668     -34.781  22.477 -19.463  1.00 62.53           C
ATOM   4892  CB  PHE A 668     -35.171  23.604 -20.411  1.00 64.94           C
ATOM   4893  CG  PHE A 668     -36.303  24.398 -19.913  1.00 67.08           C
ATOM   4894  CD1 PHE A 668     -37.571  23.834 -19.861  1.00 70.00           C
ATOM   4895  CE1 PHE A 668     -38.652  24.517 -19.350  1.00 69.97           C
ATOM   4896  CZ  PHE A 668     -38.468  25.782 -18.878  1.00 73.96           C
ATOM   4897  CE2 PHE A 668     -37.194  26.355 -18.915  1.00 78.76           C
ATOM   4898  CD2 PHE A 668     -36.113  25.653 -19.427  1.00 70.73           C
ATOM   4899  C   PHE A 668     -33.655  21.750 -20.043  1.00 61.12           C
ATOM   4900  O   PHE A 668     -33.106  22.189 -21.043  1.00 61.62           O
ATOM   4901  N   SER A 669     -33.281  20.634 -19.427  1.00 66.20           N
ATOM   4902  CA  SER A 669     -32.249  19.760 -20.050  1.00 67.28           C
ATOM   4903  CB  SER A 669     -31.779  18.616 -19.122  1.00 58.84           C
ATOM   4904  C   SER A 669     -32.809  19.284 -21.418  1.00 65.42           C
ATOM   4905  O   SER A 669     -33.964  18.885 -21.517  1.00 67.42           O
ATOM   4906  N   ASN A 670     -32.040  19.429 -22.482  1.00 63.51           N
ATOM   4907  CA  ASN A 670     -32.495  18.924 -23.739  1.00 64.55           C
ATOM   4908  CB  ASN A 670     -31.834  19.686 -24.867  1.00 74.76           C
ATOM   4909  CG  ASN A 670     -30.541  19.049 -25.314  1.00 80.84           C
ATOM   4910  OD1 ASN A 670     -30.568  17.986 -25.949  1.00 89.08           O
ATOM   4911  ND2 ASN A 670     -29.399  19.679 -24.990  1.00 81.28           N
ATOM   4912  C   ASN A 670     -32.174  17.435 -23.768  1.00 60.53           C
ATOM   4913  O   ASN A 670     -31.278  16.977 -23.060  1.00 59.53           O
ATOM   4914  N   VAL A 671     -32.912  16.688 -24.581  1.00 61.19           N
ATOM   4915  CA  VAL A 671     -32.800  15.210 -24.661  1.00 61.84           C
ATOM   4916  CB  VAL A 671     -34.167  14.463 -24.655  1.00 62.06           C
ATOM   4917  CG1 VAL A 671     -34.030  13.010 -25.106  1.00 59.62           C
ATOM   4918  CG2 VAL A 671     -34.809  14.507 -23.282  1.00 62.46           C
ATOM   4919  C   VAL A 671     -32.164  14.873 -25.969  1.00 59.04           C
ATOM   4920  O   VAL A 671     -32.575  15.337 -26.995  1.00 54.66           O
ATOM   4921  N   ASN A 672     -31.242  13.947 -25.912  1.00 62.71           N
ATOM   4922  CA  ASN A 672     -30.302  13.705 -26.977  1.00 64.62           C
ATOM   4923  CB  ASN A 672     -29.013  13.212 -26.288  1.00 69.38           C
ATOM   4924  CG  ASN A 672     -27.794  13.232 -27.167  1.00 75.88           C
ATOM   4925  OD1 ASN A 672     -27.665  14.014 -28.131  1.00 83.22           O
ATOM   4926  ND2 ASN A 672     -26.851  12.361 -26.818  1.00 81.08           N
ATOM   4927  C   ASN A 672     -30.912  12.716 -28.003  1.00 58.46           C
ATOM   4928  O   ASN A 672     -30.469  11.570 -28.123  1.00 55.36           O
ATOM   4929  N   LEU A 673     -31.926  13.190 -28.735  1.00 54.06           N
ATOM   4930  CA  LEU A 673     -32.608  12.401 -29.767  1.00 57.37           C
ATOM   4931  CB  LEU A 673     -33.808  11.709 -29.119  1.00 55.87           C
ATOM   4932  CG  LEU A 673     -33.551  10.393 -28.410  1.00 54.28           C
ATOM   4933  CD1 LEU A 673     -34.778   9.963 -27.658  1.00 54.26           C
ATOM   4934  CD2 LEU A 673     -33.196   9.335 -29.422  1.00 56.84           C
ATOM   4935  C   LEU A 673     -33.101  13.260 -30.968  1.00 62.71           C
ATOM   4936  O   LEU A 673     -33.365  14.452 -30.796  1.00 64.60           O
ATOM   4937  N   LYS A 674     -33.267  12.668 -32.172  1.00 65.52           N
ATOM   4938  CA  LYS A 674     -33.986  13.367 -33.281  1.00 65.12           C
ATOM   4939  CB  LYS A 674     -33.728  12.718 -34.665  1.00 59.13           C
ATOM   4940  C   LYS A 674     -35.459  13.377 -32.853  1.00 66.37           C
ATOM   4941  O   LYS A 674     -35.809  12.669 -31.947  1.00 74.61           O
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ATOM   4942  N   GLU A 675     -36.329  14.152 -33.467  1.00 72.86           N
ATOM   4943  CA  GLU A 675     -37.681  14.344 -32.896  1.00 78.90           C
ATOM   4944  CB  GLU A 675     -38.599  15.205 -33.837  1.00 90.68           C
ATOM   4945  CG  GLU A 675     -39.396  14.577 -34.992  1.00 98.84           C
ATOM   4946  CD  GLU A 675     -40.611  15.468 -35.449  1.00111.40           C
ATOM   4947  OE1 GLU A 675     -41.580  14.880 -36.021  1.00114.75           O
ATOM   4948  OE2 GLU A 675     -40.631  16.738 -35.244  1.00101.83           O
ATOM   4949  C   GLU A 675     -38.417  13.093 -32.284  1.00 72.50           C
ATOM   4950  O   GLU A 675     -38.468  12.014 -32.881  1.00 69.22           O
ATOM   4951  N   VAL A 676     -38.903  13.253 -31.051  1.00 62.01           N
ATOM   4952  CA  VAL A 676     -39.897  12.376 -30.464  1.00 58.72           C
ATOM   4953  CB  VAL A 676     -39.544  12.102 -29.013  1.00 58.53           C
ATOM   4954  CG1 VAL A 676     -40.628  11.296 -28.296  1.00 61.40           C
ATOM   4955  CG2 VAL A 676     -38.219  11.407 -28.958  1.00 58.85           C
ATOM   4956  C   VAL A 676     -41.261  13.095 -30.537  1.00 60.70           C
ATOM   4957  O   VAL A 676     -41.334  14.304 -30.241  1.00 59.76           O
ATOM   4958  N   ASN A 677     -42.319  12.373 -30.953  1.00 57.03           N
ATOM   4959  CA  ASN A 677     -43.637  12.969 -31.179  1.00 57.24           C
ATOM   4960  CB  ASN A 677     -44.331  12.426 -32.424  1.00 57.53           C
ATOM   4961  CG  ASN A 677     -43.656  12.815 -33.731  1.00 59.11           C
ATOM   4962  OD1 ASN A 677     -43.031  13.833 -33.858  1.00 59.08           O
ATOM   4963  ND2 ASN A 677     -43.811  11.979 -34.720  1.00 64.66           N
ATOM   4964  C   ASN A 677     -44.534  12.668 -30.004  1.00 61.49           C
ATOM   4965  O   ASN A 677     -45.293  13.555 -29.565  1.00 68.02           O
ATOM   4966  N   TYR A 678     -44.512  11.413 -29.530  1.00 57.34           N
ATOM   4967  CA  TYR A 678     -45.252  11.029 -28.307  1.00 54.62           C
ATOM   4968  CB  TYR A 678     -46.629  10.390 -28.596  1.00 53.87           C
ATOM   4969  CG  TYR A 678     -47.420  11.168 -29.604  1.00 56.60           C
ATOM   4970  CD1 TYR A 678     -47.167  10.994 -30.936  1.00 61.65           C
ATOM   4971  CE1 TYR A 678     -47.837  11.701 -31.905  1.00 67.35           C
ATOM   4972  CZ  TYR A 678     -48.782  12.622 -31.560  1.00 69.96           C
ATOM   4973  OH  TYR A 678     -49.396  13.279 -32.633  1.00 73.86           O
ATOM   4974  CE2 TYR A 678     -49.053  12.841 -30.203  1.00 66.22           C
ATOM   4975  CD2 TYR A 678     -48.368  12.110 -29.238  1.00 60.25           C
ATOM   4976  C   TYR A 678     -44.396  10.126 -27.441  1.00 53.27           C
ATOM   4977  O   TYR A 678     -43.398   9.520 -27.887  1.00 54.49           O
ATOM   4978  N   MET A 679     -44.752  10.089 -26.171  1.00 50.07           N
ATOM   4979  CA  MET A 679     -44.038   9.258 -25.247  1.00 49.89           C
ATOM   4980  CB  MET A 679     -42.807   9.962 -24.681  1.00 50.03           C
ATOM   4981  CG  MET A 679     -43.064  10.948 -23.570  1.00 49.55           C
ATOM   4982  SD  MET A 679     -43.152  10.114 -21.984  1.00 56.37           S
ATOM   4983  CE  MET A 679     -41.442   9.904 -21.564  1.00 59.95           C
ATOM   4984  C   MET A 679     -44.960   8.930 -24.144  1.00 50.29           C
ATOM   4985  O   MET A 679     -45.919   9.644 -23.904  1.00 51.65           O
ATOM   4986  N   CYS A 680     -44.640   7.860 -23.450  1.00 50.40           N
ATOM   4987  CA  CYS A 680     -45.348   7.502 -22.268  1.00 51.98           C
ATOM   4988  CB  CYS A 680     -46.549   6.626 -22.580  1.00 56.39           C
ATOM   4989  SG  CYS A 680     -46.200   4.866 -22.756  1.00 60.74           S
ATOM   4990  C   CYS A 680     -44.380   6.734 -21.484  1.00 52.09           C
ATOM   4991  O   CYS A 680     -43.472   6.153 -22.071  1.00 52.90           O
ATOM   4992  N   PRO A 681     -44.560   6.705 -20.156  1.00 55.78           N
ATOM   4993  CA  PRO A 681     -43.673   5.869 -19.343  1.00 55.05           C
ATOM   4994  CB  PRO A 681     -43.836   6.450 -17.924  1.00 53.13           C
ATOM   4995  CG  PRO A 681     -44.852   7.545 -18.031  1.00 51.17           C
ATOM   4996  CD  PRO A 681     -45.586   7.334 -19.310  1.00 52.62           C
ATOM   4997  C   PRO A 681     -44.175   4.442 -19.431  1.00 52.15           C
ATOM   4998  O   PRO A 681     -45.372   4.250 -19.643  1.00 52.00           O
ATOM   4999  N   LEU A 682     -43.265   3.482 -19.313  1.00 50.88           N
ATOM   5000  CA  LEU A 682     -43.596   2.054 -19.334  1.00 51.47           C
ATOM   5001  CB  LEU A 682     -43.175   1.392 -20.642  1.00 51.81           C
ATOM   5002  CG  LEU A 682     -43.496  -0.098 -20.848  1.00 48.57           C
ATOM   5003  CD1 LEU A 682     -44.952  -0.161 -21.148  1.00 51.74           C
ATOM   5004  CD2 LEU A 682     -42.776  -0.733 -22.015  1.00 48.58           C
ATOM   5005  C   LEU A 682     -42.848   1.337 -18.250  1.00 54.37           C
ATOM   5006  O   LEU A 682     -41.601   1.429 -18.168  1.00 50.79           O
ATOM   5007  N   ASN A 683     -43.605   0.567 -17.467  1.00 57.70           N
ATOM   5008  CA  ASN A 683     -43.029  -0.298 -16.458  1.00 59.45           C
ATOM   5009  CB  ASN A 683     -43.432   0.212 -15.105  1.00 59.83           C
ATOM   5010  CG  ASN A 683     -42.631  -0.386 -14.014  1.00 60.80           C
ATOM   5011  OD1 ASN A 683     -41.873  -1.328 -14.191  1.00 71.33           O
ATOM   5012  ND2 ASN A 683     -42.757   0.187 -12.881  1.00 62.78           N
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ATOM   5013  C   ASN A 683     -43.457  -1.752 -16.629  1.00 60.25           C
ATOM   5014  O   ASN A 683     -44.478  -2.172 -16.122  1.00 61.74           O
ATOM   5015  N   SER A 684     -42.647  -2.505 -17.355  1.00 62.13           N
ATOM   5016  CA  SER A 684     -42.859  -3.921 -17.560  1.00 64.37           C
ATOM   5017  CB  SER A 684     -42.684  -4.268 -19.032  1.00 67.15           C
ATOM   5018  OG  SER A 684     -43.700  -3.599 -19.713  1.00 75.86           O
ATOM   5019  C   SER A 684     -41.861  -4.679 -16.769  1.00 62.93           C
ATOM   5020  O   SER A 684     -40.893  -4.126 -16.239  1.00 61.62           O
ATOM   5021  N   ASP A 685     -42.095  -5.973 -16.732  1.00 63.53           N
ATOM   5022  CA  ASP A 685     -41.166  -6.922 -16.144  1.00 67.91           C
ATOM   5023  CB  ASP A 685     -41.841  -8.298 -16.084  1.00 76.80           C
ATOM   5024  CG  ASP A 685     -43.303  -8.198 -15.663  1.00 87.48           C
ATOM   5025  OD1 ASP A 685     -44.106  -7.606 -16.459  1.00 95.44           O
ATOM   5026  OD2 ASP A 685     -43.621  -8.644 -14.528  1.00 97.31           O
ATOM   5027  C   ASP A 685     -39.889  -6.931 -16.993  1.00 62.90           C
ATOM   5028  O   ASP A 685     -38.787  -6.800 -16.459  1.00 60.26           O
ATOM   5029  N   GLY A 686     -40.063  -7.025 -18.317  1.00 60.80           N
ATOM   5030  CA  GLY A 686     -38.968  -6.911 -19.280  1.00 57.20           C
ATOM   5031  C   GLY A 686     -38.333  -5.542 -19.469  1.00 54.07           C
ATOM   5032  O   GLY A 686     -37.155  -5.445 -19.735  1.00 47.77           O
ATOM   5033  N   TYR A 687     -39.121  -4.483 -19.343  1.00 55.98           N
ATOM   5034  CA  TYR A 687     -38.629  -3.121 -19.466  1.00 54.89           C
ATOM   5035  CB  TYR A 687     -39.160  -2.482 -20.788  1.00 54.91           C
ATOM   5036  CG  TYR A 687     -38.832  -3.300 -22.032  1.00 56.22           C
ATOM   5037  CD1 TYR A 687     -37.521  -3.514 -22.428  1.00 55.33           C
ATOM   5038  CE1 TYR A 687     -37.219  -4.298 -23.552  1.00 58.54           C
ATOM   5039  CZ  TYR A 687     -38.230  -4.909 -24.313  1.00 57.46           C
ATOM   5040  OH  TYR A 687     -37.915  -5.695 -25.456  1.00 57.21           O
ATOM   5041  CE2 TYR A 687     -39.534  -4.697 -23.923  1.00 57.27           C
ATOM   5042  CD2 TYR A 687     -39.830  -3.892 -22.799  1.00 58.66           C
ATOM   5043  C   TYR A 687     -39.056  -2.367 -18.186  1.00 55.00           C
ATOM   5044  O   TYR A 687     -39.901  -1.490 -18.242  1.00 60.85           O
ATOM   5045  N   PRO A 688     -38.477  -2.696 -17.007  1.00 54.46           N
ATOM   5046  CA  PRO A 688     -38.843  -1.946 -15.795  1.00 54.57           C
ATOM   5047  CB  PRO A 688     -38.133  -2.714 -14.702  1.00 52.65           C
ATOM   5048  CG  PRO A 688     -36.885  -3.163 -15.354  1.00 51.41           C
ATOM   5049  CD  PRO A 688     -37.370  -3.615 -16.712  1.00 54.30           C
ATOM   5050  C   PRO A 688     -38.331  -0.511 -15.777  1.00 54.17           C
ATOM   5051  O   PRO A 688     -37.220  -0.246 -16.200  1.00 47.26           O
ATOM   5052  N   ASP A 689     -39.144   0.391 -15.249  1.00 58.82           N
ATOM   5053  CA  ASP A 689     -38.756   1.809 -15.069  1.00 63.70           C
ATOM   5054  CB  ASP A 689     -37.660   2.018 -13.989  1.00 67.61           C
ATOM   5055  CG  ASP A 689     -38.080   1.526 -12.604  1.00 70.84           C
ATOM   5056  OD1 ASP A 689     -39.281   1.723 -12.191  1.00 63.64           O
ATOM   5057  OD2 ASP A 689     -37.162   0.935 -11.971  1.00 72.02           O
ATOM   5058  C   ASP A 689     -38.288   2.423 -16.348  1.00 57.45           C
ATOM   5059  O   ASP A 689     -37.297   3.063 -16.366  1.00 55.54           O
ATOM   5060  N   SER A 690     -39.044   2.247 -17.408  1.00 59.02           N
ATOM   5061  CA  SER A 690     -38.595   2.623 -18.710  1.00 56.00           C
ATOM   5062  CB  SER A 690     -38.534   1.367 -19.564  1.00 59.63           C
ATOM   5063  OG  SER A 690     -37.848   0.344 -18.876  1.00 61.66           O
ATOM   5064  C   SER A 690     -39.527   3.637 -19.302  1.00 51.01           C
ATOM   5065  O   SER A 690     -40.495   4.016 -18.666  1.00 55.51           O
ATOM   5066  N   LEU A 691     -39.205   4.044 -20.526  1.00 47.82           N
ATOM   5067  CA  LEU A 691     -39.969   4.945 -21.369  1.00 48.62           C
ATOM   5068  CB  LEU A 691     -39.047   6.078 -21.759  1.00 48.94           C
ATOM   5069  CG  LEU A 691     -39.154   7.337 -20.949  1.00 54.49           C
ATOM   5070  CD1 LEU A 691     -39.354   7.106 -19.446  1.00 57.36           C
ATOM   5071  CD2 LEU A 691     -37.909   8.179 -21.258  1.00 56.04           C
ATOM   5072  C   LEU A 691     -40.351   4.301 -22.672  1.00 47.10           C
ATOM   5073  O   LEU A 691     -39.468   3.693 -23.236  1.00 49.41           O
ATOM   5074  N   ALA A 692     -41.577   4.487 -23.197  1.00 45.43           N
ATOM   5075  CA  ALA A 692     -41.835   4.288 -24.671  1.00 48.25           C
ATOM   5076  CB  ALA A 692     -43.148   3.618 -24.919  1.00 48.67           C
ATOM   5077  C   ALA A 692     -41.837   5.557 -25.490  1.00 50.61           C
ATOM   5078  O   ALA A 692     -42.633   6.436 -25.238  1.00 57.53           O
ATOM   5079  N   LEU A 693     -40.989   5.662 -26.496  1.00 50.55           N
ATOM   5080  CA  LEU A 693     -40.994   6.852 -27.328  1.00 49.81           C
ATOM   5081  CB  LEU A 693     -39.599   7.463 -27.426  1.00 49.95           C
ATOM   5082  CG  LEU A 693     -38.711   8.041 -26.324  1.00 49.19           C
ATOM   5083  CD1 LEU A 693     -39.459   8.173 -25.031  1.00 52.91           C
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ATOM   5084  CD2 LEU A 693     -37.486   7.195 -26.131  1.00 48.81           C
ATOM   5085  C   LEU A 693     -41.399   6.451 -28.736  1.00 50.36           C
ATOM   5086  O   LEU A 693     -40.856   5.472 -29.290  1.00 48.06           O
ATOM   5087  N   ALA A 694     -42.293   7.235 -29.340  1.00 49.72           N
ATOM   5088  CA  ALA A 694     -42.555   7.121 -30.780  1.00 48.81           C
ATOM   5089  CB  ALA A 694     -43.991   6.788 -31.043  1.00 47.35           C
ATOM   5090  C   ALA A 694     -42.213   8.365 -31.547  1.00 50.55           C
ATOM   5091  O   ALA A 694     -42.244   9.463 -31.017  1.00 55.06           O
ATOM   5092  N   ASN A 695     -41.938   8.174 -32.824  1.00 52.27           N
ATOM   5093  CA  ASN A 695     -41.879   9.254 -33.762  1.00 55.01           C
ATOM   5094  CB  ASN A 695     -40.418   9.563 -33.988  1.00 57.80           C
ATOM   5095  CG  ASN A 695     -39.733   8.504 -34.789  1.00 57.41           C
ATOM   5096  OD1 ASN A 695     -40.370   7.794 -35.547  1.00 65.18           O
ATOM   5097  ND2 ASN A 695     -38.447   8.374 -34.618  1.00 56.29           N
ATOM   5098  C   ASN A 695     -42.578   8.839 -35.048  1.00 57.36           C
ATOM   5099  O   ASN A 695     -43.276   7.828 -35.081  1.00 64.89           O
ATOM   5100  N   ASN A 696     -42.330   9.551 -36.134  1.00 64.53           N
ATOM   5101  CA  ASN A 696     -43.073   9.314 -37.372  1.00 71.45           C
ATOM   5102  CB  ASN A 696     -42.698  10.363 -38.435  1.00 80.19           C
ATOM   5103  CG  ASN A 696     -43.283  11.736 -38.100  1.00 89.55           C
ATOM   5104  OD1 ASN A 696     -42.551  12.712 -37.825  1.00 92.20           O
ATOM   5105  ND2 ASN A 696     -44.624  11.795 -38.027  1.00 89.56           N
ATOM   5106  C   ASN A 696     -42.966   7.883 -37.883  1.00 66.64           C
ATOM   5107  O   ASN A 696     -43.967   7.334 -38.328  1.00 65.96           O
ATOM   5108  N   SER A 697     -41.789   7.270 -37.743  1.00 61.51           N
ATOM   5109  CA  SER A 697     -41.553   5.884 -38.213  1.00 61.77           C
ATOM   5110  CB  SER A 697     -40.394   5.899 -39.206  1.00 59.25           C
ATOM   5111  OG  SER A 697     -39.277   6.536 -38.631  1.00 57.45           O
ATOM   5112  C   SER A 697     -41.356   4.729 -37.154  1.00 58.36           C
ATOM   5113  O   SER A 697     -41.533   3.534 -37.479  1.00 54.97           O
ATOM   5114  N   THR A 698     -41.044   5.067 -35.908  1.00 55.57           N
ATOM   5115  CA  THR A 698     -40.576   4.060 -34.973  1.00 57.09           C
ATOM   5116  CB  THR A 698     -39.077   4.123 -34.957  1.00 60.73           C
ATOM   5117  OG1 THR A 698     -38.649   4.685 -36.200  1.00 59.81           O
ATOM   5118  CG2 THR A 698     -38.493   2.738 -34.768  1.00 65.77           C
ATOM   5119  C   THR A 698     -41.026   4.186 -33.524  1.00 55.35           C
ATOM   5120  O   THR A 698     -41.213   5.281 -33.027  1.00 57.29           O
ATOM   5121  N   LEU A 699     -41.238   3.036 -32.888  1.00 52.44           N
ATOM   5122  CA  LEU A 699     -41.426   2.925 -31.452  1.00 50.67           C
ATOM   5123  CB  LEU A 699     -42.527   1.921 -31.135  1.00 48.36           C
ATOM   5124  CG  LEU A 699     -42.931   1.703 -29.676  1.00 45.90           C
ATOM   5125  CD1 LEU A 699     -43.374   2.993 -29.015  1.00 47.19           C
ATOM   5126  CD2 LEU A 699     -44.042   0.683 -29.540  1.00 43.75           C
ATOM   5127  C   LEU A 699     -40.104   2.427 -30.880  1.00 52.52           C
ATOM   5128  O   LEU A 699     -39.472   1.503 -31.411  1.00 58.36           O
ATOM   5129  N   THR A 700     -39.693   3.044 -29.793  1.00 49.75           N
ATOM   5130  CA  THR A 700     -38.459   2.744 -29.141  1.00 45.53           C
ATOM   5131  CB  THR A 700     -37.512   3.934 -29.399  1.00 45.44           C
ATOM   5132  OG1 THR A 700     -36.804   3.723 -30.611  1.00 49.74           O
ATOM   5133  CG2 THR A 700     -36.480   4.102 -28.355  1.00 46.63           C
ATOM   5134  C   THR A 700     -38.853   2.550 -27.665  1.00 46.95           C
ATOM   5135  O   THR A 700     -39.775   3.194 -27.149  1.00 45.85           O
ATOM   5136  N   ILE A 701     -38.167   1.643 -26.989  1.00 49.65           N
ATOM   5137  CA  ILE A 701     -38.294   1.458 -25.551  1.00 50.31           C
ATOM   5138  CB  ILE A 701     -38.790   0.046 -25.210  1.00 51.59           C
ATOM   5139  CG1 ILE A 701     -40.211  -0.083 -25.783  1.00 52.95           C
ATOM   5140  CD1 ILE A 701     -40.959  -1.331 -25.403  1.00 55.63           C
ATOM   5141  CG2 ILE A 701     -38.718  -0.200 -23.693  1.00 51.77           C
ATOM   5142  C   ILE A 701     -36.951   1.657 -24.959  1.00 51.19           C
ATOM   5143  O   ILE A 701     -36.007   1.102 -25.496  1.00 49.11           O
ATOM   5144  N   GLY A 702     -36.868   2.400 -23.844  1.00 57.29           N
ATOM   5145  CA  GLY A 702     -35.560   2.718 -23.197  1.00 59.03           C
ATOM   5146  C   GLY A 702     -35.561   3.313 -21.783  1.00 58.57           C
ATOM   5147  O   GLY A 702     -36.481   4.006 -21.436  1.00 68.88           O
ATOM   5148  N   THR A 703     -34.529   2.981 -20.983  1.00 59.10           N
ATOM   5149  CA  THR A 703     -34.058   3.650 -19.754  1.00 50.25           C
ATOM   5150  CB  THR A 703     -32.944   2.820 -19.065  1.00 41.16           C
ATOM   5151  C   THR A 703     -33.504   5.037 -20.210  1.00 53.17           C
ATOM   5152  O   THR A 703     -33.300   5.299 -21.396  1.00 52.93           O
ATOM   5153  N   ILE A 704     -33.240   5.908 -19.254  1.00 58.63           N
ATOM   5154  CA  ILE A 704     -32.943   7.330 -19.483  1.00 57.59           C
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ATOM   5155  CB  ILE A 704     -34.224   8.131 -19.374  1.00 59.07           C
ATOM   5156  CG1 ILE A 704     -33.945   9.624 -19.141  1.00 56.84           C
ATOM   5157  CD1 ILE A 704     -34.896  10.505 -19.937  1.00 57.75           C
ATOM   5158  CG2 ILE A 704     -35.152   7.537 -18.284  1.00 63.43           C
ATOM   5159  C   ILE A 704     -32.056   7.819 -18.374  1.00 59.98           C
ATOM   5160  O   ILE A 704     -32.294   7.472 -17.241  1.00 62.49           O
ATOM   5161  N   ASP A 705     -31.058   8.635 -18.674  1.00 63.19           N
ATOM   5162  CA  ASP A 705     -30.088   9.074 -17.652  1.00 65.77           C
ATOM   5163  CB  ASP A 705     -28.770   9.377 -18.320  1.00 64.61           C
ATOM   5164  CG  ASP A 705     -28.256   8.159 -19.026  1.00 68.32           C
ATOM   5165  OD1 ASP A 705     -29.110   7.235 -19.227  1.00 66.67           O
ATOM   5166  OD2 ASP A 705     -27.049   8.082 -19.353  1.00 67.75           O
ATOM   5167  C   ASP A 705     -30.681  10.205 -16.850  1.00 69.98           C
ATOM   5168  O   ASP A 705     -31.639  10.831 -17.339  1.00 64.42           O
ATOM   5169  N   GLU A 706     -30.203  10.398 -15.602  1.00 75.04           N
ATOM   5170  CA  GLU A 706     -30.958  11.219 -14.598  1.00 77.04           C
ATOM   5171  CB  GLU A 706     -30.781  10.651 -13.165  1.00 66.52           C
ATOM   5172  C   GLU A 706     -30.658  12.758 -14.706  1.00 74.29           C
ATOM   5173  O   GLU A 706     -31.535  13.592 -15.050  1.00 73.20           O
ATOM   5174  N   ILE A 707     -28.116  13.596 -14.378  1.00 79.57           N
ATOM   5175  CA  ILE A 707     -27.132  14.378 -15.082  1.00 79.03           C
ATOM   5176  CB  ILE A 707     -25.667  13.910 -14.796  1.00 68.63           C
ATOM   5177  C   ILE A 707     -27.488  14.284 -16.586  1.00 84.54           C
ATOM   5178  O   ILE A 707     -28.311  13.406 -17.028  1.00 73.38           O
ATOM   5179  N   GLN A 708     -26.828  15.190 -17.292  1.00 81.36           N
ATOM   5180  CA  GLN A 708     -26.804  15.412 -18.702  1.00 76.39           C
ATOM   5181  CB  GLN A 708     -26.823  16.892 -18.988  1.00 72.03           C
ATOM   5182  CG  GLN A 708     -28.063  17.469 -19.614  1.00 76.89           C
ATOM   5183  CD  GLN A 708     -27.768  18.786 -20.292  1.00 76.83           C
ATOM   5184  OE1 GLN A 708     -26.670  19.306 -20.186  1.00 82.87           O
ATOM   5185  NE2 GLN A 708     -28.741  19.322 -20.998  1.00 71.97           N
ATOM   5186  C   GLN A 708     -25.365  15.075 -18.721  1.00 80.30           C
ATOM   5187  O   GLN A 708     -24.730  15.168 -17.691  1.00 88.09           O
ATOM   5188  N   LYS A 709     -24.824  14.682 -19.849  1.00 66.65           N
ATOM   5189  CA  LYS A 709     -23.427  14.340 -19.900  1.00 58.32           C
ATOM   5190  CB  LYS A 709     -23.234  12.865 -19.594  1.00 49.68           C
ATOM   5191  C   LYS A 709     -23.029  14.635 -21.289  1.00 55.83           C
ATOM   5192  O   LYS A 709     -23.863  14.982 -22.085  1.00 47.94           O
ATOM   5193  N   LEU A 710     -21.754  14.521 -21.586  1.00 51.92           N
ATOM   5194  CA  LEU A 710     -21.304  14.737 -22.926  1.00 48.90           C
ATOM   5195  CB  LEU A 710     -19.933  15.356 -22.931  1.00 46.48           C
ATOM   5196  CG  LEU A 710     -19.913  16.822 -22.585  1.00 46.79           C
ATOM   5197  CD1 LEU A 710     -18.575  17.371 -22.975  1.00 45.74           C
ATOM   5198  CD2 LEU A 710     -20.984  17.541 -23.352  1.00 48.87           C
ATOM   5199  C   LEU A 710     -21.242  13.364 -23.514  1.00 47.86           C
ATOM   5200  O   LEU A 710     -20.682  12.482 -22.924  1.00 42.97           O
ATOM   5201  N   HIS A 711     -21.838  13.195 -24.680  1.00 49.56           N
ATOM   5202  CA  HIS A 711     -21.881  11.928 -25.362  1.00 49.22           C
ATOM   5203  CB  HIS A 711     -23.289  11.640 -25.780  1.00 51.17           C
ATOM   5204  CG  HIS A 711     -24.200  11.439 -24.623  1.00 57.46           C
ATOM   5205  ND1 HIS A 711     -24.854  12.475 -24.010  1.00 59.83           N
ATOM   5206  CE1 HIS A 711     -25.569  12.010 -23.008  1.00 62.96           C
ATOM   5207  NE2 HIS A 711     -25.384  10.710 -22.939  1.00 64.67           N
ATOM   5208  CD2 HIS A 711     -24.530  10.329 -23.936  1.00 60.08           C
ATOM   5209  C   HIS A 711     -20.970  12.005 -26.526  1.00 50.66           C
ATOM   5210  O   HIS A 711     -20.934  12.991 -27.196  1.00 54.62           O
ATOM   5211  N   ILE A 712     -20.215  10.948 -26.738  1.00 52.56           N
ATOM   5212  CA  ILE A 712     -19.161  10.873 -27.775  1.00 49.95           C
ATOM   5213  CB  ILE A 712     -17.811  10.648 -27.062  1.00 48.95           C
ATOM   5214  CG1 ILE A 712     -17.663  11.685 -25.959  1.00 47.88           C
ATOM   5215  CD1 ILE A 712     -16.307  11.711 -25.323  1.00 48.98           C
ATOM   5216  CG2 ILE A 712     -16.662  10.728 -28.041  1.00 49.60           C
ATOM   5217  C   ILE A 712     -19.332   9.774 -28.820  1.00 46.59           C
ATOM   5218  O   ILE A 712     -19.141   8.647 -28.508  1.00 45.24           O
ATOM   5219  N   ARG A 713     -19.620  10.141 -30.065  1.00 51.26           N
ATOM   5220  CA  ARG A 713     -19.638   9.228 -31.251  1.00 54.48           C
ATOM   5221  CB  ARG A 713     -20.597   9.788 -32.343  1.00 59.83           C
ATOM   5222  CG  ARG A 713     -21.460   8.818 -33.197  1.00 69.65           C
ATOM   5223  CD  ARG A 713     -20.670   8.210 -34.411  1.00 77.11           C
ATOM   5224  NE  ARG A 713     -21.408   7.579 -35.541  1.00 69.92           N
ATOM   5225  CZ  ARG A 713     -22.075   8.249 -36.479  1.00 68.09           C
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ATOM   5226  NH1 ARG A 713     -22.199   9.570 -36.433  1.00 69.35           N
ATOM   5227  NH2 ARG A 713     -22.656   7.598 -37.462  1.00 70.97           N
ATOM   5228  C   ARG A 713     -18.207   9.148 -31.795  1.00 51.87           C
ATOM   5229  O   ARG A 713     -17.547  10.154 -31.939  1.00 51.43           O
ATOM   5230  N   THR A 714     -17.712   7.949 -32.074  1.00 52.62           N
ATOM   5231  CA  THR A 714     -16.366   7.773 -32.650  1.00 49.92           C
ATOM   5232  CB  THR A 714     -15.515   6.846 -31.759  1.00 49.94           C
ATOM   5233  OG1 THR A 714     -15.348   7.436 -30.472  1.00 51.86           O
ATOM   5234  CG2 THR A 714     -14.166   6.676 -32.268  1.00 52.10           C
ATOM   5235  C   THR A 714     -16.421   7.312 -34.129  1.00 47.68           C
ATOM   5236  O   THR A 714     -17.322   6.636 -34.549  1.00 49.18           O
ATOM   5237  N   VAL A 715     -15.449   7.771 -34.905  1.00 47.87           N
ATOM   5238  CA  VAL A 715     -15.317   7.551 -36.339  1.00 44.73           C
ATOM   5239  CB  VAL A 715     -15.720   8.770 -37.119  1.00 40.73           C
ATOM   5240  CG1 VAL A 715     -15.381   8.595 -38.596  1.00 38.02           C
ATOM   5241  CG2 VAL A 715     -17.187   9.027 -36.863  1.00 41.29           C
ATOM   5242  C   VAL A 715     -13.859   7.304 -36.629  1.00 48.86           C
ATOM   5243  O   VAL A 715     -13.044   8.254 -36.685  1.00 46.74           O
ATOM   5244  N   PRO A 716     -13.507   6.017 -36.745  1.00 49.60           N
ATOM   5245  CA  PRO A 716     -12.104   5.715 -36.943  1.00 48.49           C
ATOM   5246  CB  PRO A 716     -12.033   4.263 -36.618  1.00 47.33           C
ATOM   5247  CG  PRO A 716     -12.989   4.188 -35.491  1.00 48.87           C
ATOM   5248  CD  PRO A 716     -14.167   4.943 -36.013  1.00 46.96           C
ATOM   5249  C   PRO A 716     -11.725   5.949 -38.344  1.00 47.49           C
ATOM   5250  O   PRO A 716     -12.528   5.700 -39.214  1.00 50.17           O
ATOM   5251  N   LEU A 717     -10.520   6.487 -38.497  1.00 48.39           N
ATOM   5252  CA  LEU A 717      -9.820   6.753 -39.751  1.00 46.53           C
ATOM   5253  CB  LEU A 717      -9.378   8.213 -39.747  1.00 45.87           C
ATOM   5254  CG  LEU A 717     -10.480   9.247 -39.492  1.00 47.59           C
ATOM   5255  CD1 LEU A 717      -9.900  10.653 -39.484  1.00 48.76           C
ATOM   5256  CD2 LEU A 717     -11.605   9.178 -40.513  1.00 47.26           C
ATOM   5257  C   LEU A 717      -8.557   5.881 -39.947  1.00 46.07           C
ATOM   5258  O   LEU A 717      -8.123   5.672 -41.053  1.00 48.53           O
ATOM   5259  N   TYR A 718      -7.917   5.413 -38.888  1.00 46.57           N
ATOM   5260  CA  TYR A 718      -6.731   4.577 -39.042  1.00 45.34           C
ATOM   5261  CB  TYR A 718      -7.084   3.256 -39.728  1.00 42.62           C
ATOM   5262  CG  TYR A 718      -8.303   2.553 -39.117  1.00 42.23           C
ATOM   5263  CD1 TYR A 718      -8.165   1.666 -37.983  1.00 42.75           C
ATOM   5264  CE1 TYR A 718      -9.277   1.042 -37.400  1.00 40.03           C
ATOM   5265  CZ  TYR A 718     -10.515   1.266 -37.958  1.00 40.60           C
ATOM   5266  OH  TYR A 718     -11.603   0.701 -37.403  1.00 46.97           O
ATOM   5267  CE2 TYR A 718     -10.697   2.089 -39.081  1.00 40.54           C
ATOM   5268  CD2 TYR A 718      -9.601   2.747 -39.645  1.00 39.67           C
ATOM   5269  C   TYR A 718      -5.534   5.325 -39.700  1.00 48.31           C
ATOM   5270  O   TYR A 718      -4.471   4.710 -39.975  1.00 49.91           O
ATOM   5271  N   GLU A 719      -5.693   6.647 -39.876  1.00 47.81           N
ATOM   5272  CA  GLU A 719      -4.590   7.569 -40.188  1.00 49.67           C
ATOM   5273  CB  GLU A 719      -4.548   7.920 -41.694  1.00 51.48           C
ATOM   5274  CG  GLU A 719      -5.781   8.671 -42.177  1.00 56.32           C
ATOM   5275  CD  GLU A 719      -6.001   8.709 -43.681  1.00 61.67           C
ATOM   5276  OE1 GLU A 719      -6.698   9.643 -44.128  1.00 65.51           O
ATOM   5277  OE2 GLU A 719      -5.542   7.816 -44.424  1.00 68.52           O
ATOM   5278  C   GLU A 719      -4.772   8.828 -39.315  1.00 46.96           C
ATOM   5279  O   GLU A 719      -5.846   9.022 -38.766  1.00 45.78           O
ATOM   5280  N   SER A 720      -3.744   9.665 -39.213  1.00 44.21           N
ATOM   5281  CA  SER A 720      -3.845  10.949 -38.517  1.00 47.26           C
ATOM   5282  CB  SER A 720      -2.452  11.561 -38.418  1.00 50.66           C
ATOM   5283  OG  SER A 720      -1.533  10.642 -37.898  1.00 55.93           O
ATOM   5284  C   SER A 720      -4.715  12.052 -39.161  1.00 48.78           C
ATOM   5285  O   SER A 720      -4.367  12.543 -40.243  1.00 54.30           O
ATOM   5286  N   PRO A 721      -5.804  12.502 -38.490  1.00 47.20           N
ATOM   5287  CA  PRO A 721      -6.459  13.729 -38.950  1.00 44.98           C
ATOM   5288  CB  PRO A 721      -7.847  13.636 -38.356  1.00 43.56           C
ATOM   5289  CG  PRO A 721      -7.734  12.698 -37.224  1.00 44.75           C
ATOM   5290  CD  PRO A 721      -6.389  12.043 -37.226  1.00 45.48           C
ATOM   5291  C   PRO A 721      -5.735  14.888 -38.359  1.00 46.62           C
ATOM   5292  O   PRO A 721      -5.080  14.737 -37.315  1.00 54.55           O
ATOM   5293  N   ARG A 722      -5.850  16.034 -39.004  1.00 48.10           N
ATOM   5294  CA  ARG A 722      -4.980  17.206 -38.727  1.00 47.94           C
ATOM   5295  CB  ARG A 722      -3.762  17.156 -39.651  1.00 47.06           C
ATOM   5296  CG  ARG A 722      -2.854  15.939 -39.441  1.00 51.18           C
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ATOM   5297  CD  ARG A 722      -1.476  16.277 -38.874  1.00 59.11           C
ATOM   5298  NE  ARG A 722      -1.608  16.734 -37.473  1.00 68.52           N
ATOM   5299  CZ  ARG A 722      -0.849  17.653 -36.854  1.00 71.01           C
ATOM   5300  NH1 ARG A 722      -1.121  17.982 -35.601  1.00 71.35           N
ATOM   5301  NH2 ARG A 722       0.170  18.256 -37.460  1.00 72.75           N
ATOM   5302  C   ARG A 722      -5.684  18.618 -38.746  1.00 45.71           C
ATOM   5303  O   ARG A 722      -5.390  19.484 -37.872  1.00 48.12           O
ATOM   5304  N   LYS A 723      -6.576  18.845 -39.706  1.00 41.14           N
ATOM   5305  CA  LYS A 723      -7.538  19.925 -39.639  1.00 41.62           C
ATOM   5306  CB  LYS A 723      -7.127  21.054 -40.569  1.00 42.53           C
ATOM   5307  CG  LYS A 723      -5.730  21.611 -40.401  1.00 42.82           C
ATOM   5308  CD  LYS A 723      -5.481  22.542 -39.223  1.00 41.05           C
ATOM   5309  CE  LYS A 723      -3.965  22.485 -39.068  1.00 43.31           C
ATOM   5310  NZ  LYS A 723      -3.470  23.084 -37.808  1.00 46.56           N
ATOM   5311  C   LYS A 723      -8.903  19.488 -40.111  1.00 41.85           C
ATOM   5312  O   LYS A 723      -9.017  18.525 -40.788  1.00 48.71           O
ATOM   5313  N   ILE A 724      -9.924  20.264 -39.851  1.00 41.18           N
ATOM   5314  CA  ILE A 724     -11.283  19.893 -40.175  1.00 43.37           C
ATOM   5315  CB  ILE A 724     -11.895  19.000 -39.066  1.00 45.86           C
ATOM   5316  CG1 ILE A 724     -13.421  18.931 -39.181  1.00 49.09           C
ATOM   5317  CD1 ILE A 724     -14.015  17.713 -38.506  1.00 50.66           C
ATOM   5318  CG2 ILE A 724     -11.622  19.549 -37.676  1.00 44.74           C
ATOM   5319  C   ILE A 724     -12.082  21.183 -40.308  1.00 45.30           C
ATOM   5320  O   ILE A 724     -11.788  22.138 -39.651  1.00 47.75           O
ATOM   5321  N   CYS A 725     -13.057  21.242 -41.187  1.00 48.38           N
ATOM   5322  CA  CYS A 725     -13.978  22.376 -41.206  1.00 54.98           C
ATOM   5323  CB  CYS A 725     -13.389  23.558 -41.969  1.00 59.42           C
ATOM   5324  SG  CYS A 725     -13.327  23.199 -43.727  1.00 68.77           S
ATOM   5325  C   CYS A 725     -15.265  21.900 -41.859  1.00 54.58           C
ATOM   5326  O   CYS A 725     -15.280  20.799 -42.430  1.00 57.12           O
ATOM   5327  N   TYR A 726     -16.328  22.697 -41.807  1.00 49.54           N
ATOM   5328  CA  TYR A 726     -17.600  22.193 -42.239  1.00 48.24           C
ATOM   5329  CB  TYR A 726     -18.443  22.079 -41.057  1.00 45.78           C
ATOM   5330  CG  TYR A 726     -19.873  21.853 -41.266  1.00 47.59           C
ATOM   5331  CD1 TYR A 726     -20.357  20.610 -41.545  1.00 49.52           C
ATOM   5332  CE1 TYR A 726     -21.727  20.399 -41.664  1.00 51.45           C
ATOM   5333  CZ  TYR A 726     -22.619  21.444 -41.464  1.00 49.83           C
ATOM   5334  OH  TYR A 726     -23.985  21.278 -41.547  1.00 48.71           O
ATOM   5335  CE2 TYR A 726     -22.136  22.679 -41.166  1.00 50.90           C
ATOM   5336  CD2 TYR A 726     -20.776  22.873 -41.050  1.00 49.96           C
ATOM   5337  C   TYR A 726     -18.235  23.079 -43.261  1.00 54.98           C
ATOM   5338  O   TYR A 726     -18.295  24.276 -43.091  1.00 60.20           O
ATOM   5339  N   GLN A 727     -18.721  22.462 -44.336  1.00 61.93           N
ATOM   5340  CA  GLN A 727     -19.256  23.166 -45.472  1.00 58.71           C
ATOM   5341  CB  GLN A 727     -18.533  22.725 -46.711  1.00 56.49           C
ATOM   5342  CG  GLN A 727     -18.759  23.627 -47.904  1.00 57.51           C
ATOM   5343  CD  GLN A 727     -17.775  23.310 -49.005  1.00 58.47           C
ATOM   5344  OE1 GLN A 727     -18.119  22.659 -49.985  1.00 58.11           O
ATOM   5345  NE2 GLN A 727     -16.520  23.691 -48.810  1.00 59.21           N
ATOM   5346  C   GLN A 727     -20.705  22.790 -45.473  1.00 60.73           C
ATOM   5347  O   GLN A 727     -21.078  21.804 -46.042  1.00 62.76           O
ATOM   5348  N   GLU A 728     -21.502  23.575 -44.756  1.00 65.41           N
ATOM   5349  CA  GLU A 728     -22.928  23.348 -44.611  1.00 63.72           C
ATOM   5350  CB  GLU A 728     -23.576  24.559 -43.975  1.00 67.76           C
ATOM   5351  CG  GLU A 728     -24.784  24.187 -43.147  1.00 73.01           C
ATOM   5352  CD  GLU A 728     -25.947  25.098 -43.387  1.00 77.34           C
ATOM   5353  OE1 GLU A 728     -26.265  25.901 -42.468  1.00 82.89           O
ATOM   5354  OE2 GLU A 728     -26.509  24.999 -44.504  1.00 80.40           O
ATOM   5355  C   GLU A 728     -23.678  23.039 -45.915  1.00 60.34           C
ATOM   5356  O   GLU A 728     -24.427  22.065 -45.991  1.00 54.80           O
ATOM   5357  N   VAL A 729     -23.462  23.841 -46.946  1.00 59.75           N
ATOM   5358  CA  VAL A 729     -24.123  23.569 -48.255  1.00 59.35           C
ATOM   5359  CB  VAL A 729     -23.798  24.612 -49.343  1.00 56.28           C
ATOM   5360  CG1 VAL A 729     -24.098  25.996 -48.822  1.00 57.49           C
ATOM   5361  CG2 VAL A 729     -22.343  24.554 -49.772  1.00 59.31           C
ATOM   5362  C   VAL A 729     -23.884  22.148 -48.803  1.00 54.69           C
ATOM   5363  O   VAL A 729     -24.820  21.480 -49.182  1.00 59.85           O
ATOM   5364  N   SER A 730     -22.668  21.656 -48.780  1.00 49.35           N
ATOM   5365  CA  SER A 730     -22.416  20.325 -49.264  1.00 51.96           C
ATOM   5366  CB  SER A 730     -20.957  20.190 -49.553  1.00 52.87           C
ATOM   5367  OG  SER A 730     -20.462  21.436 -49.935  1.00 54.50           O
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ATOM   5368  C   SER A 730     -22.805  19.256 -48.259  1.00 57.86           C
ATOM   5369  O   SER A 730     -22.755  18.053 -48.574  1.00 61.22           O
ATOM   5370  N   GLN A 731     -23.140  19.698 -47.037  1.00 61.02           N
ATOM   5371  CA  GLN A 731     -23.544  18.852 -45.926  1.00 56.56           C
ATOM   5372  CB  GLN A 731     -24.826  18.108 -46.249  1.00 58.30           C
ATOM   5373  CG  GLN A 731     -26.024  19.011 -46.215  1.00 64.38           C
ATOM   5374  CD  GLN A 731     -27.015  18.557 -45.191  1.00 72.67           C
ATOM   5375  OE1 GLN A 731     -27.547  17.433 -45.280  1.00 80.48           O
ATOM   5376  NE2 GLN A 731     -27.263  19.408 -44.185  1.00 75.24           N
ATOM   5377  C   GLN A 731     -22.459  17.900 -45.608  1.00 55.04           C
ATOM   5378  O   GLN A 731     -22.692  16.738 -45.479  1.00 55.96           O
ATOM   5379  N   CYS A 732     -21.238  18.389 -45.533  1.00 58.54           N
ATOM   5380  CA  CYS A 732     -20.109  17.510 -45.310  1.00 65.40           C
ATOM   5381  CB  CYS A 732     -19.658  16.942 -46.638  1.00 73.95           C
ATOM   5382  SG  CYS A 732     -18.736  18.204 -47.486  1.00 95.62           S
ATOM   5383  C   CYS A 732     -18.964  18.266 -44.625  1.00 61.00           C
ATOM   5384  O   CYS A 732     -19.079  19.466 -44.349  1.00 60.13           O
ATOM   5385  N   PHE A 733     -17.887  17.531 -44.342  1.00 57.90           N
ATOM   5386  CA  PHE A 733     -16.724  18.006 -43.602  1.00 53.53           C
ATOM   5387  CB  PHE A 733     -16.492  17.156 -42.342  1.00 52.15           C
ATOM   5388  CG  PHE A 733     -17.400  17.471 -41.194  1.00 49.64           C
ATOM   5389  CD1 PHE A 733     -17.187  18.582 -40.417  1.00 50.46           C
ATOM   5390  CE1 PHE A 733     -18.011  18.903 -39.375  1.00 48.71           C
ATOM   5391  CZ  PHE A 733     -19.025  18.083 -39.062  1.00 49.65           C
ATOM   5392  CE2 PHE A 733     -19.201  16.933 -39.792  1.00 52.01           C
ATOM   5393  CD2 PHE A 733     -18.399  16.642 -40.860  1.00 48.56           C
ATOM   5394  C   PHE A 733     -15.480  17.857 -44.453  1.00 52.44           C
ATOM   5395  O   PHE A 733     -15.220  16.805 -45.045  1.00 50.62           O
ATOM   5396  N   GLY A 734     -14.678  18.898 -44.461  1.00 52.55           N
ATOM   5397  CA  GLY A 734     -13.328  18.800 -44.987  1.00 51.61           C
ATOM   5398  C   GLY A 734     -12.407  18.360 -43.883  1.00 48.38           C
ATOM   5399  O   GLY A 734     -12.482  18.882 -42.795  1.00 49.23           O
ATOM   5400  N   VAL A 735     -11.541  17.398 -44.150  1.00 45.98           N
ATOM   5401  CA  VAL A 735     -10.526  17.030 -43.178  1.00 44.64           C
ATOM   5402  CB  VAL A 735     -10.979  15.760 -42.447  1.00 41.78           C
ATOM   5403  CG1 VAL A 735      -9.865  15.195 -41.585  1.00 39.85           C
ATOM   5404  CG2 VAL A 735     -12.200  16.085 -41.597  1.00 42.84           C
ATOM   5405  C   VAL A 735      -9.120  16.837 -43.762  1.00 44.05           C
ATOM   5406  O   VAL A 735      -8.913  15.860 -44.480  1.00 43.66           O
ATOM   5407  N   LEU A 736      -8.155  17.714 -43.449  1.00 41.58           N
ATOM   5408  CA  LEU A 736      -6.768  17.396 -43.828  1.00 42.73           C
ATOM   5409  CB  LEU A 736      -5.815  18.547 -43.604  1.00 41.97           C
ATOM   5410  CG  LEU A 736      -6.181  19.766 -44.428  1.00 44.21           C
ATOM   5411  CD1 LEU A 736      -5.288  20.962 -44.145  1.00 43.13           C
ATOM   5412  CD2 LEU A 736      -6.135  19.411 -45.897  1.00 46.71           C
ATOM   5413  C   LEU A 736      -6.301  16.188 -43.043  1.00 44.51           C
ATOM   5414  O   LEU A 736      -6.528  16.123 -41.843  1.00 43.99           O
ATOM   5415  N   SER A 737      -5.695  15.210 -43.705  1.00 44.96           N
ATOM   5416  CA  SER A 737      -5.263  14.015 -42.983  1.00 50.56           C
ATOM   5417  CB  SER A 737      -6.308  12.877 -43.074  1.00 54.12           C
ATOM   5418  OG  SER A 737      -6.260  12.158 -44.315  1.00 59.88           O
ATOM   5419  C   SER A 737      -3.917  13.540 -43.469  1.00 52.13           C
ATOM   5420  O   SER A 737      -3.391  14.061 -44.472  1.00 51.84           O
ATOM   5421  N   SER A 738      -3.358  12.540 -42.782  1.00 49.36           N
ATOM   5422  CA  SER A 738      -1.989  12.209 -43.059  1.00 50.97           C
ATOM   5423  CB  SER A 738      -1.099  13.233 -42.371  1.00 49.20           C
ATOM   5424  OG  SER A 738       0.060  12.654 -41.827  1.00 53.78           O
ATOM   5425  C   SER A 738      -1.616  10.795 -42.698  1.00 54.82           C
ATOM   5426  O   SER A 738      -1.418  10.490 -41.515  1.00 65.88           O
ATOM   5427  N   ARG A 739      -1.468   9.938 -43.716  1.00 54.94           N
ATOM   5428  CA  ARG A 739      -1.058   8.550 -43.488  1.00 52.99           C
ATOM   5429  CB  ARG A 739      -1.921   7.608 -44.314  1.00 57.72           C
ATOM   5430  CG  ARG A 739      -1.565   7.469 -45.781  1.00 60.40           C
ATOM   5431  CD  ARG A 739      -2.528   6.529 -46.494  1.00 62.54           C
ATOM   5432  NE  ARG A 739      -1.995   6.171 -47.810  1.00 63.69           N
ATOM   5433  CZ  ARG A 739      -2.067   6.921 -48.911  1.00 63.51           C
ATOM   5434  NH1 ARG A 739      -2.690   8.117 -48.954  1.00 59.73           N
ATOM   5435  NH2 ARG A 739      -1.493   6.452 -50.003  1.00 67.76           N
ATOM   5436  C   ARG A 739       0.417   8.325 -43.767  1.00 48.33           C
ATOM   5437  O   ARG A 739       0.994   9.047 -44.589  1.00 45.54           O
ATOM   5438  N   ILE A 740       1.003   7.341 -43.073  1.00 44.99           N
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ATOM   5439  CA  ILE A 740       2.397   6.927 -43.298  1.00 49.18           C
ATOM   5440  CB  ILE A 740       3.096   6.434 -41.994  1.00 51.04           C
ATOM   5441  CG1 ILE A 740       3.030   7.451 -40.871  1.00 51.26           C
ATOM   5442  CD1 ILE A 740       3.667   8.768 -41.257  1.00 54.17           C
ATOM   5443  CG2 ILE A 740       4.561   6.122 -42.255  1.00 51.41           C
ATOM   5444  C   ILE A 740       2.538   5.752 -44.259  1.00 52.24           C
ATOM   5445  O   ILE A 740       2.026   4.665 -43.988  1.00 50.30           O
ATOM   5446  N   GLU A 741       3.284   5.949 -45.346  1.00 61.29           N
ATOM   5447  CA  GLU A 741       3.775   4.835 -46.188  1.00 65.42           C
ATOM   5448  CB  GLU A 741       3.401   5.055 -47.662  1.00 68.99           C
ATOM   5449  CG  GLU A 741       1.865   5.062 -47.837  1.00 77.65           C
ATOM   5450  CD  GLU A 741       1.317   4.694 -49.232  1.00 82.38           C
ATOM   5451  OE1 GLU A 741       1.941   5.027 -50.275  1.00 88.15           O
ATOM   5452  OE2 GLU A 741       0.215   4.090 -49.279  1.00 76.98           O
ATOM   5453  C   GLU A 741       5.279   4.595 -45.974  1.00 67.75           C
ATOM   5454  O   GLU A 741       6.035   5.514 -45.672  1.00 69.67           O
ATOM   5455  N   VAL A 742       5.689   3.335 -46.050  1.00 72.61           N
ATOM   5456  CA  VAL A 742       7.116   2.965 -46.079  1.00 75.15           C
ATOM   5457  CB  VAL A 742       7.434   1.771 -45.109  1.00 77.42           C
ATOM   5458  CG1 VAL A 742       6.888   0.427 -45.620  1.00 78.75           C
ATOM   5459  CG2 VAL A 742       8.937   1.693 -44.815  1.00 77.67           C
ATOM   5460  C   VAL A 742       7.483   2.714 -47.559  1.00 72.72           C
ATOM   5461  O   VAL A 742       6.627   2.241 -48.334  1.00 67.03           O
ATOM   5462  N   GLN A 743       8.733   3.049 -47.940  1.00 76.55           N
ATOM   5463  CA  GLN A 743       9.191   3.078 -49.376  1.00 79.17           C
ATOM   5464  CB  GLN A 743      10.457   3.972 -49.560  1.00 74.06           C
ATOM   5465  C   GLN A 743       9.374   1.676 -50.047  1.00 78.20           C
ATOM   5466  O   GLN A 743       9.778   0.707 -49.393  1.00 68.87           O
ATOM   5467  N   ASP A 744       9.041   1.603 -51.346  1.00 84.87           N
ATOM   5468  CA  ASP A 744       9.091   0.376 -52.174  1.00 85.64           C
ATOM   5469  CB  ASP A 744       7.766   0.226 -52.971  1.00 77.29           C
ATOM   5470  C   ASP A 744      10.324   0.492 -53.103  1.00 87.75           C
ATOM   5471  O   ASP A 744      10.907  -0.500 -53.569  1.00 94.14           O
ATOM   5472  N   THR A 749       6.128   3.468 -53.040  1.00 76.60           N
ATOM   5473  CA  THR A 749       5.813   3.619 -51.594  1.00 79.57           C
ATOM   5474  CB  THR A 749       5.924   5.111 -51.131  1.00 78.61           C
ATOM   5475  OG1 THR A 749       6.263   5.138 -49.748  1.00 80.65           O
ATOM   5476  CG2 THR A 749       4.629   5.987 -51.353  1.00 76.66           C
ATOM   5477  C   THR A 749       4.466   2.987 -51.149  1.00 75.93           C
ATOM   5478  O   THR A 749       3.437   3.199 -51.806  1.00 77.89           O
ATOM   5479  N   THR A 750       4.464   2.198 -50.065  1.00 73.26           N
ATOM   5480  CA  THR A 750       3.217   1.459 -49.678  1.00 79.60           C
ATOM   5481  CB  THR A 750       3.256  -0.096 -49.969  1.00 78.51           C
ATOM   5482  OG1 THR A 750       3.812  -0.815 -48.853  1.00 73.55           O
ATOM   5483  CG2 THR A 750       3.993  -0.448 -51.345  1.00 78.40           C
ATOM   5484  C   THR A 750       2.648   1.687 -48.247  1.00 82.28           C
ATOM   5485  O   THR A 750       3.377   1.927 -47.268  1.00 82.62           O
ATOM   5486  N   ALA A 751       1.317   1.585 -48.181  1.00 77.95           N
ATOM   5487  CA  ALA A 751       0.538   1.657 -46.951  1.00 72.25           C
ATOM   5488  CB  ALA A 751      -0.929   1.525 -47.307  1.00 71.59           C
ATOM   5489  C   ALA A 751       0.913   0.567 -45.954  1.00 67.93           C
ATOM   5490  O   ALA A 751       1.304  -0.509 -46.357  1.00 73.04           O
ATOM   5491  N   LEU A 752       0.793   0.857 -44.663  1.00 65.50           N
ATOM   5492  CA  LEU A 752       0.999  -0.142 -43.596  1.00 64.85           C
ATOM   5493  CB  LEU A 752       1.705   0.481 -42.359  1.00 69.61           C
ATOM   5494  CG  LEU A 752       2.910   1.442 -42.540  1.00 72.77           C
ATOM   5495  CD1 LEU A 752       3.525   1.954 -41.233  1.00 72.08           C
ATOM   5496  CD2 LEU A 752       3.979   0.751 -43.382  1.00 76.11           C
ATOM   5497  C   LEU A 752      -0.340  -0.780 -43.178  1.00 57.63           C
ATOM   5498  O   LEU A 752      -0.347  -1.748 -42.412  1.00 55.45           O
ATOM   5499  N   ARG A 753      -1.450  -0.239 -43.695  1.00 51.99           N
ATOM   5500  CA  ARG A 753      -2.814  -0.642 -43.324  1.00 50.79           C
ATOM   5501  CB  ARG A 753      -3.080  -0.458 -41.806  1.00 53.20           C
ATOM   5502  CG  ARG A 753      -3.486   0.954 -41.370  1.00 56.86           C
ATOM   5503  CD  ARG A 753      -3.258   1.273 -39.893  1.00 56.58           C
ATOM   5504  NE  ARG A 753      -1.843   1.411 -39.589  1.00 56.24           N
ATOM   5505  CZ  ARG A 753      -1.120   0.525 -38.892  1.00 60.89           C
ATOM   5506  NH1 ARG A 753      -1.667  -0.614 -38.374  1.00 59.80           N
ATOM   5507  NH2 ARG A 753       0.189   0.773 -38.715  1.00 59.28           N
ATOM   5508  C   ARG A 753      -3.824   0.178 -44.129  1.00 46.93           C
ATOM   5509  O   ARG A 753      -3.524   1.284 -44.516  1.00 46.97           O
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ATOM   5510  N   PRO A 754      -5.028  -0.343 -44.368  1.00 48.09           N
ATOM   5511  CA  PRO A 754      -6.074   0.532 -44.922  1.00 51.04           C
ATOM   5512  CB  PRO A 754      -7.265  -0.416 -45.201  1.00 48.34           C
ATOM   5513  CG  PRO A 754      -6.929  -1.678 -44.539  1.00 48.18           C
ATOM   5514  CD  PRO A 754      -5.439  -1.748 -44.393  1.00 49.24           C
ATOM   5515  C   PRO A 754      -6.494   1.617 -43.940  1.00 55.19           C
ATOM   5516  O   PRO A 754      -6.550   1.353 -42.687  1.00 56.92           O
ATOM   5517  N   SER A 755      -6.799   2.782 -44.527  1.00 51.92           N
ATOM   5518  CA  SER A 755      -6.920   4.056 -43.827  1.00 51.43           C
ATOM   5519  CB  SER A 755      -5.658   4.930 -44.010  1.00 50.82           C
ATOM   5520  OG  SER A 755      -4.402   4.251 -43.782  1.00 54.74           O
ATOM   5521  C   SER A 755      -8.037   4.759 -44.496  1.00 51.27           C
ATOM   5522  O   SER A 755      -8.314   4.492 -45.629  1.00 58.00           O
ATOM   5523  N   ALA A 756      -8.636   5.718 -43.839  1.00 52.45           N
ATOM   5524  CA  ALA A 756      -9.659   6.567 -44.463  1.00 53.80           C
ATOM   5525  CB  ALA A 756      -9.886   7.825 -43.618  1.00 55.36           C
ATOM   5526  C   ALA A 756      -9.391   6.996 -45.909  1.00 51.79           C
ATOM   5527  O   ALA A 756     -10.296   6.977 -46.706  1.00 49.37           O
ATOM   5528  N   SER A 757      -8.170   7.405 -46.221  1.00 51.27           N
ATOM   5529  CA  SER A 757      -7.883   8.042 -47.488  1.00 52.39           C
ATOM   5530  CB  SER A 757      -6.656   8.934 -47.394  1.00 51.93           C
ATOM   5531  OG  SER A 757      -5.495   8.218 -47.031  1.00 51.59           O
ATOM   5532  C   SER A 757      -7.651   7.050 -48.600  1.00 59.30           C
ATOM   5533  O   SER A 757      -7.647   7.445 -49.773  1.00 71.46           O
ATOM   5534  N   THR A 758      -7.437   5.781 -48.251  1.00 57.50           N
ATOM   5535  CA  THR A 758      -7.285   4.737 -49.230  1.00 55.75           C
ATOM   5536  CB  THR A 758      -6.252   3.714 -48.781  1.00 52.77           C
ATOM   5537  OG1 THR A 758      -6.801   2.942 -47.719  1.00 51.41           O
ATOM   5538  CG2 THR A 758      -4.940   4.373 -48.334  1.00 51.62           C
ATOM   5539  C   THR A 758      -8.604   3.991 -49.419  1.00 61.80           C
ATOM   5540  O   THR A 758      -8.685   3.080 -50.223  1.00 73.22           O
ATOM   5541  N   GLN A 759      -9.593   4.337 -48.625  1.00 63.04           N
ATOM   5542  CA  GLN A 759     -10.867   3.665 -48.656  1.00 61.91           C
ATOM   5543  CB  GLN A 759     -11.124   3.072 -47.295  1.00 68.86           C
ATOM   5544  CG  GLN A 759     -10.052   2.118 -46.853  1.00 75.86           C
ATOM   5545  CD  GLN A 759     -10.428   0.703 -47.164  1.00 87.45           C
ATOM   5546  OE1 GLN A 759     -11.398   0.188 -46.630  1.00 91.04           O
ATOM   5547  NE2 GLN A 759      -9.671   0.066 -48.044  1.00 94.78           N
ATOM   5548  C   GLN A 759     -12.045   4.512 -49.017  1.00 58.43           C
ATOM   5549  O   GLN A 759     -13.161   4.165 -48.696  1.00 55.04           O
ATOM   5550  N   ALA A 760     -11.812   5.638 -49.648  1.00 54.66           N
ATOM   5551  CA  ALA A 760     -12.904   6.509 -50.005  1.00 58.38           C
ATOM   5552  CB  ALA A 760     -12.374   7.884 -50.293  1.00 62.42           C
ATOM   5553  C   ALA A 760     -13.723   6.003 -51.171  1.00 58.58           C
ATOM   5554  O   ALA A 760     -13.226   5.287 -52.019  1.00 57.93           O
ATOM   5555  N   LEU A 761     -14.981   6.397 -51.226  1.00 57.47           N
ATOM   5556  CA  LEU A 761     -15.821   5.978 -52.311  1.00 60.90           C
ATOM   5557  CB  LEU A 761     -17.168   6.641 -52.198  1.00 65.34           C
ATOM   5558  CG  LEU A 761     -18.310   5.816 -51.673  1.00 71.31           C
ATOM   5559  CD1 LEU A 761     -18.129   5.673 -50.182  1.00 76.35           C
ATOM   5560  CD2 LEU A 761     -19.594   6.546 -51.976  1.00 71.93           C
ATOM   5561  C   LEU A 761     -15.257   6.476 -53.595  1.00 63.83           C
ATOM   5562  O   LEU A 761     -15.165   5.745 -54.551  1.00 76.54           O
ATOM   5563  N   SER A 762     -14.859   7.727 -53.620  1.00 66.18           N
ATOM   5564  CA  SER A 762     -14.327   8.299 -54.826  1.00 63.80           C
ATOM   5565  CB  SER A 762     -15.212   9.426 -55.301  1.00 63.55           C
ATOM   5566  C   SER A 762     -12.987   8.807 -54.444  1.00 67.64           C
ATOM   5567  O   SER A 762     -12.781   9.143 -53.314  1.00 74.10           O
ATOM   5568  N   SER A 763     -12.050   8.824 -55.362  1.00 69.32           N
ATOM   5569  CA  SER A 763     -10.723   9.253 -55.025  1.00 62.27           C
ATOM   5570  CB  SER A 763      -9.889   8.032 -54.725  1.00 52.41           C
ATOM   5571  OG  SER A 763      -8.530   8.313 -54.882  1.00 51.34           O
ATOM   5572  C   SER A 763     -10.117  10.097 -56.138  1.00 65.71           C
ATOM   5573  O   SER A 763     -10.643  10.137 -57.232  1.00 65.51           O
ATOM   5574  N   SER A 764      -9.020  10.783 -55.835  1.00 68.55           N
ATOM   5575  CA  SER A 764      -8.342  11.663 -56.780  1.00 63.22           C
ATOM   5576  CB  SER A 764      -9.062  12.995 -56.841  1.00 59.59           C
ATOM   5577  OG  SER A 764     -10.086  13.058 -55.875  1.00 54.09           O
ATOM   5578  C   SER A 764      -6.906  11.912 -56.410  1.00 61.97           C
ATOM   5579  O   SER A 764      -6.497  11.592 -55.328  1.00 64.80           O
ATOM   5580  N   VAL A 765      -6.131  12.469 -57.323  1.00 64.08           N
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ATOM   5581  CA  VAL A 765      -4.747  12.814 -57.040  1.00 66.59           C
ATOM   5582  CB  VAL A 765      -3.781  11.756 -57.503  1.00 69.96           C
ATOM   5583  CG1 VAL A 765      -3.812  11.680 -59.003  1.00 77.00           C
ATOM   5584  CG2 VAL A 765      -2.393  12.117 -57.050  1.00 74.57           C
ATOM   5585  C   VAL A 765      -4.452  14.145 -57.711  1.00 64.39           C
ATOM   5586  O   VAL A 765      -4.980  14.424 -58.765  1.00 62.18           O
ATOM   5587  N   SER A 766      -3.623  14.977 -57.104  1.00 68.25           N
ATOM   5588  CA  SER A 766      -3.362  16.291 -57.666  1.00 69.32           C
ATOM   5589  CB  SER A 766      -2.633  17.184 -56.669  1.00 66.76           C
ATOM   5590  OG  SER A 766      -3.528  18.044 -55.993  1.00 61.42           O
ATOM   5591  C   SER A 766      -2.597  16.281 -58.944  1.00 73.08           C
ATOM   5592  O   SER A 766      -1.567  15.646 -59.050  1.00 67.81           O
ATOM   5593  N   SER A 767      -3.101  17.028 -59.912  1.00 83.75           N
ATOM   5594  CA  SER A 767      -2.440  17.140 -61.188  1.00 90.72           C
ATOM   5595  CB  SER A 767      -3.281  17.987 -62.118  1.00 92.56           C
ATOM   5596  OG  SER A 767      -3.432  19.292 -61.580  1.00 87.31           O
ATOM   5597  C   SER A 767      -1.220  17.924 -60.860  1.00 91.61           C
ATOM   5598  O   SER A 767      -1.315  18.970 -60.232  1.00 87.08           O
ATOM   5599  N   SER A 768      -0.077  17.471 -61.324  1.00 92.66           N
ATOM   5600  CA  SER A 768       1.141  18.171 -61.012  1.00 91.91           C
ATOM   5601  CB  SER A 768       2.317  17.439 -61.624  1.00 91.80           C
ATOM   5602  OG  SER A 768       2.093  16.049 -61.555  1.00 87.17           O
ATOM   5603  C   SER A 768       1.008  19.556 -61.584  1.00 93.91           C
ATOM   5604  O   SER A 768       0.303  19.758 -62.547  1.00 85.32           O
ATOM   5605  N   LYS A 769       1.644  20.530 -60.961  1.00 99.81           N
ATOM   5606  CA  LYS A 769       1.569  21.887 -61.460  1.00 94.83           C
ATOM   5607  CB  LYS A 769       2.515  22.794 -60.682  1.00 86.30           C
ATOM   5608  C   LYS A 769       1.980  21.886 -62.910  1.00 85.29           C
ATOM   5609  O   LYS A 769       3.123  21.584 -63.218  1.00 78.46           O
ATOM   5610  N   GLU A 784      11.997   2.667 -45.192  1.00 62.91           N
ATOM   5611  CA  GLU A 784      12.128   4.093 -44.697  1.00 70.32           C
ATOM   5612  CB  GLU A 784      13.452   4.790 -45.104  1.00 66.51           C
ATOM   5613  C   GLU A 784      10.938   4.989 -45.091  1.00 68.45           C
ATOM   5614  O   GLU A 784      10.414   4.867 -46.175  1.00 70.62           O
ATOM   5615  N   GLU A 785      10.573   5.916 -44.208  1.00 69.95           N
ATOM   5616  CA  GLU A 785       9.163   6.319 -43.998  1.00 72.36           C
ATOM   5617  CB  GLU A 785       8.916   6.594 -42.498  1.00 72.85           C
ATOM   5618  CG  GLU A 785       9.398   5.525 -41.532  1.00 70.52           C
ATOM   5619  CD  GLU A 785       8.374   5.250 -40.464  1.00 69.13           C
ATOM   5620  OE1 GLU A 785       7.875   6.215 -39.903  1.00 64.77           O
ATOM   5621  OE2 GLU A 785       8.036   4.075 -40.206  1.00 78.62           O
ATOM   5622  C   GLU A 785       8.753   7.588 -44.712  1.00 67.73           C
ATOM   5623  O   GLU A 785       9.582   8.456 -44.864  1.00 68.03           O
ATOM   5624  N   VAL A 786       7.470   7.739 -45.048  1.00 61.40           N
ATOM   5625  CA  VAL A 786       7.011   8.985 -45.659  1.00 61.69           C
ATOM   5626  CB  VAL A 786       7.336   8.943 -47.162  1.00 63.93           C
ATOM   5627  CG1 VAL A 786       6.316   8.122 -47.912  1.00 63.46           C
ATOM   5628  CG2 VAL A 786       7.402  10.357 -47.733  1.00 71.15           C
ATOM   5629  C   VAL A 786       5.531   9.416 -45.414  1.00 58.42           C
ATOM   5630  O   VAL A 786       4.629   8.590 -45.308  1.00 60.35           O
ATOM   5631  N   GLU A 787       5.288  10.721 -45.350  1.00 52.26           N
ATOM   5632  CA  GLU A 787       3.967  11.226 -44.983  1.00 52.42           C
ATOM   5633  CB  GLU A 787       4.097  12.562 -44.235  1.00 56.71           C
ATOM   5634  CG  GLU A 787       3.195  12.797 -43.041  1.00 58.96           C
ATOM   5635  CD  GLU A 787       3.957  13.389 -41.875  1.00 65.62           C
ATOM   5636  OE1 GLU A 787       3.714  14.571 -41.498  1.00 70.37           O
ATOM   5637  OE2 GLU A 787       4.813  12.644 -41.332  1.00 71.05           O
ATOM   5638  C   GLU A 787       3.277  11.460 -46.275  1.00 50.08           C
ATOM   5639  O   GLU A 787       3.921  11.845 -47.221  1.00 52.66           O
ATOM   5640  N   VAL A 788       1.971  11.253 -46.330  1.00 50.76           N
ATOM   5641  CA  VAL A 788       1.188  11.527 -47.554  1.00 51.39           C
ATOM   5642  CB  VAL A 788       0.825  10.228 -48.314  1.00 48.89           C
ATOM   5643  CG1 VAL A 788      -0.030  10.543 -49.541  1.00 48.41           C
ATOM   5644  CG2 VAL A 788       2.082   9.488 -48.705  1.00 47.61           C
ATOM   5645  C   VAL A 788      -0.118  12.216 -47.218  1.00 51.76           C
ATOM   5646  O   VAL A 788      -0.985  11.639 -46.515  1.00 55.38           O
ATOM   5647  N   HIS A 789      -0.296  13.406 -47.755  1.00 48.71           N
ATOM   5648  CA  HIS A 789      -1.401  14.218 -47.308  1.00 53.19           C
ATOM   5649  CB  HIS A 789      -0.962  15.649 -47.173  1.00 55.97           C
ATOM   5650  CG  HIS A 789      -0.003  15.836 -46.057  1.00 58.74           C
ATOM   5651  ND1 HIS A 789      -0.176  16.788 -45.088  1.00 62.78           N
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ATOM   5652  CE1 HIS A 789       0.823  16.721 -44.228  1.00 62.85           C
ATOM   5653  NE2 HIS A 789       1.616  15.731 -44.585  1.00 60.30           N
ATOM   5654  CD2 HIS A 789       1.113  15.150 -45.720  1.00 60.58           C
ATOM   5655  C   HIS A 789      -2.622  14.106 -48.177  1.00 52.04           C
ATOM   5656  O   HIS A 789      -2.515  13.854 -49.369  1.00 54.55           O
ATOM   5657  N   ASN A 790      -3.780  14.233 -47.541  1.00 47.69           N
ATOM   5658  CA  ASN A 790      -5.027  14.125 -48.211  1.00 47.56           C
ATOM   5659  CB  ASN A 790      -5.618  12.740 -47.998  1.00 51.17           C
ATOM   5660  CG  ASN A 790      -4.774  11.642 -48.623  1.00 57.01           C
ATOM   5661  OD1 ASN A 790      -4.941  11.253 -49.824  1.00 53.98           O
ATOM   5662  ND2 ASN A 790      -3.865  11.096 -47.792  1.00 62.86           N
ATOM   5663  C   ASN A 790      -6.007  15.126 -47.702  1.00 45.62           C
ATOM   5664  O   ASN A 790      -5.902  15.575 -46.577  1.00 48.62           O
ATOM   5665  N   LEU A 791      -6.992  15.439 -48.524  1.00 42.73           N
ATOM   5666  CA  LEU A 791      -8.118  16.175 -48.091  1.00 42.70           C
ATOM   5667  CB  LEU A 791      -8.318  17.420 -48.943  1.00 44.67           C
ATOM   5668  CG  LEU A 791      -9.674  18.127 -48.718  1.00 46.67           C
ATOM   5669  CD1 LEU A 791      -9.908  18.595 -47.280  1.00 46.84           C
ATOM   5670  CD2 LEU A 791      -9.757  19.307 -49.644  1.00 48.11           C
ATOM   5671  C   LEU A 791      -9.293  15.230 -48.199  1.00 42.77           C
ATOM   5672  O   LEU A 791      -9.798  15.001 -49.274  1.00 41.71           O
ATOM   5673  N   LEU A 792      -9.743  14.715 -47.062  1.00 43.09           N
ATOM   5674  CA  LEU A 792     -10.933  13.886 -47.010  1.00 43.95           C
ATOM   5675  CB  LEU A 792     -10.991  13.067 -45.722  1.00 42.52           C
ATOM   5676  CG  LEU A 792      -9.746  12.285 -45.361  1.00 43.99           C
ATOM   5677  CD1 LEU A 792      -9.949  11.581 -44.024  1.00 44.27           C
ATOM   5678  CD2 LEU A 792      -9.416  11.307 -46.469  1.00 45.32           C
ATOM   5679  C   LEU A 792     -12.184  14.768 -47.088  1.00 45.74           C
ATOM   5680  O   LEU A 792     -12.141  15.918 -46.693  1.00 47.28           O
ATOM   5681  N   ILE A 793     -13.289  14.193 -47.562  1.00 45.59           N
ATOM   5682  CA  ILE A 793     -14.574  14.835 -47.578  1.00 46.09           C
ATOM   5683  CB  ILE A 793     -15.026  15.154 -49.003  1.00 46.84           C
ATOM   5684  CG1 ILE A 793     -13.965  16.021 -49.680  1.00 47.90           C
ATOM   5685  CD1 ILE A 793     -13.778  17.398 -49.073  1.00 49.84           C
ATOM   5686  CG2 ILE A 793     -16.418  15.802 -49.008  1.00 45.71           C
ATOM   5687  C   ILE A 793     -15.502  13.841 -47.003  1.00 46.62           C
ATOM   5688  O   ILE A 793     -15.635  12.781 -47.565  1.00 53.06           O
ATOM   5689  N   ILE A 794     -16.153  14.185 -45.903  1.00 46.41           N
ATOM   5690  CA  ILE A 794     -16.775  13.196 -45.037  1.00 45.57           C
ATOM   5691  CB  ILE A 794     -15.939  13.064 -43.758  1.00 44.49           C
ATOM   5692  CG1 ILE A 794     -14.608  12.444 -44.159  1.00 45.90           C
ATOM   5693  CD1 ILE A 794     -13.656  12.171 -43.035  1.00 47.13           C
ATOM   5694  CG2 ILE A 794     -16.601  12.174 -42.743  1.00 43.64           C
ATOM   5695  C   ILE A 794     -18.221  13.557 -44.782  1.00 47.65           C
ATOM   5696  O   ILE A 794     -18.574  14.692 -44.553  1.00 48.49           O
ATOM   5697  N   ASP A 795     -19.092  12.579 -44.858  1.00 53.49           N
ATOM   5698  CA  ASP A 795     -20.507  12.887 -44.818  1.00 56.81           C
ATOM   5699  CB  ASP A 795     -21.363  11.652 -45.151  1.00 60.10           C
ATOM   5700  CG  ASP A 795     -22.771  12.031 -45.480  1.00 63.62           C
ATOM   5701  OD1 ASP A 795     -22.935  12.533 -46.594  1.00 66.51           O
ATOM   5702  OD2 ASP A 795     -23.684  11.907 -44.634  1.00 64.19           O
ATOM   5703  C   ASP A 795     -20.884  13.422 -43.441  1.00 55.44           C
ATOM   5704  O   ASP A 795     -20.482  12.884 -42.389  1.00 51.95           O
ATOM   5705  N   GLN A 796     -21.668  14.479 -43.461  1.00 54.74           N
ATOM   5706  CA  GLN A 796     -22.214  15.045 -42.225  1.00 55.31           C
ATOM   5707  CB  GLN A 796     -23.069  16.261 -42.557  1.00 55.91           C
ATOM   5708  CG  GLN A 796     -24.283  16.460 -41.697  1.00 58.45           C
ATOM   5709  CD  GLN A 796     -24.773  17.864 -41.749  1.00 59.07           C
ATOM   5710  OE1 GLN A 796     -25.444  18.319 -40.830  1.00 65.50           O
ATOM   5711  NE2 GLN A 796     -24.457  18.557 -42.808  1.00 58.50           N
ATOM   5712  C   GLN A 796     -23.004  14.101 -41.340  1.00 54.48           C
ATOM   5713  O   GLN A 796     -22.821  14.148 -40.117  1.00 51.06           O
ATOM   5714  N   HIS A 797     -23.899  13.300 -41.941  1.00 58.39           N
ATOM   5715  CA  HIS A 797     -24.810  12.380 -41.174  1.00 62.66           C
ATOM   5716  CB  HIS A 797     -26.150  12.161 -41.855  1.00 63.23           C
ATOM   5717  CG  HIS A 797     -26.806  13.430 -42.260  1.00 66.95           C
ATOM   5718  ND1 HIS A 797     -27.515  14.210 -41.376  1.00 68.45           N
ATOM   5719  CE1 HIS A 797     -27.964  15.282 -42.002  1.00 73.46           C
ATOM   5720  NE2 HIS A 797     -27.548  15.238 -43.254  1.00 75.02           N
ATOM   5721  CD2 HIS A 797     -26.815  14.089 -43.440  1.00 72.22           C
ATOM   5722  C   HIS A 797     -24.224  11.028 -40.907  1.00 61.00           C
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ATOM   5723  O   HIS A 797     -24.380  10.504 -39.813  1.00 62.71           O
ATOM   5724  N   THR A 798     -23.527  10.488 -41.898  1.00 62.08           N
ATOM   5725  CA  THR A 798     -23.019   9.108 -41.852  1.00 60.92           C
ATOM   5726  CB  THR A 798     -23.367   8.360 -43.156  1.00 62.43           C
ATOM   5727  OG1 THR A 798     -22.286   8.431 -44.097  1.00 65.22           O
ATOM   5728  CG2 THR A 798     -24.612   8.952 -43.828  1.00 65.14           C
ATOM   5729  C   THR A 798     -21.499   9.000 -41.621  1.00 59.25           C
ATOM   5730  O   THR A 798     -21.048   7.928 -41.341  1.00 58.16           O
ATOM   5731  N   PHE A 799     -20.717  10.085 -41.784  1.00 57.94           N
ATOM   5732  CA  PHE A 799     -19.241  10.069 -41.685  1.00 54.55           C
ATOM   5733  CB  PHE A 799     -18.767  10.003 -40.202  1.00 56.68           C
ATOM   5734  CG  PHE A 799     -19.213  11.192 -39.406  1.00 57.35           C
ATOM   5735  CD1 PHE A 799     -20.486  11.222 -38.836  1.00 57.85           C
ATOM   5736  CE1 PHE A 799     -20.932  12.337 -38.171  1.00 55.63           C
ATOM   5737  CZ  PHE A 799     -20.118  13.459 -38.090  1.00 56.96           C
ATOM   5738  CE2 PHE A 799     -18.865  13.461 -38.665  1.00 57.37           C
ATOM   5739  CD2 PHE A 799     -18.418  12.326 -39.323  1.00 58.29           C
ATOM   5740  C   PHE A 799     -18.600   9.007 -42.558  1.00 54.26           C
ATOM   5741  O   PHE A 799     -17.567   8.425 -42.220  1.00 51.07           O
ATOM   5742  N   GLU A 800     -19.211   8.777 -43.712  1.00 60.23           N
ATOM   5743  CA  GLU A 800     -18.556   8.009 -44.764  1.00 68.41           C
ATOM   5744  CB  GLU A 800     -19.555   7.411 -45.789  1.00 80.31           C
ATOM   5745  CG  GLU A 800     -19.603   5.863 -45.900  1.00 88.45           C
ATOM   5746  CD  GLU A 800     -19.614   5.377 -47.370  1.00 90.36           C
ATOM   5747  OE1 GLU A 800     -20.289   6.037 -48.200  1.00 86.61           O
ATOM   5748  OE2 GLU A 800     -18.935   4.359 -47.707  1.00 85.42           O
ATOM   5749  C   GLU A 800     -17.553   8.935 -45.464  1.00 62.73           C
ATOM   5750  O   GLU A 800     -17.834  10.105 -45.760  1.00 58.09           O
ATOM   5751  N   VAL A 801     -16.369   8.402 -45.700  1.00 58.01           N
ATOM   5752  CA  VAL A 801     -15.394   9.096 -46.499  1.00 54.54           C
ATOM   5753  CB  VAL A 801     -14.007   8.437 -46.352  1.00 52.29           C
ATOM   5754  CG1 VAL A 801     -12.972   9.223 -47.109  1.00 52.85           C
ATOM   5755  CG2 VAL A 801     -13.587   8.343 -44.894  1.00 51.15           C
ATOM   5756  C   VAL A 801     -15.939   9.006 -47.944  1.00 56.13           C
ATOM   5757  O   VAL A 801     -15.950   7.922 -48.565  1.00 60.10           O
ATOM   5758  N   LEU A 802     -16.444  10.129 -48.449  1.00 54.98           N
ATOM   5759  CA  LEU A 802     -16.978  10.195 -49.800  1.00 54.94           C
ATOM   5760  CB  LEU A 802     -17.966  11.345 -49.940  1.00 54.17           C
ATOM   5761  CG  LEU A 802     -19.078  11.454 -48.888  1.00 55.94           C
ATOM   5762  CD1 LEU A 802     -20.185  12.450 -49.248  1.00 56.09           C
ATOM   5763  CD2 LEU A 802     -19.697  10.105 -48.588  1.00 56.99           C
ATOM   5764  C   LEU A 802     -15.871  10.339 -50.838  1.00 59.61           C
ATOM   5765  O   LEU A 802     -15.995   9.779 -51.913  1.00 64.08           O
ATOM   5766  N   HIS A 803     -14.811  11.100 -50.544  1.00 62.83           N
ATOM   5767  CA  HIS A 803     -13.700  11.321 -51.513  1.00 64.37           C
ATOM   5768  CB  HIS A 803     -14.055  12.500 -52.427  1.00 67.66           C
ATOM   5769  CG  HIS A 803     -13.112  12.729 -53.568  1.00 69.85           C
ATOM   5770  ND1 HIS A 803     -13.495  12.569 -54.880  1.00 71.24           N
ATOM   5771  CE1 HIS A 803     -12.480  12.869 -55.673  1.00 72.28           C
ATOM   5772  NE2 HIS A 803     -11.464  13.253 -54.925  1.00 73.19           N
ATOM   5773  CD2 HIS A 803     -11.838  13.190 -53.604  1.00 72.67           C
ATOM   5774  C   HIS A 803     -12.410  11.624 -50.768  1.00 60.62           C
ATOM   5775  O   HIS A 803     -12.456  12.204 -49.706  1.00 59.28           O
ATOM   5776  N   ALA A 804     -11.277  11.218 -51.324  1.00 57.73           N
ATOM   5777  CA  ALA A 804      -9.963  11.512 -50.769  1.00 57.73           C
ATOM   5778  CB  ALA A 804      -9.348  10.245 -50.235  1.00 58.29           C
ATOM   5779  C   ALA A 804      -9.068  12.084 -51.866  1.00 59.60           C
ATOM   5780  O   ALA A 804      -8.756  11.399 -52.834  1.00 65.60           O
ATOM   5781  N   HIS A 805      -8.670  13.339 -51.733  1.00 57.63           N
ATOM   5782  CA  HIS A 805      -7.807  13.962 -52.715  1.00 56.41           C
ATOM   5783  CB  HIS A 805      -8.226  15.403 -52.976  1.00 55.50           C
ATOM   5784  CG  HIS A 805      -7.258  16.148 -53.832  1.00 55.80           C
ATOM   5785  ND1 HIS A 805      -7.362  16.186 -55.201  1.00 54.75           N
ATOM   5786  CE1 HIS A 805      -6.359  16.887 -55.698  1.00 57.39           C
ATOM   5787  NE2 HIS A 805      -5.593  17.286 -54.704  1.00 59.28           N
ATOM   5788  CD2 HIS A 805      -6.129  16.827 -53.522  1.00 59.73           C
ATOM   5789  C   HIS A 805      -6.395  13.937 -52.170  1.00 55.74           C
ATOM   5790  O   HIS A 805      -6.176  14.451 -51.116  1.00 58.65           O
ATOM   5791  N   GLN A 806      -5.448  13.374 -52.915  1.00 55.03           N
ATOM   5792  CA  GLN A 806      -4.044  13.303 -52.528  1.00 53.03           C
ATOM   5793  CB  GLN A 806      -3.457  12.074 -53.144  1.00 51.59           C
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ATOM   5794  CG  GLN A 806      -2.088  11.736 -52.631  1.00 53.27           C
ATOM   5795  CD  GLN A 806      -1.782  10.248 -52.812  1.00 56.09           C
ATOM   5796  OE1 GLN A 806      -2.481   9.340 -52.278  1.00 55.12           O
ATOM   5797  NE2 GLN A 806      -0.738   9.983 -53.571  1.00 55.85           N
ATOM   5798  C   GLN A 806      -3.260  14.501 -53.042  1.00 56.30           C
ATOM   5799  O   GLN A 806      -3.296  14.789 -54.233  1.00 62.61           O
ATOM   5800  N   PHE A 807      -2.548  15.206 -52.169  1.00 54.27           N
ATOM   5801  CA  PHE A 807      -1.707  16.333 -52.597  1.00 51.89           C
ATOM   5802  CB  PHE A 807      -1.500  17.286 -51.391  1.00 51.23           C
ATOM   5803  CG  PHE A 807      -2.764  18.011 -50.990  1.00 49.52           C
ATOM   5804  CD1 PHE A 807      -3.151  19.177 -51.645  1.00 48.06           C
ATOM   5805  CE1 PHE A 807      -4.339  19.821 -51.336  1.00 46.58           C
ATOM   5806  CZ  PHE A 807      -5.147  19.321 -50.334  1.00 48.58           C
ATOM   5807  CE2 PHE A 807      -4.780  18.162 -49.667  1.00 49.62           C
ATOM   5808  CD2 PHE A 807      -3.596  17.503 -50.005  1.00 50.01           C
ATOM   5809  C   PHE A 807      -0.405  15.792 -53.299  1.00 52.52           C
ATOM   5810  O   PHE A 807      -0.267  14.584 -53.459  1.00 48.56           O
ATOM   5811  N   LEU A 808       0.520  16.660 -53.737  1.00 55.32           N
ATOM   5812  CA  LEU A 808       1.727  16.241 -54.533  1.00 55.66           C
ATOM   5813  CB  LEU A 808       2.496  17.415 -55.181  1.00 55.50           C
ATOM   5814  CG  LEU A 808       1.619  18.398 -55.991  1.00 57.35           C
ATOM   5815  CD1 LEU A 808       2.229  19.782 -56.170  1.00 54.58           C
ATOM   5816  CD2 LEU A 808       1.199  17.808 -57.320  1.00 61.03           C
ATOM   5817  C   LEU A 808       2.685  15.433 -53.698  1.00 55.47           C
ATOM   5818  O   LEU A 808       2.459  15.276 -52.494  1.00 55.75           O
ATOM   5819  N   GLN A 809       3.699  14.853 -54.350  1.00 58.31           N
ATOM   5820  CA  GLN A 809       4.742  14.089 -53.643  1.00 62.19           C
ATOM   5821  CB  GLN A 809       5.581  13.157 -54.570  1.00 60.74           C
ATOM   5822  C   GLN A 809       5.518  15.249 -53.031  1.00 60.46           C
ATOM   5823  O   GLN A 809       5.634  16.286 -53.692  1.00 61.74           O
ATOM   5824  N   ASN A 810       5.927  15.106 -51.761  1.00 57.58           N
ATOM   5825  CA  ASN A 810       6.502  16.189 -50.943  1.00 58.63           C
ATOM   5826  CB  ASN A 810       7.769  16.794 -51.613  1.00 63.62           C
ATOM   5827  CG  ASN A 810       8.964  15.875 -51.572  1.00 65.03           C
ATOM   5828  OD1 ASN A 810       9.510  15.563 -52.605  1.00 67.62           O
ATOM   5829  ND2 ASN A 810       9.393  15.463 -50.379  1.00 70.25           N
ATOM   5830  C   ASN A 810       5.582  17.369 -50.461  1.00 53.81           C
ATOM   5831  O   ASN A 810       6.003  18.191 -49.648  1.00 53.95           O
ATOM   5832  N   GLU A 811       4.362  17.483 -50.935  1.00 51.67           N
ATOM   5833  CA  GLU A 811       3.492  18.591 -50.516  1.00 52.35           C
ATOM   5834  CB  GLU A 811       2.426  18.840 -51.584  1.00 51.30           C
ATOM   5835  CG  GLU A 811       1.505  19.985 -51.256  1.00 54.99           C
ATOM   5836  CD  GLU A 811       0.629  20.359 -52.424  1.00 56.90           C
ATOM   5837  OE1 GLU A 811       0.319  19.432 -53.168  1.00 58.35           O
ATOM   5838  OE2 GLU A 811       0.208  21.539 -52.596  1.00 55.53           O
ATOM   5839  C   GLU A 811       2.859  18.330 -49.110  1.00 52.32           C
ATOM   5840  O   GLU A 811       2.327  17.241 -48.826  1.00 46.84           O
ATOM   5841  N   TYR A 812       2.935  19.348 -48.242  1.00 55.42           N
ATOM   5842  CA  TYR A 812       2.545  19.239 -46.827  1.00 55.12           C
ATOM   5843  CB  TYR A 812       3.717  19.609 -45.921  1.00 55.19           C
ATOM   5844  CG  TYR A 812       3.525  19.123 -44.513  1.00 62.10           C
ATOM   5845  CD1 TYR A 812       2.579  19.745 -43.667  1.00 67.69           C
ATOM   5846  CE1 TYR A 812       2.363  19.313 -42.351  1.00 68.73           C
ATOM   5847  CZ  TYR A 812       3.103  18.242 -41.856  1.00 68.65           C
ATOM   5848  OH  TYR A 812       2.840  17.843 -40.561  1.00 63.55           O
ATOM   5849  CE2 TYR A 812       4.061  17.594 -42.686  1.00 66.74           C
ATOM   5850  CD2 TYR A 812       4.258  18.028 -44.004  1.00 61.76           C
ATOM   5851  C   TYR A 812       1.386  20.174 -46.625  1.00 53.21           C
ATOM   5852  O   TYR A 812       1.538  21.377 -46.761  1.00 59.16           O
ATOM   5853  N   ALA A 813       0.203  19.627 -46.395  1.00 50.39           N
ATOM   5854  CA  ALA A 813      -1.001  20.458 -46.190  1.00 48.95           C
ATOM   5855  CB  ALA A 813      -2.288  19.676 -46.411  1.00 48.34           C
ATOM   5856  C   ALA A 813      -0.992  21.042 -44.798  1.00 47.62           C
ATOM   5857  O   ALA A 813      -0.871  20.344 -43.800  1.00 45.13           O
ATOM   5858  N   LEU A 814      -1.120  22.345 -44.758  1.00 47.61           N
ATOM   5859  CA  LEU A 814      -1.043  23.060 -43.536  1.00 46.14           C
ATOM   5860  CB  LEU A 814       0.015  24.138 -43.655  1.00 47.82           C
ATOM   5861  CG  LEU A 814       1.450  23.659 -43.720  1.00 48.19           C
ATOM   5862  CD1 LEU A 814       2.390  24.830 -44.004  1.00 49.56           C
ATOM   5863  CD2 LEU A 814       1.782  23.007 -42.401  1.00 48.71           C
ATOM   5864  C   LEU A 814      -2.369  23.659 -43.164  1.00 43.13           C
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ATOM   5865  O   LEU A 814      -2.722  23.544 -42.021  1.00 44.94           O
ATOM   5866  N   SER A 815      -3.095  24.293 -44.077  1.00 40.62           N
ATOM   5867  CA  SER A 815      -4.268  25.086 -43.676  1.00 44.24           C
ATOM   5868  CB  SER A 815      -3.979  26.587 -43.840  1.00 44.65           C
ATOM   5869  OG  SER A 815      -2.707  26.805 -44.423  1.00 44.65           O
ATOM   5870  C   SER A 815      -5.527  24.725 -44.440  1.00 47.11           C
ATOM   5871  O   SER A 815      -5.460  24.279 -45.584  1.00 49.45           O
ATOM   5872  N   LEU A 816      -6.683  24.920 -43.829  1.00 46.03           N
ATOM   5873  CA  LEU A 816      -7.903  24.599 -44.533  1.00 45.48           C
ATOM   5874  CB  LEU A 816      -8.314  23.193 -44.195  1.00 45.49           C
ATOM   5875  CG  LEU A 816      -9.739  22.844 -44.577  1.00 46.48           C
ATOM   5876  CD1 LEU A 816      -9.822  22.382 -46.018  1.00 47.64           C
ATOM   5877  CD2 LEU A 816     -10.214  21.734 -43.683  1.00 50.38           C
ATOM   5878  C   LEU A 816      -8.968  25.555 -44.112  1.00 47.39           C
ATOM   5879  O   LEU A 816      -9.050  25.880 -42.947  1.00 50.40           O
ATOM   5880  N   VAL A 817      -9.774  26.010 -45.063  1.00 49.45           N
ATOM   5881  CA  VAL A 817     -10.987  26.774 -44.779  1.00 52.19           C
ATOM   5882  CB  VAL A 817     -10.696  28.294 -44.769  1.00 53.45           C
ATOM   5883  CG1 VAL A 817     -10.253  28.772 -46.112  1.00 53.48           C
ATOM   5884  CG2 VAL A 817     -11.926  29.081 -44.337  1.00 58.84           C
ATOM   5885  C   VAL A 817     -12.084  26.381 -45.788  1.00 50.57           C
ATOM   5886  O   VAL A 817     -11.787  25.785 -46.809  1.00 48.41           O
ATOM   5887  N   SER A 818     -13.341  26.645 -45.463  1.00 50.46           N
ATOM   5888  CA  SER A 818     -14.433  26.509 -46.407  1.00 51.46           C
ATOM   5889  CB  SER A 818     -15.363  25.326 -46.058  1.00 52.17           C
ATOM   5890  OG  SER A 818     -16.761  25.596 -46.385  1.00 51.39           O
ATOM   5891  C   SER A 818     -15.234  27.792 -46.383  1.00 52.93           C
ATOM   5892  O   SER A 818     -15.948  28.035 -45.424  1.00 53.61           O
ATOM   5893  N   CYS A 819     -15.180  28.553 -47.469  1.00 55.91           N
ATOM   5894  CA  CYS A 819     -15.886  29.816 -47.593  1.00 57.78           C
ATOM   5895  CB  CYS A 819     -14.969  30.902 -47.073  1.00 58.01           C
ATOM   5896  SG  CYS A 819     -13.493  31.034 -48.121  1.00 59.61           S
ATOM   5897  C   CYS A 819     -16.250  30.201 -49.039  1.00 62.91           C
ATOM   5898  O   CYS A 819     -15.740  29.645 -50.043  1.00 57.87           O
ATOM   5899  N   LYS A 820     -17.103  31.225 -49.084  1.00 67.80           N
ATOM   5900  CA  LYS A 820     -17.545  31.930 -50.289  1.00 65.44           C
ATOM   5901  CB  LYS A 820     -19.010  32.424 -50.097  1.00 65.06           C
ATOM   5902  CG  LYS A 820     -20.130  31.605 -50.765  1.00 64.54           C
ATOM   5903  CD  LYS A 820     -21.357  31.232 -49.925  1.00 68.95           C
ATOM   5904  CE  LYS A 820     -21.779  32.166 -48.787  1.00 74.12           C
ATOM   5905  NZ  LYS A 820     -22.039  33.544 -49.264  1.00 79.35           N
ATOM   5906  C   LYS A 820     -16.610  33.128 -50.457  1.00 64.36           C
ATOM   5907  O   LYS A 820     -16.281  33.787 -49.482  1.00 64.02           O
ATOM   5908  N   LEU A 821     -16.199  33.419 -51.685  1.00 68.88           N
ATOM   5909  CA  LEU A 821     -15.368  34.616 -51.957  1.00 68.86           C
ATOM   5910  CB  LEU A 821     -13.965  34.228 -52.448  1.00 62.41           C
ATOM   5911  CG  LEU A 821     -13.159  33.310 -51.548  1.00 57.87           C
ATOM   5912  CD1 LEU A 821     -11.825  33.017 -52.198  1.00 56.01           C
ATOM   5913  CD2 LEU A 821     -12.933  33.950 -50.200  1.00 60.69           C
ATOM   5914  C   LEU A 821     -16.005  35.525 -52.996  1.00 71.07           C
ATOM   5915  O   LEU A 821     -16.634  35.044 -53.949  1.00 74.13           O
ATOM   5916  N   GLY A 822     -15.817  36.828 -52.806  1.00 72.62           N
ATOM   5917  CA  GLY A 822     -16.322  37.839 -53.729  1.00 77.91           C
ATOM   5918  C   GLY A 822     -17.753  37.632 -54.215  1.00 77.23           C
ATOM   5919  O   GLY A 822     -18.614  37.126 -53.488  1.00 72.63           O
ATOM   5920  N   LYS A 823     -17.987  37.974 -55.477  1.00 79.48           N
ATOM   5921  CA  LYS A 823     -19.320  37.886 -56.068  1.00 80.02           C
ATOM   5922  CB  LYS A 823     -19.367  38.702 -57.371  1.00 84.37           C
ATOM   5923  CG  LYS A 823     -19.142  40.215 -57.190  1.00 86.79           C
ATOM   5924  CD  LYS A 823     -20.430  40.985 -56.882  1.00 88.01           C
ATOM   5925  CE  LYS A 823     -20.199  42.192 -55.969  1.00 89.19           C
ATOM   5926  NZ  LYS A 823     -20.617  43.451 -56.654  1.00 88.35           N
ATOM   5927  C   LYS A 823     -19.776  36.420 -56.290  1.00 77.26           C
ATOM   5928  O   LYS A 823     -20.965  36.151 -56.456  1.00 78.42           O
ATOM   5929  N   ASP A 824     -18.843  35.476 -56.232  1.00 70.81           N
ATOM   5930  CA  ASP A 824     -19.139  34.072 -56.459  1.00 66.44           C
ATOM   5931  CB  ASP A 824     -17.846  33.285 -56.413  1.00 65.77           C
ATOM   5932  CG  ASP A 824     -17.906  32.033 -57.224  1.00 65.45           C
ATOM   5933  OD1 ASP A 824     -19.006  31.442 -57.337  1.00 59.97           O
ATOM   5934  OD2 ASP A 824     -16.823  31.634 -57.731  1.00 64.15           O
ATOM   5935  C   ASP A 824     -20.097  33.483 -55.445  1.00 70.87           C
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ATOM   5936  O   ASP A 824     -19.888  33.650 -54.249  1.00 75.82           O
ATOM   5937  N   PRO A 825     -21.143  32.778 -55.916  1.00 77.62           N
ATOM   5938  CA  PRO A 825     -22.118  32.126 -55.020  1.00 82.39           C
ATOM   5939  CB  PRO A 825     -23.360  32.018 -55.913  1.00 81.95           C
ATOM   5940  CG  PRO A 825     -22.786  31.758 -57.267  1.00 80.20           C
ATOM   5941  CD  PRO A 825     -21.603  32.691 -57.319  1.00 80.14           C
ATOM   5942  C   PRO A 825     -21.721  30.717 -54.561  1.00 79.75           C
ATOM   5943  O   PRO A 825     -22.256  30.205 -53.575  1.00 77.90           O
ATOM   5944  N   ASN A 826     -20.841  30.089 -55.324  1.00 76.76           N
ATOM   5945  CA  ASN A 826     -20.296  28.811 -54.964  1.00 77.12           C
ATOM   5946  CB  ASN A 826     -19.384  28.306 -56.093  1.00 78.14           C
ATOM   5947  CG  ASN A 826     -20.150  27.688 -57.235  1.00 75.11           C
ATOM   5948  OD1 ASN A 826     -21.338  27.389 -57.134  1.00 67.95           O
ATOM   5949  ND2 ASN A 826     -19.452  27.452 -58.320  1.00 78.56           N
ATOM   5950  C   ASN A 826     -19.473  28.897 -53.699  1.00 72.69           C
ATOM   5951  O   ASN A 826     -18.844  29.941 -53.451  1.00 83.09           O
ATOM   5952  N   THR A 827     -19.462  27.788 -52.952  1.00 64.96           N
ATOM   5953  CA  THR A 827     -18.635  27.590 -51.759  1.00 63.56           C
ATOM   5954  CB  THR A 827     -19.498  27.000 -50.637  1.00 64.72           C
ATOM   5955  OG1 THR A 827     -20.703  27.754 -50.471  1.00 60.64           O
ATOM   5956  CG2 THR A 827     -18.730  26.976 -49.349  1.00 70.73           C
ATOM   5957  C   THR A 827     -17.451  26.603 -51.993  1.00 61.56           C
ATOM   5958  O   THR A 827     -17.635  25.537 -52.501  1.00 64.04           O
ATOM   5959  N   TYR A 828     -16.244  26.919 -51.569  1.00 62.30           N
ATOM   5960  CA  TYR A 828     -15.089  26.079 -51.890  1.00 61.63           C
ATOM   5961  CB  TYR A 828     -14.110  26.884 -52.716  1.00 64.71           C
ATOM   5962  CG  TYR A 828     -14.714  27.494 -53.931  1.00 64.12           C
ATOM   5963  CD1 TYR A 828     -15.342  28.714 -53.849  1.00 66.84           C
ATOM   5964  CE1 TYR A 828     -15.912  29.304 -54.958  1.00 74.28           C
ATOM   5965  CZ  TYR A 828     -15.845  28.658 -56.196  1.00 73.86           C
ATOM   5966  OH  TYR A 828     -16.415  29.252 -57.312  1.00 68.16           O
ATOM   5967  CE2 TYR A 828     -15.200  27.435 -56.296  1.00 70.20           C
ATOM   5968  CD2 TYR A 828     -14.643  26.864 -55.162  1.00 66.68           C
ATOM   5969  C   TYR A 828     -14.391  25.662 -50.614  1.00 61.16           C
ATOM   5970  O   TYR A 828     -14.582  26.283 -49.591  1.00 64.16           O
ATOM   5971  N   PHE A 829     -13.629  24.582 -50.669  1.00 57.21           N
ATOM   5972  CA  PHE A 829     -12.746  24.180 -49.596  1.00 53.13           C
ATOM   5973  CB  PHE A 829     -12.620  22.644 -49.483  1.00 52.20           C
ATOM   5974  CG  PHE A 829     -13.793  21.980 -48.839  1.00 48.49           C
ATOM   5975  CD1 PHE A 829     -13.924  21.973 -47.475  1.00 48.53           C
ATOM   5976  CE1 PHE A 829     -15.008  21.386 -46.857  1.00 48.61           C
ATOM   5977  CZ  PHE A 829     -15.965  20.766 -47.608  1.00 50.24           C
ATOM   5978  CE2 PHE A 829     -15.829  20.747 -48.990  1.00 51.44           C
ATOM   5979  CD2 PHE A 829     -14.738  21.359 -49.588  1.00 48.74           C
ATOM   5980  C   PHE A 829     -11.449  24.723 -50.097  1.00 54.05           C
ATOM   5981  O   PHE A 829     -11.067  24.392 -51.207  1.00 56.70           O
ATOM   5982  N   ILE A 830     -10.755  25.547 -49.316  1.00 55.11           N
ATOM   5983  CA  ILE A 830      -9.413  26.038 -49.727  1.00 54.41           C
ATOM   5984  CB  ILE A 830      -9.361  27.586 -49.754  1.00 53.78           C
ATOM   5985  CG1 ILE A 830     -10.466  28.105 -50.706  1.00 55.17           C
ATOM   5986  CD1 ILE A 830     -11.050  29.452 -50.358  1.00 54.32           C
ATOM   5987  CG2 ILE A 830      -8.010  28.090 -50.250  1.00 52.31           C
ATOM   5988  C   ILE A 830      -8.350  25.383 -48.841  1.00 51.19           C
ATOM   5989  O   ILE A 830      -8.622  25.141 -47.693  1.00 53.19           O
ATOM   5990  N   VAL A 831      -7.182  25.047 -49.391  1.00 47.40           N
ATOM   5991  CA  VAL A 831      -6.082  24.491 -48.631  1.00 46.02           C
ATOM   5992  CB  VAL A 831      -5.814  23.048 -49.055  1.00 46.03           C
ATOM   5993  CG1 VAL A 831      -4.636  22.419 -48.280  1.00 45.49           C
ATOM   5994  CG2 VAL A 831      -7.077  22.241 -48.881  1.00 47.38           C
ATOM   5995  C   VAL A 831      -4.819  25.253 -48.928  1.00 47.87           C
ATOM   5996  O   VAL A 831      -4.464  25.358 -50.070  1.00 57.64           O
ATOM   5997  N   GLY A 832      -4.114  25.735 -47.917  1.00 47.39           N
ATOM   5998  CA  GLY A 832      -2.726  26.188 -48.070  1.00 45.76           C
ATOM   5999  C   GLY A 832      -1.742  25.048 -47.828  1.00 44.54           C
ATOM   6000  O   GLY A 832      -2.036  24.121 -47.094  1.00 44.64           O
ATOM   6001  N   THR A 833      -0.562  25.121 -48.411  1.00 44.11           N
ATOM   6002  CA  THR A 833       0.362  23.996 -48.376  1.00 49.07           C
ATOM   6003  CB  THR A 833       0.248  23.138 -49.652  1.00 52.08           C
ATOM   6004  OG1 THR A 833       0.685  23.914 -50.777  1.00 52.28           O
ATOM   6005  CG2 THR A 833      -1.164  22.696 -49.900  1.00 54.14           C
ATOM   6006  C   THR A 833       1.771  24.511 -48.374  1.00 50.49           C
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ATOM   6007  O   THR A 833       1.961  25.706 -48.427  1.00 57.04           O
ATOM   6008  N   ALA A 834       2.751  23.612 -48.334  1.00 48.99           N
ATOM   6009  CA  ALA A 834       4.147  23.961 -48.338  1.00 48.47           C
ATOM   6010  CB  ALA A 834       4.623  24.160 -46.926  1.00 48.59           C
ATOM   6011  C   ALA A 834       4.879  22.801 -48.921  1.00 53.72           C
ATOM   6012  O   ALA A 834       4.431  21.667 -48.814  1.00 58.72           O
ATOM   6013  N   MET A 835       6.033  23.067 -49.498  1.00 56.20           N
ATOM   6014  CA  MET A 835       6.817  22.034 -50.115  1.00 56.42           C
ATOM   6015  CB  MET A 835       7.254  22.462 -51.525  1.00 62.35           C
ATOM   6016  CG  MET A 835       6.136  22.565 -52.528  1.00 59.23           C
ATOM   6017  SD  MET A 835       5.548  20.918 -52.885  1.00 60.98           S
ATOM   6018  CE  MET A 835       3.856  21.426 -53.149  1.00 62.51           C
ATOM   6019  C   MET A 835       8.040  21.782 -49.272  1.00 54.34           C
ATOM   6020  O   MET A 835       8.968  22.633 -49.184  1.00 56.84           O
ATOM   6021  N   VAL A 836       8.072  20.569 -48.758  1.00 49.75           N
ATOM   6022  CA  VAL A 836       9.029  20.173 -47.791  1.00 52.32           C
ATOM   6023  CB  VAL A 836       8.320  19.431 -46.650  1.00 53.34           C
ATOM   6024  CG1 VAL A 836       9.300  19.098 -45.517  1.00 52.56           C
ATOM   6025  CG2 VAL A 836       7.148  20.269 -46.177  1.00 54.57           C
ATOM   6026  C   VAL A 836       9.986  19.204 -48.396  1.00 53.38           C
ATOM   6027  O   VAL A 836       9.576  18.140 -48.829  1.00 53.62           O
ATOM   6028  N   TYR A 837      11.262  19.555 -48.381  1.00 57.58           N
ATOM   6029  CA  TYR A 837      12.318  18.660 -48.835  1.00 62.07           C
ATOM   6030  CB  TYR A 837      13.029  19.215 -50.080  1.00 63.18           C
ATOM   6031  CG  TYR A 837      12.093  19.555 -51.236  1.00 62.94           C
ATOM   6032  CD1 TYR A 837      11.491  18.548 -51.995  1.00 62.78           C
ATOM   6033  CE1 TYR A 837      10.641  18.863 -53.036  1.00 63.59           C
ATOM   6034  CZ  TYR A 837      10.373  20.187 -53.314  1.00 63.91           C
ATOM   6035  OH  TYR A 837       9.529  20.498 -54.337  1.00 70.94           O
ATOM   6036  CE2 TYR A 837      10.934  21.197 -52.573  1.00 60.70           C
ATOM   6037  CD2 TYR A 837      11.790  20.880 -51.546  1.00 60.19           C
ATOM   6038  C   TYR A 837      13.312  18.538 -47.709  1.00 65.60           C
ATOM   6039  O   TYR A 837      13.631  19.531 -47.090  1.00 68.40           O
ATOM   6040  N   PRO A 838      13.814  17.328 -47.439  1.00 73.08           N
ATOM   6041  CA  PRO A 838      14.813  17.181 -46.377  1.00 77.35           C
ATOM   6042  CB  PRO A 838      15.124  15.683 -46.364  1.00 76.77           C
ATOM   6043  CG  PRO A 838      14.216  15.034 -47.345  1.00 75.70           C
ATOM   6044  CD  PRO A 838      13.290  16.038 -47.919  1.00 75.12           C
ATOM   6045  C   PRO A 838      16.114  17.996 -46.552  1.00 84.56           C
ATOM   6046  O   PRO A 838      16.770  18.264 -45.550  1.00 91.64           O
ATOM   6047  N   GLU A 839      16.477  18.387 -47.778  1.00 88.27           N
ATOM   6048  CA  GLU A 839      17.608  19.319 -47.996  1.00 93.59           C
ATOM   6049  CB  GLU A 839      17.969  19.490 -49.499  1.00 99.76           C
ATOM   6050  CG  GLU A 839      18.031  18.231 -50.363  1.00106.49           C
ATOM   6051  CD  GLU A 839      16.802  18.041 -51.252  1.00109.63           C
ATOM   6052  OE1 GLU A 839      15.886  17.290 -50.835  1.00108.62           O
ATOM   6053  OE2 GLU A 839      16.751  18.644 -52.353  1.00108.06           O
ATOM   6054  C   GLU A 839      17.342  20.736 -47.431  1.00 89.95           C
ATOM   6055  O   GLU A 839      18.285  21.412 -47.029  1.00 90.63           O
ATOM   6056  N   GLU A 840      16.065  21.150 -47.413  1.00 84.95           N
ATOM   6057  CA  GLU A 840      15.614  22.546 -47.337  1.00 80.04           C
ATOM   6058  CB  GLU A 840      14.552  22.762 -48.442  1.00 86.66           C
ATOM   6059  CG  GLU A 840      14.121  24.192 -48.783  1.00 94.07           C
ATOM   6060  CD  GLU A 840      12.870  24.235 -49.692  1.00106.67           C
ATOM   6061  OE1 GLU A 840      11.774  23.710 -49.326  1.00110.19           O
ATOM   6062  OE2 GLU A 840      12.969  24.804 -50.804  1.00119.58           O
ATOM   6063  C   GLU A 840      15.011  22.818 -45.958  1.00 72.45           C
ATOM   6064  O   GLU A 840      14.036  22.161 -45.560  1.00 76.87           O
ATOM   6065  N   ALA A 841      15.577  23.781 -45.229  1.00 64.83           N
ATOM   6066  CA  ALA A 841      15.090  24.110 -43.894  1.00 59.64           C
ATOM   6067  CB  ALA A 841      16.157  24.811 -43.074  1.00 57.24           C
ATOM   6068  C   ALA A 841      13.790  24.905 -43.957  1.00 59.20           C
ATOM   6069  O   ALA A 841      12.752  24.343 -43.690  1.00 61.55           O
ATOM   6070  N   GLU A 842      13.840  26.186 -44.322  1.00 64.03           N
ATOM   6071  CA  GLU A 842      12.631  27.048 -44.457  1.00 67.24           C
ATOM   6072  CB  GLU A 842      12.938  28.567 -44.319  1.00 73.55           C
ATOM   6073  CG  GLU A 842      12.748  29.224 -42.933  1.00 81.42           C
ATOM   6074  CD  GLU A 842      13.995  30.018 -42.470  1.00 93.08           C
ATOM   6075  OE1 GLU A 842      14.843  30.330 -43.376  1.00 83.43           O
ATOM   6076  OE2 GLU A 842      14.139  30.305 -41.214  1.00 91.85           O
ATOM   6077  C   GLU A 842      12.065  26.783 -45.846  1.00 63.82           C
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ATOM   6078  O   GLU A 842      12.768  26.898 -46.839  1.00 62.48           O
ATOM   6079  N   PRO A 843      10.808  26.411 -45.932  1.00 63.20           N
ATOM   6080  CA  PRO A 843      10.289  26.144 -47.235  1.00 66.49           C
ATOM   6081  CB  PRO A 843       8.921  25.514 -46.949  1.00 72.95           C
ATOM   6082  CG  PRO A 843       8.626  25.779 -45.543  1.00 69.76           C
ATOM   6083  CD  PRO A 843       9.964  25.827 -44.898  1.00 69.06           C
ATOM   6084  C   PRO A 843      10.141  27.370 -48.102  1.00 66.00           C
ATOM   6085  O   PRO A 843       9.668  28.407 -47.648  1.00 64.67           O
ATOM   6086  N   LYS A 844      10.556  27.210 -49.352  1.00 71.43           N
ATOM   6087  CA  LYS A 844      10.646  28.294 -50.326  1.00 69.50           C
ATOM   6088  CB  LYS A 844      11.826  28.084 -51.313  1.00 74.57           C
ATOM   6089  CG  LYS A 844      13.222  27.866 -50.701  1.00 80.42           C
ATOM   6090  CD  LYS A 844      13.671  28.998 -49.771  1.00 85.88           C
ATOM   6091  CE  LYS A 844      15.193  29.250 -49.825  1.00 90.87           C
ATOM   6092  NZ  LYS A 844      15.666  30.198 -50.906  1.00 86.83           N
ATOM   6093  C   LYS A 844       9.358  28.349 -51.114  1.00 65.88           C
ATOM   6094  O   LYS A 844       9.048  29.393 -51.627  1.00 63.48           O
ATOM   6095  N   GLN A 845       8.609  27.242 -51.224  1.00 64.81           N
ATOM   6096  CA  GLN A 845       7.444  27.206 -52.120  1.00 60.37           C
ATOM   6097  CB  GLN A 845       7.841  26.709 -53.509  1.00 65.31           C
ATOM   6098  CG  GLN A 845       9.095  25.839 -53.527  1.00 72.60           C
ATOM   6099  CD  GLN A 845       9.213  24.945 -54.748  1.00 72.65           C
ATOM   6100  OE1 GLN A 845       8.638  25.226 -55.804  1.00 68.27           O
ATOM   6101  NE2 GLN A 845       9.955  23.842 -54.592  1.00 71.48           N
ATOM   6102  C   GLN A 845       6.283  26.396 -51.565  1.00 54.73           C
ATOM   6103  O   GLN A 845       6.494  25.481 -50.784  1.00 56.90           O
ATOM   6104  N   GLY A 846       5.075  26.794 -51.963  1.00 48.36           N
ATOM   6105  CA  GLY A 846       3.819  26.190 -51.567  1.00 47.28           C
ATOM   6106  C   GLY A 846       2.656  26.606 -52.473  1.00 47.35           C
ATOM   6107  O   GLY A 846       2.862  27.178 -53.525  1.00 48.22           O
ATOM   6108  N   ARG A 847       1.424  26.304 -52.081  1.00 49.03           N
ATOM   6109  CA  ARG A 847       0.241  26.539 -52.933  1.00 50.61           C
ATOM   6110  CB  ARG A 847      -0.184  25.301 -53.739  1.00 54.50           C
ATOM   6111  CG  ARG A 847       0.866  24.646 -54.639  1.00 57.00           C
ATOM   6112  CD  ARG A 847       0.185  23.695 -55.637  1.00 57.62           C
ATOM   6113  NE  ARG A 847      -0.340  22.454 -55.056  1.00 57.63           N
ATOM   6114  CZ  ARG A 847      -1.318  21.714 -55.583  1.00 59.05           C
ATOM   6115  NH1 ARG A 847      -1.923  22.070 -56.693  1.00 59.94           N
ATOM   6116  NH2 ARG A 847      -1.725  20.605 -54.982  1.00 61.83           N
ATOM   6117  C   ARG A 847      -0.976  26.875 -52.132  1.00 47.96           C
ATOM   6118  O   ARG A 847      -1.119  26.478 -50.997  1.00 48.86           O
ATOM   6119  N   ILE A 848      -1.875  27.576 -52.767  1.00 46.02           N
ATOM   6120  CA  ILE A 848      -3.153  27.809 -52.221  1.00 47.77           C
ATOM   6121  CB  ILE A 848      -3.423  29.307 -52.067  1.00 47.91           C
ATOM   6122  CG1 ILE A 848      -2.431  29.941 -51.090  1.00 50.62           C
ATOM   6123  CD1 ILE A 848      -2.531  31.458 -50.980  1.00 51.96           C
ATOM   6124  CG2 ILE A 848      -4.816  29.537 -51.517  1.00 49.93           C
ATOM   6125  C   ILE A 848      -4.028  27.153 -53.278  1.00 51.61           C
ATOM   6126  O   ILE A 848      -4.147  27.661 -54.401  1.00 57.21           O
ATOM   6127  N   VAL A 849      -4.605  26.008 -52.947  1.00 50.17           N
ATOM   6128  CA  VAL A 849      -5.490  25.340 -53.856  1.00 50.21           C
ATOM   6129  CB  VAL A 849      -5.299  23.816 -53.838  1.00 49.42           C
ATOM   6130  CG1 VAL A 849      -6.240  23.184 -54.860  1.00 49.42           C
ATOM   6131  CG2 VAL A 849      -3.863  23.440 -54.156  1.00 49.16           C
ATOM   6132  C   VAL A 849      -6.919  25.635 -53.465  1.00 53.02           C
ATOM   6133  O   VAL A 849      -7.297  25.382 -52.307  1.00 56.00           O
ATOM   6134  N   VAL A 850      -7.720  26.125 -54.426  1.00 52.49           N
ATOM   6135  CA  VAL A 850      -9.178  26.252 -54.236  1.00 52.40           C
ATOM   6136  CB  VAL A 850      -9.720  27.503 -54.911  1.00 49.52           C
ATOM   6137  CG1 VAL A 850     -11.207  27.658 -54.609  1.00 49.27           C
ATOM   6138  CG2 VAL A 850      -8.931  28.714 -54.437  1.00 50.72           C
ATOM   6139  C   VAL A 850      -9.881  25.047 -54.828  1.00 53.01           C
ATOM   6140  O   VAL A 850      -9.630  24.740 -55.957  1.00 57.30           O
ATOM   6141  N   PHE A 851     -10.748  24.385 -54.073  1.00 52.61           N
ATOM   6142  CA  PHE A 851     -11.442  23.194 -54.531  1.00 52.93           C
ATOM   6143  CB  PHE A 851     -11.177  21.988 -53.634  1.00 51.48           C
ATOM   6144  CG  PHE A 851      -9.788  21.408 -53.701  1.00 49.32           C
ATOM   6145  CD1 PHE A 851      -9.460  20.471 -54.649  1.00 49.60           C
ATOM   6146  CE1 PHE A 851      -8.200  19.874 -54.663  1.00 49.85           C
ATOM   6147  CZ  PHE A 851      -7.277  20.175 -53.683  1.00 48.30           C
ATOM   6148  CE2 PHE A 851      -7.611  21.076 -52.709  1.00 47.80           C
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ATOM   6149  CD2 PHE A 851      -8.863  21.682 -52.715  1.00 48.11           C
ATOM   6150  C   PHE A 851     -12.940  23.433 -54.442  1.00 58.15           C
ATOM   6151  O   PHE A 851     -13.383  24.248 -53.648  1.00 57.92           O
ATOM   6152  N   GLN A 852     -13.702  22.675 -55.241  1.00 64.84           N
ATOM   6153  CA  GLN A 852     -15.164  22.610 -55.182  1.00 65.99           C
ATOM   6154  CB  GLN A 852     -15.773  23.244 -56.414  1.00 68.58           C
ATOM   6155  CG  GLN A 852     -17.274  23.006 -56.587  1.00 72.74           C
ATOM   6156  CD  GLN A 852     -17.846  23.858 -57.715  1.00 75.83           C
ATOM   6157  OE1 GLN A 852     -17.399  23.759 -58.871  1.00 76.52           O
ATOM   6158  NE2 GLN A 852     -18.823  24.719 -57.382  1.00 73.32           N
ATOM   6159  C   GLN A 852     -15.594  21.159 -55.134  1.00 65.84           C
ATOM   6160  O   GLN A 852     -15.145  20.339 -55.948  1.00 64.31           O
ATOM   6161  N   TYR A 853     -16.499  20.851 -54.234  1.00 66.18           N
ATOM   6162  CA  TYR A 853     -17.007  19.516 -54.150  1.00 65.92           C
ATOM   6163  CB  TYR A 853     -16.975  19.067 -52.703  1.00 63.43           C
ATOM   6164  CG  TYR A 853     -17.721  17.813 -52.435  1.00 60.14           C
ATOM   6165  CD1 TYR A 853     -17.132  16.590 -52.621  1.00 59.78           C
ATOM   6166  CE1 TYR A 853     -17.815  15.433 -52.372  1.00 56.76           C
ATOM   6167  CZ  TYR A 853     -19.088  15.500 -51.934  1.00 57.64           C
ATOM   6168  OH  TYR A 853     -19.779  14.358 -51.698  1.00 58.92           O
ATOM   6169  CE2 TYR A 853     -19.696  16.699 -51.739  1.00 56.14           C
ATOM   6170  CD2 TYR A 853     -19.006  17.850 -51.984  1.00 56.17           C
ATOM   6171  C   TYR A 853     -18.422  19.638 -54.646  1.00 73.92           C
ATOM   6172  O   TYR A 853     -19.263  20.197 -53.977  1.00 74.16           O
ATOM   6173  N   SER A 854     -18.688  19.115 -55.832  1.00 88.11           N
ATOM   6174  CA  SER A 854     -20.019  19.192 -56.408  1.00 87.53           C
ATOM   6175  CB  SER A 854     -19.962  20.040 -57.659  1.00 90.85           C
ATOM   6176  OG  SER A 854     -18.880  19.628 -58.463  1.00 92.17           O
ATOM   6177  C   SER A 854     -20.505  17.819 -56.779  1.00 85.03           C
ATOM   6178  O   SER A 854     -21.526  17.340 -56.312  1.00 69.44           O
ATOM   6179  N   ASP A 855     -19.748  17.175 -57.639  1.00 94.15           N
ATOM   6180  CA  ASP A 855     -20.068  15.838 -58.046  1.00100.54           C
ATOM   6181  CB  ASP A 855     -19.274  15.450 -59.277  1.00 96.40           C
ATOM   6182  C   ASP A 855     -19.494  15.161 -56.873  1.00 99.28           C
ATOM   6183  O   ASP A 855     -18.823  15.811 -56.114  1.00 98.17           O
ATOM   6184  N   GLY A 856     -19.684  13.866 -56.731  1.00 92.68           N
ATOM   6185  CA  GLY A 856     -19.141  13.179 -55.582  1.00 92.46           C
ATOM   6186  C   GLY A 856     -17.657  13.449 -55.547  1.00 87.86           C
ATOM   6187  O   GLY A 856     -17.043  13.380 -54.512  1.00 85.35           O
ATOM   6188  N   LYS A 857     -17.091  13.752 -56.702  1.00 87.98           N
ATOM   6189  CA  LYS A 857     -15.683  14.097 -56.832  1.00 87.99           C
ATOM   6190  CB  LYS A 857     -15.178  13.801 -58.240  1.00 85.29           C
ATOM   6191  C   LYS A 857     -15.416  15.556 -56.485  1.00 82.20           C
ATOM   6192  O   LYS A 857     -16.332  16.338 -56.302  1.00 75.17           O
ATOM   6193  N   LEU A 858     -14.137  15.888 -56.396  1.00 76.05           N
ATOM   6194  CA  LEU A 858     -13.659  17.212 -56.055  1.00 75.39           C
ATOM   6195  CB  LEU A 858     -12.644  17.013 -54.946  1.00 76.81           C
ATOM   6196  CG  LEU A 858     -12.522  17.874 -53.700  1.00 73.97           C
ATOM   6197  CD1 LEU A 858     -13.880  18.118 -53.082  1.00 71.82           C
ATOM   6198  CD2 LEU A 858     -11.640  17.123 -52.729  1.00 72.00           C
ATOM   6199  C   LEU A 858     -12.925  17.846 -57.220  1.00 73.06           C
ATOM   6200  O   LEU A 858     -11.957  17.279 -57.694  1.00 70.59           O
ATOM   6201  N   GLN A 859     -13.349  19.027 -57.665  1.00 75.13           N
ATOM   6202  CA  GLN A 859     -12.677  19.711 -58.831  1.00 74.72           C
ATOM   6203  CB  GLN A 859     -13.613  20.530 -59.770  1.00 83.18           C
ATOM   6204  CG  GLN A 859     -15.129  20.333 -59.660  1.00 92.52           C
ATOM   6205  CD  GLN A 859     -15.620  18.961 -60.117  1.00 93.93           C
ATOM   6206  OE1 GLN A 859     -16.818  18.668 -60.074  1.00 90.76           O
ATOM   6207  NE2 GLN A 859     -14.699  18.125 -60.573  1.00 98.17           N
ATOM   6208  C   GLN A 859     -11.675  20.694 -58.270  1.00 65.13           C
ATOM   6209  O   GLN A 859     -12.045  21.500 -57.445  1.00 63.60           O
ATOM   6210  N   THR A 860     -10.426  20.643 -58.705  1.00 57.38           N
ATOM   6211  CA  THR A 860      -9.531  21.763 -58.472  1.00 54.43           C
ATOM   6212  CB  THR A 860      -8.072  21.417 -58.827  1.00 54.29           C
ATOM   6213  OG1 THR A 860      -7.534  20.497 -57.855  1.00 57.26           O
ATOM   6214  CG2 THR A 860      -7.193  22.670 -58.869  1.00 52.19           C
ATOM   6215  C   THR A 860     -10.011  22.946 -59.316  1.00 54.53           C
ATOM   6216  O   THR A 860      -9.909  22.914 -60.511  1.00 61.46           O
ATOM   6217  N   VAL A 861     -10.549  23.977 -58.682  1.00 55.03           N
ATOM   6218  CA  VAL A 861     -10.975  25.232 -59.329  1.00 51.72           C
ATOM   6219  CB  VAL A 861     -12.147  25.852 -58.529  1.00 50.12           C
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ATOM   6220  CG1 VAL A 861     -12.466  27.279 -58.905  1.00 49.38           C
ATOM   6221  CG2 VAL A 861     -13.398  25.023 -58.696  1.00 52.93           C
ATOM   6222  C   VAL A 861      -9.825  26.252 -59.446  1.00 55.24           C
ATOM   6223  O   VAL A 861      -9.949  27.178 -60.230  1.00 58.88           O
ATOM   6224  N   ALA A 862      -8.730  26.136 -58.677  1.00 55.23           N
ATOM   6225  CA  ALA A 862      -7.580  27.057 -58.872  1.00 55.64           C
ATOM   6226  CB  ALA A 862      -7.979  28.505 -58.572  1.00 54.74           C
ATOM   6227  C   ALA A 862      -6.348  26.669 -58.060  1.00 55.53           C
ATOM   6228  O   ALA A 862      -6.472  26.400 -56.886  1.00 66.00           O
ATOM   6229  N   GLU A 863      -5.177  26.894 -58.610  1.00 52.34           N
ATOM   6230  CA  GLU A 863      -3.946  26.726 -57.889  1.00 53.06           C
ATOM   6231  CB  GLU A 863      -2.963  25.922 -58.701  1.00 54.50           C
ATOM   6232  CG  GLU A 863      -3.082  24.440 -58.556  1.00 56.60           C
ATOM   6233  CD  GLU A 863      -2.556  23.717 -59.761  1.00 63.90           C
ATOM   6234  OE1 GLU A 863      -1.574  22.981 -59.632  1.00 67.68           O
ATOM   6235  OE2 GLU A 863      -3.131  23.883 -60.842  1.00 67.15           O
ATOM   6236  C   GLU A 863      -3.388  28.129 -57.829  1.00 54.58           C
ATOM   6237  O   GLU A 863      -3.746  28.939 -58.640  1.00 51.10           O
ATOM   6238  N   LYS A 864      -2.548  28.436 -56.856  1.00 54.78           N
ATOM   6239  CA  LYS A 864      -1.880  29.716 -56.781  1.00 57.15           C
ATOM   6240  CB  LYS A 864      -2.586  30.650 -55.826  1.00 62.58           C
ATOM   6241  CG  LYS A 864      -2.945  32.006 -56.407  1.00 67.89           C
ATOM   6242  CD  LYS A 864      -1.754  32.924 -56.559  1.00 76.10           C
ATOM   6243  CE  LYS A 864      -2.026  34.034 -57.569  1.00 84.91           C
ATOM   6244  NZ  LYS A 864      -3.353  34.699 -57.433  1.00 86.63           N
ATOM   6245  C   LYS A 864      -0.556  29.316 -56.212  1.00 57.62           C
ATOM   6246  O   LYS A 864      -0.537  28.737 -55.165  1.00 56.52           O
ATOM   6247  N   GLU A 865       0.550  29.598 -56.872  1.00 62.80           N
ATOM   6248  CA  GLU A 865       1.844  29.217 -56.336  1.00 63.94           C
ATOM   6249  CB  GLU A 865       2.877  29.067 -57.422  1.00 69.37           C
ATOM   6250  CG  GLU A 865       4.248  28.791 -56.859  1.00 77.02           C
ATOM   6251  CD  GLU A 865       5.267  28.507 -57.927  1.00 79.92           C
ATOM   6252  OE1 GLU A 865       6.380  28.085 -57.581  1.00 81.59           O
ATOM   6253  OE2 GLU A 865       4.955  28.706 -59.111  1.00 77.41           O
ATOM   6254  C   GLU A 865       2.283  30.262 -55.368  1.00 61.46           C
ATOM   6255  O   GLU A 865       1.866  31.385 -55.487  1.00 66.70           O
ATOM   6256  N   VAL A 866       3.116  29.915 -54.403  1.00 55.78           N
ATOM   6257  CA  VAL A 866       3.557  30.905 -53.438  1.00 53.39           C
ATOM   6258  CB  VAL A 866       2.648  30.950 -52.246  1.00 51.61           C
ATOM   6259  CG1 VAL A 866       3.165  31.984 -51.296  1.00 55.87           C
ATOM   6260  CG2 VAL A 866       1.286  31.372 -52.714  1.00 51.77           C
ATOM   6261  C   VAL A 866       5.009  30.742 -53.081  1.00 51.55           C
ATOM   6262  O   VAL A 866       5.546  29.672 -53.208  1.00 48.96           O
ATOM   6263  N   LYS A 867       5.669  31.801 -52.653  1.00 51.96           N
ATOM   6264  CA  LYS A 867       7.128  31.630 -52.465  1.00 52.27           C
ATOM   6265  CB  LYS A 867       7.943  32.717 -53.257  1.00 47.81           C
ATOM   6266  C   LYS A 867       7.397  31.437 -50.915  1.00 54.96           C
ATOM   6267  O   LYS A 867       8.193  32.153 -50.243  1.00 53.46           O
ATOM   6268  N   GLY A 868       6.698  30.419 -50.387  1.00 57.45           N
ATOM   6269  CA  GLY A 868       6.676  30.051 -48.958  1.00 59.10           C
ATOM   6270  C   GLY A 868       5.536  29.105 -48.506  1.00 60.91           C
ATOM   6271  O   GLY A 868       4.585  28.796 -49.268  1.00 57.49           O
ATOM   6272  N   ALA A 869       5.645  28.647 -47.249  1.00 60.43           N
ATOM   6273  CA  ALA A 869       4.604  27.831 -46.579  1.00 55.70           C
ATOM   6274  CB  ALA A 869       5.169  27.204 -45.316  1.00 55.68           C
ATOM   6275  C   ALA A 869       3.389  28.651 -46.203  1.00 51.56           C
ATOM   6276  O   ALA A 869       3.522  29.696 -45.561  1.00 52.04           O
ATOM   6277  N   VAL A 870       2.216  28.174 -46.572  1.00 46.63           N
ATOM   6278  CA  VAL A 870       0.996  28.774 -46.107  1.00 47.33           C
ATOM   6279  CB  VAL A 870      -0.146  28.602 -47.112  1.00 47.82           C
ATOM   6280  CG1 VAL A 870      -1.420  29.244 -46.581  1.00 48.57           C
ATOM   6281  CG2 VAL A 870       0.218  29.189 -48.474  1.00 48.70           C
ATOM   6282  C   VAL A 870       0.616  28.122 -44.775  1.00 51.29           C
ATOM   6283  O   VAL A 870      -0.055  27.106 -44.735  1.00 51.88           O
ATOM   6284  N   TYR A 871       1.033  28.724 -43.668  1.00 56.05           N
ATOM   6285  CA  TYR A 871       0.732  28.204 -42.325  1.00 50.29           C
ATOM   6286  CB  TYR A 871       1.617  28.871 -41.274  1.00 47.62           C
ATOM   6287  CG  TYR A 871       3.103  28.584 -41.465  1.00 47.07           C
ATOM   6288  CD1 TYR A 871       3.617  27.318 -41.249  1.00 48.93           C
ATOM   6289  CE1 TYR A 871       4.983  27.045 -41.409  1.00 47.90           C
ATOM   6290  CZ  TYR A 871       5.837  28.037 -41.803  1.00 48.00           C
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ATOM   6291  OH  TYR A 871       7.167  27.728 -41.974  1.00 54.27           O
ATOM   6292  CE2 TYR A 871       5.358  29.312 -42.028  1.00 45.81           C
ATOM   6293  CD2 TYR A 871       4.003  29.582 -41.852  1.00 46.32           C
ATOM   6294  C   TYR A 871      -0.743  28.385 -41.980  1.00 49.03           C
ATOM   6295  O   TYR A 871      -1.287  27.507 -41.311  1.00 53.21           O
ATOM   6296  N   SER A 872      -1.387  29.478 -42.426  1.00 46.04           N
ATOM   6297  CA  SER A 872      -2.808  29.745 -42.076  1.00 47.46           C
ATOM   6298  CB  SER A 872      -2.881  30.579 -40.834  1.00 48.51           C
ATOM   6299  OG  SER A 872      -2.027  30.001 -39.883  1.00 53.48           O
ATOM   6300  C   SER A 872      -3.583  30.490 -43.090  1.00 48.10           C
ATOM   6301  O   SER A 872      -2.990  31.074 -43.974  1.00 56.31           O
ATOM   6302  N   MET A 873      -4.906  30.484 -42.971  1.00 45.90           N
ATOM   6303  CA  MET A 873      -5.769  31.261 -43.857  1.00 48.41           C
ATOM   6304  CB  MET A 873      -6.178  30.456 -45.092  1.00 52.38           C
ATOM   6305  CG  MET A 873      -5.030  29.966 -45.972  1.00 56.65           C
ATOM   6306  SD  MET A 873      -5.516  29.129 -47.500  1.00 62.98           S
ATOM   6307  CE  MET A 873      -6.424  27.754 -46.861  1.00 59.46           C
ATOM   6308  C   MET A 873      -7.021  31.654 -43.124  1.00 49.06           C
ATOM   6309  O   MET A 873      -7.361  31.038 -42.149  1.00 52.23           O
ATOM   6310  N   VAL A 874      -7.731  32.672 -43.585  1.00 51.30           N
ATOM   6311  CA  VAL A 874      -9.045  32.990 -43.011  1.00 52.96           C
ATOM   6312  CB  VAL A 874      -8.934  33.887 -41.742  1.00 54.82           C
ATOM   6313  CG1 VAL A 874      -7.577  34.043 -41.052  1.00 54.52           C
ATOM   6314  CG2 VAL A 874     -10.126  34.794 -41.438  1.00 57.56           C
ATOM   6315  C   VAL A 874      -9.924  33.697 -44.022  1.00 51.25           C
ATOM   6316  O   VAL A 874      -9.432  34.543 -44.701  1.00 56.09           O
ATOM   6317  N   GLU A 875     -11.216  33.402 -44.098  1.00 50.11           N
ATOM   6318  CA  GLU A 875     -12.088  34.272 -44.872  1.00 49.71           C
ATOM   6319  CB  GLU A 875     -13.487  33.721 -45.028  1.00 51.37           C
ATOM   6320  CG  GLU A 875     -14.433  34.685 -45.753  1.00 55.49           C
ATOM   6321  CD  GLU A 875     -15.381  35.478 -44.859  1.00 60.79           C
ATOM   6322  OE1 GLU A 875     -15.846  34.944 -43.825  1.00 61.73           O
ATOM   6323  OE2 GLU A 875     -15.717  36.638 -45.220  1.00 70.65           O
ATOM   6324  C   GLU A 875     -12.168  35.620 -44.207  1.00 49.70           C
ATOM   6325  O   GLU A 875     -12.556  35.724 -43.058  1.00 48.98           O
ATOM   6326  N   PHE A 876     -11.846  36.647 -44.981  1.00 55.38           N
ATOM   6327  CA  PHE A 876     -11.737  38.029 -44.516  1.00 59.69           C
ATOM   6328  CB  PHE A 876     -10.287  38.466 -44.587  1.00 60.66           C
ATOM   6329  CG  PHE A 876     -10.030  39.749 -43.892  1.00 66.45           C
ATOM   6330  CD1 PHE A 876     -10.211  39.845 -42.530  1.00 71.04           C
ATOM   6331  CE1 PHE A 876      -9.979  41.040 -41.875  1.00 73.82           C
ATOM   6332  CZ  PHE A 876      -9.570  42.158 -42.588  1.00 70.95           C
ATOM   6333  CE2 PHE A 876      -9.388  42.079 -43.949  1.00 69.82           C
ATOM   6334  CD2 PHE A 876      -9.623  40.876 -44.595  1.00 72.32           C
ATOM   6335  C   PHE A 876     -12.600  38.970 -45.358  1.00 61.16           C
ATOM   6336  O   PHE A 876     -12.194  39.421 -46.421  1.00 62.24           O
ATOM   6337  N   ASN A 877     -13.822  39.204 -44.897  1.00 65.52           N
ATOM   6338  CA  ASN A 877     -14.776  40.125 -45.529  1.00 66.10           C
ATOM   6339  CB  ASN A 877     -14.322  41.559 -45.288  1.00 67.59           C
ATOM   6340  CG  ASN A 877     -14.152  41.845 -43.808  1.00 72.11           C
ATOM   6341  OD1 ASN A 877     -15.103  41.708 -43.040  1.00 75.81           O
ATOM   6342  ND2 ASN A 877     -12.936  42.189 -43.387  1.00 76.33           N
ATOM   6343  C   ASN A 877     -15.052  39.826 -46.992  1.00 64.55           C
ATOM   6344  O   ASN A 877     -15.311  40.715 -47.801  1.00 68.13           O
ATOM   6345  N   GLY A 878     -15.025  38.541 -47.302  1.00 64.36           N
ATOM   6346  CA  GLY A 878     -15.261  38.055 -48.640  1.00 64.80           C
ATOM   6347  C   GLY A 878     -14.022  37.936 -49.477  1.00 62.20           C
ATOM   6348  O   GLY A 878     -14.142  37.577 -50.649  1.00 68.53           O
ATOM   6349  N   LYS A 879     -12.860  38.242 -48.896  1.00 56.64           N
ATOM   6350  CA  LYS A 879     -11.562  38.030 -49.523  1.00 58.55           C
ATOM   6351  CB  LYS A 879     -10.770  39.335 -49.464  1.00 61.26           C
ATOM   6352  CG  LYS A 879     -11.509  40.503 -50.113  1.00 64.02           C
ATOM   6353  CD  LYS A 879     -10.780  41.840 -50.015  1.00 65.40           C
ATOM   6354  CE  LYS A 879     -11.690  42.960 -49.477  1.00 64.60           C
ATOM   6355  NZ  LYS A 879     -11.043  44.215 -49.924  1.00 66.24           N
ATOM   6356  C   LYS A 879     -10.833  36.907 -48.800  1.00 57.35           C
ATOM   6357  O   LYS A 879     -11.333  36.422 -47.827  1.00 63.42           O
ATOM   6358  N   LEU A 880      -9.655  36.493 -49.250  1.00 55.80           N
ATOM   6359  CA  LEU A 880      -8.937  35.387 -48.599  1.00 55.13           C
ATOM   6360  CB  LEU A 880      -8.689  34.227 -49.575  1.00 56.57           C
ATOM   6361  CG  LEU A 880      -8.075  32.949 -48.970  1.00 60.05           C
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ATOM   6362  CD1 LEU A 880      -9.183  32.000 -48.577  1.00 63.09           C
ATOM   6363  CD2 LEU A 880      -7.128  32.192 -49.887  1.00 60.07           C
ATOM   6364  C   LEU A 880      -7.619  35.900 -48.058  1.00 53.26           C
ATOM   6365  O   LEU A 880      -6.754  36.334 -48.818  1.00 53.39           O
ATOM   6366  N   LEU A 881      -7.479  35.853 -46.740  1.00 50.99           N
ATOM   6367  CA  LEU A 881      -6.277  36.314 -46.040  1.00 49.27           C
ATOM   6368  CB  LEU A 881      -6.664  36.893 -44.688  1.00 49.88           C
ATOM   6369  CG  LEU A 881      -5.558  37.547 -43.878  1.00 51.79           C
ATOM   6370  CD1 LEU A 881      -4.962  38.662 -44.711  1.00 54.17           C
ATOM   6371  CD2 LEU A 881      -6.064  38.065 -42.535  1.00 51.49           C
ATOM   6372  C   LEU A 881      -5.459  35.104 -45.800  1.00 49.39           C
ATOM   6373  O   LEU A 881      -6.023  34.064 -45.554  1.00 53.03           O
ATOM   6374  N   ALA A 882      -4.143  35.222 -45.832  1.00 49.97           N
ATOM   6375  CA  ALA A 882      -3.284  34.042 -45.780  1.00 53.49           C
ATOM   6376  CB  ALA A 882      -3.303  33.321 -47.108  1.00 54.60           C
ATOM   6377  C   ALA A 882      -1.877  34.374 -45.469  1.00 55.87           C
ATOM   6378  O   ALA A 882      -1.361  35.346 -45.934  1.00 66.08           O
ATOM   6379  N   SER A 883      -1.228  33.522 -44.720  1.00 59.95           N
ATOM   6380  CA  SER A 883       0.114  33.797 -44.285  1.00 62.39           C
ATOM   6381  CB  SER A 883       0.305  33.503 -42.773  1.00 65.31           C
ATOM   6382  OG  SER A 883      -0.480  32.411 -42.291  1.00 69.64           O
ATOM   6383  C   SER A 883       0.985  32.944 -45.155  1.00 59.12           C
ATOM   6384  O   SER A 883       0.701  31.776 -45.356  1.00 63.60           O
ATOM   6385  N   ILE A 884       2.078  33.508 -45.622  1.00 55.06           N
ATOM   6386  CA  ILE A 884       3.044  32.757 -46.374  1.00 55.69           C
ATOM   6387  CB  ILE A 884       3.106  33.260 -47.803  1.00 51.19           C
ATOM   6388  CG1 ILE A 884       1.723  33.234 -48.399  1.00 49.11           C
ATOM   6389  CD1 ILE A 884       1.526  34.229 -49.495  1.00 47.80           C
ATOM   6390  CG2 ILE A 884       4.019  32.400 -48.632  1.00 49.82           C
ATOM   6391  C   ILE A 884       4.303  33.150 -45.659  1.00 56.66           C
ATOM   6392  O   ILE A 884       4.690  34.289 -45.731  1.00 62.91           O
ATOM   6393  N   ASN A 885       4.933  32.236 -44.951  1.00 53.81           N
ATOM   6394  CA  ASN A 885       6.135  32.582 -44.228  1.00 59.51           C
ATOM   6395  CB  ASN A 885       7.312  32.709 -45.148  1.00 65.81           C
ATOM   6396  CG  ASN A 885       7.696  31.384 -45.726  1.00 79.47           C
ATOM   6397  OD1 ASN A 885       6.841  30.554 -45.943  1.00 93.98           O
ATOM   6398  ND2 ASN A 885       8.974  31.167 -45.961  1.00 84.91           N
ATOM   6399  C   ASN A 885       5.903  33.802 -43.371  1.00 57.87           C
ATOM   6400  O   ASN A 885       4.955  33.839 -42.631  1.00 54.69           O
ATOM   6401  N   SER A 886       6.751  34.806 -43.479  1.00 56.07           N
ATOM   6402  CA  SER A 886       6.584  35.998 -42.678  1.00 55.11           C
ATOM   6403  CB  SER A 886       7.918  36.661 -42.397  1.00 57.05           C
ATOM   6404  OG  SER A 886       8.202  37.679 -43.322  1.00 60.49           O
ATOM   6405  C   SER A 886       5.603  36.988 -43.256  1.00 56.85           C
ATOM   6406  O   SER A 886       5.365  38.011 -42.670  1.00 59.21           O
ATOM   6407  N   THR A 887       5.045  36.701 -44.415  1.00 55.53           N
ATOM   6408  CA  THR A 887       4.078  37.625 -45.035  1.00 56.86           C
ATOM   6409  CB  THR A 887       4.287  37.672 -46.562  1.00 59.91           C
ATOM   6410  OG1 THR A 887       5.490  38.381 -46.835  1.00 65.24           O
ATOM   6411  CG2 THR A 887       3.169  38.412 -47.278  1.00 61.35           C
ATOM   6412  C   THR A 887       2.609  37.297 -44.755  1.00 53.06           C
ATOM   6413  O   THR A 887       2.185  36.166 -44.866  1.00 47.37           O
ATOM   6414  N   VAL A 888       1.833  38.316 -44.440  1.00 53.58           N
ATOM   6415  CA  VAL A 888       0.391  38.210 -44.460  1.00 56.33           C
ATOM   6416  CB  VAL A 888      -0.244  39.005 -43.313  1.00 60.88           C
ATOM   6417  CG1 VAL A 888      -1.701  39.283 -43.610  1.00 65.40           C
ATOM   6418  CG2 VAL A 888      -0.140  38.242 -41.996  1.00 62.83           C
ATOM   6419  C   VAL A 888      -0.019  38.847 -45.760  1.00 57.70           C
ATOM   6420  O   VAL A 888       0.457  39.929 -46.050  1.00 65.46           O
ATOM   6421  N   ARG A 889      -0.933  38.220 -46.507  1.00 55.82           N
ATOM   6422  CA  ARG A 889      -1.280  38.620 -47.865  1.00 50.96           C
ATOM   6423  CB  ARG A 889      -0.488  37.765 -48.843  1.00 52.73           C
ATOM   6424  CG  ARG A 889      -0.817  38.034 -50.322  1.00 59.02           C
ATOM   6425  CD  ARG A 889       0.184  37.424 -51.321  1.00 61.53           C
ATOM   6426  NE  ARG A 889       1.602  37.662 -50.976  1.00 62.63           N
ATOM   6427  CZ  ARG A 889       2.651  36.959 -51.438  1.00 60.72           C
ATOM   6428  NH1 ARG A 889       2.519  35.944 -52.309  1.00 61.51           N
ATOM   6429  NH2 ARG A 889       3.862  37.281 -51.020  1.00 59.26           N
ATOM   6430  C   ARG A 889      -2.777  38.485 -48.129  1.00 48.97           C
ATOM   6431  O   ARG A 889      -3.356  37.452 -47.917  1.00 47.97           O
ATOM   6432  N   LEU A 890      -3.410  39.529 -48.628  1.00 50.59           N
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ATOM   6433  CA  LEU A 890      -4.834  39.475 -48.947  1.00 50.80           C
ATOM   6434  CB  LEU A 890      -5.446  40.765 -48.506  1.00 50.30           C
ATOM   6435  CG  LEU A 890      -6.945  40.880 -48.595  1.00 53.20           C
ATOM   6436  CD1 LEU A 890      -7.708  39.698 -48.058  1.00 53.14           C
ATOM   6437  CD2 LEU A 890      -7.310  42.122 -47.802  1.00 57.82           C
ATOM   6438  C   LEU A 890      -5.055  39.262 -50.455  1.00 52.81           C
ATOM   6439  O   LEU A 890      -4.321  39.804 -51.258  1.00 50.86           O
ATOM   6440  N   TYR A 891      -6.035  38.433 -50.826  1.00 53.59           N
ATOM   6441  CA  TYR A 891      -6.300  38.031 -52.217  1.00 50.49           C
ATOM   6442  CB  TYR A 891      -6.053  36.498 -52.415  1.00 49.83           C
ATOM   6443  CG  TYR A 891      -4.606  35.948 -52.373  1.00 51.34           C
ATOM   6444  CD1 TYR A 891      -3.753  36.079 -53.476  1.00 56.18           C
ATOM   6445  CE1 TYR A 891      -2.449  35.595 -53.467  1.00 55.30           C
ATOM   6446  CZ  TYR A 891      -1.996  34.937 -52.368  1.00 55.74           C
ATOM   6447  OH  TYR A 891      -0.714  34.457 -52.406  1.00 58.21           O
ATOM   6448  CE2 TYR A 891      -2.819  34.765 -51.267  1.00 53.31           C
ATOM   6449  CD2 TYR A 891      -4.113  35.265 -51.275  1.00 50.70           C
ATOM   6450  C   TYR A 891      -7.781  38.288 -52.444  1.00 51.63           C
ATOM   6451  O   TYR A 891      -8.569  38.031 -51.512  1.00 48.72           O
ATOM   6452  N   GLU A 892      -8.175  38.783 -53.634  1.00 51.72           N
ATOM   6453  CA  GLU A 892      -9.596  38.823 -54.011  1.00 52.55           C
ATOM   6454  CB  GLU A 892      -9.956  40.141 -54.627  1.00 57.98           C
ATOM   6455  CG  GLU A 892     -10.188  41.302 -53.671  1.00 62.53           C
ATOM   6456  CD  GLU A 892      -9.788  42.617 -54.314  1.00 65.85           C
ATOM   6457  OE1 GLU A 892     -10.652  43.485 -54.510  1.00 66.66           O
ATOM   6458  OE2 GLU A 892      -8.597  42.756 -54.689  1.00 73.68           O
ATOM   6459  C   GLU A 892      -9.854  37.766 -55.047  1.00 54.43           C
ATOM   6460  O   GLU A 892      -8.914  37.245 -55.670  1.00 50.96           O
ATOM   6461  N   TRP A 893     -11.145  37.469 -55.247  1.00 58.70           N
ATOM   6462  CA  TRP A 893     -11.621  36.357 -56.143  1.00 58.85           C
ATOM   6463  CB  TRP A 893     -12.653  35.470 -55.371  1.00 55.44           C
ATOM   6464  CG  TRP A 893     -13.071  34.140 -56.008  1.00 50.44           C
ATOM   6465  CD1 TRP A 893     -14.349  33.734 -56.280  1.00 50.69           C
ATOM   6466  NE1 TRP A 893     -14.356  32.478 -56.830  1.00 49.69           N
ATOM   6467  CE2 TRP A 893     -13.063  32.035 -56.895  1.00 51.01           C
ATOM   6468  CD2 TRP A 893     -12.230  33.053 -56.383  1.00 48.03           C
ATOM   6469  CE3 TRP A 893     -10.851  32.828 -56.326  1.00 48.95           C
ATOM   6470  CZ3 TRP A 893     -10.333  31.599 -56.792  1.00 49.46           C
ATOM   6471  CH2 TRP A 893     -11.179  30.624 -57.319  1.00 52.67           C
ATOM   6472  CZ2 TRP A 893     -12.551  30.814 -57.368  1.00 53.80           C
ATOM   6473  C   TRP A 893     -12.217  36.904 -57.460  1.00 60.74           C
ATOM   6474  O   TRP A 893     -13.374  37.350 -57.484  1.00 55.54           O
ATOM   6475  N   THR A 894     -11.429  36.827 -58.543  1.00 66.75           N
ATOM   6476  CA  THR A 894     -11.794  37.413 -59.848  1.00 69.09           C
ATOM   6477  CB  THR A 894     -10.609  37.471 -60.907  1.00 69.50           C
ATOM   6478  OG1 THR A 894     -10.603  36.359 -61.826  1.00 58.67           O
ATOM   6479  CG2 THR A 894      -9.199  37.614 -60.262  1.00 71.06           C
ATOM   6480  C   THR A 894     -12.997  36.623 -60.381  1.00 74.83           C
ATOM   6481  O   THR A 894     -13.171  35.454 -60.005  1.00 71.50           O
ATOM   6482  N   THR A 895     -13.836  37.271 -61.212  1.00 81.67           N
ATOM   6483  CA  THR A 895     -14.958  36.592 -61.942  1.00 80.81           C
ATOM   6484  CB  THR A 895     -15.990  37.579 -62.589  1.00 83.47           C
ATOM   6485  OG1 THR A 895     -15.348  38.819 -62.883  1.00 87.89           O
ATOM   6486  CG2 THR A 895     -17.174  37.883 -61.645  1.00 85.65           C
ATOM   6487  C   THR A 895     -14.419  35.616 -62.993  1.00 73.06           C
ATOM   6488  O   THR A 895     -15.112  34.661 -63.352  1.00 69.72           O
ATOM   6489  N   GLU A 896     -13.170  35.845 -63.436  1.00 71.39           N
ATOM   6490  CA  GLU A 896     -12.370  34.863 -64.205  1.00 67.20           C
ATOM   6491  CB  GLU A 896     -11.140  35.544 -64.888  1.00 64.67           C
ATOM   6492  C   GLU A 896     -11.956  33.666 -63.324  1.00 63.20           C
ATOM   6493  O   GLU A 896     -11.192  32.805 -63.775  1.00 55.50           O
ATOM   6494  N   LYS A 897     -12.440  33.663 -62.061  1.00 69.66           N
ATOM   6495  CA  LYS A 897     -12.353  32.568 -61.060  1.00 68.82           C
ATOM   6496  CB  LYS A 897     -13.034  31.354 -61.641  1.00 70.84           C
ATOM   6497  CG  LYS A 897     -13.719  30.492 -60.634  1.00 73.40           C
ATOM   6498  CD  LYS A 897     -14.995  29.875 -61.206  1.00 75.38           C
ATOM   6499  CE  LYS A 897     -16.174  30.840 -61.118  1.00 74.53           C
ATOM   6500  NZ  LYS A 897     -17.430  30.052 -60.968  1.00 74.21           N
ATOM   6501  C   LYS A 897     -10.918  32.258 -60.548  1.00 69.44           C
ATOM   6502  O   LYS A 897     -10.528  31.090 -60.370  1.00 67.29           O
ATOM   6503  N   GLU A 898     -10.173  33.341 -60.289  1.00 70.13           N
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ATOM   6504  CA  GLU A 898      -8.736  33.327 -60.000  1.00 73.04           C
ATOM   6505  CB  GLU A 898      -7.931  33.907 -61.185  1.00 85.84           C
ATOM   6506  CG  GLU A 898      -7.691  32.999 -62.390  1.00 92.83           C
ATOM   6507  CD  GLU A 898      -6.603  31.951 -62.154  1.00101.60           C
ATOM   6508  OE1 GLU A 898      -6.872  30.988 -61.387  1.00107.78           O
ATOM   6509  OE2 GLU A 898      -5.497  32.069 -62.754  1.00100.24           O
ATOM   6510  C   GLU A 898      -8.439  34.184 -58.767  1.00 68.59           C
ATOM   6511  O   GLU A 898      -9.219  35.062 -58.378  1.00 66.20           O
ATOM   6512  N   LEU A 899      -7.287  33.937 -58.168  1.00 63.84           N
ATOM   6513  CA  LEU A 899      -6.918  34.610 -56.943  1.00 62.96           C
ATOM   6514  CB  LEU A 899      -6.299  33.635 -55.939  1.00 61.63           C
ATOM   6515  CG  LEU A 899      -7.263  32.847 -55.067  1.00 59.13           C
ATOM   6516  CD1 LEU A 899      -6.507  31.727 -54.362  1.00 59.52           C
ATOM   6517  CD2 LEU A 899      -7.982  33.750 -54.069  1.00 57.25           C
ATOM   6518  C   LEU A 899      -5.913  35.690 -57.243  1.00 64.87           C
ATOM   6519  O   LEU A 899      -4.747  35.394 -57.552  1.00 63.84           O
ATOM   6520  N   ARG A 900      -6.368  36.929 -57.101  1.00 65.56           N
ATOM   6521  CA  ARG A 900      -5.578  38.119 -57.337  1.00 60.24           C
ATOM   6522  CB  ARG A 900      -6.352  39.062 -58.250  1.00 60.32           C
ATOM   6523  CG  ARG A 900      -5.750  40.442 -58.386  1.00 60.77           C
ATOM   6524  CD  ARG A 900      -6.651  41.395 -59.140  1.00 60.35           C
ATOM   6525  NE  ARG A 900      -7.835  41.752 -58.388  1.00 57.89           N
ATOM   6526  CZ  ARG A 900      -9.052  41.766 -58.898  1.00 55.32           C
ATOM   6527  NH1 ARG A 900      -9.235  41.457 -60.158  1.00 54.21           N
ATOM   6528  NH2 ARG A 900     -10.083  42.109 -58.164  1.00 52.17           N
ATOM   6529  C   ARG A 900      -5.305  38.819 -56.037  1.00 53.84           C
ATOM   6530  O   ARG A 900      -6.211  39.071 -55.276  1.00 55.74           O
ATOM   6531  N   THR A 901      -4.043  39.127 -55.809  1.00 45.86           N
ATOM   6532  CA  THR A 901      -3.562  39.798 -54.626  1.00 45.81           C
ATOM   6533  CB  THR A 901      -2.064  39.875 -54.727  1.00 44.98           C
ATOM   6534  OG1 THR A 901      -1.575  38.619 -55.169  1.00 48.04           O
ATOM   6535  CG2 THR A 901      -1.488  40.195 -53.431  1.00 45.13           C
ATOM   6536  C   THR A 901      -3.975  41.235 -54.463  1.00 45.73           C
ATOM   6537  O   THR A 901      -4.079  41.950 -55.421  1.00 47.29           O
ATOM   6538  N   GLU A 902      -4.195  41.672 -53.235  1.00 47.55           N
ATOM   6539  CA  GLU A 902      -4.529  43.057 -52.998  1.00 47.59           C
ATOM   6540  CB  GLU A 902      -5.791  43.209 -52.175  1.00 49.43           C
ATOM   6541  CG  GLU A 902      -6.036  44.632 -51.730  1.00 54.00           C
ATOM   6542  CD  GLU A 902      -7.441  44.862 -51.255  1.00 60.61           C
ATOM   6543  OE1 GLU A 902      -8.275  43.983 -51.440  1.00 61.51           O
ATOM   6544  OE2 GLU A 902      -7.727  45.917 -50.687  1.00 67.26           O
ATOM   6545  C   GLU A 902      -3.389  43.725 -52.282  1.00 47.41           C
ATOM   6546  O   GLU A 902      -2.849  44.688 -52.753  1.00 53.87           O
ATOM   6547  N   CYS A 903      -3.006  43.195 -51.141  1.00 50.09           N
ATOM   6548  CA  CYS A 903      -1.921  43.761 -50.372  1.00 51.56           C
ATOM   6549  CB  CYS A 903      -2.388  44.776 -49.362  1.00 52.84           C
ATOM   6550  SG  CYS A 903      -3.980  44.436 -48.688  1.00 59.26           S
ATOM   6551  C   CYS A 903      -1.090  42.727 -49.704  1.00 50.96           C
ATOM   6552  O   CYS A 903      -1.393  41.573 -49.725  1.00 49.13           O
ATOM   6553  N   ASN A 904       0.003  43.168 -49.141  1.00 54.02           N
ATOM   6554  CA  ASN A 904       0.907  42.290 -48.498  1.00 57.37           C
ATOM   6555  CB  ASN A 904       2.074  42.129 -49.427  1.00 59.85           C
ATOM   6556  CG  ASN A 904       2.546  40.729 -49.517  1.00 65.41           C
ATOM   6557  OD1 ASN A 904       2.026  39.946 -50.285  1.00 67.49           O
ATOM   6558  ND2 ASN A 904       3.546  40.403 -48.744  1.00 69.58           N
ATOM   6559  C   ASN A 904       1.419  42.967 -47.273  1.00 63.35           C
ATOM   6560  O   ASN A 904       1.400  44.169 -47.199  1.00 74.58           O
ATOM   6561  N   HIS A 905       1.867  42.209 -46.293  1.00 64.19           N
ATOM   6562  CA  HIS A 905       2.471  42.804 -45.129  1.00 62.31           C
ATOM   6563  CB  HIS A 905       1.526  42.911 -43.984  1.00 61.77           C
ATOM   6564  CG  HIS A 905       1.856  44.040 -43.081  1.00 64.50           C
ATOM   6565  ND1 HIS A 905       3.025  44.089 -42.361  1.00 67.98           N
ATOM   6566  CE1 HIS A 905       3.063  45.209 -41.672  1.00 68.31           C
ATOM   6567  NE2 HIS A 905       1.968  45.892 -41.931  1.00 67.67           N
ATOM   6568  CD2 HIS A 905       1.201  45.187 -42.818  1.00 64.82           C
ATOM   6569  C   HIS A 905       3.642  41.966 -44.757  1.00 62.12           C
ATOM   6570  O   HIS A 905       3.499  40.785 -44.606  1.00 66.78           O
ATOM   6571  N   TYR A 906       4.804  42.561 -44.593  1.00 62.92           N
ATOM   6572  CA  TYR A 906       5.976  41.770 -44.272  1.00 68.27           C
ATOM   6573  CB  TYR A 906       7.202  42.241 -45.019  1.00 74.22           C
ATOM   6574  CG  TYR A 906       6.977  42.308 -46.536  1.00 88.29           C
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ATOM   6575  CD1 TYR A 906       6.452  43.464 -47.139  1.00 88.05           C
ATOM   6576  CE1 TYR A 906       6.255  43.529 -48.512  1.00 90.27           C
ATOM   6577  CZ  TYR A 906       6.582  42.447 -49.311  1.00 91.26           C
ATOM   6578  OH  TYR A 906       6.381  42.564 -50.665  1.00 92.72           O
ATOM   6579  CE2 TYR A 906       7.094  41.276 -48.757  1.00 90.90           C
ATOM   6580  CD2 TYR A 906       7.288  41.206 -47.378  1.00 92.76           C
ATOM   6581  C   TYR A 906       6.092  41.972 -42.815  1.00 64.66           C
ATOM   6582  O   TYR A 906       5.714  43.033 -42.341  1.00 63.31           O
ATOM   6583  N   ASN A 907       6.499  40.934 -42.087  1.00 63.14           N
ATOM   6584  CA  ASN A 907       6.614  41.043 -40.644  1.00 62.41           C
ATOM   6585  CB  ASN A 907       5.601  40.176 -39.918  1.00 60.62           C
ATOM   6586  CG  ASN A 907       4.180  40.558 -40.259  1.00 63.38           C
ATOM   6587  OD1 ASN A 907       3.713  41.633 -39.868  1.00 65.25           O
ATOM   6588  ND2 ASN A 907       3.485  39.698 -41.024  1.00 65.32           N
ATOM   6589  C   ASN A 907       7.984  40.651 -40.285  1.00 62.72           C
ATOM   6590  O   ASN A 907       8.702  40.062 -41.105  1.00 58.53           O
ATOM   6591  N   ASN A 908       8.337  41.003 -39.055  1.00 66.67           N
ATOM   6592  CA  ASN A 908       9.598  40.562 -38.450  1.00 74.19           C
ATOM   6593  CB  ASN A 908      10.298  41.698 -37.624  1.00 80.35           C
ATOM   6594  CG  ASN A 908       9.319  42.592 -36.855  1.00 83.02           C
ATOM   6595  OD1 ASN A 908       8.754  42.199 -35.841  1.00 74.98           O
ATOM   6596  ND2 ASN A 908       9.128  43.810 -37.343  1.00 93.04           N
ATOM   6597  C   ASN A 908       9.374  39.282 -37.624  1.00 72.68           C
ATOM   6598  O   ASN A 908      10.251  38.859 -36.841  1.00 79.76           O
ATOM   6599  N   ILE A 909       8.195  38.676 -37.787  1.00 65.24           N
ATOM   6600  CA  ILE A 909       7.898  37.379 -37.222  1.00 61.27           C
ATOM   6601  CB  ILE A 909       6.937  37.501 -36.025  1.00 59.32           C
ATOM   6602  CG1 ILE A 909       5.593  38.073 -36.450  1.00 62.21           C
ATOM   6603  CD1 ILE A 909       4.513  37.831 -35.436  1.00 64.46           C
ATOM   6604  CG2 ILE A 909       7.511  38.422 -34.979  1.00 56.06           C
ATOM   6605  C   ILE A 909       7.307  36.503 -38.321  1.00 60.19           C
ATOM   6606  O   ILE A 909       7.013  36.964 -39.416  1.00 55.75           O
ATOM   6607  N   MET A 910       7.107  35.237 -38.001  1.00 60.69           N
ATOM   6608  CA  MET A 910       6.603  34.276 -38.966  1.00 61.94           C
ATOM   6609  CB  MET A 910       7.366  32.943 -38.771  1.00 65.29           C
ATOM   6610  CG  MET A 910       6.645  31.631 -39.025  1.00 72.90           C
ATOM   6611  SD  MET A 910       7.744  30.186 -38.917  1.00 77.13           S
ATOM   6612  CE  MET A 910       8.620  30.275 -40.506  1.00 83.84           C
ATOM   6613  C   MET A 910       5.122  34.241 -38.667  1.00 62.01           C
ATOM   6614  O   MET A 910       4.759  34.043 -37.542  1.00 73.46           O
ATOM   6615  N   ALA A 911       4.251  34.512 -39.623  1.00 60.87           N
ATOM   6616  CA  ALA A 911       2.805  34.419 -39.340  1.00 60.69           C
ATOM   6617  CB  ALA A 911       2.019  35.129 -40.440  1.00 61.51           C
ATOM   6618  C   ALA A 911       2.273  32.969 -39.148  1.00 56.88           C
ATOM   6619  O   ALA A 911       1.676  32.410 -40.044  1.00 63.86           O
ATOM   6620  N   LEU A 912       2.466  32.355 -38.002  1.00 51.31           N
ATOM   6621  CA  LEU A 912       1.876  31.055 -37.813  1.00 54.90           C
ATOM   6622  CB  LEU A 912       2.470  30.298 -36.660  1.00 57.97           C
ATOM   6623  CG  LEU A 912       3.900  29.897 -36.806  1.00 65.96           C
ATOM   6624  CD1 LEU A 912       4.144  28.902 -35.685  1.00 70.20           C
ATOM   6625  CD2 LEU A 912       4.192  29.293 -38.170  1.00 68.34           C
ATOM   6626  C   LEU A 912       0.421  31.121 -37.484  1.00 56.14           C
ATOM   6627  O   LEU A 912      -0.334  30.258 -37.894  1.00 66.03           O
ATOM   6628  N   TYR A 913       0.033  32.058 -36.647  1.00 50.55           N
ATOM   6629  CA  TYR A 913      -1.333  32.133 -36.237  1.00 46.51           C
ATOM   6630  CB  TYR A 913      -1.387  32.258 -34.725  1.00 44.02           C
ATOM   6631  CG  TYR A 913      -0.691  31.157 -33.995  1.00 40.75           C
ATOM   6632  CD1 TYR A 913      -1.249  29.959 -33.874  1.00 38.78           C
ATOM   6633  CE1 TYR A 913      -0.645  28.952 -33.143  1.00 40.30           C
ATOM   6634  CZ  TYR A 913       0.592  29.121 -32.562  1.00 42.09           C
ATOM   6635  OH  TYR A 913       1.230  28.087 -31.880  1.00 40.03           O
ATOM   6636  CE2 TYR A 913       1.177  30.352 -32.660  1.00 43.94           C
ATOM   6637  CD2 TYR A 913       0.520  31.364 -33.367  1.00 44.13           C
ATOM   6638  C   TYR A 913      -1.959  33.334 -36.956  1.00 47.88           C
ATOM   6639  O   TYR A 913      -1.293  34.304 -37.214  1.00 55.04           O
ATOM   6640  N   LEU A 914      -3.225  33.245 -37.302  1.00 49.10           N
ATOM   6641  CA  LEU A 914      -3.964  34.316 -37.939  1.00 54.70           C
ATOM   6642  CB  LEU A 914      -4.075  34.068 -39.426  1.00 58.67           C
ATOM   6643  CG  LEU A 914      -3.276  34.832 -40.433  1.00 64.09           C
ATOM   6644  CD1 LEU A 914      -3.752  34.361 -41.808  1.00 68.35           C
ATOM   6645  CD2 LEU A 914      -3.499  36.317 -40.264  1.00 65.61           C
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ATOM   6646  C   LEU A 914      -5.367  34.204 -37.451  1.00 54.78           C
ATOM   6647  O   LEU A 914      -5.979  33.171 -37.629  1.00 58.02           O
ATOM   6648  N   LYS A 915      -5.905  35.242 -36.873  1.00 52.85           N
ATOM   6649  CA  LYS A 915      -7.286  35.223 -36.519  1.00 51.64           C
ATOM   6650  CB  LYS A 915      -7.344  34.940 -35.045  1.00 55.39           C
ATOM   6651  CG  LYS A 915      -6.802  33.584 -34.649  1.00 58.45           C
ATOM   6652  CD  LYS A 915      -7.718  32.456 -35.156  1.00 63.14           C
ATOM   6653  CE  LYS A 915      -7.186  31.065 -34.834  1.00 63.03           C
ATOM   6654  NZ  LYS A 915      -7.535  30.691 -33.423  1.00 66.90           N
ATOM   6655  C   LYS A 915      -7.800  36.601 -36.857  1.00 50.19           C
ATOM   6656  O   LYS A 915      -7.012  37.490 -36.980  1.00 51.89           O
ATOM   6657  N   THR A 916      -9.096  36.786 -37.043  1.00 50.01           N
ATOM   6658  CA  THR A 916      -9.650  38.103 -37.355  1.00 52.88           C
ATOM   6659  CB  THR A 916      -9.919  38.341 -38.875  1.00 52.44           C
ATOM   6660  OG1 THR A 916     -10.931  37.454 -39.321  1.00 57.44           O
ATOM   6661  CG2 THR A 916      -8.701  38.092 -39.691  1.00 51.06           C
ATOM   6662  C   THR A 916     -10.957  38.351 -36.622  1.00 56.19           C
ATOM   6663  O   THR A 916     -11.638  37.415 -36.184  1.00 55.43           O
ATOM   6664  N   LYS A 917     -11.264  39.644 -36.480  1.00 60.57           N
ATOM   6665  CA  LYS A 917     -12.535  40.136 -35.979  1.00 61.28           C
ATOM   6666  CB  LYS A 917     -12.552  40.428 -34.458  1.00 59.53           C
ATOM   6667  CG  LYS A 917     -14.003  40.606 -34.038  1.00 63.94           C
ATOM   6668  CD  LYS A 917     -14.334  41.143 -32.662  1.00 68.91           C
ATOM   6669  CE  LYS A 917     -15.871  41.232 -32.575  1.00 75.74           C
ATOM   6670  NZ  LYS A 917     -16.414  41.739 -31.279  1.00 81.55           N
ATOM   6671  C   LYS A 917     -12.835  41.391 -36.761  1.00 64.84           C
ATOM   6672  O   LYS A 917     -12.175  42.420 -36.567  1.00 63.19           O
ATOM   6673  N   GLY A 918     -13.820  41.300 -37.652  1.00 70.55           N
ATOM   6674  CA  GLY A 918     -14.176  42.429 -38.503  1.00 71.54           C
ATOM   6675  C   GLY A 918     -13.006  42.680 -39.433  1.00 72.80           C
ATOM   6676  O   GLY A 918     -12.492  41.717 -40.058  1.00 73.84           O
ATOM   6677  N   ASP A 919     -12.576  43.950 -39.477  1.00 70.04           N
ATOM   6678  CA  ASP A 919     -11.353  44.358 -40.168  1.00 69.93           C
ATOM   6679  CB  ASP A 919     -11.452  45.818 -40.648  1.00 73.59           C
ATOM   6680  CG  ASP A 919     -12.310  46.007 -41.921  1.00 77.10           C
ATOM   6681  OD1 ASP A 919     -12.790  45.016 -42.535  1.00 72.82           O
ATOM   6682  OD2 ASP A 919     -12.494  47.203 -42.302  1.00 81.93           O
ATOM   6683  C   ASP A 919     -10.062  44.205 -39.331  1.00 69.26           C
ATOM   6684  O   ASP A 919      -8.984  44.479 -39.880  1.00 61.62           O
ATOM   6685  N   PHE A 920     -10.150  43.796 -38.036  1.00 73.69           N
ATOM   6686  CA  PHE A 920      -8.945  43.579 -37.147  1.00 72.44           C
ATOM   6687  CB  PHE A 920      -9.252  43.703 -35.632  1.00 77.60           C
ATOM   6688  CG  PHE A 920      -9.588  45.119 -35.167  1.00 99.97           C
ATOM   6689  CD1 PHE A 920      -8.606  46.127 -35.116  1.00106.06           C
ATOM   6690  CE1 PHE A 920      -8.919  47.426 -34.693  1.00104.91           C
ATOM   6691  CZ  PHE A 920     -10.217  47.743 -34.301  1.00104.72           C
ATOM   6692  CE2 PHE A 920     -11.204  46.770 -34.329  1.00108.32           C
ATOM   6693  CD2 PHE A 920     -10.895  45.462 -34.751  1.00111.83           C
ATOM   6694  C   PHE A 920      -8.309  42.208 -37.456  1.00 66.97           C
ATOM   6695  O   PHE A 920      -9.012  41.231 -37.672  1.00 61.17           O
ATOM   6696  N   ILE A 921      -6.984  42.153 -37.512  1.00 61.05           N
ATOM   6697  CA  ILE A 921      -6.269  40.954 -37.860  1.00 56.97           C
ATOM   6698  CB  ILE A 921      -5.551  41.123 -39.181  1.00 60.08           C
ATOM   6699  CG1 ILE A 921      -6.576  41.297 -40.280  1.00 67.84           C
ATOM   6700  CD1 ILE A 921      -5.956  41.686 -41.605  1.00 75.47           C
ATOM   6701  CG2 ILE A 921      -4.684  39.920 -39.503  1.00 56.91           C
ATOM   6702  C   ILE A 921      -5.225  40.748 -36.814  1.00 57.18           C
ATOM   6703  O   ILE A 921      -4.458  41.647 -36.558  1.00 59.53           O
ATOM   6704  N   LEU A 922      -5.194  39.552 -36.235  1.00 57.28           N
ATOM   6705  CA  LEU A 922      -4.251  39.153 -35.205  1.00 55.22           C
ATOM   6706  CB  LEU A 922      -5.021  38.497 -34.060  1.00 56.07           C
ATOM   6707  CG  LEU A 922      -4.201  37.743 -33.010  1.00 59.51           C
ATOM   6708  CD1 LEU A 922      -2.986  38.521 -32.575  1.00 61.52           C
ATOM   6709  CD2 LEU A 922      -5.056  37.457 -31.787  1.00 62.40           C
ATOM   6710  C   LEU A 922      -3.247  38.152 -35.782  1.00 53.46           C
ATOM   6711  O   LEU A 922      -3.649  37.119 -36.353  1.00 52.00           O
ATOM   6712  N   VAL A 923      -1.956  38.450 -35.633  1.00 49.17           N
ATOM   6713  CA  VAL A 923      -0.908  37.535 -36.080  1.00 49.35           C
ATOM   6714  CB  VAL A 923       0.055  38.168 -37.108  1.00 48.68           C
ATOM   6715  CG1 VAL A 923       1.068  37.127 -37.570  1.00 48.17           C
ATOM   6716  CG2 VAL A 923      -0.686  38.720 -38.320  1.00 49.54           C
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ATOM   6717  C   VAL A 923      -0.049  37.073 -34.936  1.00 49.90           C
ATOM   6718  O   VAL A 923       0.309  37.858 -34.100  1.00 51.63           O
ATOM   6719  N   GLY A 924       0.368  35.815 -34.941  1.00 51.22           N
ATOM   6720  CA  GLY A 924       1.264  35.323 -33.885  1.00 50.24           C
ATOM   6721  C   GLY A 924       2.276  34.379 -34.460  1.00 48.41           C
ATOM   6722  O   GLY A 924       1.952  33.695 -35.441  1.00 44.82           O
ATOM   6723  N   ASP A 925       3.494  34.401 -33.893  1.00 48.42           N
ATOM   6724  CA  ASP A 925       4.503  33.352 -34.098  1.00 51.92           C
ATOM   6725  CB  ASP A 925       5.909  33.932 -34.496  1.00 57.33           C
ATOM   6726  CG  ASP A 925       6.757  34.468 -33.304  1.00 58.69           C
ATOM   6727  OD1 ASP A 925       6.160  34.828 -32.275  1.00 60.93           O
ATOM   6728  OD2 ASP A 925       8.021  34.541 -33.401  1.00 55.19           O
ATOM   6729  C   ASP A 925       4.549  32.413 -32.885  1.00 52.01           C
ATOM   6730  O   ASP A 925       3.883  32.647 -31.861  1.00 50.91           O
ATOM   6731  N   LEU A 926       5.345  31.355 -33.014  1.00 51.49           N
ATOM   6732  CA  LEU A 926       5.426  30.284 -32.008  1.00 50.62           C
ATOM   6733  CB  LEU A 926       6.238  29.108 -32.564  1.00 52.79           C
ATOM   6734  CG  LEU A 926       6.373  27.807 -31.763  1.00 53.25           C
ATOM   6735  CD1 LEU A 926       5.017  27.111 -31.638  1.00 57.86           C
ATOM   6736  CD2 LEU A 926       7.391  26.876 -32.394  1.00 53.11           C
ATOM   6737  C   LEU A 926       6.110  30.759 -30.752  1.00 50.29           C
ATOM   6738  O   LEU A 926       6.198  30.059 -29.744  1.00 48.89           O
ATOM   6739  N   MET A 927       6.625  31.956 -30.794  1.00 50.81           N
ATOM   6740  CA  MET A 927       7.381  32.402 -29.695  1.00 52.43           C
ATOM   6741  CB  MET A 927       8.742  32.783 -30.243  1.00 53.16           C
ATOM   6742  CG  MET A 927       9.843  32.206 -29.418  1.00 54.03           C
ATOM   6743  SD  MET A 927      11.338  31.887 -30.345  1.00 50.64           S
ATOM   6744  CE  MET A 927      12.296  31.443 -28.897  1.00 53.80           C
ATOM   6745  C   MET A 927       6.616  33.507 -28.950  1.00 49.65           C
ATOM   6746  O   MET A 927       7.207  34.333 -28.271  1.00 47.70           O
ATOM   6747  N   ARG A 928       5.286  33.493 -29.090  1.00 49.59           N
ATOM   6748  CA  ARG A 928       4.388  34.327 -28.325  1.00 51.23           C
ATOM   6749  CB  ARG A 928       4.534  33.950 -26.824  1.00 54.70           C
ATOM   6750  CG  ARG A 928       4.234  34.936 -25.705  1.00 58.79           C
ATOM   6751  CD  ARG A 928       2.768  35.021 -25.403  1.00 61.00           C
ATOM   6752  NE  ARG A 928       2.522  35.548 -24.060  1.00 65.27           N
ATOM   6753  CZ  ARG A 928       2.453  36.833 -23.710  1.00 64.60           C
ATOM   6754  NH1 ARG A 928       2.631  37.834 -24.593  1.00 60.67           N
ATOM   6755  NH2 ARG A 928       2.188  37.094 -22.427  1.00 66.73           N
ATOM   6756  C   ARG A 928       4.544  35.804 -28.682  1.00 50.79           C
ATOM   6757  O   ARG A 928       3.974  36.648 -28.015  1.00 54.23           O
ATOM   6758  N   SER A 929       5.259  36.126 -29.769  1.00 50.86           N
ATOM   6759  CA  SER A 929       5.219  37.480 -30.341  1.00 50.78           C
ATOM   6760  CB  SER A 929       6.230  37.761 -31.451  1.00 50.37           C
ATOM   6761  OG  SER A 929       7.324  36.879 -31.460  1.00 55.31           O
ATOM   6762  C   SER A 929       3.870  37.575 -30.954  1.00 51.91           C
ATOM   6763  O   SER A 929       3.451  36.640 -31.611  1.00 58.71           O
ATOM   6764  N   VAL A 930       3.167  38.677 -30.732  1.00 52.81           N
ATOM   6765  CA  VAL A 930       1.875  38.871 -31.366  1.00 52.03           C
ATOM   6766  CB  VAL A 930       0.677  38.479 -30.487  1.00 46.42           C
ATOM   6767  CG1 VAL A 930       1.124  37.697 -29.278  1.00 45.68           C
ATOM   6768  CG2 VAL A 930      -0.119  39.683 -30.066  1.00 46.36           C
ATOM   6769  C   VAL A 930       1.782  40.296 -31.855  1.00 55.93           C
ATOM   6770  O   VAL A 930       2.387  41.196 -31.272  1.00 61.03           O
ATOM   6771  N   LEU A 931       1.009  40.443 -32.929  1.00 56.79           N
ATOM   6772  CA  LEU A 931       0.830  41.649 -33.701  1.00 55.28           C
ATOM   6773  CB  LEU A 931       1.401  41.451 -35.077  1.00 55.57           C
ATOM   6774  CG  LEU A 931       2.724  42.144 -35.210  1.00 59.06           C
ATOM   6775  CD1 LEU A 931       3.790  41.367 -34.462  1.00 61.01           C
ATOM   6776  CD2 LEU A 931       3.020  42.286 -36.690  1.00 63.32           C
ATOM   6777  C   LEU A 931      -0.631  41.942 -33.886  1.00 57.65           C
ATOM   6778  O   LEU A 931      -1.485  41.092 -33.719  1.00 62.29           O
ATOM   6779  N   LEU A 932      -0.935  43.153 -34.286  1.00 59.79           N
ATOM   6780  CA  LEU A 932      -2.308  43.505 -34.417  1.00 61.15           C
ATOM   6781  CB  LEU A 932      -2.780  44.098 -33.100  1.00 65.94           C
ATOM   6782  CG  LEU A 932      -4.257  44.422 -33.060  1.00 71.78           C
ATOM   6783  CD1 LEU A 932      -5.075  43.150 -33.186  1.00 74.04           C
ATOM   6784  CD2 LEU A 932      -4.560  45.153 -31.764  1.00 74.17           C
ATOM   6785  C   LEU A 932      -2.428  44.442 -35.566  1.00 54.97           C
ATOM   6786  O   LEU A 932      -2.346  45.597 -35.380  1.00 56.08           O
ATOM   6787  N   LEU A 933      -2.573  43.887 -36.757  1.00 53.78           N
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ATOM   6788  CA  LEU A 933      -2.742  44.617 -37.994  1.00 55.06           C
ATOM   6789  CB  LEU A 933      -2.270  43.745 -39.138  1.00 54.03           C
ATOM   6790  CG  LEU A 933      -0.882  43.133 -39.111  1.00 56.58           C
ATOM   6791  CD1 LEU A 933      -0.766  42.108 -40.218  1.00 60.26           C
ATOM   6792  CD2 LEU A 933       0.182  44.173 -39.333  1.00 60.95           C
ATOM   6793  C   LEU A 933      -4.218  45.012 -38.275  1.00 58.09           C
ATOM   6794  O   LEU A 933      -5.144  44.365 -37.785  1.00 61.84           O
ATOM   6795  N   ALA A 934      -4.416  46.067 -39.070  1.00 57.42           N
ATOM   6796  CA  ALA A 934      -5.732  46.440 -39.588  1.00 59.78           C
ATOM   6797  CB  ALA A 934      -6.248  47.680 -38.905  1.00 58.67           C
ATOM   6798  C   ALA A 934      -5.707  46.690 -41.090  1.00 62.20           C
ATOM   6799  O   ALA A 934      -4.716  47.167 -41.666  1.00 62.21           O
ATOM   6800  N   TYR A 935      -6.835  46.388 -41.708  1.00 61.90           N
ATOM   6801  CA  TYR A 935      -7.032  46.658 -43.097  1.00 60.92           C
ATOM   6802  CB  TYR A 935      -7.890  45.581 -43.736  1.00 60.76           C
ATOM   6803  CG  TYR A 935      -8.188  45.803 -45.187  1.00 61.27           C
ATOM   6804  CD1 TYR A 935      -7.199  45.691 -46.141  1.00 65.28           C
ATOM   6805  CE1 TYR A 935      -7.477  45.870 -47.488  1.00 68.24           C
ATOM   6806  CZ  TYR A 935      -8.768  46.167 -47.874  1.00 67.35           C
ATOM   6807  OH  TYR A 935      -9.075  46.362 -49.192  1.00 69.30           O
ATOM   6808  CE2 TYR A 935      -9.765  46.271 -46.936  1.00 63.36           C
ATOM   6809  CD2 TYR A 935      -9.468  46.091 -45.608  1.00 62.68           C
ATOM   6810  C   TYR A 935      -7.689  48.009 -43.132  1.00 60.63           C
ATOM   6811  O   TYR A 935      -8.484  48.366 -42.280  1.00 59.00           O
ATOM   6812  N   LYS A 936      -7.288  48.772 -44.117  1.00 64.70           N
ATOM   6813  CA  LYS A 936      -7.707  50.123 -44.275  1.00 69.16           C
ATOM   6814  CB  LYS A 936      -6.530  51.079 -44.009  1.00 73.80           C
ATOM   6815  CG  LYS A 936      -6.107  51.195 -42.540  1.00 77.49           C
ATOM   6816  CD  LYS A 936      -7.273  51.672 -41.658  1.00 84.16           C
ATOM   6817  CE  LYS A 936      -6.967  51.653 -40.169  1.00 89.81           C
ATOM   6818  NZ  LYS A 936      -5.903  52.633 -39.844  1.00 95.51           N
ATOM   6819  C   LYS A 936      -8.223  50.169 -45.706  1.00 69.78           C
ATOM   6820  O   LYS A 936      -7.454  50.265 -46.663  1.00 66.02           O
ATOM   6821  N   PRO A 937      -9.540  50.057 -45.867  1.00 71.21           N
ATOM   6822  CA  PRO A 937     -10.092  49.989 -47.222  1.00 73.53           C
ATOM   6823  CB  PRO A 937     -11.586  49.756 -46.988  1.00 73.18           C
ATOM   6824  CG  PRO A 937     -11.720  49.430 -45.529  1.00 70.50           C
ATOM   6825  CD  PRO A 937     -10.589  50.086 -44.841  1.00 69.63           C
ATOM   6826  C   PRO A 937      -9.881  51.256 -48.028  1.00 73.87           C
ATOM   6827  O   PRO A 937      -9.642  51.157 -49.216  1.00 75.16           O
ATOM   6828  N   MET A 938      -9.981  52.415 -47.367  1.00 78.37           N
ATOM   6829  CA  MET A 938      -9.657  53.727 -47.959  1.00 81.51           C
ATOM   6830  CB  MET A 938     -10.013  54.904 -47.016  1.00 83.62           C
ATOM   6831  CG  MET A 938     -11.485  55.281 -46.912  1.00 86.08           C
ATOM   6832  SD  MET A 938     -11.797  56.821 -45.979  1.00 97.74           S
ATOM   6833  CE  MET A 938     -11.357  56.517 -44.255  1.00 94.85           C
ATOM   6834  C   MET A 938      -8.184  53.885 -48.338  1.00 79.20           C
ATOM   6835  O   MET A 938      -7.873  54.817 -49.062  1.00 88.01           O
ATOM   6836  N   GLU A 939      -7.285  53.039 -47.829  1.00 73.71           N
ATOM   6837  CA  GLU A 939      -5.855  53.140 -48.118  1.00 71.56           C
ATOM   6838  CB  GLU A 939      -5.114  53.362 -46.790  1.00 80.54           C
ATOM   6839  CG  GLU A 939      -3.672  53.878 -46.852  1.00 88.10           C
ATOM   6840  CD  GLU A 939      -2.753  53.145 -45.862  1.00 95.88           C
ATOM   6841  OE1 GLU A 939      -2.310  53.787 -44.893  1.00 99.69           O
ATOM   6842  OE2 GLU A 939      -2.494  51.919 -46.020  1.00 96.97           O
ATOM   6843  C   GLU A 939      -5.304  51.923 -48.883  1.00 65.65           C
ATOM   6844  O   GLU A 939      -4.128  51.904 -49.209  1.00 58.41           O
ATOM   6845  N   GLY A 940      -6.151  50.924 -49.178  1.00 67.55           N
ATOM   6846  CA  GLY A 940      -5.757  49.668 -49.857  1.00 67.67           C
ATOM   6847  C   GLY A 940      -4.698  48.723 -49.267  1.00 68.12           C
ATOM   6848  O   GLY A 940      -4.364  47.760 -49.910  1.00 73.43           O
ATOM   6849  N   ASN A 941      -4.185  48.974 -48.064  1.00 68.84           N
ATOM   6850  CA  ASN A 941      -3.079  48.211 -47.479  1.00 71.70           C
ATOM   6851  CB  ASN A 941      -1.783  48.991 -47.612  1.00 75.00           C
ATOM   6852  CG  ASN A 941      -0.587  48.081 -47.802  1.00 83.48           C
ATOM   6853  OD1 ASN A 941      -0.281  47.718 -48.927  1.00 88.10           O
ATOM   6854  ND2 ASN A 941       0.085  47.683 -46.702  1.00 87.38           N
ATOM   6855  C   ASN A 941      -3.342  47.940 -46.000  1.00 72.07           C
ATOM   6856  O   ASN A 941      -4.352  48.387 -45.501  1.00 81.25           O
ATOM   6857  N   PHE A 942      -2.475  47.189 -45.311  1.00 68.43           N
ATOM   6858  CA  PHE A 942      -2.547  47.003 -43.844  1.00 65.95           C
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ATOM   6859  CB  PHE A 942      -2.011  45.622 -43.471  1.00 67.86           C
ATOM   6860  CG  PHE A 942      -2.730  44.493 -44.112  1.00 67.00           C
ATOM   6861  CD1 PHE A 942      -4.024  44.180 -43.724  1.00 67.57           C
ATOM   6862  CE1 PHE A 942      -4.692  43.124 -44.305  1.00 68.45           C
ATOM   6863  CZ  PHE A 942      -4.069  42.360 -45.284  1.00 68.94           C
ATOM   6864  CE2 PHE A 942      -2.768  42.655 -45.672  1.00 70.04           C
ATOM   6865  CD2 PHE A 942      -2.104  43.718 -45.080  1.00 67.97           C
ATOM   6866  C   PHE A 942      -1.700  48.001 -43.040  1.00 63.61           C
ATOM   6867  O   PHE A 942      -0.587  48.305 -43.476  1.00 60.58           O
ATOM   6868  N   GLU A 943      -2.191  48.422 -41.857  1.00 62.40           N
ATOM   6869  CA  GLU A 943      -1.433  49.237 -40.841  1.00 66.30           C
ATOM   6870  CB  GLU A 943      -2.295  50.455 -40.436  1.00 71.73           C
ATOM   6871  CG  GLU A 943      -1.548  51.614 -39.738  1.00 78.47           C
ATOM   6872  CD  GLU A 943      -2.311  52.319 -38.582  1.00 81.22           C
ATOM   6873  OE1 GLU A 943      -3.554  52.469 -38.611  1.00 79.65           O
ATOM   6874  OE2 GLU A 943      -1.650  52.748 -37.606  1.00 84.44           O
ATOM   6875  C   GLU A 943      -1.122  48.446 -39.540  1.00 64.14           C
ATOM   6876  O   GLU A 943      -2.017  47.788 -39.051  1.00 65.92           O
ATOM   6877  N   GLU A 944       0.068  48.535 -38.934  1.00 62.32           N
ATOM   6878  CA  GLU A 944       0.233  48.006 -37.531  1.00 65.54           C
ATOM   6879  CB  GLU A 944       1.668  48.066 -37.032  1.00 70.50           C
ATOM   6880  CG  GLU A 944       2.665  47.307 -37.884  1.00 76.50           C
ATOM   6881  CD  GLU A 944       3.552  46.393 -37.058  1.00 82.95           C
ATOM   6882  OE1 GLU A 944       3.640  46.582 -35.794  1.00 73.57           O
ATOM   6883  OE2 GLU A 944       4.141  45.473 -37.706  1.00 91.19           O
ATOM   6884  C   GLU A 944      -0.540  48.809 -36.508  1.00 60.65           C
ATOM   6885  O   GLU A 944      -0.459  50.021 -36.530  1.00 64.70           O
ATOM   6886  N   ILE A 945      -1.253  48.157 -35.601  1.00 57.11           N
ATOM   6887  CA  ILE A 945      -1.982  48.856 -34.522  1.00 57.87           C
ATOM   6888  CB  ILE A 945      -3.440  48.370 -34.356  1.00 60.81           C
ATOM   6889  CG1 ILE A 945      -4.125  48.232 -35.699  1.00 64.60           C
ATOM   6890  CD1 ILE A 945      -3.930  49.417 -36.613  1.00 67.81           C
ATOM   6891  CG2 ILE A 945      -4.270  49.327 -33.504  1.00 66.21           C
ATOM   6892  C   ILE A 945      -1.321  48.706 -33.169  1.00 57.86           C
ATOM   6893  O   ILE A 945      -1.544  49.524 -32.301  1.00 60.34           O
ATOM   6894  N   ALA A 946      -0.502  47.677 -32.988  1.00 60.88           N
ATOM   6895  CA  ALA A 946      -0.031  47.260 -31.653  1.00 60.42           C
ATOM   6896  CB  ALA A 946      -1.184  47.132 -30.663  1.00 58.22           C
ATOM   6897  C   ALA A 946       0.712  45.942 -31.737  1.00 63.27           C
ATOM   6898  O   ALA A 946       0.642  45.238 -32.739  1.00 70.57           O
ATOM   6899  N   ARG A 947       1.415  45.616 -30.664  1.00 65.32           N
ATOM   6900  CA  ARG A 947       2.311  44.473 -30.632  1.00 63.84           C
ATOM   6901  CB  ARG A 947       3.472  44.725 -31.600  1.00 63.47           C
ATOM   6902  CG  ARG A 947       4.878  44.691 -31.024  1.00 69.15           C
ATOM   6903  CD  ARG A 947       5.940  45.101 -32.042  1.00 74.73           C
ATOM   6904  NE  ARG A 947       5.518  44.905 -33.445  1.00 80.73           N
ATOM   6905  CZ  ARG A 947       6.268  44.382 -34.419  1.00 84.24           C
ATOM   6906  NH1 ARG A 947       7.520  43.980 -34.207  1.00 91.10           N
ATOM   6907  NH2 ARG A 947       5.757  44.268 -35.634  1.00 83.66           N
ATOM   6908  C   ARG A 947       2.768  44.199 -29.190  1.00 65.56           C
ATOM   6909  O   ARG A 947       2.702  45.067 -28.316  1.00 68.19           O
ATOM   6910  N   ASP A 948       3.164  42.963 -28.954  1.00 66.85           N
ATOM   6911  CA  ASP A 948       3.811  42.547 -27.715  1.00 70.62           C
ATOM   6912  CB  ASP A 948       2.761  42.073 -26.703  1.00 75.68           C
ATOM   6913  CG  ASP A 948       3.361  41.574 -25.374  1.00 81.91           C
ATOM   6914  OD1 ASP A 948       4.607  41.464 -25.205  1.00 83.82           O
ATOM   6915  OD2 ASP A 948       2.537  41.277 -24.480  1.00 83.63           O
ATOM   6916  C   ASP A 948       4.738  41.419 -28.138  1.00 65.34           C
ATOM   6917  O   ASP A 948       4.391  40.665 -29.026  1.00 68.40           O
ATOM   6918  N   PHE A 949       5.943  41.386 -27.593  1.00 60.77           N
ATOM   6919  CA  PHE A 949       6.895  40.331 -27.834  1.00 61.97           C
ATOM   6920  CB  PHE A 949       8.130  40.816 -28.598  1.00 62.94           C
ATOM   6921  CG  PHE A 949       7.954  40.894 -30.118  1.00 68.91           C
ATOM   6922  CD1 PHE A 949       6.765  41.397 -30.723  1.00 72.63           C
ATOM   6923  CE1 PHE A 949       6.618  41.502 -32.112  1.00 66.94           C
ATOM   6924  CZ  PHE A 949       7.658  41.121 -32.919  1.00 66.54           C
ATOM   6925  CE2 PHE A 949       8.845  40.625 -32.352  1.00 67.62           C
ATOM   6926  CD2 PHE A 949       8.998  40.523 -30.968  1.00 67.18           C
ATOM   6927  C   PHE A 949       7.290  39.898 -26.452  1.00 63.58           C
ATOM   6928  O   PHE A 949       7.755  40.688 -25.685  1.00 64.89           O
ATOM   6929  N   ASN A 950       7.075  38.643 -26.117  1.00 69.68           N
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ATOM   6930  CA  ASN A 950       7.479  38.156 -24.816  1.00 70.55           C
ATOM   6931  CB  ASN A 950       6.407  38.502 -23.768  1.00 76.86           C
ATOM   6932  CG  ASN A 950       6.783  38.030 -22.368  1.00 82.27           C
ATOM   6933  OD1 ASN A 950       5.929  37.996 -21.496  1.00 88.47           O
ATOM   6934  ND2 ASN A 950       8.054  37.618 -22.159  1.00 80.96           N
ATOM   6935  C   ASN A 950       7.866  36.644 -24.886  1.00 60.43           C
ATOM   6936  O   ASN A 950       7.035  35.748 -24.831  1.00 54.54           O
ATOM   6937  N   PRO A 951       9.144  36.384 -25.024  1.00 50.47           N
ATOM   6938  CA  PRO A 951       9.597  35.094 -25.425  1.00 53.01           C
ATOM   6939  CB  PRO A 951      11.106  35.201 -25.185  1.00 52.87           C
ATOM   6940  CG  PRO A 951      11.395  36.570 -25.551  1.00 49.06           C
ATOM   6941  CD  PRO A 951      10.172  37.382 -25.257  1.00 47.28           C
ATOM   6942  C   PRO A 951       9.016  33.903 -24.686  1.00 50.75           C
ATOM   6943  O   PRO A 951       9.477  33.520 -23.645  1.00 57.04           O
ATOM   6944  N   ASN A 952       8.044  33.257 -25.261  1.00 52.11           N
ATOM   6945  CA  ASN A 952       7.650  31.941 -24.737  1.00 51.15           C
ATOM   6946  CB  ASN A 952       6.643  32.063 -23.580  1.00 47.81           C
ATOM   6947  CG  ASN A 952       6.874  31.036 -22.512  1.00 47.68           C
ATOM   6948  OD1 ASN A 952       7.913  30.408 -22.471  1.00 46.82           O
ATOM   6949  ND2 ASN A 952       5.897  30.851 -21.636  1.00 51.43           N
ATOM   6950  C   ASN A 952       7.066  31.084 -25.825  1.00 49.19           C
ATOM   6951  O   ASN A 952       6.718  31.553 -26.910  1.00 48.56           O
ATOM   6952  N   TRP A 953       6.948  29.815 -25.524  1.00 45.52           N
ATOM   6953  CA  TRP A 953       6.361  28.945 -26.471  1.00 43.53           C
ATOM   6954  CB  TRP A 953       6.778  27.539 -26.148  1.00 44.98           C
ATOM   6955  CG  TRP A 953       8.261  27.304 -26.244  1.00 46.92           C
ATOM   6956  CD1 TRP A 953       9.054  26.704 -25.312  1.00 48.67           C
ATOM   6957  NE1 TRP A 953      10.340  26.626 -25.769  1.00 53.06           N
ATOM   6958  CE2 TRP A 953      10.395  27.189 -27.021  1.00 52.93           C
ATOM   6959  CD2 TRP A 953       9.112  27.620 -27.351  1.00 49.04           C
ATOM   6960  CE3 TRP A 953       8.912  28.232 -28.589  1.00 46.82           C
ATOM   6961  CZ3 TRP A 953       9.948  28.387 -29.419  1.00 46.54           C
ATOM   6962  CH2 TRP A 953      11.208  27.970 -29.077  1.00 49.96           C
ATOM   6963  CZ2 TRP A 953      11.463  27.366 -27.880  1.00 54.03           C
ATOM   6964  C   TRP A 953       4.858  29.147 -26.503  1.00 41.66           C
ATOM   6965  O   TRP A 953       4.199  29.070 -25.483  1.00 40.00           O
ATOM   6966  N   MET A 954       4.317  29.439 -27.678  1.00 41.33           N
ATOM   6967  CA  MET A 954       2.885  29.676 -27.806  1.00 42.78           C
ATOM   6968  CB  MET A 954       2.624  31.058 -28.307  1.00 41.67           C
ATOM   6969  CG  MET A 954       1.187  31.474 -28.144  1.00 44.57           C
ATOM   6970  SD  MET A 954       0.872  33.211 -28.575  1.00 47.49           S
ATOM   6971  CE  MET A 954       0.659  33.079 -30.362  1.00 49.67           C
ATOM   6972  C   MET A 954       2.288  28.629 -28.750  1.00 44.79           C
ATOM   6973  O   MET A 954       2.877  28.324 -29.777  1.00 47.30           O
ATOM   6974  N   SER A 955       1.140  28.053 -28.357  1.00 44.36           N
ATOM   6975  CA  SER A 955       0.545  26.858 -29.001  1.00 39.53           C
ATOM   6976  CB  SER A 955       0.392  25.745 -27.995  1.00 37.80           C
ATOM   6977  OG  SER A 955      -0.616  26.061 -27.089  1.00 36.72           O
ATOM   6978  C   SER A 955      -0.779  27.094 -29.636  1.00 37.72           C
ATOM   6979  O   SER A 955      -1.160  26.347 -30.562  1.00 38.88           O
ATOM   6980  N   ALA A 956      -1.462  28.133 -29.164  1.00 37.14           N
ATOM   6981  CA  ALA A 956      -2.761  28.554 -29.708  1.00 39.95           C
ATOM   6982  CB  ALA A 956      -3.818  27.624 -29.171  1.00 40.49           C
ATOM   6983  C   ALA A 956      -3.128  30.005 -29.328  1.00 39.17           C
ATOM   6984  O   ALA A 956      -2.757  30.425 -28.270  1.00 38.60           O
ATOM   6985  N   VAL A 957      -3.852  30.739 -30.187  1.00 40.09           N
ATOM   6986  CA  VAL A 957      -4.393  32.073 -29.857  1.00 40.71           C
ATOM   6987  CB  VAL A 957      -3.565  33.235 -30.387  1.00 41.98           C
ATOM   6988  CG1 VAL A 957      -2.506  33.583 -29.378  1.00 45.03           C
ATOM   6989  CG2 VAL A 957      -2.939  32.911 -31.725  1.00 42.67           C
ATOM   6990  C   VAL A 957      -5.756  32.327 -30.390  1.00 41.92           C
ATOM   6991  O   VAL A 957      -6.098  31.835 -31.392  1.00 43.35           O
ATOM   6992  N   GLU A 958      -6.524  33.145 -29.703  1.00 49.11           N
ATOM   6993  CA  GLU A 958      -7.860  33.503 -30.130  1.00 51.25           C
ATOM   6994  CB  GLU A 958      -8.842  32.654 -29.345  1.00 55.02           C
ATOM   6995  CG  GLU A 958     -10.256  32.772 -29.868  1.00 57.92           C
ATOM   6996  CD  GLU A 958     -10.284  32.503 -31.338  1.00 60.78           C
ATOM   6997  OE1 GLU A 958     -10.635  33.470 -32.042  1.00 63.49           O
ATOM   6998  OE2 GLU A 958      -9.865  31.373 -31.760  1.00 60.98           O
ATOM   6999  C   GLU A 958      -8.177  34.975 -29.875  1.00 50.41           C
ATOM   7000  O   GLU A 958      -7.635  35.575 -28.936  1.00 50.08           O
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ATOM   7001  N   ILE A 959      -9.070  35.543 -30.682  1.00 48.50           N
ATOM   7002  CA  ILE A 959      -9.601  36.907 -30.434  1.00 47.88           C
ATOM   7003  CB  ILE A 959      -9.906  37.612 -31.772  1.00 47.21           C
ATOM   7004  CG1 ILE A 959      -8.584  37.890 -32.519  1.00 49.60           C
ATOM   7005  CD1 ILE A 959      -8.735  38.114 -34.020  1.00 49.80           C
ATOM   7006  CG2 ILE A 959     -10.757  38.868 -31.596  1.00 46.43           C
ATOM   7007  C   ILE A 959     -10.858  36.873 -29.562  1.00 48.07           C
ATOM   7008  O   ILE A 959     -11.908  36.483 -30.051  1.00 51.39           O
ATOM   7009  N   LEU A 960     -10.766  37.281 -28.295  1.00 46.32           N
ATOM   7010  CA  LEU A 960     -11.940  37.311 -27.450  1.00 48.81           C
ATOM   7011  CB  LEU A 960     -11.544  37.461 -26.005  1.00 50.69           C
ATOM   7012  CG  LEU A 960     -10.962  36.250 -25.269  1.00 53.46           C
ATOM   7013  CD1 LEU A 960     -10.104  36.733 -24.122  1.00 55.94           C
ATOM   7014  CD2 LEU A 960     -12.047  35.366 -24.688  1.00 54.91           C
ATOM   7015  C   LEU A 960     -12.901  38.434 -27.840  1.00 53.99           C
ATOM   7016  O   LEU A 960     -14.091  38.264 -27.744  1.00 56.26           O
ATOM   7017  N   ASP A 961     -12.375  39.596 -28.222  1.00 63.69           N
ATOM   7018  CA  ASP A 961     -13.149  40.746 -28.789  1.00 67.90           C
ATOM   7019  CB  ASP A 961     -14.196  41.329 -27.807  1.00 72.80           C
ATOM   7020  CG  ASP A 961     -13.593  41.854 -26.514  1.00 72.34           C
ATOM   7021  OD1 ASP A 961     -12.414  42.233 -26.487  1.00 71.96           O
ATOM   7022  OD2 ASP A 961     -14.329  41.886 -25.512  1.00 76.22           O
ATOM   7023  C   ASP A 961     -12.174  41.834 -29.307  1.00 69.82           C
ATOM   7024  O   ASP A 961     -10.939  41.599 -29.308  1.00 63.16           O
ATOM   7025  N   ASP A 962     -12.693  43.009 -29.712  1.00 73.09           N
ATOM   7026  CA  ASP A 962     -11.895  43.945 -30.537  1.00 75.97           C
ATOM   7027  CB  ASP A 962     -12.698  45.181 -30.997  1.00 82.31           C
ATOM   7028  CG  ASP A 962     -14.024  44.811 -31.739  1.00 87.87           C
ATOM   7029  OD1 ASP A 962     -15.038  44.566 -31.030  1.00 84.23           O
ATOM   7030  OD2 ASP A 962     -14.053  44.769 -33.012  1.00 89.01           O
ATOM   7031  C   ASP A 962     -10.649  44.365 -29.788  1.00 73.46           C
ATOM   7032  O   ASP A 962      -9.635  44.682 -30.434  1.00 73.24           O
ATOM   7033  N   ASP A 963     -10.744  44.284 -28.443  1.00 71.32           N
ATOM   7034  CA  ASP A 963      -9.699  44.651 -27.458  1.00 71.36           C
ATOM   7035  CB  ASP A 963     -10.357  45.422 -26.293  1.00 73.34           C
ATOM   7036  CG  ASP A 963     -11.254  46.584 -26.754  1.00 74.94           C
ATOM   7037  OD1 ASP A 963     -11.056  47.136 -27.862  1.00 74.62           O
ATOM   7038  OD2 ASP A 963     -12.156  46.954 -25.974  1.00 72.70           O
ATOM   7039  C   ASP A 963      -8.843  43.548 -26.770  1.00 69.86           C
ATOM   7040  O   ASP A 963      -7.747  43.862 -26.277  1.00 66.76           O
ATOM   7041  N   ASN A 964      -9.340  42.299 -26.672  1.00 69.75           N
ATOM   7042  CA  ASN A 964      -8.689  41.225 -25.830  1.00 63.76           C
ATOM   7043  CB  ASN A 964      -9.561  40.856 -24.614  1.00 64.66           C
ATOM   7044  CG  ASN A 964      -9.768  42.035 -23.676  1.00 68.22           C
ATOM   7045  OD1 ASN A 964      -8.898  42.414 -22.896  1.00 62.68           O
ATOM   7046  ND2 ASN A 964     -10.915  42.654 -23.796  1.00 76.27           N
ATOM   7047  C   ASN A 964      -8.329  39.971 -26.582  1.00 55.57           C
ATOM   7048  O   ASN A 964      -9.088  39.517 -27.398  1.00 55.68           O
ATOM   7049  N   PHE A 965      -7.168  39.414 -26.285  1.00 53.13           N
ATOM   7050  CA  PHE A 965      -6.616  38.300 -27.036  1.00 54.46           C
ATOM   7051  CB  PHE A 965      -5.397  38.769 -27.798  1.00 56.86           C
ATOM   7052  CG  PHE A 965      -5.687  39.992 -28.581  1.00 65.69           C
ATOM   7053  CD1 PHE A 965      -6.683  39.970 -29.556  1.00 72.59           C
ATOM   7054  CE1 PHE A 965      -7.025  41.123 -30.269  1.00 77.70           C
ATOM   7055  CZ  PHE A 965      -6.386  42.332 -29.983  1.00 75.79           C
ATOM   7056  CE2 PHE A 965      -5.414  42.368 -28.990  1.00 73.03           C
ATOM   7057  CD2 PHE A 965      -5.083  41.204 -28.285  1.00 72.60           C
ATOM   7058  C   PHE A 965      -6.258  37.240 -26.062  1.00 55.55           C
ATOM   7059  O   PHE A 965      -5.491  37.488 -25.164  1.00 60.51           O
ATOM   7060  N   LEU A 966      -6.857  36.063 -26.206  1.00 55.95           N
ATOM   7061  CA  LEU A 966      -6.526  34.893 -25.375  1.00 48.74           C
ATOM   7062  CB  LEU A 966      -7.786  34.062 -25.205  1.00 48.75           C
ATOM   7063  CG  LEU A 966      -7.704  32.738 -24.480  1.00 49.60           C
ATOM   7064  CD1 LEU A 966      -7.078  32.908 -23.116  1.00 51.87           C
ATOM   7065  CD2 LEU A 966      -9.099  32.174 -24.364  1.00 48.71           C
ATOM   7066  C   LEU A 966      -5.408  34.098 -26.067  1.00 44.29           C
ATOM   7067  O   LEU A 966      -5.366  33.975 -27.291  1.00 36.82           O
ATOM   7068  N   GLY A 967      -4.460  33.616 -25.287  1.00 42.44           N
ATOM   7069  CA  GLY A 967      -3.434  32.745 -25.833  1.00 41.01           C
ATOM   7070  C   GLY A 967      -3.072  31.671 -24.851  1.00 40.76           C
ATOM   7071  O   GLY A 967      -3.388  31.810 -23.663  1.00 41.53           O
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ATOM   7072  N   ALA A 968      -2.450  30.592 -25.354  1.00 40.25           N
ATOM   7073  CA  ALA A 968      -1.986  29.450 -24.538  1.00 38.27           C
ATOM   7074  CB  ALA A 968      -2.667  28.181 -24.970  1.00 37.41           C
ATOM   7075  C   ALA A 968      -0.483  29.339 -24.691  1.00 38.88           C
ATOM   7076  O   ALA A 968       0.035  29.490 -25.774  1.00 36.11           O
ATOM   7077  N   GLU A 969       0.227  29.134 -23.590  1.00 43.01           N
ATOM   7078  CA  GLU A 969       1.675  29.362 -23.577  1.00 45.84           C
ATOM   7079  CB  GLU A 969       2.006  30.854 -23.360  1.00 48.58           C
ATOM   7080  CG  GLU A 969       2.262  31.344 -21.929  1.00 50.15           C
ATOM   7081  CD  GLU A 969       2.809  32.787 -21.875  1.00 56.07           C
ATOM   7082  OE1 GLU A 969       4.028  32.971 -22.196  1.00 56.27           O
ATOM   7083  OE2 GLU A 969       2.048  33.749 -21.494  1.00 58.91           O
ATOM   7084  C   GLU A 969       2.336  28.508 -22.550  1.00 47.76           C
ATOM   7085  O   GLU A 969       1.663  27.934 -21.715  1.00 54.41           O
ATOM   7086  N   ASN A 970       3.658  28.465 -22.598  1.00 50.69           N
ATOM   7087  CA  ASN A 970       4.439  27.333 -22.090  1.00 54.96           C
ATOM   7088  CB  ASN A 970       5.882  27.365 -22.606  1.00 55.19           C
ATOM   7089  CG  ASN A 970       6.864  26.610 -21.701  1.00 57.35           C
ATOM   7090  OD1 ASN A 970       6.876  25.349 -21.677  1.00 51.19           O
ATOM   7091  ND2 ASN A 970       7.693  27.374 -20.942  1.00 58.78           N
ATOM   7092  C   ASN A 970       4.441  27.082 -20.571  1.00 58.63           C
ATOM   7093  O   ASN A 970       4.507  28.019 -19.768  1.00 54.08           O
ATOM   7094  N   ALA A 971       4.497  25.760 -20.283  1.00 62.70           N
ATOM   7095  CA  ALA A 971       4.017  25.048 -19.106  1.00 54.62           C
ATOM   7096  CB  ALA A 971       4.773  25.463 -17.887  1.00 57.27           C
ATOM   7097  C   ALA A 971       2.536  25.299 -18.973  1.00 50.39           C
ATOM   7098  O   ALA A 971       2.082  25.947 -18.050  1.00 54.44           O
ATOM   7099  N   PHE A 972       1.779  24.863 -19.957  1.00 44.67           N
ATOM   7100  CA  PHE A 972       0.341  24.718 -19.759  1.00 43.74           C
ATOM   7101  CB  PHE A 972       0.114  23.533 -18.801  1.00 42.83           C
ATOM   7102  CG  PHE A 972       1.024  22.403 -19.103  1.00 43.63           C
ATOM   7103  CD1 PHE A 972       0.765  21.556 -20.232  1.00 43.25           C
ATOM   7104  CE1 PHE A 972       1.674  20.560 -20.596  1.00 38.31           C
ATOM   7105  CZ  PHE A 972       2.806  20.394 -19.840  1.00 36.97           C
ATOM   7106  CE2 PHE A 972       3.077  21.227 -18.747  1.00 37.96           C
ATOM   7107  CD2 PHE A 972       2.215  22.249 -18.403  1.00 38.86           C
ATOM   7108  C   PHE A 972      -0.379  25.928 -19.222  1.00 40.74           C
ATOM   7109  O   PHE A 972      -1.292  25.769 -18.395  1.00 39.63           O
ATOM   7110  N   ASN A 973       0.018  27.115 -19.657  1.00 38.26           N
ATOM   7111  CA  ASN A 973      -0.636  28.314 -19.166  1.00 40.12           C
ATOM   7112  CB  ASN A 973       0.391  29.358 -18.739  1.00 44.33           C
ATOM   7113  CG  ASN A 973       1.350  28.883 -17.638  1.00 45.80           C
ATOM   7114  OD1 ASN A 973       0.949  28.516 -16.511  1.00 45.41           O
ATOM   7115  ND2 ASN A 973       2.632  28.971 -17.940  1.00 45.51           N
ATOM   7116  C   ASN A 973      -1.585  28.973 -20.174  1.00 39.74           C
ATOM   7117  O   ASN A 973      -1.433  28.841 -21.409  1.00 38.34           O
ATOM   7118  N   LEU A 974      -2.584  29.673 -19.647  1.00 39.34           N
ATOM   7119  CA  LEU A 974      -3.331  30.622 -20.471  1.00 40.64           C
ATOM   7120  CB  LEU A 974      -4.826  30.448 -20.303  1.00 38.81           C
ATOM   7121  CG  LEU A 974      -5.444  29.095 -20.626  1.00 37.45           C
ATOM   7122  CD1 LEU A 974      -6.955  29.169 -20.476  1.00 36.15           C
ATOM   7123  CD2 LEU A 974      -5.071  28.706 -22.047  1.00 38.10           C
ATOM   7124  C   LEU A 974      -2.896  32.039 -20.081  1.00 43.48           C
ATOM   7125  O   LEU A 974      -2.494  32.289 -18.923  1.00 44.02           O
ATOM   7126  N   PHE A 975      -2.904  32.940 -21.067  1.00 45.72           N
ATOM   7127  CA  PHE A 975      -2.530  34.350 -20.863  1.00 46.17           C
ATOM   7128  CB  PHE A 975      -1.069  34.616 -21.240  1.00 45.99           C
ATOM   7129  CG  PHE A 975      -0.848  34.639 -22.684  1.00 48.32           C
ATOM   7130  CD1 PHE A 975      -1.119  35.795 -23.417  1.00 50.74           C
ATOM   7131  CE1 PHE A 975      -0.982  35.806 -24.801  1.00 53.92           C
ATOM   7132  CZ  PHE A 975      -0.581  34.636 -25.462  1.00 56.41           C
ATOM   7133  CE2 PHE A 975      -0.322  33.458 -24.727  1.00 52.61           C
ATOM   7134  CD2 PHE A 975      -0.469  33.475 -23.348  1.00 51.62           C
ATOM   7135  C   PHE A 975      -3.436  35.223 -21.688  1.00 46.53           C
ATOM   7136  O   PHE A 975      -3.917  34.798 -22.752  1.00 47.55           O
ATOM   7137  N   VAL A 976      -3.644  36.452 -21.222  1.00 48.96           N
ATOM   7138  CA  VAL A 976      -4.474  37.411 -21.948  1.00 49.55           C
ATOM   7139  CB  VAL A 976      -5.817  37.636 -21.262  1.00 51.47           C
ATOM   7140  CG1 VAL A 976      -6.628  38.625 -22.079  1.00 53.93           C
ATOM   7141  CG2 VAL A 976      -6.580  36.330 -21.134  1.00 51.36           C
ATOM   7142  C   VAL A 976      -3.842  38.752 -22.078  1.00 46.77           C
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ATOM   7143  O   VAL A 976      -3.628  39.380 -21.100  1.00 49.83           O
ATOM   7144  N   CYS A 977      -3.604  39.176 -23.301  1.00 50.68           N
ATOM   7145  CA  CYS A 977      -3.206  40.529 -23.666  1.00 54.98           C
ATOM   7146  CB  CYS A 977      -2.392  40.545 -24.946  1.00 59.61           C
ATOM   7147  SG  CYS A 977      -0.699  40.016 -24.649  1.00 86.62           S
ATOM   7148  C   CYS A 977      -4.427  41.334 -23.949  1.00 55.30           C
ATOM   7149  O   CYS A 977      -5.311  40.876 -24.667  1.00 47.62           O
ATOM   7150  N   GLN A 978      -4.453  42.554 -23.406  1.00 63.17           N
ATOM   7151  CA  GLN A 978      -5.487  43.560 -23.711  1.00 65.31           C
ATOM   7152  CB  GLN A 978      -6.066  44.077 -22.404  1.00 63.91           C
ATOM   7153  CG  GLN A 978      -7.260  44.976 -22.561  1.00 65.79           C
ATOM   7154  CD  GLN A 978      -7.736  45.491 -21.246  1.00 65.64           C
ATOM   7155  OE1 GLN A 978      -7.438  46.627 -20.853  1.00 69.88           O
ATOM   7156  NE2 GLN A 978      -8.470  44.667 -20.547  1.00 65.96           N
ATOM   7157  C   GLN A 978      -4.916  44.710 -24.574  1.00 66.95           C
ATOM   7158  O   GLN A 978      -3.704  44.970 -24.568  1.00 62.77           O
ATOM   7159  N   LYS A 979      -5.796  45.374 -25.325  1.00 73.27           N
ATOM   7160  CA  LYS A 979      -5.410  46.450 -26.243  1.00 76.39           C
ATOM   7161  CB  LYS A 979      -6.561  46.841 -27.193  1.00 75.17           C
ATOM   7162  CG  LYS A 979      -6.096  47.630 -28.411  1.00 73.67           C
ATOM   7163  CD  LYS A 979      -6.793  47.286 -29.728  1.00 76.23           C
ATOM   7164  CE  LYS A 979      -8.140  47.992 -29.956  1.00 79.69           C
ATOM   7165  NZ  LYS A 979      -8.701  47.816 -31.348  1.00 81.14           N
ATOM   7166  C   LYS A 979      -4.904  47.679 -25.536  1.00 82.02           C
ATOM   7167  O   LYS A 979      -3.778  48.112 -25.793  1.00 88.03           O
ATOM   7168  N   ASP A 980      -5.701  48.245 -24.643  1.00 86.88           N
ATOM   7169  CA  ASP A 980      -5.381  49.598 -24.184  1.00100.91           C
ATOM   7170  CB  ASP A 980      -6.544  50.205 -23.388  1.00108.29           C
ATOM   7171  CG  ASP A 980      -6.538  51.728 -23.414  1.00107.18           C
ATOM   7172  OD1 ASP A 980      -5.731  52.296 -24.189  1.00106.93           O
ATOM   7173  OD2 ASP A 980      -7.346  52.343 -22.670  1.00 99.48           O
ATOM   7174  C   ASP A 980      -4.083  49.686 -23.366  1.00103.43           C
ATOM   7175  O   ASP A 980      -3.524  50.775 -23.195  1.00103.93           O
ATOM   7176  N   GLU A 987      -0.390  57.816 -30.545  1.00 98.86           N
ATOM   7177  CA  GLU A 987       0.068  57.835 -29.153  1.00108.31           C
ATOM   7178  CB  GLU A 987      -1.180  57.994 -28.206  1.00105.31           C
ATOM   7179  CG  GLU A 987      -1.194  57.523 -26.723  1.00103.73           C
ATOM   7180  CD  GLU A 987      -0.624  58.476 -25.643  1.00 93.34           C
ATOM   7181  OE1 GLU A 987      -1.380  58.850 -24.689  1.00 78.76           O
ATOM   7182  OE2 GLU A 987       0.588  58.785 -25.706  1.00 82.26           O
ATOM   7183  C   GLU A 987       0.983  56.590 -28.954  1.00111.31           C
ATOM   7184  O   GLU A 987       1.225  55.828 -29.903  1.00105.74           O
ATOM   7185  N   GLU A 988       1.543  56.427 -27.758  1.00113.09           N
ATOM   7186  CA  GLU A 988       2.429  55.306 -27.455  1.00114.52           C
ATOM   7187  CB  GLU A 988       3.588  55.849 -26.579  1.00120.48           C
ATOM   7188  CG  GLU A 988       4.958  55.466 -27.080  1.00118.12           C
ATOM   7189  CD  GLU A 988       5.017  53.982 -27.306  1.00119.63           C
ATOM   7190  OE1 GLU A 988       4.845  53.545 -28.463  1.00127.22           O
ATOM   7191  OE2 GLU A 988       5.134  53.257 -26.303  1.00118.45           O
ATOM   7192  C   GLU A 988       1.685  54.060 -26.825  1.00110.75           C
ATOM   7193  O   GLU A 988       2.261  53.245 -26.072  1.00 95.57           O
ATOM   7194  N   ARG A 989       0.405  53.909 -27.171  1.00106.52           N
ATOM   7195  CA  ARG A 989      -0.402  52.772 -26.750  1.00100.82           C
ATOM   7196  CB  ARG A 989      -1.625  53.279 -25.983  1.00108.39           C
ATOM   7197  CG  ARG A 989      -1.241  54.049 -24.697  1.00114.01           C
ATOM   7198  CD  ARG A 989      -2.422  54.643 -23.899  1.00120.16           C
ATOM   7199  NE  ARG A 989      -3.120  55.743 -24.597  1.00122.21           N
ATOM   7200  CZ  ARG A 989      -3.957  56.624 -24.040  1.00119.07           C
ATOM   7201  NH1 ARG A 989      -4.249  56.565 -22.741  1.00122.71           N
ATOM   7202  NH2 ARG A 989      -4.509  57.577 -24.795  1.00113.39           N
ATOM   7203  C   ARG A 989      -0.689  51.885 -27.999  1.00 94.40           C
ATOM   7204  O   ARG A 989      -1.801  51.730 -28.510  1.00 78.14           O
ATOM   7205  N   GLN A 990       0.429  51.383 -28.506  1.00 91.30           N
ATOM   7206  CA  GLN A 990       0.521  50.275 -29.399  1.00 82.30           C
ATOM   7207  CB  GLN A 990       1.138  50.737 -30.738  1.00 82.57           C
ATOM   7208  CG  GLN A 990       2.594  51.225 -30.749  1.00 82.76           C
ATOM   7209  CD  GLN A 990       3.099  51.639 -32.155  1.00 88.52           C
ATOM   7210  OE1 GLN A 990       4.186  52.190 -32.294  1.00 91.04           O
ATOM   7211  NE2 GLN A 990       2.309  51.377 -33.192  1.00 88.90           N
ATOM   7212  C   GLN A 990       1.360  49.191 -28.690  1.00 80.55           C
ATOM   7213  O   GLN A 990       1.916  48.305 -29.309  1.00 77.62           O
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ATOM   7214  N   HIS A 991       1.490  49.282 -27.378  1.00 82.07           N
ATOM   7215  CA  HIS A 991       1.878  48.126 -26.597  1.00 86.55           C
ATOM   7216  CB  HIS A 991       2.904  48.489 -25.479  1.00 92.72           C
ATOM   7217  CG  HIS A 991       2.469  48.119 -24.073  1.00106.38           C
ATOM   7218  ND1 HIS A 991       3.012  47.058 -23.370  1.00112.16           N
ATOM   7219  CE1 HIS A 991       2.453  46.987 -22.171  1.00106.88           C
ATOM   7220  NE2 HIS A 991       1.556  47.952 -22.070  1.00101.78           N
ATOM   7221  CD2 HIS A 991       1.548  48.677 -23.240  1.00106.06           C
ATOM   7222  C   HIS A 991       0.536  47.517 -26.099  1.00 82.29           C
ATOM   7223  O   HIS A 991      -0.551  48.160 -26.150  1.00 72.97           O
ATOM   7224  N   LEU A 992       0.646  46.268 -25.644  1.00 74.63           N
ATOM   7225  CA  LEU A 992      -0.469  45.438 -25.253  1.00 66.18           C
ATOM   7226  CB  LEU A 992      -0.465  44.190 -26.113  1.00 61.01           C
ATOM   7227  CG  LEU A 992      -0.883  44.389 -27.559  1.00 58.69           C
ATOM   7228  CD1 LEU A 992      -0.586  43.193 -28.422  1.00 59.54           C
ATOM   7229  CD2 LEU A 992      -2.367  44.658 -27.623  1.00 59.53           C
ATOM   7230  C   LEU A 992      -0.224  45.059 -23.831  1.00 67.62           C
ATOM   7231  O   LEU A 992       0.830  44.503 -23.512  1.00 71.37           O
ATOM   7232  N   GLN A 993      -1.191  45.357 -22.976  1.00 71.58           N
ATOM   7233  CA  GLN A 993      -1.067  45.135 -21.520  1.00 75.64           C
ATOM   7234  CB  GLN A 993      -2.067  46.045 -20.720  1.00 86.63           C
ATOM   7235  CG  GLN A 993      -1.472  47.154 -19.846  1.00 90.67           C
ATOM   7236  CD  GLN A 993      -0.480  46.580 -18.859  1.00 95.83           C
ATOM   7237  OE1 GLN A 993      -0.855  46.040 -17.812  1.00 99.60           O
ATOM   7238  NE2 GLN A 993       0.797  46.639 -19.216  1.00 97.29           N
ATOM   7239  C   GLN A 993      -1.309  43.656 -21.207  1.00 65.97           C
ATOM   7240  O   GLN A 993      -2.217  43.076 -21.778  1.00 62.98           O
ATOM   7241  N   GLU A 994      -0.510  43.068 -20.320  1.00 58.75           N
ATOM   7242  CA  GLU A 994      -0.725  41.705 -19.898  1.00 60.59           C
ATOM   7243  CB  GLU A 994       0.622  41.128 -19.370  1.00 69.13           C
ATOM   7244  CG  GLU A 994       0.651  39.620 -19.003  1.00 80.18           C
ATOM   7245  CD  GLU A 994       2.072  39.000 -18.821  1.00 87.84           C
ATOM   7246  OE1 GLU A 994       2.684  39.123 -17.722  1.00 91.40           O
ATOM   7247  OE2 GLU A 994       2.567  38.332 -19.766  1.00 84.40           O
ATOM   7248  C   GLU A 994      -1.878  41.623 -18.846  1.00 56.24           C
ATOM   7249  O   GLU A 994      -1.600  41.526 -17.694  1.00 65.12           O
ATOM   7250  N   VAL A 995      -3.156  41.603 -19.206  1.00 51.00           N
ATOM   7251  CA  VAL A 995      -4.199  41.483 -18.185  1.00 51.00           C
ATOM   7252  CB  VAL A 995      -5.557  42.077 -18.593  1.00 54.56           C
ATOM   7253  CG1 VAL A 995      -5.398  43.461 -19.181  1.00 56.13           C
ATOM   7254  CG2 VAL A 995      -6.287  41.166 -19.551  1.00 59.73           C
ATOM   7255  C   VAL A 995      -4.534  40.103 -17.612  1.00 52.17           C
ATOM   7256  O   VAL A 995      -5.302  40.028 -16.626  1.00 53.25           O
ATOM   7257  N   GLY A 996      -4.039  39.017 -18.191  1.00 51.56           N
ATOM   7258  CA  GLY A 996      -4.476  37.685 -17.718  1.00 52.92           C
ATOM   7259  C   GLY A 996      -3.380  36.641 -17.578  1.00 51.95           C
ATOM   7260  O   GLY A 996      -2.546  36.508 -18.474  1.00 50.70           O
ATOM   7261  N   LEU A 997      -3.384  35.894 -16.474  1.00 49.49           N
ATOM   7262  CA  LEU A 997      -2.482  34.766 -16.317  1.00 52.22           C
ATOM   7263  CB  LEU A 997      -1.225  35.207 -15.602  1.00 55.28           C
ATOM   7264  CG  LEU A 997      -0.390  36.327 -16.202  1.00 58.91           C
ATOM   7265  CD1 LEU A 997       0.764  36.654 -15.270  1.00 60.90           C
ATOM   7266  CD2 LEU A 997       0.153  35.986 -17.576  1.00 60.13           C
ATOM   7267  C   LEU A 997      -3.065  33.642 -15.495  1.00 51.77           C
ATOM   7268  O   LEU A 997      -3.658  33.900 -14.463  1.00 54.23           O
ATOM   7269  N   PHE A 998      -2.813  32.396 -15.897  1.00 48.48           N
ATOM   7270  CA  PHE A 998      -3.459  31.247 -15.289  1.00 44.78           C
ATOM   7271  CB  PHE A 998      -4.883  31.212 -15.793  1.00 44.74           C
ATOM   7272  CG  PHE A 998      -5.744  30.255 -15.081  1.00 49.19           C
ATOM   7273  CD1 PHE A 998      -6.311  30.595 -13.855  1.00 52.21           C
ATOM   7274  CE1 PHE A 998      -7.141  29.702 -13.160  1.00 50.23           C
ATOM   7275  CZ  PHE A 998      -7.395  28.464 -13.688  1.00 51.06           C
ATOM   7276  CE2 PHE A 998      -6.839  28.111 -14.922  1.00 51.43           C
ATOM   7277  CD2 PHE A 998      -6.021  29.008 -15.612  1.00 51.59           C
ATOM   7278  C   PHE A 998      -2.736  29.983 -15.685  1.00 43.79           C
ATOM   7279  O   PHE A 998      -2.464  29.775 -16.859  1.00 44.52           O
ATOM   7280  N   HIS A 999      -2.397  29.133 -14.727  1.00 44.60           N
ATOM   7281  CA  HIS A 999      -1.932  27.773 -15.066  1.00 44.12           C
ATOM   7282  CB  HIS A 999      -1.040  27.219 -14.006  1.00 41.81           C
ATOM   7283  CG  HIS A 999      -0.269  26.009 -14.427  1.00 43.29           C
ATOM   7284  ND1 HIS A 999      -0.430  24.781 -13.823  1.00 44.49           N
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ATOM   7285  CE1 HIS A 999       0.443  23.920 -14.322  1.00 43.78           C
ATOM   7286  NE2 HIS A 999       1.177  24.553 -15.217  1.00 44.01           N
ATOM   7287  CD2 HIS A 999       0.755  25.857 -15.302  1.00 43.81           C
ATOM   7288  C   HIS A 999      -3.138  26.840 -15.248  1.00 45.96           C
ATOM   7289  O   HIS A 999      -3.880  26.582 -14.290  1.00 46.12           O
ATOM   7290  N   LEU A1000      -3.342  26.379 -16.487  1.00 44.89           N
ATOM   7291  CA  LEU A1000      -4.443  25.496 -16.830  1.00 43.56           C
ATOM   7292  CB  LEU A1000      -4.613  25.507 -18.311  1.00 42.72           C
ATOM   7293  CG  LEU A1000      -5.782  24.809 -18.957  1.00 42.86           C
ATOM   7294  CD1 LEU A1000      -7.080  25.324 -18.374  1.00 41.73           C
ATOM   7295  CD2 LEU A1000      -5.743  25.076 -20.466  1.00 43.05           C
ATOM   7296  C   LEU A1000      -4.151  24.085 -16.422  1.00 43.72           C
ATOM   7297  O   LEU A1000      -5.031  23.386 -15.956  1.00 45.46           O
ATOM   7298  N   GLY A1001      -2.905  23.684 -16.599  1.00 43.69           N
ATOM   7299  CA  GLY A1001      -2.502  22.304 -16.439  1.00 45.32           C
ATOM   7300  C   GLY A1001      -2.738  21.421 -17.672  1.00 46.19           C
ATOM   7301  O   GLY A1001      -2.531  20.206 -17.582  1.00 41.98           O
ATOM   7302  N   GLU A1002      -3.189  22.028 -18.786  1.00 46.89           N
ATOM   7303  CA  GLU A1002      -3.293  21.373 -20.092  1.00 47.52           C
ATOM   7304  CB  GLU A1002      -4.758  21.263 -20.505  1.00 47.12           C
ATOM   7305  CG  GLU A1002      -5.606  20.397 -19.593  1.00 47.47           C
ATOM   7306  CD  GLU A1002      -5.145  18.952 -19.512  1.00 49.79           C
ATOM   7307  OE1 GLU A1002      -4.331  18.432 -20.349  1.00 52.28           O
ATOM   7308  OE2 GLU A1002      -5.611  18.314 -18.572  1.00 49.64           O
ATOM   7309  C   GLU A1002      -2.594  22.139 -21.191  1.00 45.93           C
ATOM   7310  O   GLU A1002      -2.403  23.322 -21.088  1.00 50.33           O
ATOM   7311  N   PHE A1003      -2.294  21.451 -22.285  1.00 44.36           N
ATOM   7312  CA  PHE A1003      -1.674  22.038 -23.492  1.00 39.17           C
ATOM   7313  CB  PHE A1003      -0.625  21.079 -24.027  1.00 40.24           C
ATOM   7314  CG  PHE A1003       0.277  21.642 -25.061  1.00 40.13           C
ATOM   7315  CD1 PHE A1003      -0.176  21.924 -26.329  1.00 42.98           C
ATOM   7316  CE1 PHE A1003       0.705  22.414 -27.287  1.00 43.30           C
ATOM   7317  CZ  PHE A1003       2.037  22.602 -26.983  1.00 39.67           C
ATOM   7318  CE2 PHE A1003       2.491  22.282 -25.743  1.00 37.67           C
ATOM   7319  CD2 PHE A1003       1.623  21.793 -24.799  1.00 39.24           C
ATOM   7320  C   PHE A1003      -2.745  22.222 -24.534  1.00 37.69           C
ATOM   7321  O   PHE A1003      -3.375  21.281 -24.993  1.00 38.92           O
ATOM   7322  N   VAL A1004      -2.950  23.457 -24.930  1.00 38.24           N
ATOM   7323  CA  VAL A1004      -4.039  23.804 -25.829  1.00 36.67           C
ATOM   7324  CB  VAL A1004      -4.546  25.183 -25.502  1.00 34.37           C
ATOM   7325  CG1 VAL A1004      -5.690  25.541 -26.424  1.00 34.56           C
ATOM   7326  CG2 VAL A1004      -4.973  25.151 -24.059  1.00 35.40           C
ATOM   7327  C   VAL A1004      -3.574  23.805 -27.255  1.00 35.51           C
ATOM   7328  O   VAL A1004      -2.604  24.439 -27.566  1.00 34.42           O
ATOM   7329  N   ASN A1005      -4.272  23.082 -28.109  1.00 36.66           N
ATOM   7330  CA  ASN A1005      -3.964  23.094 -29.527  1.00 37.57           C
ATOM   7331  CB  ASN A1005      -4.112  21.716 -30.138  1.00 37.70           C
ATOM   7332  CG  ASN A1005      -2.947  20.831 -29.842  1.00 37.63           C
ATOM   7333  OD1 ASN A1005      -1.794  21.243 -29.817  1.00 40.58           O
ATOM   7334  ND2 ASN A1005      -3.239  19.604 -29.625  1.00 38.98           N
ATOM   7335  C   ASN A1005      -4.838  24.043 -30.285  1.00 37.10           C
ATOM   7336  O   ASN A1005      -4.350  24.724 -31.180  1.00 39.51           O
ATOM   7337  N   VAL A1006      -6.098  24.106 -29.924  1.00 34.97           N
ATOM   7338  CA  VAL A1006      -7.027  24.819 -30.702  1.00 37.16           C
ATOM   7339  CB  VAL A1006      -7.849  23.858 -31.554  1.00 41.02           C
ATOM   7340  CG1 VAL A1006      -8.489  22.685 -30.756  1.00 44.02           C
ATOM   7341  CG2 VAL A1006      -8.958  24.618 -32.228  1.00 41.86           C
ATOM   7342  C   VAL A1006      -7.948  25.548 -29.777  1.00 39.51           C
ATOM   7343  O   VAL A1006      -8.330  25.023 -28.744  1.00 42.91           O
ATOM   7344  N   PHE A1007      -8.292  26.770 -30.145  1.00 42.10           N
ATOM   7345  CA  PHE A1007      -9.394  27.494 -29.526  1.00 41.88           C
ATOM   7346  CB  PHE A1007      -9.051  28.929 -29.121  1.00 41.03           C
ATOM   7347  CG  PHE A1007      -8.105  29.054 -27.959  1.00 39.08           C
ATOM   7348  CD1 PHE A1007      -8.580  28.954 -26.674  1.00 37.79           C
ATOM   7349  CE1 PHE A1007      -7.756  29.115 -25.609  1.00 38.32           C
ATOM   7350  CZ  PHE A1007      -6.404  29.398 -25.823  1.00 40.79           C
ATOM   7351  CE2 PHE A1007      -5.906  29.532 -27.125  1.00 38.93           C
ATOM   7352  CD2 PHE A1007      -6.758  29.348 -28.174  1.00 37.86           C
ATOM   7353  C   PHE A1007     -10.357  27.627 -30.635  1.00 43.34           C
ATOM   7354  O   PHE A1007      -9.946  27.751 -31.800  1.00 42.02           O
ATOM   7355  N   CYS A1008     -11.631  27.660 -30.265  1.00 48.10           N
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ATOM   7356  CA  CYS A1008     -12.686  27.973 -31.211  1.00 52.33           C
ATOM   7357  CB  CYS A1008     -12.862  26.786 -32.153  1.00 56.36           C
ATOM   7358  SG  CYS A1008     -14.340  25.896 -31.875  1.00 65.02           S
ATOM   7359  C   CYS A1008     -14.007  28.452 -30.569  1.00 48.86           C
ATOM   7360  O   CYS A1008     -14.471  27.929 -29.580  1.00 47.72           O
ATOM   7361  N   HIS A1009     -14.567  29.499 -31.133  1.00 49.60           N
ATOM   7362  CA  HIS A1009     -15.731  30.163 -30.558  1.00 49.55           C
ATOM   7363  CB  HIS A1009     -16.059  31.505 -31.260  1.00 47.71           C
ATOM   7364  CG  HIS A1009     -15.060  32.582 -31.015  1.00 48.72           C
ATOM   7365  ND1 HIS A1009     -15.292  33.622 -30.141  1.00 52.52           N
ATOM   7366  CE1 HIS A1009     -14.231  34.410 -30.105  1.00 53.27           C
ATOM   7367  NE2 HIS A1009     -13.309  33.906 -30.908  1.00 51.98           N
ATOM   7368  CD2 HIS A1009     -13.810  32.769 -31.500  1.00 50.64           C
ATOM   7369  C   HIS A1009     -16.861  29.226 -30.837  1.00 47.82           C
ATOM   7370  O   HIS A1009     -16.987  28.735 -31.926  1.00 52.26           O
ATOM   7371  N   GLY A1010     -17.674  28.988 -29.850  1.00 45.57           N
ATOM   7372  CA  GLY A1010     -18.898  28.274 -30.047  1.00 46.62           C
ATOM   7373  C   GLY A1010     -19.327  27.839 -28.662  1.00 46.22           C
ATOM   7374  O   GLY A1010     -18.611  28.083 -27.692  1.00 43.44           O
ATOM   7375  N   SER A1011     -20.494  27.213 -28.580  1.00 44.17           N
ATOM   7376  CA  SER A1011     -20.949  26.666 -27.348  1.00 44.22           C
ATOM   7377  CB  SER A1011     -21.650  27.770 -26.593  1.00 45.19           C
ATOM   7378  OG  SER A1011     -22.792  27.383 -25.871  1.00 48.14           O
ATOM   7379  C   SER A1011     -21.824  25.459 -27.614  1.00 46.61           C
ATOM   7380  O   SER A1011     -22.501  25.381 -28.665  1.00 44.23           O
ATOM   7381  N   LEU A1012     -21.807  24.525 -26.649  1.00 49.13           N
ATOM   7382  CA  LEU A1012     -22.606  23.295 -26.716  1.00 50.67           C
ATOM   7383  CB  LEU A1012     -21.789  22.061 -26.356  1.00 51.41           C
ATOM   7384  CG  LEU A1012     -20.296  22.060 -26.637  1.00 55.02           C
ATOM   7385  CD1 LEU A1012     -19.593  21.110 -25.681  1.00 59.04           C
ATOM   7386  CD2 LEU A1012     -20.023  21.695 -28.067  1.00 58.13           C
ATOM   7387  C   LEU A1012     -23.872  23.348 -25.850  1.00 52.62           C
ATOM   7388  O   LEU A1012     -24.378  22.293 -25.495  1.00 57.41           O
ATOM   7389  N   VAL A1013     -24.409  24.535 -25.540  1.00 54.08           N
ATOM   7390  CA  VAL A1013     -25.751  24.631 -24.931  1.00 58.27           C
ATOM   7391  CB  VAL A1013     -25.725  25.185 -23.512  1.00 54.60           C
ATOM   7392  CG1 VAL A1013     -24.982  24.246 -22.617  1.00 56.58           C
ATOM   7393  CG2 VAL A1013     -25.076  26.524 -23.470  1.00 56.15           C
ATOM   7394  C   VAL A1013     -26.705  25.441 -25.800  1.00 65.09           C
ATOM   7395  O   VAL A1013     -26.261  26.076 -26.751  1.00 67.17           O
ATOM   7396  N   MET A1014     -28.000  25.379 -25.478  1.00 70.99           N
ATOM   7397  CA  MET A1014     -29.029  25.993 -26.276  1.00 75.07           C
ATOM   7398  CB  MET A1014     -30.277  25.098 -26.367  1.00 84.03           C
ATOM   7399  CG  MET A1014     -29.990  23.676 -26.876  1.00 90.96           C
ATOM   7400  SD  MET A1014     -31.317  22.630 -27.616  1.00109.59           S
ATOM   7401  CE  MET A1014     -32.615  22.593 -26.358  1.00100.77           C
ATOM   7402  C   MET A1014     -29.327  27.325 -25.659  1.00 70.94           C
ATOM   7403  O   MET A1014     -29.336  28.311 -26.386  1.00 73.82           O
ATOM   7404  N   THR A1024     -21.952  36.019 -17.479  1.00 59.52           N
ATOM   7405  CA  THR A1024     -21.084  35.540 -18.622  1.00 61.75           C
ATOM   7406  CB  THR A1024     -21.136  34.016 -18.815  1.00 66.10           C
ATOM   7407  OG1 THR A1024     -22.455  33.603 -19.267  1.00 64.43           O
ATOM   7408  CG2 THR A1024     -20.711  33.314 -17.494  1.00 67.78           C
ATOM   7409  C   THR A1024     -21.366  36.067 -20.029  1.00 58.82           C
ATOM   7410  O   THR A1024     -22.490  36.039 -20.490  1.00 58.68           O
ATOM   7411  N   GLN A1025     -20.307  36.493 -20.708  1.00 65.07           N
ATOM   7412  CA  GLN A1025     -20.349  37.049 -22.076  1.00 71.43           C
ATOM   7413  CB  GLN A1025     -20.179  38.594 -22.063  1.00 83.00           C
ATOM   7414  CG  GLN A1025     -21.095  39.415 -21.096  1.00 91.73           C
ATOM   7415  CD  GLN A1025     -20.421  40.087 -19.837  1.00 93.79           C
ATOM   7416  OE1 GLN A1025     -19.265  40.618 -19.845  1.00 87.63           O
ATOM   7417  NE2 GLN A1025     -21.197  40.109 -18.753  1.00 92.61           N
ATOM   7418  C   GLN A1025     -19.222  36.383 -22.929  1.00 68.26           C
ATOM   7419  O   GLN A1025     -18.021  36.346 -22.523  1.00 62.24           O
ATOM   7420  N   GLY A1026     -19.622  35.834 -24.087  1.00 61.12           N
ATOM   7421  CA  GLY A1026     -18.732  35.082 -24.947  1.00 56.20           C
ATOM   7422  C   GLY A1026     -18.714  33.612 -24.562  1.00 57.05           C
ATOM   7423  O   GLY A1026     -19.130  33.230 -23.483  1.00 55.87           O
ATOM   7424  N   SER A1027     -18.268  32.780 -25.496  1.00 56.89           N
ATOM   7425  CA  SER A1027     -17.950  31.380 -25.263  1.00 50.84           C
ATOM   7426  CB  SER A1027     -19.171  30.501 -25.544  1.00 49.63           C
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ATOM   7427  OG  SER A1027     -19.184  29.260 -24.793  1.00 49.52           O
ATOM   7428  C   SER A1027     -16.798  31.046 -26.208  1.00 49.11           C
ATOM   7429  O   SER A1027     -16.923  31.183 -27.408  1.00 50.75           O
ATOM   7430  N   VAL A1028     -15.660  30.642 -25.662  1.00 48.63           N
ATOM   7431  CA  VAL A1028     -14.569  30.066 -26.461  1.00 44.94           C
ATOM   7432  CB  VAL A1028     -13.395  30.984 -26.442  1.00 41.96           C
ATOM   7433  CG1 VAL A1028     -12.138  30.240 -26.800  1.00 41.75           C
ATOM   7434  CG2 VAL A1028     -13.712  32.058 -27.433  1.00 42.57           C
ATOM   7435  C   VAL A1028     -14.173  28.711 -25.936  1.00 41.85           C
ATOM   7436  O   VAL A1028     -13.858  28.583 -24.796  1.00 41.88           O
ATOM   7437  N   LEU A1029     -14.224  27.714 -26.799  1.00 41.31           N
ATOM   7438  CA  LEU A1029     -13.955  26.337 -26.430  1.00 42.43           C
ATOM   7439  CB  LEU A1029     -14.841  25.346 -27.209  1.00 43.17           C
ATOM   7440  CG  LEU A1029     -16.297  25.397 -26.701  1.00 44.23           C
ATOM   7441  CD1 LEU A1029     -17.366  24.881 -27.677  1.00 42.25           C
ATOM   7442  CD2 LEU A1029     -16.356  24.685 -25.345  1.00 46.45           C
ATOM   7443  C   LEU A1029     -12.541  26.110 -26.787  1.00 41.69           C
ATOM   7444  O   LEU A1029     -12.040  26.693 -27.712  1.00 45.25           O
ATOM   7445  N   PHE A1030     -11.884  25.245 -26.063  1.00 40.29           N
ATOM   7446  CA  PHE A1030     -10.583  24.828 -26.483  1.00 39.72           C
ATOM   7447  CB  PHE A1030      -9.491  25.626 -25.776  1.00 39.45           C
ATOM   7448  CG  PHE A1030      -9.541  25.535 -24.290  1.00 38.57           C
ATOM   7449  CD1 PHE A1030      -8.886  24.538 -23.630  1.00 39.49           C
ATOM   7450  CE1 PHE A1030      -8.913  24.470 -22.244  1.00 38.97           C
ATOM   7451  CZ  PHE A1030      -9.584  25.394 -21.530  1.00 36.69           C
ATOM   7452  CE2 PHE A1030     -10.269  26.372 -22.188  1.00 37.51           C
ATOM   7453  CD2 PHE A1030     -10.242  26.447 -23.554  1.00 38.03           C
ATOM   7454  C   PHE A1030     -10.443  23.364 -26.201  1.00 39.24           C
ATOM   7455  O   PHE A1030     -11.147  22.800 -25.342  1.00 38.02           O
ATOM   7456  N   GLY A1031      -9.532  22.777 -26.961  1.00 37.68           N
ATOM   7457  CA  GLY A1031      -9.280  21.375 -26.918  1.00 36.44           C
ATOM   7458  C   GLY A1031      -7.815  21.239 -26.737  1.00 35.68           C
ATOM   7459  O   GLY A1031      -7.049  22.127 -27.055  1.00 36.80           O
ATOM   7460  N   THR A1032      -7.434  20.064 -26.308  1.00 35.56           N
ATOM   7461  CA  THR A1032      -6.243  19.908 -25.608  1.00 36.11           C
ATOM   7462  CB  THR A1032      -6.714  19.972 -24.153  1.00 36.91           C
ATOM   7463  OG1 THR A1032      -6.093  21.078 -23.511  1.00 44.15           O
ATOM   7464  CG2 THR A1032      -6.552  18.705 -23.402  1.00 34.16           C
ATOM   7465  C   THR A1032      -5.627  18.578 -25.987  1.00 36.48           C
ATOM   7466  O   THR A1032      -6.324  17.691 -26.437  1.00 39.40           O
ATOM   7467  N   VAL A1033      -4.339  18.428 -25.726  1.00 34.84           N
ATOM   7468  CA  VAL A1033      -3.580  17.187 -25.909  1.00 33.06           C
ATOM   7469  CB  VAL A1033      -2.117  17.493 -25.578  1.00 33.29           C
ATOM   7470  CG1 VAL A1033      -1.230  16.266 -25.527  1.00 33.27           C
ATOM   7471  CG2 VAL A1033      -1.550  18.481 -26.607  1.00 33.71           C
ATOM   7472  C   VAL A1033      -4.034  15.946 -25.102  1.00 35.01           C
ATOM   7473  O   VAL A1033      -3.920  14.804 -25.553  1.00 39.90           O
ATOM   7474  N   ASN A1034      -4.472  16.126 -23.872  1.00 37.09           N
ATOM   7475  CA  ASN A1034      -4.984  15.024 -23.077  1.00 35.32           C
ATOM   7476  CB  ASN A1034      -4.703  15.270 -21.609  1.00 37.64           C
ATOM   7477  CG  ASN A1034      -3.226  15.249 -21.302  1.00 40.92           C
ATOM   7478  OD1 ASN A1034      -2.755  15.738 -20.263  1.00 45.55           O
ATOM   7479  ND2 ASN A1034      -2.468  14.714 -22.237  1.00 41.59           N
ATOM   7480  C   ASN A1034      -6.406  14.824 -23.296  1.00 35.09           C
ATOM   7481  O   ASN A1034      -7.022  14.104 -22.578  1.00 35.36           O
ATOM   7482  N   GLY A1035      -6.966  15.434 -24.315  1.00 37.74           N
ATOM   7483  CA  GLY A1035      -8.377  15.256 -24.572  1.00 39.04           C
ATOM   7484  C   GLY A1035      -9.312  15.965 -23.633  1.00 38.69           C
ATOM   7485  O   GLY A1035     -10.496  15.786 -23.721  1.00 37.94           O
ATOM   7486  N   MET A1036      -8.799  16.752 -22.709  1.00 42.94           N
ATOM   7487  CA  MET A1036      -9.644  17.699 -21.971  1.00 43.94           C
ATOM   7488  CB  MET A1036      -8.910  18.275 -20.741  1.00 45.17           C
ATOM   7489  CG  MET A1036      -9.588  19.436 -20.048  1.00 49.35           C
ATOM   7490  SD  MET A1036      -9.137  21.149 -20.455  1.00 49.86           S
ATOM   7491  CE  MET A1036     -10.280  21.875 -19.332  1.00 48.33           C
ATOM   7492  C   MET A1036     -10.115  18.770 -22.946  1.00 41.84           C
ATOM   7493  O   MET A1036      -9.478  19.034 -23.941  1.00 42.75           O
ATOM   7494  N   ILE A1037     -11.304  19.267 -22.675  1.00 41.82           N
ATOM   7495  CA  ILE A1037     -11.989  20.321 -23.396  1.00 40.94           C
ATOM   7496  CB  ILE A1037     -13.262  19.816 -24.074  1.00 36.88           C
ATOM   7497  CG1 ILE A1037     -12.948  18.734 -25.088  1.00 35.90           C
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ATOM   7498  CD1 ILE A1037     -14.165  18.095 -25.751  1.00 34.79           C
ATOM   7499  CG2 ILE A1037     -13.967  20.952 -24.761  1.00 38.65           C
ATOM   7500  C   ILE A1037     -12.412  21.353 -22.324  1.00 45.81           C
ATOM   7501  O   ILE A1037     -12.953  20.993 -21.242  1.00 42.24           O
ATOM   7502  N   GLY A1038     -12.159  22.626 -22.626  1.00 49.31           N
ATOM   7503  CA  GLY A1038     -12.446  23.707 -21.697  1.00 49.82           C
ATOM   7504  C   GLY A1038     -13.183  24.795 -22.409  1.00 50.61           C
ATOM   7505  O   GLY A1038     -13.190  24.873 -23.624  1.00 53.74           O
ATOM   7506  N   LEU A1039     -13.834  25.615 -21.625  1.00 50.99           N
ATOM   7507  CA  LEU A1039     -14.609  26.699 -22.114  1.00 49.89           C
ATOM   7508  CB  LEU A1039     -16.044  26.412 -21.728  1.00 50.42           C
ATOM   7509  CG  LEU A1039     -16.920  27.623 -21.944  1.00 55.77           C
ATOM   7510  CD1 LEU A1039     -18.265  27.265 -22.532  1.00 60.64           C
ATOM   7511  CD2 LEU A1039     -17.147  28.300 -20.611  1.00 60.54           C
ATOM   7512  C   LEU A1039     -14.055  27.967 -21.458  1.00 48.92           C
ATOM   7513  O   LEU A1039     -13.716  27.995 -20.277  1.00 50.79           O
ATOM   7514  N   VAL A1040     -13.964  29.046 -22.201  1.00 49.48           N
ATOM   7515  CA  VAL A1040     -13.620  30.334 -21.586  1.00 46.33           C
ATOM   7516  CB  VAL A1040     -12.318  30.885 -22.113  1.00 42.74           C
ATOM   7517  CG1 VAL A1040     -12.104  32.274 -21.587  1.00 43.78           C
ATOM   7518  CG2 VAL A1040     -11.185  30.033 -21.613  1.00 43.78           C
ATOM   7519  C   VAL A1040     -14.721  31.325 -21.845  1.00 48.14           C
ATOM   7520  O   VAL A1040     -15.203  31.441 -22.965  1.00 54.01           O
ATOM   7521  N   THR A1041     -15.133  32.040 -20.814  1.00 49.61           N
ATOM   7522  CA  THR A1041     -16.107  33.089 -20.987  1.00 51.39           C
ATOM   7523  CB  THR A1041     -17.458  32.637 -20.490  1.00 52.65           C
ATOM   7524  OG1 THR A1041     -18.422  33.491 -21.057  1.00 58.22           O
ATOM   7525  CG2 THR A1041     -17.567  32.704 -18.999  1.00 54.27           C
ATOM   7526  C   THR A1041     -15.631  34.311 -20.272  1.00 52.38           C
ATOM   7527  O   THR A1041     -14.598  34.266 -19.642  1.00 53.56           O
ATOM   7528  N   SER A1042     -16.370  35.405 -20.386  1.00 57.34           N
ATOM   7529  CA  SER A1042     -15.934  36.714 -19.848  1.00 58.09           C
ATOM   7530  CB  SER A1042     -15.638  37.680 -20.995  1.00 60.08           C
ATOM   7531  OG  SER A1042     -14.627  37.105 -21.821  1.00 66.91           O
ATOM   7532  C   SER A1042     -16.977  37.260 -18.899  1.00 53.93           C
ATOM   7533  O   SER A1042     -18.128  36.964 -19.054  1.00 52.87           O
ATOM   7534  N   LEU A1043     -16.555  38.033 -17.904  1.00 54.58           N
ATOM   7535  CA  LEU A1043     -17.401  38.426 -16.778  1.00 54.73           C
ATOM   7536  CB  LEU A1043     -16.823  37.826 -15.507  1.00 55.25           C
ATOM   7537  CG  LEU A1043     -16.824  36.319 -15.310  1.00 55.96           C
ATOM   7538  CD1 LEU A1043     -16.299  35.941 -13.925  1.00 55.37           C
ATOM   7539  CD2 LEU A1043     -18.225  35.771 -15.543  1.00 58.16           C
ATOM   7540  C   LEU A1043     -17.415  39.911 -16.539  1.00 56.39           C
ATOM   7541  O   LEU A1043     -16.418  40.582 -16.778  1.00 57.04           O
ATOM   7542  N   SER A1044     -18.513  40.408 -15.974  1.00 57.59           N
ATOM   7543  CA  SER A1044     -18.525  41.781 -15.448  1.00 58.17           C
ATOM   7544  CB  SER A1044     -19.957  42.332 -15.167  1.00 61.70           C
ATOM   7545  OG  SER A1044     -20.589  41.822 -13.991  1.00 62.51           O
ATOM   7546  C   SER A1044     -17.673  41.842 -14.203  1.00 57.72           C
ATOM   7547  O   SER A1044     -17.726  40.939 -13.340  1.00 53.14           O
ATOM   7548  N   GLU A1045     -16.899  42.922 -14.123  1.00 60.20           N
ATOM   7549  CA  GLU A1045     -16.081  43.224 -12.940  1.00 62.00           C
ATOM   7550  CB  GLU A1045     -15.651  44.691 -12.943  1.00 64.15           C
ATOM   7551  CG  GLU A1045     -14.409  44.897 -12.106  1.00 67.58           C
ATOM   7552  CD  GLU A1045     -14.101  46.330 -11.732  1.00 71.08           C
ATOM   7553  OE1 GLU A1045     -14.963  47.230 -11.941  1.00 68.89           O
ATOM   7554  OE2 GLU A1045     -12.987  46.501 -11.160  1.00 71.84           O
ATOM   7555  C   GLU A1045     -16.754  42.906 -11.591  1.00 59.68           C
ATOM   7556  O   GLU A1045     -16.132  42.302 -10.718  1.00 54.67           O
ATOM   7557  N   SER A1046     -18.003  43.330 -11.415  1.00 60.36           N
ATOM   7558  CA  SER A1046     -18.736  42.979 -10.200  1.00 65.65           C
ATOM   7559  CB  SER A1046     -20.235  43.394 -10.304  1.00 69.51           C
ATOM   7560  OG  SER A1046     -21.126  42.589  -9.492  1.00 73.62           O
ATOM   7561  C   SER A1046     -18.553  41.464  -9.894  1.00 65.72           C
ATOM   7562  O   SER A1046     -18.059  41.098  -8.808  1.00 65.05           O
ATOM   7563  N   TRP A1047     -18.903  40.623 -10.884  1.00 64.65           N
ATOM   7564  CA  TRP A1047     -18.928  39.151 -10.742  1.00 62.81           C
ATOM   7565  CB  TRP A1047     -19.624  38.452 -11.935  1.00 66.63           C
ATOM   7566  CG  TRP A1047     -21.144  38.317 -11.809  1.00 69.96           C
ATOM   7567  CD1 TRP A1047     -22.083  39.091 -12.404  1.00 67.97           C
ATOM   7568  NE1 TRP A1047     -23.335  38.669 -12.064  1.00 67.73           N
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ATOM   7569  CE2 TRP A1047     -23.232  37.595 -11.236  1.00 73.62           C
ATOM   7570  CD2 TRP A1047     -21.862  37.342 -11.055  1.00 76.16           C
ATOM   7571  CE3 TRP A1047     -21.476  36.291 -10.220  1.00 88.56           C
ATOM   7572  CZ3 TRP A1047     -22.473  35.527  -9.586  1.00 89.66           C
ATOM   7573  CH2 TRP A1047     -23.832  35.806  -9.794  1.00 86.74           C
ATOM   7574  CZ2 TRP A1047     -24.228  36.836 -10.616  1.00 81.04           C
ATOM   7575  C   TRP A1047     -17.520  38.611 -10.599  1.00 56.09           C
ATOM   7576  O   TRP A1047     -17.246  37.727  -9.787  1.00 51.59           O
ATOM   7577  N   TYR A1048     -16.612  39.149 -11.379  1.00 49.72           N
ATOM   7578  CA  TYR A1048     -15.266  38.770 -11.165  1.00 50.25           C
ATOM   7579  CB  TYR A1048     -14.313  39.545 -12.055  1.00 52.38           C
ATOM   7580  CG  TYR A1048     -12.878  39.156 -11.835  1.00 52.06           C
ATOM   7581  CD1 TYR A1048     -12.275  38.133 -12.553  1.00 50.52           C
ATOM   7582  CE1 TYR A1048     -10.961  37.768 -12.304  1.00 51.48           C
ATOM   7583  CZ  TYR A1048     -10.247  38.438 -11.329  1.00 54.64           C
ATOM   7584  OH  TYR A1048      -8.921  38.200 -11.008  1.00 55.15           O
ATOM   7585  CE2 TYR A1048     -10.849  39.440 -10.614  1.00 56.97           C
ATOM   7586  CD2 TYR A1048     -12.152  39.781 -10.860  1.00 54.33           C
ATOM   7587  C   TYR A1048     -14.908  38.960  -9.708  1.00 51.25           C
ATOM   7588  O   TYR A1048     -14.355  38.057  -9.098  1.00 52.40           O
ATOM   7589  N   ASN A1049     -15.223  40.120  -9.134  1.00 54.11           N
ATOM   7590  CA  ASN A1049     -14.808  40.379  -7.743  1.00 52.68           C
ATOM   7591  CB  ASN A1049     -15.020  41.821  -7.385  1.00 52.68           C
ATOM   7592  CG  ASN A1049     -14.035  42.706  -8.078  1.00 53.71           C
ATOM   7593  OD1 ASN A1049     -12.839  42.426  -8.113  1.00 52.42           O
ATOM   7594  ND2 ASN A1049     -14.531  43.774  -8.659  1.00 58.26           N
ATOM   7595  C   ASN A1049     -15.443  39.468  -6.721  1.00 49.46           C
ATOM   7596  O   ASN A1049     -14.757  38.913  -5.864  1.00 44.45           O
ATOM   7597  N   LEU A1050     -16.742  39.293  -6.858  1.00 48.92           N
ATOM   7598  CA  LEU A1050     -17.464  38.349  -6.053  1.00 51.63           C
ATOM   7599  CB  LEU A1050     -18.873  38.250  -6.565  1.00 51.31           C
ATOM   7600  CG  LEU A1050     -19.711  37.148  -5.959  1.00 54.05           C
ATOM   7601  CD1 LEU A1050     -19.619  37.080  -4.451  1.00 56.95           C
ATOM   7602  CD2 LEU A1050     -21.137  37.428  -6.346  1.00 58.09           C
ATOM   7603  C   LEU A1050     -16.852  36.963  -6.081  1.00 56.96           C
ATOM   7604  O   LEU A1050     -16.511  36.379  -5.015  1.00 65.50           O
ATOM   7605  N   LEU A1051     -16.732  36.422  -7.297  1.00 55.43           N
ATOM   7606  CA  LEU A1051     -16.262  35.044  -7.471  1.00 49.96           C
ATOM   7607  CB  LEU A1051     -16.380  34.580  -8.923  1.00 48.32           C
ATOM   7608  CG  LEU A1051     -17.779  34.495  -9.527  1.00 46.10           C
ATOM   7609  CD1 LEU A1051     -17.616  34.302 -11.029  1.00 46.82           C
ATOM   7610  CD2 LEU A1051     -18.630  33.399  -8.924  1.00 44.19           C
ATOM   7611  C   LEU A1051     -14.845  34.864  -6.994  1.00 46.84           C
ATOM   7612  O   LEU A1051     -14.516  33.765  -6.560  1.00 47.42           O
ATOM   7613  N   LEU A1052     -14.029  35.925  -7.052  1.00 44.50           N
ATOM   7614  CA  LEU A1052     -12.649  35.866  -6.527  1.00 46.59           C
ATOM   7615  CB  LEU A1052     -11.855  37.132  -6.836  1.00 45.91           C
ATOM   7616  CG  LEU A1052     -10.381  36.841  -7.096  1.00 47.36           C
ATOM   7617  CD1 LEU A1052      -9.641  38.126  -7.440  1.00 47.80           C
ATOM   7618  CD2 LEU A1052      -9.680  36.106  -5.962  1.00 49.67           C
ATOM   7619  C   LEU A1052     -12.633  35.676  -5.028  1.00 48.30           C
ATOM   7620  O   LEU A1052     -11.866  34.872  -4.494  1.00 45.08           O
ATOM   7621  N   ASP A1053     -13.475  36.455  -4.350  1.00 55.11           N
ATOM   7622  CA  ASP A1053     -13.581  36.375  -2.916  1.00 60.36           C
ATOM   7623  CB  ASP A1053     -14.637  37.365  -2.342  1.00 65.76           C
ATOM   7624  CG  ASP A1053     -14.592  37.478  -0.769  1.00 70.90           C
ATOM   7625  OD1 ASP A1053     -13.540  37.214  -0.121  1.00 68.20           O
ATOM   7626  OD2 ASP A1053     -15.641  37.825  -0.179  1.00 76.05           O
ATOM   7627  C   ASP A1053     -13.946  34.920  -2.692  1.00 58.30           C
ATOM   7628  O   ASP A1053     -13.261  34.178  -1.956  1.00 57.98           O
ATOM   7629  N   MET A1054     -14.969  34.490  -3.410  1.00 55.30           N
ATOM   7630  CA  MET A1054     -15.480  33.193  -3.157  1.00 55.25           C
ATOM   7631  CB  MET A1054     -16.754  33.001  -3.888  1.00 61.89           C
ATOM   7632  CG  MET A1054     -17.740  32.398  -2.931  1.00 68.91           C
ATOM   7633  SD  MET A1054     -19.256  32.483  -3.813  1.00 89.64           S
ATOM   7634  CE  MET A1054     -19.010  31.045  -4.885  1.00 86.76           C
ATOM   7635  C   MET A1054     -14.508  32.050  -3.397  1.00 50.45           C
ATOM   7636  O   MET A1054     -14.514  31.070  -2.656  1.00 48.31           O
ATOM   7637  N   GLN A1055     -13.640  32.183  -4.383  1.00 48.02           N
ATOM   7638  CA  GLN A1055     -12.529  31.264  -4.488  1.00 48.29           C
ATOM   7639  CB  GLN A1055     -11.566  31.731  -5.572  1.00 51.57           C
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ATOM   7640  CG  GLN A1055     -12.135  31.436  -6.951  1.00 53.12           C
ATOM   7641  CD  GLN A1055     -11.136  31.461  -8.088  1.00 54.80           C
ATOM   7642  OE1 GLN A1055      -9.949  31.655  -7.940  1.00 56.67           O
ATOM   7643  NE2 GLN A1055     -11.651  31.288  -9.247  1.00 57.00           N
ATOM   7644  C   GLN A1055     -11.812  31.104  -3.147  1.00 46.94           C
ATOM   7645  O   GLN A1055     -11.706  29.996  -2.576  1.00 44.09           O
ATOM   7646  N   ASN A1056     -11.386  32.238  -2.617  1.00 47.42           N
ATOM   7647  CA  ASN A1056     -10.656  32.263  -1.360  1.00 46.32           C
ATOM   7648  CB  ASN A1056     -10.223  33.682  -1.001  1.00 47.26           C
ATOM   7649  CG  ASN A1056      -9.368  34.336  -2.085  1.00 48.75           C
ATOM   7650  OD1 ASN A1056      -9.376  35.507  -2.207  1.00 51.01           O
ATOM   7651  ND2 ASN A1056      -8.677  33.571  -2.882  1.00 54.66           N
ATOM   7652  C   ASN A1056     -11.460  31.654  -0.240  1.00 45.09           C
ATOM   7653  O   ASN A1056     -10.943  30.829   0.495  1.00 46.98           O
ATOM   7654  N   ARG A1057     -12.729  32.003  -0.118  1.00 43.88           N
ATOM   7655  CA  ARG A1057     -13.535  31.367   0.905  1.00 44.92           C
ATOM   7656  CB  ARG A1057     -14.975  31.885   0.924  1.00 48.65           C
ATOM   7657  CG  ARG A1057     -15.087  33.302   1.473  1.00 52.57           C
ATOM   7658  CD  ARG A1057     -16.136  34.140   0.767  1.00 55.20           C
ATOM   7659  NE  ARG A1057     -16.206  35.479   1.322  1.00 58.19           N
ATOM   7660  CZ  ARG A1057     -16.700  35.794   2.533  1.00 57.70           C
ATOM   7661  NH1 ARG A1057     -17.236  34.897   3.372  1.00 51.75           N
ATOM   7662  NH2 ARG A1057     -16.695  37.073   2.880  1.00 61.11           N
ATOM   7663  C   ARG A1057     -13.538  29.891   0.691  1.00 44.42           C
ATOM   7664  O   ARG A1057     -13.357  29.149   1.661  1.00 44.75           O
ATOM   7665  N   LEU A1058     -13.732  29.465  -0.564  1.00 42.01           N
ATOM   7666  CA  LEU A1058     -13.701  28.041  -0.902  1.00 42.09           C
ATOM   7667  CB  LEU A1058     -13.952  27.839  -2.387  1.00 44.09           C
ATOM   7668  CG  LEU A1058     -15.441  27.916  -2.633  1.00 45.94           C
ATOM   7669  CD1 LEU A1058     -15.703  28.314  -4.076  1.00 46.41           C
ATOM   7670  CD2 LEU A1058     -16.137  26.605  -2.236  1.00 45.22           C
ATOM   7671  C   LEU A1058     -12.411  27.324  -0.536  1.00 40.91           C
ATOM   7672  O   LEU A1058     -12.435  26.258   0.100  1.00 36.73           O
ATOM   7673  N   ASN A1059     -11.283  27.920  -0.898  1.00 38.80           N
ATOM   7674  CA  ASN A1059     -10.047  27.291  -0.567  1.00 40.90           C
ATOM   7675  CB  ASN A1059      -8.900  28.050  -1.127  1.00 42.59           C
ATOM   7676  CG  ASN A1059      -8.947  28.147  -2.617  1.00 44.46           C
ATOM   7677  OD1 ASN A1059      -9.092  27.162  -3.336  1.00 52.81           O
ATOM   7678  ND2 ASN A1059      -8.803  29.333  -3.094  1.00 46.74           N
ATOM   7679  C   ASN A1059      -9.815  27.103   0.905  1.00 43.88           C
ATOM   7680  O   ASN A1059      -9.076  26.219   1.287  1.00 44.15           O
ATOM   7681  N   LYS A1060     -10.410  27.937   1.750  1.00 51.64           N
ATOM   7682  CA  LYS A1060     -10.331  27.697   3.208  1.00 56.31           C
ATOM   7683  CB  LYS A1060     -10.961  28.810   4.070  1.00 60.73           C
ATOM   7684  CG  LYS A1060     -10.231  30.138   4.137  1.00 64.97           C
ATOM   7685  CD  LYS A1060     -11.064  31.160   4.916  1.00 72.36           C
ATOM   7686  CE  LYS A1060     -10.363  32.504   5.142  1.00 77.47           C
ATOM   7687  NZ  LYS A1060     -10.676  33.480   4.056  1.00 79.11           N
ATOM   7688  C   LYS A1060     -11.012  26.397   3.562  1.00 52.13           C
ATOM   7689  O   LYS A1060     -10.551  25.707   4.450  1.00 56.20           O
ATOM   7690  N   VAL A1061     -12.072  26.055   2.845  1.00 48.95           N
ATOM   7691  CA  VAL A1061     -13.005  25.033   3.282  1.00 47.62           C
ATOM   7692  CB  VAL A1061     -14.432  25.577   3.076  1.00 48.79           C
ATOM   7693  CG1 VAL A1061     -15.290  24.713   2.141  1.00 48.13           C
ATOM   7694  CG2 VAL A1061     -15.105  25.789   4.406  1.00 51.95           C
ATOM   7695  C   VAL A1061     -12.881  23.645   2.642  1.00 47.41           C
ATOM   7696  O   VAL A1061     -13.368  22.708   3.259  1.00 48.51           O
ATOM   7697  N   ILE A1062     -12.287  23.518   1.435  1.00 45.72           N
ATOM   7698  CA  ILE A1062     -12.280  22.263   0.607  1.00 45.60           C
ATOM   7699  CB  ILE A1062     -12.375  22.602  -0.910  1.00 44.84           C
ATOM   7700  CG1 ILE A1062     -13.796  22.918  -1.287  1.00 47.81           C
ATOM   7701  CD1 ILE A1062     -13.875  24.095  -2.226  1.00 50.68           C
ATOM   7702  CG2 ILE A1062     -11.888  21.517  -1.843  1.00 39.99           C
ATOM   7703  C   ILE A1062     -10.995  21.474   0.797  1.00 48.29           C
ATOM   7704  O   ILE A1062      -9.924  22.033   0.584  1.00 44.64           O
ATOM   7705  N   LYS A1063     -11.096  20.176   1.144  1.00 55.28           N
ATOM   7706  CA  LYS A1063      -9.898  19.325   1.321  1.00 58.71           C
ATOM   7707  CB  LYS A1063     -10.171  17.980   2.094  1.00 67.62           C
ATOM   7708  CG  LYS A1063      -9.085  16.892   1.720  1.00 88.08           C
ATOM   7709  CD  LYS A1063      -8.728  15.688   2.659  1.00 95.36           C
ATOM   7710  CE  LYS A1063      -7.202  15.302   2.665  1.00 91.60           C
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ATOM   7711  NZ  LYS A1063      -6.540  14.849   1.383  1.00 84.03           N
ATOM   7712  C   LYS A1063      -9.258  19.132  -0.094  1.00 52.18           C
ATOM   7713  O   LYS A1063      -9.954  18.902  -1.064  1.00 47.65           O
ATOM   7714  N   SER A1064      -7.934  19.266  -0.137  1.00 47.72           N
ATOM   7715  CA  SER A1064      -7.086  19.153  -1.317  1.00 41.72           C
ATOM   7716  CB  SER A1064      -6.212  20.375  -1.457  1.00 39.50           C
ATOM   7717  OG  SER A1064      -5.102  20.122  -2.273  1.00 35.59           O
ATOM   7718  C   SER A1064      -6.241  17.950  -1.059  1.00 42.22           C
ATOM   7719  O   SER A1064      -5.737  17.788   0.017  1.00 36.54           O
ATOM   7720  N   VAL A1065      -6.087  17.096  -2.053  1.00 46.83           N
ATOM   7721  CA  VAL A1065      -5.436  15.826  -1.851  1.00 45.71           C
ATOM   7722  CB  VAL A1065      -5.573  15.011  -3.131  1.00 43.45           C
ATOM   7723  CG1 VAL A1065      -5.092  13.600  -2.948  1.00 45.12           C
ATOM   7724  CG2 VAL A1065      -7.020  14.956  -3.506  1.00 40.35           C
ATOM   7725  C   VAL A1065      -4.016  15.694  -1.353  1.00 49.29           C
ATOM   7726  O   VAL A1065      -3.807  14.966  -0.388  1.00 58.69           O
ATOM   7727  N   GLY A1066      -3.064  16.400  -1.907  1.00 45.90           N
ATOM   7728  CA  GLY A1066      -1.705  16.267  -1.437  1.00 45.11           C
ATOM   7729  C   GLY A1066      -1.468  17.485  -0.637  1.00 42.30           C
ATOM   7730  O   GLY A1066      -0.376  17.968  -0.560  1.00 42.40           O
ATOM   7731  N   LYS A1067      -2.533  18.006  -0.073  1.00 42.56           N
ATOM   7732  CA  LYS A1067      -2.465  19.322   0.612  1.00 43.29           C
ATOM   7733  CB  LYS A1067      -1.827  19.201   1.998  1.00 46.06           C
ATOM   7734  CG  LYS A1067      -2.481  18.113   2.855  1.00 50.02           C
ATOM   7735  CD  LYS A1067      -2.714  18.486   4.326  1.00 53.56           C
ATOM   7736  CE  LYS A1067      -3.099  17.252   5.148  1.00 56.62           C
ATOM   7737  NZ  LYS A1067      -3.031  17.408   6.622  1.00 57.99           N
ATOM   7738  C   LYS A1067      -1.799  20.424  -0.208  1.00 41.07           C
ATOM   7739  O   LYS A1067      -0.983  21.199   0.265  1.00 40.48           O
ATOM   7740  N   ILE A1068      -2.168  20.509  -1.455  1.00 38.58           N
ATOM   7741  CA  ILE A1068      -1.522  21.450  -2.297  1.00 40.41           C
ATOM   7742  CB  ILE A1068      -1.430  20.919  -3.742  1.00 41.90           C
ATOM   7743  CG1 ILE A1068      -0.631  19.613  -3.783  1.00 39.81           C
ATOM   7744  CD1 ILE A1068      -0.694  18.937  -5.153  1.00 41.22           C
ATOM   7745  CG2 ILE A1068      -0.902  22.019  -4.687  1.00 41.73           C
ATOM   7746  C   ILE A1068      -2.361  22.696  -2.298  1.00 41.02           C
ATOM   7747  O   ILE A1068      -3.545  22.613  -2.536  1.00 37.79           O
ATOM   7748  N   GLU A1069      -1.739  23.855  -2.141  1.00 44.15           N
ATOM   7749  CA  GLU A1069      -2.502  25.082  -2.185  1.00 47.04           C
ATOM   7750  CB  GLU A1069      -1.662  26.258  -1.713  1.00 53.74           C
ATOM   7751  CG  GLU A1069      -1.020  26.157  -0.334  1.00 62.07           C
ATOM   7752  CD  GLU A1069      -2.007  26.267   0.811  1.00 69.59           C
ATOM   7753  OE1 GLU A1069      -2.956  27.062   0.686  1.00 76.82           O
ATOM   7754  OE2 GLU A1069      -1.826  25.570   1.844  1.00 75.28           O
ATOM   7755  C   GLU A1069      -2.992  25.351  -3.623  1.00 44.38           C
ATOM   7756  O   GLU A1069      -2.186  25.483  -4.550  1.00 46.15           O
ATOM   7757  N   HIS A1070      -4.305  25.460  -3.804  1.00 40.23           N
ATOM   7758  CA  HIS A1070      -4.896  25.972  -5.054  1.00 39.14           C
ATOM   7759  CB  HIS A1070      -6.335  26.420  -4.847  1.00 40.21           C
ATOM   7760  CG  HIS A1070      -7.040  26.826  -6.101  1.00 42.84           C
ATOM   7761  ND1 HIS A1070      -6.998  28.115  -6.587  1.00 42.67           N
ATOM   7762  CE1 HIS A1070      -7.714  28.179  -7.702  1.00 42.18           C
ATOM   7763  NE2 HIS A1070      -8.209  26.983  -7.961  1.00 41.18           N
ATOM   7764  CD2 HIS A1070      -7.804  26.114  -6.975  1.00 42.94           C
ATOM   7765  C   HIS A1070      -4.167  27.121  -5.675  1.00 39.18           C
ATOM   7766  O   HIS A1070      -4.121  27.213  -6.840  1.00 37.20           O
ATOM   7767  N   SER A1071      -3.624  28.040  -4.907  1.00 47.71           N
ATOM   7768  CA  SER A1071      -2.926  29.224  -5.515  1.00 50.50           C
ATOM   7769  CB  SER A1071      -2.824  30.367  -4.519  1.00 49.64           C
ATOM   7770  OG  SER A1071      -4.112  30.950  -4.452  1.00 51.51           O
ATOM   7771  C   SER A1071      -1.565  28.895  -6.120  1.00 48.11           C
ATOM   7772  O   SER A1071      -1.187  29.427  -7.169  1.00 48.92           O
ATOM   7773  N   PHE A1072      -0.861  27.991  -5.463  1.00 44.44           N
ATOM   7774  CA  PHE A1072       0.349  27.466  -5.997  1.00 42.39           C
ATOM   7775  CB  PHE A1072       0.948  26.462  -5.018  1.00 40.30           C
ATOM   7776  CG  PHE A1072       2.178  25.834  -5.516  1.00 39.69           C
ATOM   7777  CD1 PHE A1072       3.353  26.488  -5.452  1.00 40.45           C
ATOM   7778  CE1 PHE A1072       4.508  25.937  -5.944  1.00 42.92           C
ATOM   7779  CZ  PHE A1072       4.480  24.701  -6.512  1.00 43.61           C
ATOM   7780  CE2 PHE A1072       3.284  24.021  -6.582  1.00 42.77           C
ATOM   7781  CD2 PHE A1072       2.145  24.599  -6.091  1.00 42.02           C
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ATOM   7782  C   PHE A1072       0.050  26.819  -7.338  1.00 44.50           C
ATOM   7783  O   PHE A1072       0.795  27.041  -8.335  1.00 45.18           O
ATOM   7784  N   TRP A1073      -1.035  26.023  -7.335  1.00 42.76           N
ATOM   7785  CA  TRP A1073      -1.435  25.262  -8.503  1.00 41.77           C
ATOM   7786  CB  TRP A1073      -2.606  24.349  -8.194  1.00 40.61           C
ATOM   7787  CG  TRP A1073      -3.341  23.727  -9.364  1.00 41.13           C
ATOM   7788  CD1 TRP A1073      -4.678  23.762  -9.562  1.00 43.82           C
ATOM   7789  NE1 TRP A1073      -5.027  23.083 -10.728  1.00 42.21           N
ATOM   7790  CE2 TRP A1073      -3.882  22.558 -11.269  1.00 40.00           C
ATOM   7791  CD2 TRP A1073      -2.802  22.954 -10.450  1.00 39.89           C
ATOM   7792  CE3 TRP A1073      -1.521  22.574 -10.820  1.00 39.11           C
ATOM   7793  CZ3 TRP A1073      -1.365  21.815 -11.962  1.00 37.89           C
ATOM   7794  CH2 TRP A1073      -2.465  21.435 -12.746  1.00 36.90           C
ATOM   7795  CZ2 TRP A1073      -3.710  21.794 -12.430  1.00 37.19           C
ATOM   7796  C   TRP A1073      -1.744  26.180  -9.651  1.00 41.63           C
ATOM   7797  O   TRP A1073      -1.157  26.040 -10.699  1.00 42.97           O
ATOM   7798  N   ARG A1074      -2.590  27.170  -9.448  1.00 41.38           N
ATOM   7799  CA  ARG A1074      -2.990  28.024 -10.569  1.00 43.29           C
ATOM   7800  CB  ARG A1074      -4.382  28.574 -10.368  1.00 42.95           C
ATOM   7801  CG  ARG A1074      -5.426  27.495 -10.164  1.00 42.96           C
ATOM   7802  CD  ARG A1074      -5.435  26.628 -11.382  1.00 44.53           C
ATOM   7803  NE  ARG A1074      -6.752  26.090 -11.673  1.00 44.66           N
ATOM   7804  CZ  ARG A1074      -6.992  25.297 -12.699  1.00 40.18           C
ATOM   7805  NH1 ARG A1074      -6.049  24.952 -13.551  1.00 40.05           N
ATOM   7806  NH2 ARG A1074      -8.198  24.908 -12.905  1.00 40.79           N
ATOM   7807  C   ARG A1074      -2.022  29.128 -10.917  1.00 43.87           C
ATOM   7808  O   ARG A1074      -2.309  29.958 -11.763  1.00 40.11           O
ATOM   7809  N   SER A1075      -0.839  29.077 -10.339  1.00 47.62           N
ATOM   7810  CA  SER A1075       0.119  30.116 -10.564  1.00 49.67           C
ATOM   7811  CB  SER A1075       1.192  30.124  -9.477  1.00 52.21           C
ATOM   7812  OG  SER A1075       0.704  30.814  -8.347  1.00 53.19           O
ATOM   7813  C   SER A1075       0.759  29.875 -11.882  1.00 47.06           C
ATOM   7814  O   SER A1075       1.249  28.792 -12.138  1.00 44.35           O
ATOM   7815  N   PHE A1076       0.740  30.918 -12.696  1.00 48.12           N
ATOM   7816  CA  PHE A1076       1.469  30.979 -13.928  1.00 50.95           C
ATOM   7817  CB  PHE A1076       1.478  32.392 -14.475  1.00 50.87           C
ATOM   7818  CG  PHE A1076       2.078  32.510 -15.835  1.00 53.54           C
ATOM   7819  CD1 PHE A1076       3.455  32.515 -16.005  1.00 56.47           C
ATOM   7820  CE1 PHE A1076       4.013  32.625 -17.270  1.00 56.75           C
ATOM   7821  CZ  PHE A1076       3.190  32.748 -18.369  1.00 55.42           C
ATOM   7822  CE2 PHE A1076       1.822  32.728 -18.213  1.00 53.96           C
ATOM   7823  CD2 PHE A1076       1.269  32.610 -16.958  1.00 54.19           C
ATOM   7824  C   PHE A1076       2.849  30.588 -13.599  1.00 54.20           C
ATOM   7825  O   PHE A1076       3.437  31.218 -12.777  1.00 53.54           O
ATOM   7826  N   HIS A1077       3.350  29.555 -14.264  1.00 68.19           N
ATOM   7827  CA  HIS A1077       4.620  28.922 -13.922  1.00 82.28           C
ATOM   7828  CB  HIS A1077       4.313  27.640 -13.113  1.00 91.48           C
ATOM   7829  CG  HIS A1077       5.343  26.559 -13.255  1.00100.86           C
ATOM   7830  ND1 HIS A1077       6.562  26.601 -12.607  1.00101.07           N
ATOM   7831  CE1 HIS A1077       7.262  25.526 -12.930  1.00104.05           C
ATOM   7832  NE2 HIS A1077       6.541  24.787 -13.757  1.00104.74           N
ATOM   7833  CD2 HIS A1077       5.338  25.414 -13.985  1.00102.26           C
ATOM   7834  C   HIS A1077       5.449  28.601 -15.188  1.00 80.93           C
ATOM   7835  O   HIS A1077       4.864  28.263 -16.216  1.00 65.95           O
ATOM   7836  N   THR A1078       6.791  28.704 -15.071  1.00 83.40           N
ATOM   7837  CA  THR A1078       7.765  28.188 -16.061  1.00 80.77           C
ATOM   7838  CB  THR A1078       8.403  29.342 -16.860  1.00 79.58           C
ATOM   7839  OG1 THR A1078       9.130  30.200 -15.964  1.00 85.17           O
ATOM   7840  CG2 THR A1078       7.323  30.137 -17.579  1.00 74.66           C
ATOM   7841  C   THR A1078       8.844  27.280 -15.395  1.00 79.77           C
ATOM   7842  O   THR A1078       9.991  27.673 -15.121  1.00 81.29           O
ATOM   7843  N   LYS A1081      10.270  32.522 -14.088  1.00105.66           N
ATOM   7844  CA  LYS A1081       9.051  33.117 -13.546  1.00 99.63           C
ATOM   7845  CB  LYS A1081       8.193  33.779 -14.665  1.00 90.33           C
ATOM   7846  C   LYS A1081       8.257  32.036 -12.780  1.00 96.09           C
ATOM   7847  O   LYS A1081       8.360  30.826 -13.108  1.00 80.17           O
ATOM   7848  N   THR A1082       7.572  32.499 -11.709  1.00 96.29           N
ATOM   7849  CA  THR A1082       6.312  31.912 -11.138  1.00 87.28           C
ATOM   7850  CB  THR A1082       6.553  30.786 -10.099  1.00 85.28           C
ATOM   7851  OG1 THR A1082       7.585  29.916 -10.552  1.00 90.82           O
ATOM   7852  CG2 THR A1082       5.309  29.933  -9.910  1.00 87.86           C
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ATOM   7853  C   THR A1082       5.462  33.020 -10.475  1.00 76.73           C
ATOM   7854  O   THR A1082       5.811  33.484  -9.400  1.00 78.96           O
ATOM   7855  N   GLU A1083       4.380  33.459 -11.119  1.00 71.55           N
ATOM   7856  CA  GLU A1083       3.531  34.553 -10.584  1.00 75.19           C
ATOM   7857  CB  GLU A1083       3.415  35.732 -11.571  1.00 83.76           C
ATOM   7858  CG  GLU A1083       4.656  36.050 -12.398  1.00 95.44           C
ATOM   7859  CD  GLU A1083       4.578  37.399 -13.139  1.00110.55           C
ATOM   7860  OE1 GLU A1083       3.958  38.356 -12.600  1.00124.78           O
ATOM   7861  OE2 GLU A1083       5.161  37.522 -14.257  1.00116.47           O
ATOM   7862  C   GLU A1083       2.097  34.104 -10.254  1.00 67.06           C
ATOM   7863  O   GLU A1083       1.529  33.278 -10.943  1.00 57.65           O
ATOM   7864  N   PRO A1084       1.490  34.674  -9.201  1.00 65.64           N
ATOM   7865  CA  PRO A1084       0.058  34.518  -9.010  1.00 62.63           C
ATOM   7866  CB  PRO A1084      -0.249  35.614  -7.981  1.00 61.65           C
ATOM   7867  CG  PRO A1084       0.902  35.486  -7.059  1.00 63.98           C
ATOM   7868  CD  PRO A1084       2.103  35.121  -7.937  1.00 66.21           C
ATOM   7869  C   PRO A1084      -0.774  34.713 -10.256  1.00 55.41           C
ATOM   7870  O   PRO A1084      -0.444  35.552 -11.082  1.00 55.98           O
ATOM   7871  N   ALA A1085      -1.840  33.929 -10.359  1.00 49.46           N
ATOM   7872  CA  ALA A1085      -2.754  34.022 -11.475  1.00 47.05           C
ATOM   7873  CB  ALA A1085      -3.621  32.792 -11.611  1.00 47.39           C
ATOM   7874  C   ALA A1085      -3.630  35.166 -11.254  1.00 48.28           C
ATOM   7875  O   ALA A1085      -3.931  35.495 -10.125  1.00 45.88           O
ATOM   7876  N   THR A1086      -4.113  35.705 -12.372  1.00 51.63           N
ATOM   7877  CA  THR A1086      -4.839  36.951 -12.412  1.00 49.60           C
ATOM   7878  CB  THR A1086      -3.852  38.144 -12.417  1.00 51.61           C
ATOM   7879  OG1 THR A1086      -4.327  39.136 -13.324  1.00 64.43           O
ATOM   7880  CG2 THR A1086      -2.413  37.778 -12.873  1.00 51.07           C
ATOM   7881  C   THR A1086      -5.836  37.032 -13.591  1.00 49.78           C
ATOM   7882  O   THR A1086      -5.528  36.789 -14.774  1.00 50.34           O
ATOM   7883  N   GLY A1087      -7.054  37.411 -13.269  1.00 51.36           N
ATOM   7884  CA  GLY A1087      -8.009  37.774 -14.319  1.00 52.41           C
ATOM   7885  C   GLY A1087      -8.651  36.569 -14.919  1.00 52.13           C
ATOM   7886  O   GLY A1087      -9.209  36.645 -16.000  1.00 53.29           O
ATOM   7887  N   PHE A1088      -8.587  35.480 -14.150  1.00 53.49           N
ATOM   7888  CA  PHE A1088      -9.135  34.186 -14.465  1.00 50.63           C
ATOM   7889  CB  PHE A1088      -8.019  33.242 -14.876  1.00 51.67           C
ATOM   7890  CG  PHE A1088      -7.684  33.341 -16.312  1.00 52.51           C
ATOM   7891  CD1 PHE A1088      -8.519  32.777 -17.242  1.00 49.88           C
ATOM   7892  CE1 PHE A1088      -8.274  32.864 -18.571  1.00 48.71           C
ATOM   7893  CZ  PHE A1088      -7.178  33.531 -18.997  1.00 51.60           C
ATOM   7894  CE2 PHE A1088      -6.324  34.114 -18.075  1.00 55.30           C
ATOM   7895  CD2 PHE A1088      -6.596  34.039 -16.733  1.00 53.66           C
ATOM   7896  C   PHE A1088      -9.781  33.613 -13.241  1.00 48.35           C
ATOM   7897  O   PHE A1088      -9.112  33.436 -12.189  1.00 43.06           O
ATOM   7898  N   ILE A1089     -11.060  33.295 -13.366  1.00 47.78           N
ATOM   7899  CA  ILE A1089     -11.699  32.532 -12.319  1.00 48.72           C
ATOM   7900  CB  ILE A1089     -13.050  33.116 -11.984  1.00 53.95           C
ATOM   7901  CG1 ILE A1089     -12.813  34.281 -11.006  1.00 57.73           C
ATOM   7902  CD1 ILE A1089     -13.865  35.332 -11.085  1.00 60.48           C
ATOM   7903  CG2 ILE A1089     -13.997  32.081 -11.374  1.00 55.61           C
ATOM   7904  C   ILE A1089     -11.764  31.072 -12.669  1.00 47.00           C
ATOM   7905  O   ILE A1089     -12.235  30.699 -13.760  1.00 46.06           O
ATOM   7906  N   ASP A1090     -11.174  30.269 -11.782  1.00 42.60           N
ATOM   7907  CA  ASP A1090     -11.271  28.822 -11.833  1.00 40.79           C
ATOM   7908  CB  ASP A1090     -10.328  28.135 -10.812  1.00 40.70           C
ATOM   7909  CG  ASP A1090     -10.212  26.620 -11.035  1.00 44.64           C
ATOM   7910  OD1 ASP A1090     -10.887  26.035 -11.970  1.00 46.49           O
ATOM   7911  OD2 ASP A1090      -9.430  26.006 -10.281  1.00 45.76           O
ATOM   7912  C   ASP A1090     -12.686  28.352 -11.647  1.00 38.31           C
ATOM   7913  O   ASP A1090     -13.083  28.013 -10.550  1.00 41.10           O
ATOM   7914  N   GLY A1091     -13.433  28.300 -12.730  1.00 36.39           N
ATOM   7915  CA  GLY A1091     -14.786  27.778 -12.702  1.00 36.94           C
ATOM   7916  C   GLY A1091     -14.918  26.382 -12.099  1.00 37.95           C
ATOM   7917  O   GLY A1091     -15.934  26.079 -11.454  1.00 36.21           O
ATOM   7918  N   ASP A1092     -13.906  25.530 -12.283  1.00 39.74           N
ATOM   7919  CA  ASP A1092     -13.959  24.229 -11.634  1.00 42.54           C
ATOM   7920  CB  ASP A1092     -12.815  23.323 -12.081  1.00 48.47           C
ATOM   7921  CG  ASP A1092     -13.014  22.723 -13.506  1.00 51.81           C
ATOM   7922  OD1 ASP A1092     -14.140  22.766 -14.086  1.00 51.55           O
ATOM   7923  OD2 ASP A1092     -11.990  22.181 -14.018  1.00 56.24           O
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ATOM   7924  C   ASP A1092     -13.988  24.343 -10.102  1.00 41.48           C
ATOM   7925  O   ASP A1092     -14.745  23.652  -9.432  1.00 38.30           O
ATOM   7926  N   LEU A1093     -13.194  25.241  -9.544  1.00 43.89           N
ATOM   7927  CA  LEU A1093     -13.269  25.519  -8.112  1.00 44.43           C
ATOM   7928  CB  LEU A1093     -12.256  26.568  -7.738  1.00 47.53           C
ATOM   7929  CG  LEU A1093     -12.201  27.041  -6.282  1.00 52.35           C
ATOM   7930  CD1 LEU A1093     -11.904  25.865  -5.371  1.00 52.94           C
ATOM   7931  CD2 LEU A1093     -11.160  28.170  -6.138  1.00 53.99           C
ATOM   7932  C   LEU A1093     -14.652  26.014  -7.737  1.00 43.21           C
ATOM   7933  O   LEU A1093     -15.293  25.458  -6.787  1.00 42.56           O
ATOM   7934  N   ILE A1094     -15.105  27.041  -8.467  1.00 38.42           N
ATOM   7935  CA  ILE A1094     -16.337  27.674  -8.123  1.00 39.18           C
ATOM   7936  CB  ILE A1094     -16.686  28.798  -9.059  1.00 39.83           C
ATOM   7937  CG1 ILE A1094     -15.765  29.982  -8.845  1.00 40.43           C
ATOM   7938  CD1 ILE A1094     -16.038  30.745  -7.582  1.00 42.87           C
ATOM   7939  CG2 ILE A1094     -18.152  29.203  -8.912  1.00 40.34           C
ATOM   7940  C   ILE A1094     -17.455  26.650  -8.152  1.00 43.93           C
ATOM   7941  O   ILE A1094     -18.243  26.602  -7.204  1.00 43.36           O
ATOM   7942  N   GLU A1095     -17.533  25.827  -9.212  1.00 46.47           N
ATOM   7943  CA  GLU A1095     -18.572  24.788  -9.258  1.00 46.63           C
ATOM   7944  CB  GLU A1095     -18.595  24.039 -10.597  1.00 51.50           C
ATOM   7945  CG  GLU A1095     -19.030  24.893 -11.793  1.00 57.97           C
ATOM   7946  CD  GLU A1095     -19.107  24.171 -13.187  1.00 59.84           C
ATOM   7947  OE1 GLU A1095     -18.893  22.894 -13.212  1.00 56.16           O
ATOM   7948  OE2 GLU A1095     -19.373  24.945 -14.226  1.00 52.70           O
ATOM   7949  C   GLU A1095     -18.466  23.792  -8.075  1.00 46.45           C
ATOM   7950  O   GLU A1095     -19.477  23.321  -7.647  1.00 43.40           O
ATOM   7951  N   SER A1096     -17.286  23.481  -7.524  1.00 47.97           N
ATOM   7952  CA  SER A1096     -17.225  22.565  -6.347  1.00 50.09           C
ATOM   7953  CB  SER A1096     -15.788  22.256  -5.830  1.00 50.49           C
ATOM   7954  OG  SER A1096     -15.097  23.399  -5.343  1.00 48.11           O
ATOM   7955  C   SER A1096     -18.055  23.071  -5.180  1.00 51.90           C
ATOM   7956  O   SER A1096     -18.557  22.261  -4.421  1.00 52.68           O
ATOM   7957  N   PHE A1097     -18.245  24.379  -5.023  1.00 50.47           N
ATOM   7958  CA  PHE A1097     -19.186  24.830  -3.979  1.00 55.22           C
ATOM   7959  CB  PHE A1097     -19.685  26.243  -4.272  1.00 59.43           C
ATOM   7960  CG  PHE A1097     -20.723  26.750  -3.308  1.00 58.07           C
ATOM   7961  CD1 PHE A1097     -22.052  26.523  -3.529  1.00 58.08           C
ATOM   7962  CE1 PHE A1097     -23.011  27.008  -2.662  1.00 59.15           C
ATOM   7963  CZ  PHE A1097     -22.633  27.726  -1.569  1.00 58.76           C
ATOM   7964  CE2 PHE A1097     -21.298  27.955  -1.340  1.00 61.11           C
ATOM   7965  CD2 PHE A1097     -20.355  27.470  -2.208  1.00 60.73           C
ATOM   7966  C   PHE A1097     -20.410  23.922  -3.778  1.00 55.88           C
ATOM   7967  O   PHE A1097     -20.756  23.618  -2.654  1.00 57.58           O
ATOM   7968  N   LEU A1098     -21.052  23.507  -4.881  1.00 58.62           N
ATOM   7969  CA  LEU A1098     -22.267  22.636  -4.873  1.00 53.73           C
ATOM   7970  CB  LEU A1098     -22.856  22.458  -6.267  1.00 50.33           C
ATOM   7971  CG  LEU A1098     -23.180  23.738  -7.025  1.00 52.85           C
ATOM   7972  CD1 LEU A1098     -23.563  23.412  -8.448  1.00 57.84           C
ATOM   7973  CD2 LEU A1098     -24.301  24.537  -6.429  1.00 53.12           C
ATOM   7974  C   LEU A1098     -22.057  21.258  -4.240  1.00 51.60           C
ATOM   7975  O   LEU A1098     -23.034  20.642  -3.808  1.00 52.46           O
ATOM   7976  N   ASP A1099     -20.818  20.798  -4.144  1.00 49.53           N
ATOM   7977  CA  ASP A1099     -20.521  19.501  -3.548  1.00 55.77           C
ATOM   7978  CB  ASP A1099     -19.357  18.847  -4.304  1.00 61.18           C
ATOM   7979  CG  ASP A1099     -19.598  18.767  -5.786  1.00 67.70           C
ATOM   7980  OD1 ASP A1099     -20.753  18.404  -6.154  1.00 68.10           O
ATOM   7981  OD2 ASP A1099     -18.635  19.071  -6.565  1.00 73.99           O
ATOM   7982  C   ASP A1099     -20.131  19.542  -2.071  1.00 56.30           C
ATOM   7983  O   ASP A1099     -19.780  18.519  -1.513  1.00 60.65           O
ATOM   7984  N   ILE A1100     -20.136  20.700  -1.425  1.00 55.68           N
ATOM   7985  CA  ILE A1100     -19.691  20.765  -0.022  1.00 53.95           C
ATOM   7986  CB  ILE A1100     -18.819  22.044   0.233  1.00 51.56           C
ATOM   7987  CG1 ILE A1100     -19.651  23.351   0.405  1.00 51.21           C
ATOM   7988  CD1 ILE A1100     -18.904  24.685   0.280  1.00 48.28           C
ATOM   7989  CG2 ILE A1100     -17.838  22.206  -0.909  1.00 51.36           C
ATOM   7990  C   ILE A1100     -20.940  20.605   0.885  1.00 55.28           C
ATOM   7991  O   ILE A1100     -22.046  21.033   0.490  1.00 55.63           O
ATOM   7992  N   SER A1101     -20.782  19.985   2.061  1.00 52.03           N
ATOM   7993  CA  SER A1101     -21.863  19.974   3.045  1.00 53.01           C
ATOM   7994  CB  SER A1101     -21.419  19.360   4.381  1.00 57.28           C
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ATOM   7995  OG  SER A1101     -20.511  20.162   5.106  1.00 56.94           O
ATOM   7996  C   SER A1101     -22.492  21.347   3.309  1.00 51.74           C
ATOM   7997  O   SER A1101     -21.846  22.371   3.266  1.00 47.35           O
ATOM   7998  N   ARG A1102     -23.788  21.333   3.566  1.00 55.36           N
ATOM   7999  CA  ARG A1102     -24.573  22.539   3.880  1.00 59.79           C
ATOM   8000  CB  ARG A1102     -25.965  22.076   4.374  1.00 62.67           C
ATOM   8001  CG  ARG A1102     -26.958  23.147   4.792  1.00 65.82           C
ATOM   8002  CD  ARG A1102     -27.842  23.578   3.638  1.00 70.44           C
ATOM   8003  NE  ARG A1102     -28.401  24.887   3.952  1.00 80.50           N
ATOM   8004  CZ  ARG A1102     -28.941  25.721   3.064  1.00 86.50           C
ATOM   8005  NH1 ARG A1102     -29.046  25.371   1.768  1.00 87.09           N
ATOM   8006  NH2 ARG A1102     -29.387  26.914   3.486  1.00 83.68           N
ATOM   8007  C   ARG A1102     -23.914  23.489   4.930  1.00 59.79           C
ATOM   8008  O   ARG A1102     -24.056  24.728   4.834  1.00 55.92           O
ATOM   8009  N   PRO A1103     -23.261  22.914   5.975  1.00 58.05           N
ATOM   8010  CA  PRO A1103     -22.568  23.807   6.849  1.00 57.76           C
ATOM   8011  CB  PRO A1103     -22.304  22.961   8.096  1.00 58.11           C
ATOM   8012  CG  PRO A1103     -22.491  21.579   7.674  1.00 57.13           C
ATOM   8013  CD  PRO A1103     -23.554  21.648   6.666  1.00 58.50           C
ATOM   8014  C   PRO A1103     -21.314  24.407   6.225  1.00 59.22           C
ATOM   8015  O   PRO A1103     -21.105  25.599   6.438  1.00 68.40           O
ATOM   8016  N   LYS A1104     -20.531  23.682   5.417  1.00 61.04           N
ATOM   8017  CA  LYS A1104     -19.365  24.333   4.743  1.00 59.39           C
ATOM   8018  CB  LYS A1104     -18.444  23.388   3.983  1.00 58.42           C
ATOM   8019  CG  LYS A1104     -17.976  22.159   4.704  1.00 63.33           C
ATOM   8020  CD  LYS A1104     -17.193  22.477   5.943  1.00 73.40           C
ATOM   8021  CE  LYS A1104     -15.723  22.150   5.803  1.00 82.84           C
ATOM   8022  NZ  LYS A1104     -14.985  22.805   6.943  1.00 94.96           N
ATOM   8023  C   LYS A1104     -19.848  25.437   3.793  1.00 60.11           C
ATOM   8024  O   LYS A1104     -19.147  26.429   3.638  1.00 62.27           O
ATOM   8025  N   MET A1105     -21.029  25.297   3.173  1.00 59.62           N
ATOM   8026  CA  MET A1105     -21.583  26.417   2.400  1.00 61.10           C
ATOM   8027  CB  MET A1105     -22.928  26.117   1.756  1.00 65.26           C
ATOM   8028  CG  MET A1105     -22.799  25.209   0.563  1.00 73.41           C
ATOM   8029  SD  MET A1105     -24.348  24.885  -0.287  1.00 77.03           S
ATOM   8030  CE  MET A1105     -24.261  23.104  -0.223  1.00 75.35           C
ATOM   8031  C   MET A1105     -21.743  27.586   3.303  1.00 57.05           C
ATOM   8032  O   MET A1105     -21.277  28.674   2.976  1.00 60.32           O
ATOM   8033  N   GLN A1106     -22.370  27.337   4.449  1.00 55.04           N
ATOM   8034  CA  GLN A1106     -22.778  28.395   5.356  1.00 54.56           C
ATOM   8035  CB  GLN A1106     -23.582  27.833   6.527  1.00 58.78           C
ATOM   8036  CG  GLN A1106     -25.059  28.253   6.474  1.00 65.71           C
ATOM   8037  CD  GLN A1106     -26.076  27.113   6.650  1.00 70.50           C
ATOM   8038  OE1 GLN A1106     -25.851  26.112   7.369  1.00 67.08           O
ATOM   8039  NE2 GLN A1106     -27.238  27.290   6.004  1.00 74.11           N
ATOM   8040  C   GLN A1106     -21.566  29.206   5.764  1.00 52.05           C
ATOM   8041  O   GLN A1106     -21.608  30.457   5.703  1.00 50.89           O
ATOM   8042  N   GLU A1107     -20.517  28.485   6.078  1.00 47.40           N
ATOM   8043  CA  GLU A1107     -19.259  29.009   6.499  1.00 48.27           C
ATOM   8044  CB  GLU A1107     -18.347  27.822   6.702  1.00 50.20           C
ATOM   8045  CG  GLU A1107     -17.147  28.040   7.574  1.00 53.68           C
ATOM   8046  CD  GLU A1107     -16.427  26.754   7.861  1.00 60.36           C
ATOM   8047  OE1 GLU A1107     -15.198  26.748   7.786  1.00 67.92           O
ATOM   8048  OE2 GLU A1107     -17.074  25.746   8.162  1.00 56.10           O
ATOM   8049  C   GLU A1107     -18.696  29.847   5.407  1.00 50.72           C
ATOM   8050  O   GLU A1107     -18.132  30.887   5.631  1.00 48.51           O
ATOM   8051  N   VAL A1108     -18.842  29.376   4.195  1.00 56.40           N
ATOM   8052  CA  VAL A1108     -18.295  30.071   3.054  1.00 58.32           C
ATOM   8053  CB  VAL A1108     -18.469  29.231   1.799  1.00 57.48           C
ATOM   8054  CG1 VAL A1108     -17.830  29.907   0.623  1.00 60.91           C
ATOM   8055  CG2 VAL A1108     -17.824  27.894   2.003  1.00 57.29           C
ATOM   8056  C   VAL A1108     -18.873  31.432   2.796  1.00 56.80           C
ATOM   8057  O   VAL A1108     -18.163  32.348   2.457  1.00 49.65           O
ATOM   8058  N   VAL A1109     -20.169  31.559   2.948  1.00 58.50           N
ATOM   8059  CA  VAL A1109     -20.816  32.817   2.683  1.00 71.11           C
ATOM   8060  CB  VAL A1109     -22.187  32.579   2.083  1.00 71.10           C
ATOM   8061  CG1 VAL A1109     -22.050  31.611   0.948  1.00 75.45           C
ATOM   8062  CG2 VAL A1109     -23.093  31.971   3.111  1.00 76.57           C
ATOM   8063  C   VAL A1109     -20.970  33.708   3.895  1.00 82.67           C
ATOM   8064  O   VAL A1109     -21.576  34.768   3.810  1.00 89.35           O
ATOM   8065  N   ALA A1110     -20.423  33.292   5.021  1.00 82.51           N
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ATOM   8066  CA  ALA A1110     -20.574  34.073   6.214  1.00 83.79           C
ATOM   8067  CB  ALA A1110     -19.743  33.460   7.304  1.00 89.35           C
ATOM   8068  C   ALA A1110     -20.099  35.469   5.963  1.00 83.79           C
ATOM   8069  O   ALA A1110     -19.004  35.689   5.502  1.00 93.17           O
ATOM   8070  N   ASN A1111     -20.954  36.417   6.297  1.00 86.51           N
ATOM   8071  CA  ASN A1111     -20.672  37.833   6.139  1.00 91.87           C
ATOM   8072  CB  ASN A1111     -19.711  38.353   7.192  1.00 98.48           C
ATOM   8073  CG  ASN A1111     -19.906  39.830   7.448  1.00106.05           C
ATOM   8074  OD1 ASN A1111     -18.956  40.564   7.707  1.00110.53           O
ATOM   8075  ND2 ASN A1111     -21.150  40.279   7.356  1.00106.80           N
ATOM   8076  C   ASN A1111     -20.220  38.234   4.755  1.00 80.65           C
ATOM   8077  O   ASN A1111     -19.293  39.002   4.604  1.00 72.66           O
ATOM   8078  N   LEU A1112     -20.886  37.712   3.745  1.00 81.43           N
ATOM   8079  CA  LEU A1112     -20.513  38.037   2.399  1.00 85.59           C
ATOM   8080  CB  LEU A1112     -20.627  36.797   1.542  1.00 87.44           C
ATOM   8081  CG  LEU A1112     -19.662  36.780   0.371  1.00 90.11           C
ATOM   8082  CD1 LEU A1112     -20.044  35.697  -0.609  1.00 88.37           C
ATOM   8083  CD2 LEU A1112     -19.605  38.134  -0.300  1.00 88.02           C
ATOM   8084  C   LEU A1112     -21.450  39.049   1.835  1.00 92.93           C
ATOM   8085  O   LEU A1112     -22.625  38.771   1.686  1.00 98.85           O
ATOM   8086  N   GLN A1113     -20.941  40.223   1.489  1.00 96.92           N
ATOM   8087  CA  GLN A1113     -21.816  41.248   0.900  1.00 97.38           C
ATOM   8088  CB  GLN A1113     -21.189  42.663   1.029  1.00 87.49           C
ATOM   8089  C   GLN A1113     -22.213  40.779  -0.566  1.00 93.07           C
ATOM   8090  O   GLN A1113     -21.399  40.220  -1.296  1.00 74.53           O
ATOM   8091  N   TYR A1114     -23.489  40.934  -0.930  1.00 96.50           N
ATOM   8092  CA  TYR A1114     -24.036  40.364  -2.176  1.00 99.31           C
ATOM   8093  CB  TYR A1114     -24.441  38.935  -1.904  1.00 94.19           C
ATOM   8094  CG  TYR A1114     -25.161  38.224  -3.014  1.00 88.63           C
ATOM   8095  CD1 TYR A1114     -24.633  38.145  -4.284  1.00 86.48           C
ATOM   8096  CE1 TYR A1114     -25.301  37.455  -5.298  1.00 87.77           C
ATOM   8097  CZ  TYR A1114     -26.499  36.791  -5.020  1.00 88.67           C
ATOM   8098  OH  TYR A1114     -27.207  36.073  -5.978  1.00 76.59           O
ATOM   8099  CE2 TYR A1114     -27.013  36.846  -3.744  1.00 90.71           C
ATOM   8100  CD2 TYR A1114     -26.350  37.560  -2.761  1.00 90.76           C
ATOM   8101  C   TYR A1114     -25.218  41.191  -2.693  1.00104.75           C
ATOM   8102  O   TYR A1114     -26.037  41.654  -1.908  1.00101.29           O
ATOM   8103  N   ASP A1115     -25.282  41.365  -4.017  1.00117.43           N
ATOM   8104  CA  ASP A1115     -26.043  42.463  -4.666  1.00121.03           C
ATOM   8105  CB  ASP A1115     -25.325  42.962  -5.944  1.00127.29           C
ATOM   8106  CG  ASP A1115     -23.849  43.375  -5.704  1.00129.49           C
ATOM   8107  OD1 ASP A1115     -23.065  42.594  -5.106  1.00119.77           O
ATOM   8108  OD2 ASP A1115     -23.467  44.479  -6.158  1.00128.53           O
ATOM   8109  C   ASP A1115     -27.475  42.088  -5.047  1.00114.55           C
ATOM   8110  O   ASP A1115     -27.768  40.898  -5.282  1.00 99.72           O
ATOM   8111  N   ASP A1116     -28.297  43.153  -5.161  1.00114.84           N
ATOM   8112  CA  ASP A1116     -29.804  43.185  -5.282  1.00115.28           C
ATOM   8113  CB  ASP A1116     -30.500  41.835  -4.916  1.00107.27           C
ATOM   8114  CG  ASP A1116     -30.312  40.734  -5.973  1.00 94.60           C
ATOM   8115  OD1 ASP A1116     -30.480  41.020  -7.177  1.00 77.14           O
ATOM   8116  OD2 ASP A1116     -29.998  39.587  -5.566  1.00 81.68           O
ATOM   8117  C   ASP A1116     -30.366  44.337  -4.362  1.00110.43           C
ATOM   8118  O   ASP A1116     -31.003  45.321  -4.792  1.00 90.27           O
ATOM   8119  N   LYS A1121     -25.845  46.114  -0.932  1.00120.25           N
ATOM   8120  CA  LYS A1121     -25.757  44.660  -0.714  1.00129.35           C
ATOM   8121  CB  LYS A1121     -24.292  44.211  -0.910  1.00126.25           C
ATOM   8122  C   LYS A1121     -26.337  44.225   0.684  1.00124.02           C
ATOM   8123  O   LYS A1121     -26.803  45.085   1.441  1.00110.93           O
ATOM   8124  N   ARG A1122     -26.346  42.912   0.985  1.00119.73           N
ATOM   8125  CA  ARG A1122     -26.673  42.365   2.342  1.00125.56           C
ATOM   8126  CB  ARG A1122     -28.216  42.272   2.580  1.00134.15           C
ATOM   8127  CG  ARG A1122     -29.075  41.696   1.442  1.00134.87           C
ATOM   8128  CD  ARG A1122     -29.883  40.427   1.755  1.00128.57           C
ATOM   8129  NE  ARG A1122     -29.573  39.356   0.789  1.00137.32           N
ATOM   8130  CZ  ARG A1122     -29.856  39.355  -0.530  1.00138.94           C
ATOM   8131  NH1 ARG A1122     -29.495  38.311  -1.285  1.00127.82           N
ATOM   8132  NH2 ARG A1122     -30.488  40.376  -1.122  1.00141.69           N
ATOM   8133  C   ARG A1122     -25.968  41.008   2.650  1.00126.60           C
ATOM   8134  O   ARG A1122     -25.315  40.441   1.764  1.00128.12           O
ATOM   8135  N   GLU A1123     -26.080  40.517   3.902  1.00125.41           N
ATOM   8136  CA  GLU A1123     -25.534  39.190   4.317  1.00116.81           C
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ATOM   8137  CB  GLU A1123     -25.473  39.007   5.852  1.00107.54           C
ATOM   8138  C   GLU A1123     -26.342  38.063   3.633  1.00114.45           C
ATOM   8139  O   GLU A1123     -27.594  37.945   3.793  1.00 98.66           O
ATOM   8140  N   ALA A1124     -25.580  37.258   2.876  1.00108.84           N
ATOM   8141  CA  ALA A1124     -26.072  36.389   1.797  1.00 93.41           C
ATOM   8142  CB  ALA A1124     -25.096  36.443   0.639  1.00 88.14           C
ATOM   8143  C   ALA A1124     -26.225  34.962   2.290  1.00 83.68           C
ATOM   8144  O   ALA A1124     -25.523  34.547   3.198  1.00 79.13           O
ATOM   8145  N   THR A1125     -27.146  34.217   1.702  1.00 77.96           N
ATOM   8146  CA  THR A1125     -27.439  32.861   2.192  1.00 80.33           C
ATOM   8147  CB  THR A1125     -28.962  32.610   2.368  1.00 82.35           C
ATOM   8148  OG1 THR A1125     -29.474  31.899   1.242  1.00 88.87           O
ATOM   8149  CG2 THR A1125     -29.764  33.923   2.568  1.00 81.94           C
ATOM   8150  C   THR A1125     -26.788  31.723   1.356  1.00 75.32           C
ATOM   8151  O   THR A1125     -26.206  31.935   0.302  1.00 72.16           O
ATOM   8152  N   ALA A1126     -26.876  30.513   1.881  1.00 70.30           N
ATOM   8153  CA  ALA A1126     -26.382  29.338   1.209  1.00 68.32           C
ATOM   8154  CB  ALA A1126     -26.595  28.125   2.094  1.00 66.77           C
ATOM   8155  C   ALA A1126     -27.139  29.158  -0.083  1.00 71.75           C
ATOM   8156  O   ALA A1126     -26.564  28.976  -1.149  1.00 73.69           O
ATOM   8157  N   ASP A1127     -28.455  29.224   0.025  1.00 78.64           N
ATOM   8158  CA  ASP A1127     -29.320  29.073  -1.126  1.00 81.86           C
ATOM   8159  CB  ASP A1127     -30.761  28.852  -0.685  1.00 83.87           C
ATOM   8160  CG  ASP A1127     -30.931  27.556   0.117  1.00 87.63           C
ATOM   8161  OD1 ASP A1127     -30.786  26.457  -0.465  1.00 93.08           O
ATOM   8162  OD2 ASP A1127     -31.195  27.628   1.338  1.00 87.22           O
ATOM   8163  C   ASP A1127     -29.182  30.232  -2.116  1.00 83.31           C
ATOM   8164  O   ASP A1127     -29.364  30.019  -3.313  1.00 94.13           O
ATOM   8165  N   ASP A1128     -28.830  31.426  -1.642  1.00 80.31           N
ATOM   8166  CA  ASP A1128     -28.407  32.501  -2.547  1.00 88.29           C
ATOM   8167  CB  ASP A1128     -27.889  33.733  -1.784  1.00100.30           C
ATOM   8168  CG  ASP A1128     -29.004  34.585  -1.170  1.00109.02           C
ATOM   8169  OD1 ASP A1128     -30.185  34.436  -1.566  1.00113.11           O
ATOM   8170  OD2 ASP A1128     -28.672  35.424  -0.285  1.00113.50           O
ATOM   8171  C   ASP A1128     -27.301  32.071  -3.508  1.00 82.61           C
ATOM   8172  O   ASP A1128     -27.385  32.292  -4.714  1.00 85.57           O
ATOM   8173  N   LEU A1129     -26.255  31.477  -2.968  1.00 77.55           N
ATOM   8174  CA  LEU A1129     -25.132  31.089  -3.794  1.00 71.72           C
ATOM   8175  CB  LEU A1129     -23.836  30.976  -2.999  1.00 71.49           C
ATOM   8176  CG  LEU A1129     -23.125  32.318  -2.889  1.00 71.88           C
ATOM   8177  CD1 LEU A1129     -22.623  32.749  -4.239  1.00 71.37           C
ATOM   8178  CD2 LEU A1129     -24.034  33.402  -2.330  1.00 76.85           C
ATOM   8179  C   LEU A1129     -25.416  29.824  -4.508  1.00 67.40           C
ATOM   8180  O   LEU A1129     -24.960  29.675  -5.620  1.00 64.90           O
ATOM   8181  N   ILE A1130     -26.171  28.912  -3.919  1.00 64.56           N
ATOM   8182  CA  ILE A1130     -26.503  27.747  -4.687  1.00 71.94           C
ATOM   8183  CB  ILE A1130     -27.432  26.750  -3.969  1.00 73.62           C
ATOM   8184  CG1 ILE A1130     -26.649  25.944  -2.907  1.00 74.67           C
ATOM   8185  CD1 ILE A1130     -27.416  24.820  -2.221  1.00 71.65           C
ATOM   8186  CG2 ILE A1130     -28.044  25.787  -4.993  1.00 74.03           C
ATOM   8187  C   ILE A1130     -27.111  28.168  -6.030  1.00 75.95           C
ATOM   8188  O   ILE A1130     -26.720  27.663  -7.059  1.00 75.96           O
ATOM   8189  N   LYS A1131     -28.054  29.089  -6.055  1.00 84.17           N
ATOM   8190  CA  LYS A1131     -28.716  29.328  -7.348  1.00 93.98           C
ATOM   8191  CB  LYS A1131     -30.187  29.831  -7.182  1.00101.96           C
ATOM   8192  CG  LYS A1131     -30.402  31.277  -6.761  1.00105.97           C
ATOM   8193  CD  LYS A1131     -31.009  32.131  -7.880  1.00106.51           C
ATOM   8194  CE  LYS A1131     -31.179  33.583  -7.451  1.00102.89           C
ATOM   8195  NZ  LYS A1131     -29.910  34.156  -6.906  1.00100.97           N
ATOM   8196  C   LYS A1131     -27.834  30.097  -8.385  1.00 83.61           C
ATOM   8197  O   LYS A1131     -28.072  29.986  -9.589  1.00 86.97           O
ATOM   8198  N   VAL A1132     -26.825  30.824  -7.915  1.00 69.53           N
ATOM   8199  CA  VAL A1132     -25.798  31.397  -8.779  1.00 68.14           C
ATOM   8200  CB  VAL A1132     -24.820  32.263  -7.947  1.00 68.47           C
ATOM   8201  CG1 VAL A1132     -23.518  32.583  -8.693  1.00 67.52           C
ATOM   8202  CG2 VAL A1132     -25.506  33.527  -7.482  1.00 68.76           C
ATOM   8203  C   VAL A1132     -24.939  30.330  -9.463  1.00 68.05           C
ATOM   8204  O   VAL A1132     -24.682  30.372 -10.663  1.00 69.56           O
ATOM   8205  N   VAL A1133     -24.443  29.413  -8.656  1.00 67.91           N
ATOM   8206  CA  VAL A1133     -23.476  28.432  -9.091  1.00 66.60           C
ATOM   8207  CB  VAL A1133     -22.802  27.716  -7.878  1.00 62.19           C
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ATOM   8208  CG1 VAL A1133     -21.839  26.639  -8.292  1.00 63.29           C
ATOM   8209  CG2 VAL A1133     -22.006  28.696  -7.069  1.00 59.65           C
ATOM   8210  C   VAL A1133     -24.198  27.496 -10.067  1.00 69.54           C
ATOM   8211  O   VAL A1133     -23.618  27.170 -11.107  1.00 76.94           O
ATOM   8212  N   GLU A1134     -25.465  27.143  -9.796  1.00 71.04           N
ATOM   8213  CA  GLU A1134     -26.271  26.368 -10.767  1.00 71.48           C
ATOM   8214  CB  GLU A1134     -27.547  25.725 -10.182  1.00 72.38           C
ATOM   8215  CG  GLU A1134     -27.359  24.243  -9.776  1.00 81.36           C
ATOM   8216  CD  GLU A1134     -28.215  23.760  -8.556  1.00 90.44           C
ATOM   8217  OE1 GLU A1134     -29.389  24.186  -8.424  1.00100.22           O
ATOM   8218  OE2 GLU A1134     -27.745  22.927  -7.712  1.00 83.38           O
ATOM   8219  C   GLU A1134     -26.557  27.176 -12.023  1.00 69.29           C
ATOM   8220  O   GLU A1134     -26.689  26.594 -13.049  1.00 65.64           O
ATOM   8221  N   GLU A1135     -26.594  28.498 -11.967  1.00 72.94           N
ATOM   8222  CA  GLU A1135     -26.612  29.302 -13.201  1.00 76.92           C
ATOM   8223  CB  GLU A1135     -27.069  30.771 -12.979  1.00 86.14           C
ATOM   8224  CG  GLU A1135     -28.611  30.911 -12.809  1.00 96.25           C
ATOM   8225  CD  GLU A1135     -29.130  32.353 -12.600  1.00100.02           C
ATOM   8226  OE1 GLU A1135     -29.738  32.607 -11.527  1.00 97.06           O
ATOM   8227  OE2 GLU A1135     -28.956  33.225 -13.497  1.00 98.62           O
ATOM   8228  C   GLU A1135     -25.285  29.237 -13.943  1.00 75.65           C
ATOM   8229  O   GLU A1135     -25.250  29.373 -15.167  1.00 81.68           O
ATOM   8230  N   LEU A1136     -24.195  29.020 -13.234  1.00 71.27           N
ATOM   8231  CA  LEU A1136     -22.904  28.923 -13.897  1.00 67.34           C
ATOM   8232  CB  LEU A1136     -21.773  29.302 -12.933  1.00 66.87           C
ATOM   8233  CG  LEU A1136     -21.604  30.818 -12.728  1.00 63.63           C
ATOM   8234  CD1 LEU A1136     -20.439  31.164 -11.818  1.00 64.10           C
ATOM   8235  CD2 LEU A1136     -21.376  31.497 -14.058  1.00 64.04           C
ATOM   8236  C   LEU A1136     -22.666  27.564 -14.533  1.00 65.34           C
ATOM   8237  O   LEU A1136     -21.949  27.478 -15.539  1.00 64.68           O
ATOM   8238  N   THR A1137     -23.272  26.514 -13.974  1.00 61.82           N
ATOM   8239  CA  THR A1137     -23.104  25.175 -14.546  1.00 64.42           C
ATOM   8240  CB  THR A1137     -23.729  23.994 -13.732  1.00 62.87           C
ATOM   8241  OG1 THR A1137     -25.034  24.319 -13.282  1.00 62.30           O
ATOM   8242  CG2 THR A1137     -22.883  23.612 -12.547  1.00 62.21           C
ATOM   8243  C   THR A1137     -23.704  25.087 -15.909  1.00 67.85           C
ATOM   8244  O   THR A1137     -23.273  24.273 -16.708  1.00 75.70           O
ATOM   8245  N   ARG A1138     -24.707  25.915 -16.166  1.00 75.58           N
ATOM   8246  CA  ARG A1138     -25.502  25.833 -17.383  1.00 76.40           C
ATOM   8247  CB  ARG A1138     -26.987  26.184 -17.081  1.00 78.97           C
ATOM   8248  CG  ARG A1138     -27.760  24.941 -16.607  1.00 82.77           C
ATOM   8249  CD  ARG A1138     -29.058  25.221 -15.840  1.00 80.87           C
ATOM   8250  NE  ARG A1138     -29.027  24.507 -14.556  1.00 78.71           N
ATOM   8251  CZ  ARG A1138     -29.754  24.793 -13.469  1.00 77.26           C
ATOM   8252  NH1 ARG A1138     -30.681  25.769 -13.488  1.00 73.17           N
ATOM   8253  NH2 ARG A1138     -29.565  24.056 -12.351  1.00 76.98           N
ATOM   8254  C   ARG A1138     -24.933  26.638 -18.548  1.00 73.29           C
ATOM   8255  O   ARG A1138     -25.674  26.923 -19.493  1.00 81.67           O
ATOM   8256  N   ILE A1139     -23.640  26.994 -18.503  1.00 66.38           N
ATOM   8257  CA  ILE A1139     -22.959  27.474 -19.708  1.00 63.29           C
ATOM   8258  CB  ILE A1139     -21.979  28.626 -19.445  1.00 61.84           C
ATOM   8259  CG1 ILE A1139     -20.709  28.167 -18.743  1.00 63.94           C
ATOM   8260  CD1 ILE A1139     -19.840  29.331 -18.298  1.00 65.73           C
ATOM   8261  CG2 ILE A1139     -22.644  29.723 -18.658  1.00 62.93           C
ATOM   8262  C   ILE A1139     -22.211  26.394 -20.473  1.00 64.13           C
ATOM   8263  O   ILE A1139     -21.513  26.731 -21.436  1.00 68.22           O
ATOM   8264  N   HIS A1140     -22.342  25.121 -20.080  1.00 61.71           N
ATOM   8265  CA  HIS A1140     -21.523  24.060 -20.674  1.00 61.54           C
ATOM   8266  CB  HIS A1140     -20.081  24.172 -20.139  1.00 60.91           C
ATOM   8267  CG  HIS A1140     -19.916  23.647 -18.745  1.00 59.88           C
ATOM   8268  ND1 HIS A1140     -19.527  22.355 -18.480  1.00 60.58           N
ATOM   8269  CE1 HIS A1140     -19.485  22.164 -17.179  1.00 58.80           C
ATOM   8270  NE2 HIS A1140     -19.848  23.279 -16.589  1.00 58.33           N
ATOM   8271  CD2 HIS A1140     -20.126  24.223 -17.545  1.00 60.23           C
ATOM   8272  C   HIS A1140     -22.085  22.622 -20.482  1.00 60.81           C
ATOM   8273  O   HIS A1140     -22.778  22.312 -19.517  1.00 60.07           O
TER    8274       HIS A1140
ATOM   8275  N   ILE C  47      45.485  29.607 -47.725  1.00 76.28           N
ATOM   8276  CA  ILE C  47      45.722  30.399 -46.437  1.00 85.04           C
ATOM   8277  CB  ILE C  47      44.385  30.714 -45.680  1.00 89.53           C
ATOM   8278  CG1 ILE C  47      44.609  31.736 -44.539  1.00 86.82           C
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ATOM   8279  CD1 ILE C  47      43.359  32.096 -43.759  1.00 83.92           C
ATOM   8280  CG2 ILE C  47      43.719  29.424 -45.158  1.00 93.27           C
ATOM   8281  C   ILE C  47      46.724  29.765 -45.435  1.00 86.59           C
ATOM   8282  O   ILE C  47      46.509  28.640 -44.979  1.00 91.11           O
ATOM   8283  N   ASN C  48      47.787  30.489 -45.059  1.00 87.47           N
ATOM   8284  CA  ASN C  48      48.737  29.992 -44.030  1.00 89.53           C
ATOM   8285  CB  ASN C  48      49.847  29.135 -44.632  1.00 90.05           C
ATOM   8286  CG  ASN C  48      50.462  29.757 -45.877  1.00 90.10           C
ATOM   8287  OD1 ASN C  48      50.288  29.217 -46.986  1.00 94.29           O
ATOM   8288  ND2 ASN C  48      51.197  30.872 -45.715  1.00 82.18           N
ATOM   8289  C   ASN C  48      49.312  31.129 -43.210  1.00 93.00           C
ATOM   8290  O   ASN C  48      50.537  31.339 -43.115  1.00 95.29           O
ATOM   8291  N   PHE C  49      48.384  31.877 -42.635  1.00 91.27           N
ATOM   8292  CA  PHE C  49      48.682  32.955 -41.712  1.00 84.82           C
ATOM   8293  CB  PHE C  49      48.061  34.277 -42.219  1.00 80.58           C
ATOM   8294  CG  PHE C  49      47.895  35.335 -41.159  1.00 70.15           C
ATOM   8295  CD1 PHE C  49      48.963  36.149 -40.798  1.00 64.30           C
ATOM   8296  CE1 PHE C  49      48.804  37.131 -39.837  1.00 63.87           C
ATOM   8297  CZ  PHE C  49      47.569  37.318 -39.223  1.00 63.49           C
ATOM   8298  CE2 PHE C  49      46.491  36.509 -39.573  1.00 65.05           C
ATOM   8299  CD2 PHE C  49      46.655  35.528 -40.541  1.00 67.24           C
ATOM   8300  C   PHE C  49      48.099  32.498 -40.383  1.00 78.68           C
ATOM   8301  O   PHE C  49      47.046  31.844 -40.328  1.00 79.20           O
ATOM   8302  N   ASP C  50      48.787  32.851 -39.315  1.00 69.33           N
ATOM   8303  CA  ASP C  50      48.457  32.323 -38.024  1.00 62.13           C
ATOM   8304  CB  ASP C  50      49.642  32.542 -37.129  1.00 61.92           C
ATOM   8305  CG  ASP C  50      49.567  31.767 -35.892  1.00 60.39           C
ATOM   8306  OD1 ASP C  50      48.524  31.801 -35.195  1.00 60.41           O
ATOM   8307  OD2 ASP C  50      50.595  31.143 -35.608  1.00 63.25           O
ATOM   8308  C   ASP C  50      47.218  33.021 -37.508  1.00 62.25           C
ATOM   8309  O   ASP C  50      47.272  34.133 -36.956  1.00 62.44           O
ATOM   8310  N   THR C  51      46.078  32.363 -37.659  1.00 64.06           N
ATOM   8311  CA  THR C  51      44.821  33.033 -37.330  1.00 64.01           C
ATOM   8312  CB  THR C  51      43.576  32.289 -37.875  1.00 61.77           C
ATOM   8313  OG1 THR C  51      43.554  30.976 -37.353  1.00 68.93           O
ATOM   8314  CG2 THR C  51      43.628  32.189 -39.367  1.00 62.50           C
ATOM   8315  C   THR C  51      44.619  33.352 -35.850  1.00 62.45           C
ATOM   8316  O   THR C  51      43.541  33.807 -35.515  1.00 67.50           O
ATOM   8317  N   SER C  52      45.603  33.115 -34.971  1.00 62.62           N
ATOM   8318  CA  SER C  52      45.547  33.653 -33.581  1.00 65.23           C
ATOM   8319  CB  SER C  52      45.789  32.555 -32.537  1.00 62.29           C
ATOM   8320  OG  SER C  52      47.069  32.004 -32.691  1.00 61.74           O
ATOM   8321  C   SER C  52      46.434  34.907 -33.292  1.00 64.00           C
ATOM   8322  O   SER C  52      46.164  35.627 -32.308  1.00 61.44           O
ATOM   8323  N   LEU C  53      47.431  35.204 -34.150  1.00 63.48           N
ATOM   8324  CA  LEU C  53      48.299  36.407 -33.971  1.00 61.10           C
ATOM   8325  CB  LEU C  53      49.417  36.532 -35.083  1.00 51.50           C
ATOM   8326  C   LEU C  53      47.353  37.654 -33.782  1.00 63.15           C
ATOM   8327  O   LEU C  53      47.570  38.470 -32.883  1.00 65.58           O
ATOM   8328  N   PRO C  54      46.254  37.749 -34.569  1.00 63.96           N
ATOM   8329  CA  PRO C  54      45.376  38.929 -34.470  1.00 65.04           C
ATOM   8330  CB  PRO C  54      44.399  38.766 -35.653  1.00 63.78           C
ATOM   8331  CG  PRO C  54      45.130  37.905 -36.593  1.00 65.70           C
ATOM   8332  CD  PRO C  54      45.934  36.951 -35.767  1.00 65.33           C
ATOM   8333  C   PRO C  54      44.588  39.069 -33.193  1.00 61.09           C
ATOM   8334  O   PRO C  54      44.498  40.145 -32.629  1.00 61.73           O
ATOM   8335  N   THR C  55      43.994  38.002 -32.748  1.00 64.81           N
ATOM   8336  CA  THR C  55      43.256  38.105 -31.525  1.00 74.75           C
ATOM   8337  CB  THR C  55      42.454  36.821 -31.208  1.00 81.47           C
ATOM   8338  OG1 THR C  55      41.473  37.161 -30.213  1.00 84.30           O
ATOM   8339  CG2 THR C  55      43.375  35.604 -30.729  1.00 80.87           C
ATOM   8340  C   THR C  55      44.130  38.500 -30.309  1.00 71.82           C
ATOM   8341  O   THR C  55      43.584  38.971 -29.308  1.00 65.73           O
ATOM   8342  N   SER C  56      45.455  38.297 -30.367  1.00 69.23           N
ATOM   8343  CA  SER C  56      46.296  38.656 -29.207  1.00 65.03           C
ATOM   8344  CB  SER C  56      47.484  37.672 -28.991  1.00 63.23           C
ATOM   8345  OG  SER C  56      48.343  37.649 -30.093  1.00 60.76           O
ATOM   8346  C   SER C  56      46.738  40.105 -29.173  1.00 57.76           C
ATOM   8347  O   SER C  56      47.267  40.528 -28.150  1.00 58.45           O
ATOM   8348  N   HIS C  57      46.499  40.855 -30.252  1.00 54.29           N
ATOM   8349  CA  HIS C  57      46.774  42.304 -30.329  1.00 53.98           C
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ATOM   8350  CB  HIS C  57      45.767  43.080 -29.500  1.00 51.92           C
ATOM   8351  CG  HIS C  57      44.368  42.906 -29.960  1.00 52.52           C
ATOM   8352  ND1 HIS C  57      43.731  43.821 -30.762  1.00 57.14           N
ATOM   8353  CE1 HIS C  57      42.506  43.406 -31.026  1.00 54.05           C
ATOM   8354  NE2 HIS C  57      42.321  42.261 -30.410  1.00 54.38           N
ATOM   8355  CD2 HIS C  57      43.477  41.922 -29.746  1.00 53.14           C
ATOM   8356  C   HIS C  57      48.199  42.684 -29.917  1.00 56.28           C
ATOM   8357  O   HIS C  57      48.423  43.488 -28.995  1.00 54.98           O
ATOM   8358  N   THR C  58      49.159  42.078 -30.608  1.00 61.04           N
ATOM   8359  CA  THR C  58      50.586  42.232 -30.277  1.00 62.63           C
ATOM   8360  CB  THR C  58      51.497  41.364 -31.168  1.00 62.62           C
ATOM   8361  OG1 THR C  58      51.373  41.786 -32.540  1.00 65.30           O
ATOM   8362  CG2 THR C  58      51.156  39.881 -31.023  1.00 61.74           C
ATOM   8363  C   THR C  58      51.035  43.667 -30.447  1.00 59.39           C
ATOM   8364  O   THR C  58      51.781  44.186 -29.647  1.00 65.69           O
ATOM   8365  N   TYR C  59      50.572  44.305 -31.494  1.00 54.88           N
ATOM   8366  CA  TYR C  59      50.864  45.708 -31.707  1.00 57.26           C
ATOM   8367  CB  TYR C  59      50.000  46.244 -32.842  1.00 60.65           C
ATOM   8368  CG  TYR C  59      48.521  46.225 -32.564  1.00 56.91           C
ATOM   8369  CD1 TYR C  59      47.924  47.271 -31.897  1.00 56.91           C
ATOM   8370  CE1 TYR C  59      46.559  47.284 -31.656  1.00 58.72           C
ATOM   8371  CZ  TYR C  59      45.780  46.240 -32.088  1.00 55.31           C
ATOM   8372  OH  TYR C  59      44.442  46.309 -31.849  1.00 52.37           O
ATOM   8373  CE2 TYR C  59      46.355  45.166 -32.741  1.00 56.15           C
ATOM   8374  CD2 TYR C  59      47.724  45.167 -32.978  1.00 55.79           C
ATOM   8375  C   TYR C  59      50.675  46.630 -30.512  1.00 53.64           C
ATOM   8376  O   TYR C  59      51.116  47.780 -30.550  1.00 50.49           O
ATOM   8377  N   LEU C  60      49.957  46.171 -29.499  1.00 52.53           N
ATOM   8378  CA  LEU C  60      49.948  46.880 -28.238  1.00 53.92           C
ATOM   8379  CB  LEU C  60      48.718  46.502 -27.430  1.00 53.51           C
ATOM   8380  CG  LEU C  60      47.368  46.886 -28.020  1.00 54.29           C
ATOM   8381  CD1 LEU C  60      46.295  46.329 -27.104  1.00 56.38           C
ATOM   8382  CD2 LEU C  60      47.194  48.390 -28.125  1.00 54.71           C
ATOM   8383  C   LEU C  60      51.204  46.696 -27.392  1.00 53.83           C
ATOM   8384  O   LEU C  60      51.362  47.414 -26.425  1.00 53.57           O
ATOM   8385  N   GLY C  61      52.106  45.800 -27.776  1.00 59.28           N
ATOM   8386  CA  GLY C  61      53.140  45.255 -26.875  1.00 72.32           C
ATOM   8387  C   GLY C  61      52.694  43.938 -26.217  1.00 83.65           C
ATOM   8388  O   GLY C  61      51.549  43.826 -25.716  1.00 82.22           O
ATOM   8389  N   ALA C  62      53.582  42.936 -26.207  1.00 90.91           N
ATOM   8390  CA  ALA C  62      53.187  41.569 -25.791  1.00 95.99           C
ATOM   8391  CB  ALA C  62      53.595  40.543 -26.869  1.00 90.56           C
ATOM   8392  C   ALA C  62      53.656  41.122 -24.368  1.00 99.55           C
ATOM   8393  O   ALA C  62      53.689  39.909 -24.103  1.00 99.54           O
ATOM   8394  N   ASP C  63      54.016  42.067 -23.471  1.00 98.59           N
ATOM   8395  CA  ASP C  63      54.252  41.743 -22.024  1.00 96.20           C
ATOM   8396  CB  ASP C  63      55.726  41.919 -21.579  1.00 94.76           C
ATOM   8397  C   ASP C  63      53.294  42.563 -21.155  1.00 87.49           C
ATOM   8398  O   ASP C  63      53.663  43.572 -20.567  1.00 83.25           O
ATOM   8399  N   MET C  64      52.047  42.106 -21.118  1.00 82.32           N
ATOM   8400  CA  MET C  64      50.970  42.743 -20.373  1.00 83.71           C
ATOM   8401  CB  MET C  64      49.689  42.766 -21.224  1.00 87.98           C
ATOM   8402  CG  MET C  64      49.752  43.511 -22.549  1.00 90.37           C
ATOM   8403  SD  MET C  64      48.260  44.495 -22.838  1.00 93.35           S
ATOM   8404  CE  MET C  64      48.360  44.706 -24.608  1.00 97.50           C
ATOM   8405  C   MET C  64      50.671  41.867 -19.169  1.00 79.81           C
ATOM   8406  O   MET C  64      50.605  40.656 -19.367  1.00 71.84           O
ATOM   8407  N   GLU C  65      50.465  42.446 -17.964  1.00 77.03           N
ATOM   8408  CA  GLU C  65      49.963  41.665 -16.785  1.00 75.21           C
ATOM   8409  CB  GLU C  65      50.120  42.426 -15.419  1.00 69.86           C
ATOM   8410  C   GLU C  65      48.500  41.190 -17.123  1.00 71.98           C
ATOM   8411  O   GLU C  65      47.714  41.948 -17.694  1.00 70.03           O
ATOM   8412  N   GLU C  66      48.205  39.939 -16.826  1.00 69.42           N
ATOM   8413  CA  GLU C  66      46.934  39.355 -17.153  1.00 70.40           C
ATOM   8414  CB  GLU C  66      47.152  38.086 -17.949  1.00 75.19           C
ATOM   8415  CG  GLU C  66      47.698  38.302 -19.339  1.00 84.30           C
ATOM   8416  CD  GLU C  66      48.019  37.004 -20.045  1.00 96.74           C
ATOM   8417  OE1 GLU C  66      48.905  37.012 -20.922  1.00103.78           O
ATOM   8418  OE2 GLU C  66      47.393  35.972 -19.726  1.00 92.29           O
ATOM   8419  C   GLU C  66      46.167  38.988 -15.933  1.00 71.53           C
ATOM   8420  O   GLU C  66      46.729  38.591 -14.942  1.00 76.21           O
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ATOM   8421  N   PHE C  67      44.860  39.125 -16.008  1.00 77.64           N
ATOM   8422  CA  PHE C  67      44.014  38.796 -14.894  1.00 80.54           C
ATOM   8423  CB  PHE C  67      43.252  40.033 -14.485  1.00 80.45           C
ATOM   8424  CG  PHE C  67      44.118  41.245 -14.385  1.00 81.65           C
ATOM   8425  CD1 PHE C  67      44.358  42.023 -15.479  1.00 84.06           C
ATOM   8426  CE1 PHE C  67      45.164  43.130 -15.399  1.00 82.68           C
ATOM   8427  CZ  PHE C  67      45.750  43.466 -14.215  1.00 77.70           C
ATOM   8428  CE2 PHE C  67      45.528  42.688 -13.115  1.00 77.83           C
ATOM   8429  CD2 PHE C  67      44.717  41.581 -13.206  1.00 79.62           C
ATOM   8430  C   PHE C  67      43.112  37.673 -15.346  1.00 84.78           C
ATOM   8431  O   PHE C  67      42.556  37.742 -16.425  1.00 90.09           O
ATOM   8432  N   HIS C  68      42.968  36.631 -14.536  1.00 83.49           N
ATOM   8433  CA  HIS C  68      42.156  35.512 -14.959  1.00 85.74           C
ATOM   8434  CB  HIS C  68      42.376  34.317 -14.057  1.00 83.79           C
ATOM   8435  C   HIS C  68      40.750  35.956 -14.836  1.00 92.68           C
ATOM   8436  O   HIS C  68      40.228  36.133 -13.749  1.00 84.18           O
ATOM   8437  N   GLY C  69      40.136  36.104 -15.995  1.00106.99           N
ATOM   8438  CA  GLY C  69      38.789  36.596 -16.106  1.00113.75           C
ATOM   8439  C   GLY C  69      37.718  35.764 -15.470  1.00116.41           C
ATOM   8440  O   GLY C  69      37.740  34.551 -15.490  1.00114.70           O
ATOM   8441  N   ARG C  70      36.757  36.450 -14.894  1.00120.06           N
ATOM   8442  CA  ARG C  70      35.639  35.752 -14.272  1.00115.01           C
ATOM   8443  CB  ARG C  70      36.267  34.767 -13.291  1.00125.64           C
ATOM   8444  CG  ARG C  70      37.105  35.432 -12.187  1.00129.65           C
ATOM   8445  CD  ARG C  70      36.424  35.363 -10.818  1.00132.10           C
ATOM   8446  NE  ARG C  70      36.104  33.972 -10.416  1.00123.68           N
ATOM   8447  CZ  ARG C  70      34.906  33.509 -10.026  1.00109.22           C
ATOM   8448  NH1 ARG C  70      33.837  34.312  -9.926  1.00110.25           N
ATOM   8449  NH2 ARG C  70      34.783  32.222  -9.700  1.00 94.55           N
ATOM   8450  C   ARG C  70      34.527  36.533 -13.528  1.00103.06           C
ATOM   8451  O   ARG C  70      33.580  35.903 -13.071  1.00 93.46           O
ATOM   8452  N   THR C  71      34.608  37.860 -13.403  1.00 93.59           N
ATOM   8453  CA  THR C  71      33.662  38.610 -12.544  1.00 87.92           C
ATOM   8454  CB  THR C  71      34.142  40.062 -12.207  1.00 84.04           C
ATOM   8455  OG1 THR C  71      33.748  40.976 -13.244  1.00 85.01           O
ATOM   8456  CG2 THR C  71      35.671  40.143 -12.016  1.00 83.33           C
ATOM   8457  C   THR C  71      32.274  38.628 -13.252  1.00 81.29           C
ATOM   8458  O   THR C  71      32.200  39.038 -14.429  1.00 81.94           O
ATOM   8459  N   LEU C  72      31.213  38.164 -12.552  1.00 67.36           N
ATOM   8460  CA  LEU C  72      29.837  38.057 -13.098  1.00 59.85           C
ATOM   8461  CB  LEU C  72      29.504  36.614 -13.543  1.00 57.22           C
ATOM   8462  CG  LEU C  72      29.928  36.202 -14.964  1.00 57.76           C
ATOM   8463  CD1 LEU C  72      29.116  34.979 -15.346  1.00 57.15           C
ATOM   8464  CD2 LEU C  72      29.799  37.325 -16.032  1.00 56.03           C
ATOM   8465  C   LEU C  72      28.787  38.508 -12.109  1.00 55.74           C
ATOM   8466  O   LEU C  72      28.478  37.799 -11.170  1.00 62.92           O
ATOM   8467  N   HIS C  73      28.219  39.679 -12.328  1.00 51.20           N
ATOM   8468  CA  HIS C  73      27.194  40.205 -11.446  1.00 50.44           C
ATOM   8469  CB  HIS C  73      26.951  41.647 -11.761  1.00 50.96           C
ATOM   8470  CG  HIS C  73      28.134  42.503 -11.510  1.00 49.99           C
ATOM   8471  ND1 HIS C  73      28.725  42.587 -10.274  1.00 53.06           N
ATOM   8472  CE1 HIS C  73      29.737  43.428 -10.329  1.00 51.89           C
ATOM   8473  NE2 HIS C  73      29.819  43.892 -11.558  1.00 49.80           N
ATOM   8474  CD2 HIS C  73      28.824  43.330 -12.316  1.00 50.45           C
ATOM   8475  C   HIS C  73      25.874  39.483 -11.528  1.00 51.77           C
ATOM   8476  O   HIS C  73      25.519  38.969 -12.554  1.00 47.53           O
ATOM   8477  N   ASP C  74      25.143  39.482 -10.419  1.00 61.00           N
ATOM   8478  CA  ASP C  74      23.942  38.654 -10.263  1.00 66.70           C
ATOM   8479  CB  ASP C  74      23.488  38.597  -8.755  1.00 75.06           C
ATOM   8480  CG  ASP C  74      24.435  37.711  -7.798  1.00 80.54           C
ATOM   8481  OD2 ASP C  74      25.435  38.191  -7.167  1.00 78.16           O
ATOM   8482  OD1 ASP C  74      24.101  36.522  -7.602  1.00 84.83           O
ATOM   8483  C   ASP C  74      22.860  39.242 -11.204  1.00 63.26           C
ATOM   8484  O   ASP C  74      22.882  40.450 -11.522  1.00 55.42           O
ATOM   8485  N   ASP C  75      21.960  38.391 -11.692  1.00 65.44           N
ATOM   8486  CA  ASP C  75      20.861  38.864 -12.553  1.00 71.27           C
ATOM   8487  CB  ASP C  75      19.972  37.737 -13.052  1.00 73.65           C
ATOM   8488  CG  ASP C  75      20.630  36.887 -14.065  1.00 74.19           C
ATOM   8489  OD1 ASP C  75      21.489  37.407 -14.808  1.00 73.53           O
ATOM   8490  OD2 ASP C  75      20.266  35.691 -14.108  1.00 72.06           O
ATOM   8491  C   ASP C  75      19.926  39.761 -11.800  1.00 72.91           C
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ATOM   8492  O   ASP C  75      19.491  39.430 -10.710  1.00 76.11           O
ATOM   8493  N   ASP C  76      19.587  40.871 -12.429  1.00 75.17           N
ATOM   8494  CA  ASP C  76      18.680  41.882 -11.891  1.00 73.34           C
ATOM   8495  CB  ASP C  76      17.309  41.289 -11.513  1.00 73.83           C
ATOM   8496  CG  ASP C  76      16.674  40.487 -12.676  1.00 81.22           C
ATOM   8497  OD1 ASP C  76      16.222  41.088 -13.676  1.00 85.58           O
ATOM   8498  OD2 ASP C  76      16.636  39.241 -12.609  1.00 87.30           O
ATOM   8499  C   ASP C  76      19.320  42.757 -10.800  1.00 68.70           C
ATOM   8500  O   ASP C  76      18.701  43.722 -10.364  1.00 68.89           O
ATOM   8501  N   SER C  77      20.590  42.510 -10.463  1.00 68.16           N
ATOM   8502  CA  SER C  77      21.306  43.326  -9.460  1.00 70.90           C
ATOM   8503  CB  SER C  77      22.616  42.653  -9.048  1.00 67.32           C
ATOM   8504  OG  SER C  77      23.637  42.911  -9.995  1.00 67.74           O
ATOM   8505  C   SER C  77      21.589  44.747  -9.988  1.00 73.21           C
ATOM   8506  O   SER C  77      21.450  44.989 -11.192  1.00 83.18           O
ATOM   8507  N   CYS C  78      21.953  45.676  -9.096  1.00 72.30           N
ATOM   8508  CA  CYS C  78      22.369  47.029  -9.500  1.00 71.12           C
ATOM   8509  CB  CYS C  78      21.533  48.100  -8.819  1.00 73.34           C
ATOM   8510  SG  CYS C  78      19.849  48.092  -9.494  1.00 91.20           S
ATOM   8511  C   CYS C  78      23.840  47.231  -9.240  1.00 67.19           C
ATOM   8512  O   CYS C  78      24.378  46.731  -8.272  1.00 66.47           O
ATOM   8513  N   GLN C  79      24.508  47.934 -10.137  1.00 67.96           N
ATOM   8514  CA  GLN C  79      25.949  48.134 -10.022  1.00 67.85           C
ATOM   8515  CB  GLN C  79      26.704  47.194 -10.973  1.00 69.96           C
ATOM   8516  CG  GLN C  79      26.515  45.706 -10.714  1.00 69.73           C
ATOM   8517  CD  GLN C  79      26.793  45.291  -9.284  1.00 65.30           C
ATOM   8518  OE1 GLN C  79      27.566  45.924  -8.567  1.00 63.82           O
ATOM   8519  NE2 GLN C  79      26.145  44.225  -8.863  1.00 63.47           N
ATOM   8520  C   GLN C  79      26.352  49.554 -10.341  1.00 65.61           C
ATOM   8521  O   GLN C  79      25.688  50.221 -11.129  1.00 59.34           O
ATOM   8522  N   VAL C  80      27.444  49.997  -9.715  1.00 66.52           N
ATOM   8523  CA  VAL C  80      28.015  51.287 -10.018  1.00 70.57           C
ATOM   8524  CB  VAL C  80      28.098  52.247  -8.812  1.00 73.00           C
ATOM   8525  CG1 VAL C  80      28.109  53.666  -9.345  1.00 72.73           C
ATOM   8526  CG2 VAL C  80      26.930  52.058  -7.846  1.00 74.19           C
ATOM   8527  C   VAL C  80      29.394  51.029 -10.604  1.00 72.07           C
ATOM   8528  O   VAL C  80      30.310  50.603  -9.912  1.00 72.99           O
ATOM   8529  N   ILE C  81      29.494  51.311 -11.899  1.00 70.25           N
ATOM   8530  CA  ILE C  81      30.612  51.006 -12.728  1.00 65.68           C
ATOM   8531  CB  ILE C  81      30.168  50.071 -13.859  1.00 71.76           C
ATOM   8532  CG1 ILE C  81      29.131  49.074 -13.386  1.00 74.87           C
ATOM   8533  CD1 ILE C  81      28.745  48.078 -14.460  1.00 77.00           C
ATOM   8534  CG2 ILE C  81      31.345  49.295 -14.406  1.00 77.31           C
ATOM   8535  C   ILE C  81      31.000  52.298 -13.415  1.00 61.78           C
ATOM   8536  O   ILE C  81      30.143  53.010 -13.886  1.00 64.21           O
ATOM   8537  N   PRO C  82      32.287  52.581 -13.555  1.00 58.71           N
ATOM   8538  CA  PRO C  82      32.711  53.746 -14.342  1.00 56.56           C
ATOM   8539  CB  PRO C  82      34.202  53.835 -14.033  1.00 56.25           C
ATOM   8540  CG  PRO C  82      34.586  52.442 -13.740  1.00 57.24           C
ATOM   8541  CD  PRO C  82      33.436  51.843 -13.013  1.00 59.02           C
ATOM   8542  C   PRO C  82      32.495  53.636 -15.865  1.00 54.63           C
ATOM   8543  O   PRO C  82      32.114  52.598 -16.349  1.00 51.70           O
ATOM   8544  N   VAL C  83      32.739  54.714 -16.604  1.00 55.40           N
ATOM   8545  CA  VAL C  83      32.429  54.747 -18.027  1.00 58.94           C
ATOM   8546  CB  VAL C  83      31.163  55.569 -18.318  1.00 56.73           C
ATOM   8547  CG1 VAL C  83      30.952  55.740 -19.811  1.00 57.75           C
ATOM   8548  CG2 VAL C  83      29.936  54.925 -17.685  1.00 54.24           C
ATOM   8549  C   VAL C  83      33.613  55.317 -18.773  1.00 67.75           C
ATOM   8550  O   VAL C  83      34.135  56.359 -18.380  1.00 79.00           O
ATOM   8551  N   LEU C  84      34.044  54.600 -19.815  1.00 73.10           N
ATOM   8552  CA  LEU C  84      35.196  54.963 -20.585  1.00 79.84           C
ATOM   8553  CB  LEU C  84      35.449  53.975 -21.700  1.00 87.72           C
ATOM   8554  CG  LEU C  84      36.313  52.767 -21.452  1.00 93.86           C
ATOM   8555  CD1 LEU C  84      36.458  52.068 -22.804  1.00 89.42           C
ATOM   8556  CD2 LEU C  84      37.662  53.172 -20.828  1.00 97.29           C
ATOM   8557  C   LEU C  84      34.718  56.135 -21.272  1.00 88.06           C
ATOM   8558  O   LEU C  84      33.778  56.010 -22.035  1.00 96.02           O
ATOM   8559  N   PRO C  85      35.335  57.292 -21.042  1.00104.09           N
ATOM   8560  CA  PRO C  85      34.862  58.401 -21.890  1.00102.74           C
ATOM   8561  CB  PRO C  85      35.511  59.647 -21.257  1.00108.87           C
ATOM   8562  CG  PRO C  85      36.300  59.162 -20.056  1.00108.76           C
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ATOM   8563  CD  PRO C  85      36.489  57.674 -20.205  1.00105.90           C
ATOM   8564  C   PRO C  85      35.367  58.162 -23.299  1.00 95.64           C
ATOM   8565  O   PRO C  85      36.129  57.216 -23.552  1.00 93.36           O
ATOM   8566  N   GLN C  86      34.954  58.979 -24.235  1.00 91.24           N
ATOM   8567  CA  GLN C  86      35.638  58.957 -25.522  1.00 92.85           C
ATOM   8568  CB  GLN C  86      37.160  59.260 -25.358  1.00 88.35           C
ATOM   8569  CG  GLN C  86      37.583  60.661 -25.805  1.00 86.57           C
ATOM   8570  CD  GLN C  86      39.034  60.923 -25.467  1.00 88.16           C
ATOM   8571  OE1 GLN C  86      39.361  61.843 -24.726  1.00 94.96           O
ATOM   8572  NE2 GLN C  86      39.909  60.093 -25.983  1.00 90.19           N
ATOM   8573  C   GLN C  86      35.464  57.697 -26.367  1.00 90.02           C
ATOM   8574  O   GLN C  86      35.932  57.705 -27.501  1.00 96.04           O
ATOM   8575  N   VAL C  87      34.806  56.678 -25.861  1.00 90.08           N
ATOM   8576  CA  VAL C  87      34.638  55.518 -26.690  1.00 86.02           C
ATOM   8577  CB  VAL C  87      35.185  54.271 -26.017  1.00 88.43           C
ATOM   8578  CG1 VAL C  87      34.887  53.045 -26.852  1.00 90.62           C
ATOM   8579  CG2 VAL C  87      36.681  54.414 -25.844  1.00 90.63           C
ATOM   8580  C   VAL C  87      33.190  55.325 -26.985  1.00 82.25           C
ATOM   8581  O   VAL C  87      32.379  55.271 -26.091  1.00 80.67           O
ATOM   8582  N   MET C  88      32.875  55.214 -28.259  1.00 88.70           N
ATOM   8583  CA  MET C  88      31.515  54.988 -28.657  1.00 95.72           C
ATOM   8584  CB  MET C  88      31.099  56.037 -29.671  1.00101.74           C
ATOM   8585  CG  MET C  88      31.656  57.403 -29.388  1.00104.84           C
ATOM   8586  SD  MET C  88      30.868  57.967 -27.894  1.00117.92           S
ATOM   8587  CE  MET C  88      32.062  59.178 -27.352  1.00119.27           C
ATOM   8588  C   MET C  88      31.489  53.686 -29.382  1.00 86.45           C
ATOM   8589  O   MET C  88      32.087  53.572 -30.433  1.00 91.37           O
ATOM   8590  N   MET C  89      30.799  52.704 -28.842  1.00 75.44           N
ATOM   8591  CA  MET C  89      30.678  51.452 -29.540  1.00 74.44           C
ATOM   8592  CB  MET C  89      32.002  50.720 -29.688  1.00 72.22           C
ATOM   8593  CG  MET C  89      32.276  49.644 -28.682  1.00 76.87           C
ATOM   8594  SD  MET C  89      33.584  48.591 -29.286  1.00 84.72           S
ATOM   8595  CE  MET C  89      32.712  47.529 -30.404  1.00 73.20           C
ATOM   8596  C   MET C  89      29.596  50.665 -28.880  1.00 71.22           C
ATOM   8597  O   MET C  89      29.195  50.989 -27.784  1.00 81.02           O
ATOM   8598  N   ILE C  90      29.113  49.648 -29.564  1.00 63.74           N
ATOM   8599  CA  ILE C  90      28.038  48.800 -29.072  1.00 56.68           C
ATOM   8600  CB  ILE C  90      26.852  48.654 -30.060  1.00 58.23           C
ATOM   8601  CG1 ILE C  90      25.987  49.914 -30.066  1.00 62.66           C
ATOM   8602  CD1 ILE C  90      26.376  50.891 -31.129  1.00 68.38           C
ATOM   8603  CG2 ILE C  90      25.935  47.519 -29.661  1.00 59.23           C
ATOM   8604  C   ILE C  90      28.774  47.533 -28.874  1.00 48.81           C
ATOM   8605  O   ILE C  90      29.044  46.833 -29.790  1.00 45.68           O
ATOM   8606  N   LEU C  91      29.110  47.269 -27.637  1.00 51.23           N
ATOM   8607  CA  LEU C  91      29.928  46.127 -27.252  1.00 51.24           C
ATOM   8608  CB  LEU C  91      30.660  46.446 -25.935  1.00 51.79           C
ATOM   8609  CG  LEU C  91      32.021  45.914 -25.510  1.00 50.66           C
ATOM   8610  CD1 LEU C  91      31.916  45.500 -24.062  1.00 51.23           C
ATOM   8611  CD2 LEU C  91      32.489  44.753 -26.347  1.00 51.26           C
ATOM   8612  C   LEU C  91      29.009  44.946 -27.048  1.00 49.80           C
ATOM   8613  O   LEU C  91      27.984  45.016 -26.359  1.00 48.82           O
ATOM   8614  N   ILE C  92      29.410  43.829 -27.600  1.00 49.21           N
ATOM   8615  CA  ILE C  92      28.622  42.626 -27.490  1.00 48.51           C
ATOM   8616  CB  ILE C  92      28.598  41.921 -28.838  1.00 46.59           C
ATOM   8617  CG1 ILE C  92      27.892  42.837 -29.811  1.00 44.78           C
ATOM   8618  CD1 ILE C  92      27.815  42.270 -31.202  1.00 47.09           C
ATOM   8619  CG2 ILE C  92      27.925  40.565 -28.732  1.00 47.09           C
ATOM   8620  C   ILE C  92      29.282  41.751 -26.439  1.00 43.88           C
ATOM   8621  O   ILE C  92      30.484  41.644 -26.430  1.00 44.15           O
ATOM   8622  N   PRO C  93      28.505  41.096 -25.578  1.00 41.35           N
ATOM   8623  CA  PRO C  93      29.087  40.035 -24.731  1.00 38.54           C
ATOM   8624  CB  PRO C  93      27.877  39.247 -24.325  1.00 38.15           C
ATOM   8625  CG  PRO C  93      26.797  40.280 -24.195  1.00 39.44           C
ATOM   8626  CD  PRO C  93      27.072  41.300 -25.289  1.00 41.12           C
ATOM   8627  C   PRO C  93      30.077  39.144 -25.472  1.00 35.93           C
ATOM   8628  O   PRO C  93      29.924  38.873 -26.650  1.00 36.24           O
ATOM   8629  N   GLY C  94      31.155  38.798 -24.814  1.00 34.84           N
ATOM   8630  CA  GLY C  94      32.193  38.015 -25.426  1.00 36.77           C
ATOM   8631  C   GLY C  94      33.194  38.753 -26.290  1.00 40.04           C
ATOM   8632  O   GLY C  94      34.293  38.226 -26.483  1.00 41.74           O
ATOM   8633  N   GLN C  95      32.863  39.960 -26.772  1.00 42.15           N
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ATOM   8634  CA  GLN C  95      33.672  40.664 -27.761  1.00 44.29           C
ATOM   8635  CB  GLN C  95      32.892  41.829 -28.398  1.00 48.46           C
ATOM   8636  CG  GLN C  95      33.324  42.216 -29.828  1.00 52.78           C
ATOM   8637  CD  GLN C  95      32.607  43.441 -30.402  1.00 53.63           C
ATOM   8638  OE1 GLN C  95      33.214  44.204 -31.118  1.00 66.86           O
ATOM   8639  NE2 GLN C  95      31.344  43.629 -30.100  1.00 51.26           N
ATOM   8640  C   GLN C  95      34.906  41.179 -27.088  1.00 45.91           C
ATOM   8641  O   GLN C  95      34.823  41.688 -25.996  1.00 48.19           O
ATOM   8642  N   THR C  96      36.055  40.990 -27.718  1.00 49.44           N
ATOM   8643  CA  THR C  96      37.330  41.463 -27.216  1.00 51.99           C
ATOM   8644  CB  THR C  96      38.491  40.542 -27.708  1.00 57.45           C
ATOM   8645  OG1 THR C  96      39.477  40.365 -26.714  1.00 55.73           O
ATOM   8646  CG2 THR C  96      39.234  41.091 -28.951  1.00 68.53           C
ATOM   8647  C   THR C  96      37.437  42.930 -27.719  1.00 55.64           C
ATOM   8648  O   THR C  96      37.212  43.221 -28.924  1.00 58.63           O
ATOM   8649  N   LEU C  97      37.771  43.821 -26.768  1.00 57.23           N
ATOM   8650  CA  LEU C  97      37.855  45.283 -26.904  1.00 49.43           C
ATOM   8651  CB  LEU C  97      36.794  45.923 -26.043  1.00 47.66           C
ATOM   8652  CG  LEU C  97      36.829  47.451 -25.918  1.00 48.84           C
ATOM   8653  CD1 LEU C  97      37.174  48.137 -27.226  1.00 46.65           C
ATOM   8654  CD2 LEU C  97      35.472  47.931 -25.384  1.00 50.11           C
ATOM   8655  C   LEU C  97      39.227  45.785 -26.417  1.00 48.39           C
ATOM   8656  O   LEU C  97      39.465  45.903 -25.205  1.00 44.01           O
ATOM   8657  N   PRO C  98      40.124  46.100 -27.361  1.00 48.07           N
ATOM   8658  CA  PRO C  98      41.434  46.657 -27.076  1.00 49.84           C
ATOM   8659  CB  PRO C  98      42.226  46.249 -28.323  1.00 47.23           C
ATOM   8660  CG  PRO C  98      41.244  46.380 -29.408  1.00 45.78           C
ATOM   8661  CD  PRO C  98      39.888  46.075 -28.815  1.00 46.55           C
ATOM   8662  C   PRO C  98      41.400  48.200 -26.949  1.00 52.52           C
ATOM   8663  O   PRO C  98      40.620  48.865 -27.647  1.00 45.29           O
ATOM   8664  N   LEU C  99      42.227  48.759 -26.058  1.00 56.62           N
ATOM   8665  CA  LEU C  99      42.241  50.210 -25.862  1.00 56.73           C
ATOM   8666  CB  LEU C  99      41.387  50.579 -24.678  1.00 53.55           C
ATOM   8667  CG  LEU C  99      39.968  50.088 -24.755  1.00 53.60           C
ATOM   8668  CD1 LEU C  99      39.300  50.185 -23.402  1.00 51.87           C
ATOM   8669  CD2 LEU C  99      39.219  50.904 -25.792  1.00 54.54           C
ATOM   8670  C   LEU C  99      43.609  50.812 -25.651  1.00 59.42           C
ATOM   8671  O   LEU C  99      44.537  50.130 -25.172  1.00 59.42           O
ATOM   8672  N   GLN C 100      43.694  52.094 -26.029  1.00 57.80           N
ATOM   8673  CA  GLN C 100      44.781  52.964 -25.681  1.00 57.91           C
ATOM   8674  CB  GLN C 100      45.610  53.303 -26.891  1.00 59.36           C
ATOM   8675  CG  GLN C 100      46.078  52.069 -27.657  1.00 63.95           C
ATOM   8676  CD  GLN C 100      47.461  52.211 -28.290  1.00 65.36           C
ATOM   8677  OE1 GLN C 100      48.431  52.667 -27.649  1.00 70.20           O
ATOM   8678  NE2 GLN C 100      47.557  51.819 -29.556  1.00 62.81           N
ATOM   8679  C   GLN C 100      44.197  54.227 -25.119  1.00 65.09           C
ATOM   8680  O   GLN C 100      43.375  54.909 -25.770  1.00 70.97           O
ATOM   8681  N   LEU C 101      44.633  54.532 -23.900  1.00 72.86           N
ATOM   8682  CA  LEU C 101      44.153  55.673 -23.098  1.00 75.33           C
ATOM   8683  CB  LEU C 101      43.533  55.127 -21.799  1.00 73.29           C
ATOM   8684  CG  LEU C 101      42.295  54.278 -22.080  1.00 68.74           C
ATOM   8685  CD1 LEU C 101      41.932  53.430 -20.890  1.00 69.18           C
ATOM   8686  CD2 LEU C 101      41.115  55.161 -22.454  1.00 68.42           C
ATOM   8687  C   LEU C 101      45.269  56.691 -22.780  1.00 72.12           C
ATOM   8688  O   LEU C 101      46.348  56.313 -22.330  1.00 64.55           O
ATOM   8689  N   PHE C 102      45.003  57.973 -23.017  1.00 76.94           N
ATOM   8690  CA  PHE C 102      46.013  59.024 -22.785  1.00 81.00           C
ATOM   8691  CB  PHE C 102      46.298  59.751 -24.089  1.00 79.51           C
ATOM   8692  CG  PHE C 102      46.637  58.840 -25.209  1.00 76.52           C
ATOM   8693  CD1 PHE C 102      47.948  58.438 -25.421  1.00 74.63           C
ATOM   8694  CE1 PHE C 102      48.279  57.581 -26.455  1.00 74.84           C
ATOM   8695  CZ  PHE C 102      47.300  57.104 -27.282  1.00 78.46           C
ATOM   8696  CE2 PHE C 102      45.982  57.501 -27.078  1.00 83.77           C
ATOM   8697  CD2 PHE C 102      45.652  58.364 -26.040  1.00 79.36           C
ATOM   8698  C   PHE C 102      45.649  60.033 -21.671  1.00 86.60           C
ATOM   8699  O   PHE C 102      46.474  60.267 -20.782  1.00 81.13           O
ATOM   8700  N   HIS C 103      44.435  60.609 -21.704  1.00 93.19           N
ATOM   8701  CA  HIS C 103      44.027  61.655 -20.737  1.00101.02           C
ATOM   8702  CB  HIS C 103      42.606  62.190 -21.008  1.00109.35           C
ATOM   8703  CG  HIS C 103      42.485  62.902 -22.326  1.00121.76           C
ATOM   8704  ND1 HIS C 103      41.930  62.317 -23.447  1.00123.06           N
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ATOM   8705  CE1 HIS C 103      41.997  63.159 -24.464  1.00121.27           C
ATOM   8706  NE2 HIS C 103      42.576  64.269 -24.045  1.00128.57           N
ATOM   8707  CD2 HIS C 103      42.898  64.133 -22.714  1.00129.72           C
ATOM   8708  C   HIS C 103      44.132  61.086 -19.336  1.00100.09           C
ATOM   8709  O   HIS C 103      43.489  60.081 -19.055  1.00100.20           O
ATOM   8710  N   PRO C 104      44.958  61.714 -18.460  1.00 98.96           N
ATOM   8711  CA  PRO C 104      45.367  61.121 -17.169  1.00 93.34           C
ATOM   8712  CB  PRO C 104      46.308  62.164 -16.597  1.00 93.23           C
ATOM   8713  CG  PRO C 104      45.804  63.449 -17.159  1.00 95.67           C
ATOM   8714  CD  PRO C 104      45.412  63.116 -18.565  1.00 96.39           C
ATOM   8715  C   PRO C 104      44.237  60.807 -16.171  1.00 91.50           C
ATOM   8716  O   PRO C 104      44.461  60.054 -15.236  1.00 90.25           O
ATOM   8717  N   GLN C 105      43.048  61.369 -16.376  1.00 95.30           N
ATOM   8718  CA  GLN C 105      41.824  60.908 -15.688  1.00 97.73           C
ATOM   8719  CB  GLN C 105      40.623  61.815 -16.011  1.00104.46           C
ATOM   8720  CG  GLN C 105      40.810  63.328 -16.006  1.00106.72           C
ATOM   8721  CD  GLN C 105      39.971  63.941 -17.117  1.00115.97           C
ATOM   8722  OE1 GLN C 105      40.385  63.944 -18.300  1.00116.31           O
ATOM   8723  NE2 GLN C 105      38.768  64.422 -16.757  1.00118.63           N
ATOM   8724  C   GLN C 105      41.444  59.449 -16.107  1.00 91.15           C
ATOM   8725  O   GLN C 105      41.021  58.615 -15.285  1.00 82.50           O
ATOM   8726  N   GLU C 106      41.559  59.172 -17.408  1.00 87.71           N
ATOM   8727  CA  GLU C 106      41.345  57.827 -17.951  1.00 79.36           C
ATOM   8728  CB  GLU C 106      41.399  57.822 -19.480  1.00 75.26           C
ATOM   8729  CG  GLU C 106      40.420  58.698 -20.245  1.00 71.19           C
ATOM   8730  CD  GLU C 106      40.693  58.651 -21.758  1.00 72.43           C
ATOM   8731  OE1 GLU C 106      41.879  58.521 -22.198  1.00 65.40           O
ATOM   8732  OE2 GLU C 106      39.712  58.737 -22.530  1.00 74.16           O
ATOM   8733  C   GLU C 106      42.446  56.886 -17.428  1.00 77.28           C
ATOM   8734  O   GLU C 106      42.183  55.798 -16.911  1.00 80.68           O
ATOM   8735  N   VAL C 107      43.684  57.326 -17.547  1.00 70.42           N
ATOM   8736  CA  VAL C 107      44.796  56.552 -17.038  1.00 72.37           C
ATOM   8737  CB  VAL C 107      46.134  57.284 -17.319  1.00 74.96           C
ATOM   8738  CG1 VAL C 107      47.340  56.591 -16.661  1.00 75.96           C
ATOM   8739  CG2 VAL C 107      46.338  57.446 -18.820  1.00 75.74           C
ATOM   8740  C   VAL C 107      44.640  56.243 -15.533  1.00 73.46           C
ATOM   8741  O   VAL C 107      45.076  55.184 -15.068  1.00 70.81           O
ATOM   8742  N   SER C 108      44.033  57.157 -14.775  1.00 75.71           N
ATOM   8743  CA  SER C 108      43.815  56.923 -13.349  1.00 80.21           C
ATOM   8744  CB  SER C 108      43.339  58.191 -12.636  1.00 81.31           C
ATOM   8745  OG  SER C 108      44.335  59.175 -12.673  1.00 79.93           O
ATOM   8746  C   SER C 108      42.802  55.827 -13.105  1.00 83.19           C
ATOM   8747  O   SER C 108      43.125  54.802 -12.524  1.00 88.52           O
ATOM   8748  N   MET C 109      41.574  56.037 -13.551  1.00 82.02           N
ATOM   8749  CA  MET C 109      40.511  55.145 -13.144  1.00 85.87           C
ATOM   8750  CB  MET C 109      39.148  55.784 -13.420  1.00 91.14           C
ATOM   8751  CG  MET C 109      38.790  55.872 -14.888  1.00 94.00           C
ATOM   8752  SD  MET C 109      37.654  54.537 -15.281  1.00 94.36           S
ATOM   8753  CE  MET C 109      38.314  53.950 -16.841  1.00 94.78           C
ATOM   8754  C   MET C 109      40.656  53.725 -13.740  1.00 77.83           C
ATOM   8755  O   MET C 109      39.974  52.804 -13.284  1.00 79.05           O
ATOM   8756  N   VAL C 110      41.538  53.537 -14.723  1.00 67.18           N
ATOM   8757  CA  VAL C 110      41.897  52.184 -15.143  1.00 66.91           C
ATOM   8758  CB  VAL C 110      42.539  52.129 -16.548  1.00 62.80           C
ATOM   8759  CG1 VAL C 110      43.044  50.731 -16.884  1.00 60.13           C
ATOM   8760  CG2 VAL C 110      41.498  52.487 -17.563  1.00 63.27           C
ATOM   8761  C   VAL C 110      42.813  51.592 -14.093  1.00 67.12           C
ATOM   8762  O   VAL C 110      42.506  50.563 -13.497  1.00 69.70           O
ATOM   8763  N   ARG C 111      43.928  52.267 -13.869  1.00 69.84           N
ATOM   8764  CA  ARG C 111      44.844  51.984 -12.751  1.00 68.08           C
ATOM   8765  CB  ARG C 111      45.799  53.192 -12.560  1.00 72.31           C
ATOM   8766  CG  ARG C 111      47.103  52.930 -11.819  1.00 80.66           C
ATOM   8767  CD  ARG C 111      48.191  53.949 -12.207  1.00 82.86           C
ATOM   8768  NE  ARG C 111      48.861  53.572 -13.458  1.00 84.22           N
ATOM   8769  CZ  ARG C 111      49.741  54.314 -14.122  1.00 79.47           C
ATOM   8770  NH1 ARG C 111      50.065  55.525 -13.689  1.00 72.93           N
ATOM   8771  NH2 ARG C 111      50.283  53.833 -15.248  1.00 84.80           N
ATOM   8772  C   ARG C 111      44.050  51.607 -11.466  1.00 60.60           C
ATOM   8773  O   ARG C 111      44.395  50.594 -10.806  1.00 52.87           O
ATOM   8774  N   ASN C 112      42.967  52.371 -11.181  1.00 56.14           N
ATOM   8775  CA  ASN C 112      42.084  52.107 -10.052  1.00 55.28           C
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ATOM   8776  CB  ASN C 112      41.019  53.177  -9.838  1.00 56.03           C
ATOM   8777  CG  ASN C 112      40.258  52.970  -8.503  1.00 59.66           C
ATOM   8778  OD1 ASN C 112      40.805  53.239  -7.441  1.00 65.90           O
ATOM   8779  ND2 ASN C 112      39.017  52.467  -8.554  1.00 58.09           N
ATOM   8780  C   ASN C 112      41.353  50.813 -10.223  1.00 59.19           C
ATOM   8781  O   ASN C 112      41.291  50.002  -9.308  1.00 62.35           O
ATOM   8782  N   LEU C 113      40.740  50.652 -11.388  1.00 63.01           N
ATOM   8783  CA  LEU C 113      39.932  49.473 -11.688  1.00 59.91           C
ATOM   8784  CB  LEU C 113      39.360  49.550 -13.098  1.00 63.19           C
ATOM   8785  CG  LEU C 113      37.844  49.651 -13.235  1.00 63.66           C
ATOM   8786  CD1 LEU C 113      37.113  50.279 -12.027  1.00 64.23           C
ATOM   8787  CD2 LEU C 113      37.576  50.319 -14.585  1.00 57.39           C
ATOM   8788  C   LEU C 113      40.707  48.209 -11.545  1.00 58.61           C
ATOM   8789  O   LEU C 113      40.184  47.278 -10.982  1.00 61.35           O
ATOM   8790  N   ILE C 114      41.949  48.214 -11.959  1.00 57.42           N
ATOM   8791  CA  ILE C 114      42.744  47.029 -11.874  1.00 60.47           C
ATOM   8792  CB  ILE C 114      44.170  47.346 -12.244  1.00 65.98           C
ATOM   8793  CG1 ILE C 114      44.202  48.122 -13.540  1.00 69.16           C
ATOM   8794  CD1 ILE C 114      44.006  47.271 -14.757  1.00 72.50           C
ATOM   8795  CG2 ILE C 114      44.968  46.073 -12.357  1.00 67.53           C
ATOM   8796  C   ILE C 114      42.771  46.595 -10.447  1.00 63.85           C
ATOM   8797  O   ILE C 114      42.743  45.422 -10.153  1.00 61.10           O
ATOM   8798  N   GLN C 115      42.844  47.555  -9.552  1.00 68.20           N
ATOM   8799  CA  GLN C 115      42.858  47.248  -8.147  1.00 66.00           C
ATOM   8800  CB  GLN C 115      43.074  48.506  -7.342  1.00 71.71           C
ATOM   8801  CG  GLN C 115      44.418  49.145  -7.565  1.00 73.42           C
ATOM   8802  CD  GLN C 115      45.516  48.136  -7.650  1.00 73.16           C
ATOM   8803  OE1 GLN C 115      45.762  47.576  -8.701  1.00 68.71           O
ATOM   8804  NE2 GLN C 115      46.172  47.887  -6.540  1.00 75.49           N
ATOM   8805  C   GLN C 115      41.578  46.597  -7.713  1.00 70.81           C
ATOM   8806  O   GLN C 115      41.590  45.713  -6.881  1.00 61.77           O
ATOM   8807  N   LYS C 116      40.462  47.057  -8.246  1.00 84.66           N
ATOM   8808  CA  LYS C 116      39.194  46.487  -7.853  1.00 86.87           C
ATOM   8809  CB  LYS C 116      38.514  47.498  -6.936  1.00 84.54           C
ATOM   8810  C   LYS C 116      38.216  46.118  -8.958  1.00 80.07           C
ATOM   8811  O   LYS C 116      37.894  46.947  -9.777  1.00 94.73           O
ATOM   8812  N   ASP C 117      37.710  44.896  -8.982  1.00 66.54           N
ATOM   8813  CA  ASP C 117      36.682  44.540  -9.965  1.00 65.77           C
ATOM   8814  CB  ASP C 117      35.420  45.341  -9.722  1.00 71.42           C
ATOM   8815  CG  ASP C 117      34.748  44.964  -8.414  1.00 74.10           C
ATOM   8816  OD1 ASP C 117      35.316  44.151  -7.666  1.00 70.16           O
ATOM   8817  OD2 ASP C 117      33.653  45.479  -8.127  1.00 76.74           O
ATOM   8818  C   ASP C 117      37.079  44.442 -11.436  1.00 60.14           C
ATOM   8819  O   ASP C 117      36.860  43.429 -12.047  1.00 53.50           O
ATOM   8820  N   ARG C 118      37.639  45.481 -12.020  1.00 57.96           N
ATOM   8821  CA  ARG C 118      38.129  45.348 -13.374  1.00 56.80           C
ATOM   8822  CB  ARG C 118      38.939  44.064 -13.548  1.00 59.80           C
ATOM   8823  CG  ARG C 118      40.313  44.055 -12.849  1.00 63.98           C
ATOM   8824  CD  ARG C 118      41.261  42.920 -13.285  1.00 64.54           C
ATOM   8825  NE  ARG C 118      40.450  41.744 -13.577  1.00 65.34           N
ATOM   8826  CZ  ARG C 118      39.896  40.957 -12.675  1.00 64.51           C
ATOM   8827  NH1 ARG C 118      40.162  41.138 -11.387  1.00 66.68           N
ATOM   8828  NH2 ARG C 118      39.100  39.957 -13.075  1.00 68.09           N
ATOM   8829  C   ARG C 118      37.071  45.566 -14.499  1.00 58.53           C
ATOM   8830  O   ARG C 118      37.455  45.816 -15.638  1.00 58.86           O
ATOM   8831  N   THR C 119      35.775  45.524 -14.190  1.00 57.64           N
ATOM   8832  CA  THR C 119      34.723  45.873 -15.153  1.00 61.67           C
ATOM   8833  CB  THR C 119      33.411  45.191 -14.752  1.00 68.60           C
ATOM   8834  OG1 THR C 119      33.174  45.526 -13.379  1.00 85.66           O
ATOM   8835  CG2 THR C 119      33.480  43.601 -14.921  1.00 66.58           C
ATOM   8836  C   THR C 119      34.441  47.392 -15.328  1.00 56.20           C
ATOM   8837  O   THR C 119      34.659  48.189 -14.464  1.00 57.06           O
ATOM   8838  N   PHE C 120      33.956  47.761 -16.489  1.00 56.80           N
ATOM   8839  CA  PHE C 120      33.539  49.110 -16.792  1.00 56.08           C
ATOM   8840  CB  PHE C 120      34.691  49.986 -17.293  1.00 56.91           C
ATOM   8841  CG  PHE C 120      35.332  49.521 -18.555  1.00 60.93           C
ATOM   8842  CD1 PHE C 120      34.807  49.871 -19.795  1.00 66.54           C
ATOM   8843  CE1 PHE C 120      35.425  49.439 -20.973  1.00 66.64           C
ATOM   8844  CZ  PHE C 120      36.591  48.676 -20.913  1.00 64.04           C
ATOM   8845  CE2 PHE C 120      37.133  48.351 -19.686  1.00 62.34           C
ATOM   8846  CD2 PHE C 120      36.507  48.778 -18.521  1.00 64.24           C
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ATOM   8847  C   PHE C 120      32.360  49.073 -17.766  1.00 56.75           C
ATOM   8848  O   PHE C 120      31.965  48.010 -18.258  1.00 57.69           O
ATOM   8849  N   ALA C 121      31.787  50.235 -18.030  1.00 56.48           N
ATOM   8850  CA  ALA C 121      30.583  50.313 -18.809  1.00 56.14           C
ATOM   8851  CB  ALA C 121      29.492  51.017 -18.029  1.00 55.99           C
ATOM   8852  C   ALA C 121      30.848  50.976 -20.154  1.00 55.81           C
ATOM   8853  O   ALA C 121      31.551  51.974 -20.272  1.00 53.32           O
ATOM   8854  N   VAL C 122      30.287  50.350 -21.176  1.00 56.67           N
ATOM   8855  CA  VAL C 122      30.471  50.754 -22.524  1.00 54.96           C
ATOM   8856  CB  VAL C 122      31.071  49.617 -23.326  1.00 51.63           C
ATOM   8857  CG1 VAL C 122      31.039  49.968 -24.794  1.00 52.18           C
ATOM   8858  CG2 VAL C 122      32.476  49.270 -22.842  1.00 49.49           C
ATOM   8859  C   VAL C 122      29.068  51.028 -22.990  1.00 59.96           C
ATOM   8860  O   VAL C 122      28.299  50.107 -23.231  1.00 54.94           O
ATOM   8861  N   LEU C 123      28.742  52.312 -23.102  1.00 70.33           N
ATOM   8862  CA  LEU C 123      27.368  52.733 -23.346  1.00 71.60           C
ATOM   8863  CB  LEU C 123      27.133  54.127 -22.763  1.00 71.76           C
ATOM   8864  CG  LEU C 123      27.347  54.171 -21.243  1.00 74.66           C
ATOM   8865  CD1 LEU C 123      27.158  55.573 -20.679  1.00 75.65           C
ATOM   8866  CD2 LEU C 123      26.428  53.196 -20.498  1.00 73.40           C
ATOM   8867  C   LEU C 123      27.080  52.709 -24.822  1.00 73.31           C
ATOM   8868  O   LEU C 123      27.943  53.094 -25.610  1.00 67.70           O
ATOM   8869  N   ALA C 124      25.876  52.226 -25.158  1.00 81.79           N
ATOM   8870  CA  ALA C 124      25.333  52.154 -26.526  1.00 89.93           C
ATOM   8871  CB  ALA C 124      24.566  50.852 -26.757  1.00 86.74           C
ATOM   8872  C   ALA C 124      24.390  53.315 -26.657  1.00 99.46           C
ATOM   8873  O   ALA C 124      23.439  53.420 -25.886  1.00 95.83           O
ATOM   8874  N   TYR C 125      24.619  54.164 -27.657  1.00114.66           N
ATOM   8875  CA  TYR C 125      24.128  55.547 -27.606  1.00119.11           C
ATOM   8876  CB  TYR C 125      25.216  56.469 -28.152  1.00115.61           C
ATOM   8877  CG  TYR C 125      26.319  56.721 -27.134  1.00114.02           C
ATOM   8878  CD1 TYR C 125      26.046  57.404 -25.936  1.00111.48           C
ATOM   8879  CE1 TYR C 125      27.047  57.655 -24.989  1.00106.86           C
ATOM   8880  CZ  TYR C 125      28.349  57.230 -25.230  1.00106.36           C
ATOM   8881  OH  TYR C 125      29.325  57.475 -24.292  1.00 89.59           O
ATOM   8882  CE2 TYR C 125      28.648  56.548 -26.410  1.00114.61           C
ATOM   8883  CD2 TYR C 125      27.636  56.294 -27.356  1.00117.25           C
ATOM   8884  C   TYR C 125      22.746  55.856 -28.220  1.00127.46           C
ATOM   8885  O   TYR C 125      22.286  55.149 -29.126  1.00126.34           O
ATOM   8886  N   SER C 126      22.134  56.935 -27.688  1.00135.63           N
ATOM   8887  CA  SER C 126      20.735  57.397 -27.933  1.00135.87           C
ATOM   8888  CB  SER C 126      20.707  58.948 -27.977  1.00124.42           C
ATOM   8889  C   SER C 126      19.984  56.814 -29.153  1.00130.79           C
ATOM   8890  O   SER C 126      20.331  57.078 -30.312  1.00126.37           O
ATOM   8891  N   GLU C 132      23.569  61.132 -22.953  1.00127.81           N
ATOM   8892  CA  GLU C 132      23.277  59.920 -22.197  1.00125.87           C
ATOM   8893  CB  GLU C 132      22.448  60.250 -20.941  1.00111.40           C
ATOM   8894  C   GLU C 132      22.580  58.859 -23.095  1.00138.28           C
ATOM   8895  O   GLU C 132      22.299  59.111 -24.299  1.00134.18           O
ATOM   8896  N   ALA C 133      22.359  57.669 -22.508  1.00140.67           N
ATOM   8897  CA  ALA C 133      21.732  56.505 -23.188  1.00127.06           C
ATOM   8898  CB  ALA C 133      22.730  55.791 -24.088  1.00125.01           C
ATOM   8899  C   ALA C 133      21.135  55.528 -22.173  1.00113.54           C
ATOM   8900  O   ALA C 133      21.267  55.730 -20.964  1.00105.95           O
ATOM   8901  N   GLN C 134      20.495  54.475 -22.675  1.00104.75           N
ATOM   8902  CA  GLN C 134      19.594  53.653 -21.859  1.00106.65           C
ATOM   8903  CB  GLN C 134      18.156  53.660 -22.433  1.00114.91           C
ATOM   8904  CG  GLN C 134      17.739  54.894 -23.257  1.00121.57           C
ATOM   8905  CD  GLN C 134      18.255  54.889 -24.712  1.00130.61           C
ATOM   8906  OE1 GLN C 134      18.452  53.831 -25.320  1.00137.07           O
ATOM   8907  NE2 GLN C 134      18.485  56.078 -25.266  1.00130.54           N
ATOM   8908  C   GLN C 134      20.083  52.210 -21.681  1.00100.53           C
ATOM   8909  O   GLN C 134      19.774  51.601 -20.640  1.00 93.20           O
ATOM   8910  N   PHE C 135      20.821  51.677 -22.676  1.00 92.43           N
ATOM   8911  CA  PHE C 135      21.357  50.291 -22.672  1.00 88.03           C
ATOM   8912  CB  PHE C 135      20.616  49.424 -23.698  1.00 91.59           C
ATOM   8913  CG  PHE C 135      19.154  49.294 -23.404  1.00105.54           C
ATOM   8914  CD1 PHE C 135      18.721  48.574 -22.288  1.00108.02           C
ATOM   8915  CE1 PHE C 135      17.369  48.475 -21.983  1.00110.27           C
ATOM   8916  CZ  PHE C 135      16.427  49.107 -22.790  1.00115.33           C
ATOM   8917  CE2 PHE C 135      16.841  49.840 -23.896  1.00114.60           C
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ATOM   8918  CD2 PHE C 135      18.199  49.940 -24.197  1.00113.35           C
ATOM   8919  C   PHE C 135      22.861  50.213 -22.937  1.00 80.98           C
ATOM   8920  O   PHE C 135      23.417  51.020 -23.654  1.00 83.24           O
ATOM   8921  N   GLY C 136      23.532  49.237 -22.346  1.00 75.98           N
ATOM   8922  CA  GLY C 136      24.946  49.036 -22.627  1.00 68.27           C
ATOM   8923  C   GLY C 136      25.390  47.684 -22.153  1.00 64.41           C
ATOM   8924  O   GLY C 136      24.556  46.884 -21.709  1.00 69.67           O
ATOM   8925  N   THR C 137      26.699  47.445 -22.232  1.00 56.65           N
ATOM   8926  CA  THR C 137      27.290  46.158 -21.928  1.00 52.73           C
ATOM   8927  CB  THR C 137      27.684  45.442 -23.230  1.00 52.24           C
ATOM   8928  OG1 THR C 137      26.499  45.126 -23.971  1.00 51.42           O
ATOM   8929  CG2 THR C 137      28.419  44.140 -22.962  1.00 52.83           C
ATOM   8930  C   THR C 137      28.515  46.365 -21.078  1.00 51.53           C
ATOM   8931  O   THR C 137      29.267  47.293 -21.345  1.00 49.57           O
ATOM   8932  N   THR C 138      28.721  45.506 -20.066  1.00 51.08           N
ATOM   8933  CA  THR C 138      29.945  45.557 -19.237  1.00 50.51           C
ATOM   8934  CB  THR C 138      29.862  44.761 -17.929  1.00 51.67           C
ATOM   8935  OG1 THR C 138      29.825  43.346 -18.193  1.00 53.04           O
ATOM   8936  CG2 THR C 138      28.661  45.188 -17.128  1.00 52.63           C
ATOM   8937  C   THR C 138      31.179  45.038 -19.946  1.00 51.19           C
ATOM   8938  O   THR C 138      31.109  44.163 -20.787  1.00 49.29           O
ATOM   8939  N   ALA C 139      32.331  45.561 -19.581  1.00 52.10           N
ATOM   8940  CA  ALA C 139      33.570  45.036 -20.132  1.00 54.12           C
ATOM   8941  CB  ALA C 139      34.138  45.992 -21.172  1.00 53.88           C
ATOM   8942  C   ALA C 139      34.569  44.819 -19.010  1.00 54.11           C
ATOM   8943  O   ALA C 139      34.867  45.743 -18.304  1.00 54.10           O
ATOM   8944  N   GLU C 140      35.103  43.609 -18.887  1.00 54.57           N
ATOM   8945  CA  GLU C 140      36.150  43.302 -17.936  1.00 55.37           C
ATOM   8946  CB  GLU C 140      35.928  41.909 -17.379  1.00 62.00           C
ATOM   8947  CG  GLU C 140      36.715  41.597 -16.135  1.00 66.51           C
ATOM   8948  CD  GLU C 140      36.571  40.150 -15.702  1.00 71.67           C
ATOM   8949  OE1 GLU C 140      35.433  39.625 -15.696  1.00 68.63           O
ATOM   8950  OE2 GLU C 140      37.610  39.541 -15.351  1.00 86.32           O
ATOM   8951  C   GLU C 140      37.525  43.387 -18.587  1.00 52.66           C
ATOM   8952  O   GLU C 140      37.728  42.943 -19.705  1.00 46.81           O
ATOM   8953  N   ILE C 141      38.455  43.964 -17.839  1.00 54.60           N
ATOM   8954  CA  ILE C 141      39.841  44.076 -18.235  1.00 55.91           C
ATOM   8955  CB  ILE C 141      40.567  45.188 -17.474  1.00 56.05           C
ATOM   8956  CG1 ILE C 141      39.959  46.522 -17.866  1.00 56.86           C
ATOM   8957  CD1 ILE C 141      40.333  47.653 -16.955  1.00 59.81           C
ATOM   8958  CG2 ILE C 141      42.044  45.216 -17.852  1.00 57.38           C
ATOM   8959  C   ILE C 141      40.526  42.779 -17.930  1.00 55.65           C
ATOM   8960  O   ILE C 141      40.474  42.308 -16.797  1.00 53.39           O
ATOM   8961  N   TYR C 142      41.152  42.193 -18.943  1.00 55.99           N
ATOM   8962  CA  TYR C 142      41.907  40.944 -18.733  1.00 56.17           C
ATOM   8963  CB  TYR C 142      41.313  39.743 -19.515  1.00 51.59           C
ATOM   8964  CG  TYR C 142      41.502  39.783 -21.037  1.00 48.06           C
ATOM   8965  CD1 TYR C 142      42.703  39.407 -21.618  1.00 44.97           C
ATOM   8966  CE1 TYR C 142      42.899  39.478 -22.976  1.00 44.13           C
ATOM   8967  CZ  TYR C 142      41.877  39.891 -23.803  1.00 44.01           C
ATOM   8968  OH  TYR C 142      42.098  39.899 -25.143  1.00 41.70           O
ATOM   8969  CE2 TYR C 142      40.657  40.261 -23.278  1.00 46.78           C
ATOM   8970  CD2 TYR C 142      40.471  40.214 -21.892  1.00 48.61           C
ATOM   8971  C   TYR C 142      43.376  41.107 -19.037  1.00 56.57           C
ATOM   8972  O   TYR C 142      44.091  40.161 -18.838  1.00 57.96           O
ATOM   8973  N   ALA C 143      43.827  42.271 -19.516  1.00 57.50           N
ATOM   8974  CA  ALA C 143      45.276  42.524 -19.651  1.00 61.88           C
ATOM   8975  CB  ALA C 143      45.779  41.878 -20.926  1.00 61.36           C
ATOM   8976  C   ALA C 143      45.692  44.040 -19.545  1.00 65.23           C
ATOM   8977  O   ALA C 143      45.049  44.903 -20.115  1.00 66.06           O
ATOM   8978  N   TYR C 144      46.736  44.354 -18.784  1.00 70.28           N
ATOM   8979  CA  TYR C 144      47.058  45.751 -18.449  1.00 78.93           C
ATOM   8980  CB  TYR C 144      46.916  46.020 -16.928  1.00 89.92           C
ATOM   8981  CG  TYR C 144      47.613  47.305 -16.411  1.00105.21           C
ATOM   8982  CD1 TYR C 144      47.220  48.585 -16.863  1.00110.88           C
ATOM   8983  CE1 TYR C 144      47.854  49.754 -16.407  1.00111.98           C
ATOM   8984  CZ  TYR C 144      48.901  49.668 -15.486  1.00112.15           C
ATOM   8985  OH  TYR C 144      49.522  50.826 -15.054  1.00104.71           O
ATOM   8986  CE2 TYR C 144      49.311  48.415 -15.020  1.00113.02           C
ATOM   8987  CD2 TYR C 144      48.669  47.245 -15.475  1.00110.93           C
ATOM   8988  C   TYR C 144      48.472  45.991 -18.893  1.00 77.08           C
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ATOM   8989  O   TYR C 144      49.285  45.065 -18.840  1.00 74.18           O
ATOM   8990  N   ARG C 145      48.756  47.227 -19.316  1.00 76.77           N
ATOM   8991  CA  ARG C 145      50.093  47.652 -19.748  1.00 83.67           C
ATOM   8992  CB  ARG C 145      50.282  47.393 -21.252  1.00 93.21           C
ATOM   8993  CG  ARG C 145      51.524  46.626 -21.635  1.00 99.74           C
ATOM   8994  CD  ARG C 145      52.791  47.387 -21.310  1.00107.37           C
ATOM   8995  NE  ARG C 145      53.367  48.085 -22.461  1.00110.28           N
ATOM   8996  CZ  ARG C 145      53.985  47.498 -23.485  1.00104.41           C
ATOM   8997  NH1 ARG C 145      54.500  48.268 -24.428  1.00104.57           N
ATOM   8998  NH2 ARG C 145      54.083  46.161 -23.582  1.00102.27           N
ATOM   8999  C   ARG C 145      50.254  49.144 -19.489  1.00 88.06           C
ATOM   9000  O   ARG C 145      49.584  49.957 -20.141  1.00 89.69           O
ATOM   9001  N   GLU C 146      51.107  49.502 -18.520  1.00 96.33           N
ATOM   9002  CA  GLU C 146      51.553  50.895 -18.312  1.00 89.58           C
ATOM   9003  CB  GLU C 146      51.891  51.184 -16.828  1.00 79.82           C
ATOM   9004  C   GLU C 146      52.751  51.080 -19.252  1.00 85.81           C
ATOM   9005  O   GLU C 146      53.480  50.129 -19.544  1.00 77.18           O
ATOM   9006  N   GLU C 147      52.913  52.284 -19.776  1.00 90.31           N
ATOM   9007  CA  GLU C 147      54.075  52.581 -20.591  1.00 97.81           C
ATOM   9008  CB  GLU C 147      53.911  51.908 -21.965  1.00 98.02           C
ATOM   9009  CG  GLU C 147      54.426  52.662 -23.184  1.00 99.84           C
ATOM   9010  CD  GLU C 147      54.794  51.699 -24.291  1.00102.95           C
ATOM   9011  OE1 GLU C 147      53.882  51.056 -24.867  1.00 98.08           O
ATOM   9012  OE2 GLU C 147      56.009  51.560 -24.553  1.00107.97           O
ATOM   9013  C   GLU C 147      54.360  54.091 -20.640  1.00104.58           C
ATOM   9014  O   GLU C 147      53.502  54.864 -21.044  1.00104.80           O
ATOM   9015  N   GLN C 148      55.561  54.486 -20.190  1.00120.25           N
ATOM   9016  CA  GLN C 148      55.976  55.910 -20.061  1.00123.72           C
ATOM   9017  CB  GLN C 148      56.222  56.341 -18.584  1.00121.73           C
ATOM   9018  CG  GLN C 148      56.116  55.260 -17.491  1.00126.98           C
ATOM   9019  CD  GLN C 148      54.680  54.803 -17.151  1.00130.08           C
ATOM   9020  OE1 GLN C 148      53.716  55.573 -17.253  1.00130.71           O
ATOM   9021  NE2 GLN C 148      54.543  53.539 -16.729  1.00127.97           N
ATOM   9022  C   GLN C 148      57.178  56.227 -20.960  1.00125.29           C
ATOM   9023  O   GLN C 148      57.932  57.148 -20.674  1.00119.48           O
ATOM   9024  N   ASP C 149      57.304  55.472 -22.063  1.00137.08           N
ATOM   9025  CA  ASP C 149      58.374  55.621 -23.072  1.00141.99           C
ATOM   9026  CB  ASP C 149      58.636  54.294 -23.823  1.00145.84           C
ATOM   9027  CG  ASP C 149      59.026  53.129 -22.894  1.00146.74           C
ATOM   9028  OD1 ASP C 149      59.551  53.366 -21.779  1.00146.59           O
ATOM   9029  OD2 ASP C 149      58.807  51.962 -23.300  1.00137.75           O
ATOM   9030  C   ASP C 149      58.010  56.699 -24.097  1.00140.44           C
ATOM   9031  O   ASP C 149      56.827  56.951 -24.348  1.00129.16           O
ATOM   9032  N   PHE C 150      59.046  57.282 -24.709  1.00146.42           N
ATOM   9033  CA  PHE C 150      58.984  58.587 -25.402  1.00148.83           C
ATOM   9034  CB  PHE C 150      57.988  58.599 -26.603  1.00152.62           C
ATOM   9035  CG  PHE C 150      58.160  57.476 -27.624  1.00152.24           C
ATOM   9036  CD1 PHE C 150      59.420  56.976 -27.981  1.00148.43           C
ATOM   9037  CE1 PHE C 150      59.539  55.975 -28.944  1.00144.37           C
ATOM   9038  CZ  PHE C 150      58.403  55.478 -29.584  1.00143.63           C
ATOM   9039  CE2 PHE C 150      57.146  55.976 -29.263  1.00141.95           C
ATOM   9040  CD2 PHE C 150      57.028  56.972 -28.300  1.00146.88           C
ATOM   9041  C   PHE C 150      58.644  59.766 -24.436  1.00147.25           C
ATOM   9042  O   PHE C 150      58.134  60.801 -24.887  1.00146.24           O
ATOM   9043  N   GLY C 151      58.910  59.614 -23.127  1.00143.07           N
ATOM   9044  CA  GLY C 151      58.541  60.619 -22.099  1.00142.82           C
ATOM   9045  C   GLY C 151      57.099  60.614 -21.561  1.00149.96           C
ATOM   9046  O   GLY C 151      56.889  60.794 -20.351  1.00135.25           O
ATOM   9047  N   ILE C 152      56.122  60.380 -22.452  1.00159.20           N
ATOM   9048  CA  ILE C 152      54.664  60.597 -22.211  1.00154.27           C
ATOM   9049  CB  ILE C 152      53.928  61.024 -23.535  1.00145.41           C
ATOM   9050  CG1 ILE C 152      54.778  62.021 -24.358  1.00138.15           C
ATOM   9051  CD1 ILE C 152      55.101  61.528 -25.751  1.00133.32           C
ATOM   9052  CG2 ILE C 152      52.536  61.614 -23.260  1.00137.36           C
ATOM   9053  C   ILE C 152      53.993  59.325 -21.630  1.00148.12           C
ATOM   9054  O   ILE C 152      54.533  58.222 -21.754  1.00141.52           O
ATOM   9055  N   GLU C 153      52.837  59.501 -20.981  1.00139.09           N
ATOM   9056  CA  GLU C 153      52.009  58.396 -20.452  1.00130.96           C
ATOM   9057  CB  GLU C 153      51.103  58.922 -19.341  1.00125.53           C
ATOM   9058  CG  GLU C 153      51.818  59.365 -18.087  1.00122.50           C
ATOM   9059  CD  GLU C 153      51.827  58.286 -17.032  1.00125.87           C
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ATOM   9060  OE1 GLU C 153      50.816  57.556 -16.932  1.00126.32           O
ATOM   9061  OE2 GLU C 153      52.836  58.173 -16.301  1.00124.46           O
ATOM   9062  C   GLU C 153      51.088  57.741 -21.510  1.00128.54           C
ATOM   9063  O   GLU C 153      50.519  58.430 -22.373  1.00128.49           O
ATOM   9064  N   ILE C 154      50.942  56.417 -21.424  1.00113.81           N
ATOM   9065  CA  ILE C 154      49.927  55.663 -22.175  1.00102.62           C
ATOM   9066  CB  ILE C 154      50.440  54.986 -23.507  1.00110.36           C
ATOM   9067  CG1 ILE C 154      51.683  55.645 -24.148  1.00109.97           C
ATOM   9068  CD1 ILE C 154      51.416  56.803 -25.085  1.00112.69           C
ATOM   9069  CG2 ILE C 154      49.307  54.837 -24.534  1.00115.44           C
ATOM   9070  C   ILE C 154      49.505  54.521 -21.247  1.00 92.75           C
ATOM   9071  O   ILE C 154      50.339  53.997 -20.511  1.00 89.63           O
ATOM   9072  N   VAL C 155      48.226  54.139 -21.278  1.00 88.59           N
ATOM   9073  CA  VAL C 155      47.774  52.820 -20.751  1.00 82.70           C
ATOM   9074  CB  VAL C 155      46.734  52.951 -19.629  1.00 78.41           C
ATOM   9075  CG1 VAL C 155      46.211  51.579 -19.221  1.00 78.70           C
ATOM   9076  CG2 VAL C 155      47.380  53.634 -18.449  1.00 76.40           C
ATOM   9077  C   VAL C 155      47.197  51.958 -21.870  1.00 72.91           C
ATOM   9078  O   VAL C 155      46.523  52.452 -22.758  1.00 72.16           O
ATOM   9079  N   LYS C 156      47.455  50.668 -21.820  1.00 64.00           N
ATOM   9080  CA  LYS C 156      46.923  49.798 -22.832  1.00 62.40           C
ATOM   9081  CB  LYS C 156      48.051  49.279 -23.707  1.00 60.67           C
ATOM   9082  CG  LYS C 156      48.746  50.386 -24.480  1.00 61.31           C
ATOM   9083  CD  LYS C 156      50.108  49.897 -24.899  1.00 64.48           C
ATOM   9084  CE  LYS C 156      50.833  50.929 -25.729  1.00 66.41           C
ATOM   9085  NZ  LYS C 156      50.551  50.686 -27.169  1.00 71.08           N
ATOM   9086  C   LYS C 156      46.153  48.683 -22.166  1.00 60.21           C
ATOM   9087  O   LYS C 156      46.733  47.844 -21.486  1.00 58.31           O
ATOM   9088  N   VAL C 157      44.842  48.648 -22.366  1.00 61.25           N
ATOM   9089  CA  VAL C 157      44.083  47.472 -21.898  1.00 64.62           C
ATOM   9090  CB  VAL C 157      42.957  47.854 -20.920  1.00 67.54           C
ATOM   9091  CG1 VAL C 157      43.550  48.517 -19.691  1.00 72.30           C
ATOM   9092  CG2 VAL C 157      41.998  48.816 -21.552  1.00 70.49           C
ATOM   9093  C   VAL C 157      43.592  46.525 -23.006  1.00 59.21           C
ATOM   9094  O   VAL C 157      43.615  46.845 -24.219  1.00 59.83           O
ATOM   9095  N   LYS C 158      43.221  45.334 -22.563  1.00 51.90           N
ATOM   9096  CA  LYS C 158      42.378  44.438 -23.355  1.00 54.75           C
ATOM   9097  CB  LYS C 158      43.139  43.206 -23.837  1.00 54.01           C
ATOM   9098  CG  LYS C 158      44.201  43.588 -24.822  1.00 53.89           C
ATOM   9099  CD  LYS C 158      44.785  42.398 -25.512  1.00 53.73           C
ATOM   9100  CE  LYS C 158      45.795  41.685 -24.634  1.00 57.77           C
ATOM   9101  NZ  LYS C 158      46.933  41.205 -25.490  1.00 60.40           N
ATOM   9102  C   LYS C 158      41.181  44.029 -22.525  1.00 52.89           C
ATOM   9103  O   LYS C 158      41.300  43.238 -21.588  1.00 55.21           O
ATOM   9104  N   ALA C 159      40.030  44.606 -22.827  1.00 50.67           N
ATOM   9105  CA  ALA C 159      38.848  44.233 -22.102  1.00 50.67           C
ATOM   9106  CB  ALA C 159      38.053  45.463 -21.768  1.00 49.40           C
ATOM   9107  C   ALA C 159      38.002  43.174 -22.877  1.00 49.97           C
ATOM   9108  O   ALA C 159      38.267  42.834 -24.036  1.00 48.21           O
ATOM   9109  N   ILE C 160      36.994  42.638 -22.227  1.00 44.50           N
ATOM   9110  CA  ILE C 160      36.127  41.767 -22.929  1.00 44.82           C
ATOM   9111  CB  ILE C 160      36.566  40.309 -22.810  1.00 46.38           C
ATOM   9112  CG1 ILE C 160      35.487  39.382 -23.324  1.00 44.43           C
ATOM   9113  CD1 ILE C 160      36.030  38.020 -23.605  1.00 45.53           C
ATOM   9114  CG2 ILE C 160      36.849  39.933 -21.371  1.00 48.37           C
ATOM   9115  C   ILE C 160      34.768  41.985 -22.333  1.00 46.74           C
ATOM   9116  O   ILE C 160      34.614  41.993 -21.112  1.00 41.89           O
ATOM   9117  N   GLY C 161      33.789  42.180 -23.227  1.00 48.67           N
ATOM   9118  CA  GLY C 161      32.430  42.478 -22.851  1.00 46.57           C
ATOM   9119  C   GLY C 161      31.975  41.251 -22.131  1.00 47.10           C
ATOM   9120  O   GLY C 161      32.490  40.191 -22.393  1.00 43.65           O
ATOM   9121  N   ARG C 162      31.043  41.415 -21.211  1.00 50.82           N
ATOM   9122  CA  ARG C 162      30.563  40.353 -20.347  1.00 51.39           C
ATOM   9123  CB  ARG C 162      31.225  40.484 -18.985  1.00 51.47           C
ATOM   9124  CG  ARG C 162      32.665  39.988 -18.968  1.00 53.83           C
ATOM   9125  CD  ARG C 162      32.774  38.499 -18.663  1.00 57.05           C
ATOM   9126  NE  ARG C 162      33.762  37.736 -19.472  1.00 61.84           N
ATOM   9127  CZ  ARG C 162      35.060  37.538 -19.165  1.00 68.56           C
ATOM   9128  NH1 ARG C 162      35.625  38.076 -18.071  1.00 71.34           N
ATOM   9129  NH2 ARG C 162      35.825  36.795 -19.974  1.00 69.40           N
ATOM   9130  C   ARG C 162      29.034  40.390 -20.259  1.00 52.86           C
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ATOM   9131  O   ARG C 162      28.387  39.518 -20.824  1.00 58.20           O
ATOM   9132  N   GLN C 163      28.453  41.393 -19.600  1.00 50.90           N
ATOM   9133  CA  GLN C 163      27.006  41.424 -19.402  1.00 52.14           C
ATOM   9134  CB  GLN C 163      26.709  41.371 -17.933  1.00 52.93           C
ATOM   9135  CG  GLN C 163      27.187  40.111 -17.251  1.00 54.26           C
ATOM   9136  CD  GLN C 163      27.434  40.326 -15.777  1.00 53.47           C
ATOM   9137  OE1 GLN C 163      28.292  41.164 -15.348  1.00 55.13           O
ATOM   9138  NE2 GLN C 163      26.679  39.599 -14.984  1.00 50.83           N
ATOM   9139  C   GLN C 163      26.287  42.639 -19.957  1.00 54.30           C
ATOM   9140  O   GLN C 163      26.837  43.734 -19.954  1.00 55.57           O
ATOM   9141  N   ARG C 164      25.034  42.438 -20.373  1.00 56.04           N
ATOM   9142  CA  ARG C 164      24.176  43.537 -20.796  1.00 59.51           C
ATOM   9143  CB  ARG C 164      23.041  43.042 -21.704  1.00 63.23           C
ATOM   9144  CG  ARG C 164      23.431  42.553 -23.111  1.00 65.83           C
ATOM   9145  CD  ARG C 164      22.215  42.022 -23.872  1.00 67.76           C
ATOM   9146  NE  ARG C 164      21.578  41.012 -23.022  1.00 74.42           N
ATOM   9147  CZ  ARG C 164      20.281  40.712 -22.940  1.00 77.37           C
ATOM   9148  NH1 ARG C 164      19.354  41.291 -23.710  1.00 80.85           N
ATOM   9149  NH2 ARG C 164      19.919  39.772 -22.071  1.00 79.02           N
ATOM   9150  C   ARG C 164      23.542  44.236 -19.588  1.00 61.53           C
ATOM   9151  O   ARG C 164      23.196  43.596 -18.568  1.00 60.73           O
ATOM   9152  N   PHE C 165      23.342  45.545 -19.727  1.00 63.98           N
ATOM   9153  CA  PHE C 165      22.607  46.329 -18.718  1.00 65.81           C
ATOM   9154  CB  PHE C 165      23.577  46.968 -17.740  1.00 62.64           C
ATOM   9155  CG  PHE C 165      24.597  47.886 -18.384  1.00 61.31           C
ATOM   9156  CD1 PHE C 165      24.231  49.142 -18.869  1.00 59.47           C
ATOM   9157  CE1 PHE C 165      25.177  49.978 -19.418  1.00 59.69           C
ATOM   9158  CZ  PHE C 165      26.508  49.573 -19.501  1.00 60.18           C
ATOM   9159  CE2 PHE C 165      26.884  48.331 -19.058  1.00 57.28           C
ATOM   9160  CD2 PHE C 165      25.936  47.496 -18.493  1.00 59.20           C
ATOM   9161  C   PHE C 165      21.648  47.406 -19.276  1.00 67.98           C
ATOM   9162  O   PHE C 165      21.756  47.807 -20.444  1.00 63.36           O
ATOM   9163  N   LYS C 166      20.720  47.814 -18.400  1.00 69.94           N
ATOM   9164  CA  LYS C 166      19.896  49.006 -18.511  1.00 76.42           C
ATOM   9165  CB  LYS C 166      18.489  48.705 -17.973  1.00 87.18           C
ATOM   9166  CG  LYS C 166      17.414  49.785 -18.216  1.00 98.84           C
ATOM   9167  CD  LYS C 166      16.282  49.858 -17.154  1.00101.35           C
ATOM   9168  CE  LYS C 166      15.641  48.515 -16.770  1.00 99.88           C
ATOM   9169  NZ  LYS C 166      14.816  47.928 -17.856  1.00100.81           N
ATOM   9170  C   LYS C 166      20.527  50.075 -17.622  1.00 78.47           C
ATOM   9171  O   LYS C 166      20.930  49.786 -16.474  1.00 79.83           O
ATOM   9172  N   VAL C 167      20.602  51.309 -18.119  1.00 78.42           N
ATOM   9173  CA  VAL C 167      21.108  52.420 -17.294  1.00 78.77           C
ATOM   9174  CB  VAL C 167      21.686  53.591 -18.113  1.00 78.06           C
ATOM   9175  CG1 VAL C 167      22.277  54.665 -17.195  1.00 78.23           C
ATOM   9176  CG2 VAL C 167      22.755  53.098 -19.065  1.00 76.98           C
ATOM   9177  C   VAL C 167      19.977  52.942 -16.425  1.00 79.54           C
ATOM   9178  O   VAL C 167      18.816  52.931 -16.817  1.00 77.62           O
ATOM   9179  N   LEU C 168      20.338  53.364 -15.225  1.00 83.97           N
ATOM   9180  CA  LEU C 168      19.400  53.925 -14.266  1.00 87.72           C
ATOM   9181  CB  LEU C 168      19.394  53.102 -12.966  1.00 85.09           C
ATOM   9182  CG  LEU C 168      18.973  51.634 -13.200  1.00 84.45           C
ATOM   9183  CD1 LEU C 168      19.020  50.774 -11.925  1.00 80.63           C
ATOM   9184  CD2 LEU C 168      17.593  51.610 -13.881  1.00 82.38           C
ATOM   9185  C   LEU C 168      19.813  55.345 -14.021  1.00 90.59           C
ATOM   9186  O   LEU C 168      19.061  56.264 -14.312  1.00105.38           O
ATOM   9187  N   GLU C 169      21.027  55.524 -13.525  1.00 90.17           N
ATOM   9188  CA  GLU C 169      21.543  56.834 -13.176  1.00 90.59           C
ATOM   9189  CB  GLU C 169      21.586  56.964 -11.623  1.00 92.97           C
ATOM   9190  CG  GLU C 169      21.120  58.294 -11.002  1.00 89.66           C
ATOM   9191  CD  GLU C 169      20.007  58.136  -9.963  1.00 89.91           C
ATOM   9192  OE1 GLU C 169      19.156  59.081  -9.897  1.00 84.16           O
ATOM   9193  OE2 GLU C 169      19.980  57.083  -9.238  1.00 79.23           O
ATOM   9194  C   GLU C 169      22.927  56.982 -13.832  1.00 90.59           C
ATOM   9195  O   GLU C 169      23.509  56.004 -14.304  1.00 87.52           O
ATOM   9196  N   LEU C 170      23.414  58.225 -13.849  1.00 93.84           N
ATOM   9197  CA  LEU C 170      24.696  58.640 -14.422  1.00 90.35           C
ATOM   9198  CB  LEU C 170      24.570  58.844 -15.958  1.00 86.96           C
ATOM   9199  CG  LEU C 170      25.054  57.750 -16.924  1.00 86.04           C
ATOM   9200  CD1 LEU C 170      24.479  57.859 -18.331  1.00 81.87           C
ATOM   9201  CD2 LEU C 170      26.569  57.782 -16.994  1.00 89.10           C
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ATOM   9202  C   LEU C 170      25.125  59.946 -13.708  1.00 94.89           C
ATOM   9203  O   LEU C 170      25.052  61.043 -14.292  1.00 93.48           O
ATOM   9204  N   ARG C 171      25.691  59.816 -12.528  1.00102.22           N
ATOM   9205  CA  ARG C 171      26.205  60.989 -11.887  1.00104.95           C
ATOM   9206  CB  ARG C 171      26.270  60.772 -10.388  1.00114.66           C
ATOM   9207  CG  ARG C 171      24.939  60.371  -9.779  1.00124.54           C
ATOM   9208  CD  ARG C 171      24.665  58.889  -9.963  1.00126.90           C
ATOM   9209  NE  ARG C 171      25.695  58.094  -9.313  1.00123.11           N
ATOM   9210  CZ  ARG C 171      25.474  56.932  -8.722  1.00109.16           C
ATOM   9211  NH1 ARG C 171      26.472  56.292  -8.150  1.00103.13           N
ATOM   9212  NH2 ARG C 171      24.259  56.423  -8.690  1.00107.17           N
ATOM   9213  C   ARG C 171      27.604  61.072 -12.438  1.00 90.62           C
ATOM   9214  O   ARG C 171      28.397  60.196 -12.197  1.00 84.96           O
ATOM   9215  N   THR C 172      27.917  62.119 -13.180  1.00 82.44           N
ATOM   9216  CA  THR C 172      29.258  62.251 -13.717  1.00 79.72           C
ATOM   9217  CB  THR C 172      29.367  63.186 -14.932  1.00 76.30           C
ATOM   9218  OG1 THR C 172      29.868  64.459 -14.541  1.00 68.90           O
ATOM   9219  CG2 THR C 172      28.035  63.336 -15.613  1.00 72.88           C
ATOM   9220  C   THR C 172      30.056  62.691 -12.516  1.00 80.38           C
ATOM   9221  O   THR C 172      29.481  62.918 -11.473  1.00 79.14           O
ATOM   9222  N   GLN C 173      31.369  62.762 -12.622  1.00 83.55           N
ATOM   9223  CA  GLN C 173      32.172  63.122 -11.467  1.00 86.74           C
ATOM   9224  CB  GLN C 173      32.961  61.914 -10.979  1.00 80.37           C
ATOM   9225  C   GLN C 173      33.095  64.295 -11.706  1.00 91.99           C
ATOM   9226  O   GLN C 173      33.401  64.634 -12.839  1.00 90.81           O
ATOM   9227  N   SER C 174      33.545  64.892 -10.611  1.00 95.35           N
ATOM   9228  CA  SER C 174      34.408  66.056 -10.633  1.00 93.15           C
ATOM   9229  CB  SER C 174      34.778  66.430  -9.219  1.00 89.95           C
ATOM   9230  OG  SER C 174      34.852  65.262  -8.431  1.00 89.80           O
ATOM   9231  C   SER C 174      35.643  65.704 -11.408  1.00 96.09           C
ATOM   9232  O   SER C 174      36.193  66.532 -12.113  1.00 95.70           O
ATOM   9233  N   ASP C 175      36.076  64.464 -11.282  1.00100.02           N
ATOM   9234  CA  ASP C 175      37.231  64.000 -12.020  1.00 96.90           C
ATOM   9235  CB  ASP C 175      37.568  62.566 -11.647  1.00 87.05           C
ATOM   9236  C   ASP C 175      36.883  64.092 -13.502  1.00105.36           C
ATOM   9237  O   ASP C 175      37.771  64.104 -14.346  1.00101.69           O
ATOM   9238  N   GLY C 176      35.586  64.155 -13.809  1.00115.12           N
ATOM   9239  CA  GLY C 176      35.100  64.249 -15.174  1.00116.57           C
ATOM   9240  C   GLY C 176      34.712  62.921 -15.776  1.00116.61           C
ATOM   9241  O   GLY C 176      34.425  62.811 -16.962  1.00116.04           O
ATOM   9242  N   ILE C 177      34.705  61.904 -14.935  1.00111.48           N
ATOM   9243  CA  ILE C 177      34.372  60.563 -15.334  1.00101.15           C
ATOM   9244  CB  ILE C 177      35.338  59.608 -14.629  1.00104.07           C
ATOM   9245  CG1 ILE C 177      36.732  59.778 -15.207  1.00104.44           C
ATOM   9246  CD1 ILE C 177      36.808  59.453 -16.672  1.00102.58           C
ATOM   9247  CG2 ILE C 177      34.910  58.166 -14.772  1.00104.14           C
ATOM   9248  C   ILE C 177      32.961  60.237 -14.899  1.00 91.61           C
ATOM   9249  O   ILE C 177      32.634  60.389 -13.746  1.00 87.75           O
ATOM   9250  N   GLN C 178      32.131  59.783 -15.827  1.00 84.40           N
ATOM   9251  CA  GLN C 178      30.762  59.419 -15.517  1.00 80.73           C
ATOM   9252  CB  GLN C 178      29.947  59.230 -16.776  1.00 81.14           C
ATOM   9253  CG  GLN C 178      29.165  60.446 -17.193  1.00 81.56           C
ATOM   9254  CD  GLN C 178      28.627  60.298 -18.582  1.00 86.61           C
ATOM   9255  OE1 GLN C 178      29.296  59.770 -19.454  1.00 85.65           O
ATOM   9256  NE2 GLN C 178      27.416  60.762 -18.800  1.00 91.90           N
ATOM   9257  C   GLN C 178      30.801  58.142 -14.739  1.00 77.00           C
ATOM   9258  O   GLN C 178      31.757  57.418 -14.826  1.00 75.25           O
ATOM   9259  N   GLN C 179      29.767  57.874 -13.967  1.00 72.36           N
ATOM   9260  CA  GLN C 179      29.714  56.682 -13.122  1.00 68.92           C
ATOM   9261  CB  GLN C 179      30.129  57.036 -11.680  1.00 70.45           C
ATOM   9262  CG  GLN C 179      31.627  56.948 -11.352  1.00 70.89           C
ATOM   9263  CD  GLN C 179      32.061  55.584 -10.812  1.00 74.90           C
ATOM   9264  OE1 GLN C 179      31.233  54.753 -10.433  1.00 83.89           O
ATOM   9265  NE2 GLN C 179      33.367  55.344 -10.780  1.00 74.58           N
ATOM   9266  C   GLN C 179      28.280  56.172 -13.181  1.00 67.27           C
ATOM   9267  O   GLN C 179      27.390  56.722 -12.541  1.00 67.54           O
ATOM   9268  N   ALA C 180      28.047  55.134 -13.957  1.00 69.58           N
ATOM   9269  CA  ALA C 180      26.708  54.618 -14.141  1.00 69.21           C
ATOM   9270  CB  ALA C 180      26.557  54.151 -15.562  1.00 68.11           C
ATOM   9271  C   ALA C 180      26.247  53.533 -13.216  1.00 67.93           C
ATOM   9272  O   ALA C 180      26.954  52.588 -12.969  1.00 59.81           O
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ATOM   9273  N   LYS C 181      25.029  53.678 -12.722  1.00 76.13           N
ATOM   9274  CA  LYS C 181      24.426  52.697 -11.853  1.00 82.04           C
ATOM   9275  CB  LYS C 181      23.498  53.360 -10.852  1.00 92.83           C
ATOM   9276  CG  LYS C 181      22.471  52.406 -10.279  1.00104.69           C
ATOM   9277  CD  LYS C 181      21.529  53.055  -9.287  1.00110.86           C
ATOM   9278  CE  LYS C 181      21.874  52.664  -7.861  1.00114.65           C
ATOM   9279  NZ  LYS C 181      20.754  52.930  -6.913  1.00117.12           N
ATOM   9280  C   LYS C 181      23.635  51.901 -12.833  1.00 75.11           C
ATOM   9281  O   LYS C 181      22.873  52.459 -13.591  1.00 76.98           O
ATOM   9282  N   VAL C 182      23.810  50.593 -12.824  1.00 69.65           N
ATOM   9283  CA  VAL C 182      23.164  49.757 -13.806  1.00 68.82           C
ATOM   9284  CB  VAL C 182      24.248  49.190 -14.715  1.00 66.57           C
ATOM   9285  CG1 VAL C 182      23.631  48.429 -15.864  1.00 68.31           C
ATOM   9286  CG2 VAL C 182      25.116  50.306 -15.240  1.00 63.14           C
ATOM   9287  C   VAL C 182      22.385  48.573 -13.308  1.00 65.19           C
ATOM   9288  O   VAL C 182      22.609  48.097 -12.220  1.00 60.62           O
ATOM   9289  N   GLN C 183      21.467  48.104 -14.143  1.00 64.33           N
ATOM   9290  CA  GLN C 183      20.658  46.941 -13.836  1.00 67.80           C
ATOM   9291  CB  GLN C 183      19.201  47.237 -14.109  1.00 71.87           C
ATOM   9292  CG  GLN C 183      18.294  47.044 -12.916  1.00 75.76           C
ATOM   9293  CD  GLN C 183      17.687  45.675 -12.839  1.00 77.37           C
ATOM   9294  OE1 GLN C 183      16.929  45.280 -13.706  1.00 82.46           O
ATOM   9295  NE2 GLN C 183      17.997  44.952 -11.780  1.00 77.58           N
ATOM   9296  C   GLN C 183      21.141  45.870 -14.779  1.00 63.22           C
ATOM   9297  O   GLN C 183      21.143  46.053 -15.972  1.00 59.70           O
ATOM   9298  N   ILE C 184      21.557  44.749 -14.234  1.00 59.68           N
ATOM   9299  CA  ILE C 184      22.107  43.658 -15.024  1.00 63.19           C
ATOM   9300  CB  ILE C 184      22.986  42.708 -14.192  1.00 65.49           C
ATOM   9301  CG1 ILE C 184      24.196  43.449 -13.616  1.00 65.36           C
ATOM   9302  CD1 ILE C 184      25.284  43.758 -14.635  1.00 64.74           C
ATOM   9303  CG2 ILE C 184      23.469  41.542 -15.051  1.00 65.81           C
ATOM   9304  C   ILE C 184      20.966  42.888 -15.655  1.00 62.10           C
ATOM   9305  O   ILE C 184      20.066  42.420 -14.971  1.00 59.03           O
ATOM   9306  N   LEU C 185      20.988  42.769 -16.971  1.00 62.51           N
ATOM   9307  CA  LEU C 185      19.845  42.186 -17.619  1.00 63.44           C
ATOM   9308  CB  LEU C 185      19.706  42.649 -19.047  1.00 65.05           C
ATOM   9309  CG  LEU C 185      19.625  44.144 -19.228  1.00 66.96           C
ATOM   9310  CD1 LEU C 185      19.509  44.446 -20.711  1.00 68.46           C
ATOM   9311  CD2 LEU C 185      18.473  44.735 -18.441  1.00 66.93           C
ATOM   9312  C   LEU C 185      20.017  40.698 -17.611  1.00 64.24           C
ATOM   9313  O   LEU C 185      21.064  40.213 -18.054  1.00 62.74           O
ATOM   9314  N   PRO C 186      18.971  39.970 -17.179  1.00 64.67           N
ATOM   9315  CA  PRO C 186      19.008  38.536 -17.215  1.00 67.45           C
ATOM   9316  CB  PRO C 186      17.658  38.162 -16.614  1.00 66.72           C
ATOM   9317  CG  PRO C 186      16.738  39.224 -17.097  1.00 63.83           C
ATOM   9318  CD  PRO C 186      17.577  40.462 -17.142  1.00 65.84           C
ATOM   9319  C   PRO C 186      19.093  38.041 -18.661  1.00 74.85           C
ATOM   9320  O   PRO C 186      18.638  38.719 -19.580  1.00 76.23           O
ATOM   9321  N   GLU C 187      19.665  36.870 -18.874  1.00 85.45           N
ATOM   9322  CA  GLU C 187      19.755  36.349 -20.218  1.00 85.27           C
ATOM   9323  CB  GLU C 187      21.110  35.707 -20.401  1.00 87.33           C
ATOM   9324  CG  GLU C 187      21.543  35.570 -21.839  1.00 93.16           C
ATOM   9325  CD  GLU C 187      21.770  36.898 -22.509  1.00 96.14           C
ATOM   9326  OE1 GLU C 187      21.998  37.896 -21.815  1.00 78.72           O
ATOM   9327  OE2 GLU C 187      21.716  36.937 -23.744  1.00 90.47           O
ATOM   9328  C   GLU C 187      18.686  35.302 -20.314  1.00 79.58           C
ATOM   9329  O   GLU C 187      18.811  34.259 -19.733  1.00 79.52           O
ATOM   9330  N   CYS C 188      17.638  35.566 -21.072  1.00 80.23           N
ATOM   9331  CA  CYS C 188      16.527  34.633 -21.173  1.00 86.54           C
ATOM   9332  CB  CYS C 188      15.388  35.296 -21.937  1.00 94.54           C
ATOM   9333  SG  CYS C 188      14.202  34.199 -22.732  1.00102.98           S
ATOM   9334  C   CYS C 188      16.810  33.278 -21.774  1.00 80.44           C
ATOM   9335  O   CYS C 188      17.408  33.165 -22.821  1.00 69.36           O
ATOM   9336  N   VAL C 189      16.310  32.256 -21.095  1.00 79.57           N
ATOM   9337  CA  VAL C 189      16.448  30.871 -21.508  1.00 88.89           C
ATOM   9338  CB  VAL C 189      17.341  30.082 -20.570  1.00 91.49           C
ATOM   9339  CG1 VAL C 189      18.781  30.199 -21.000  1.00 90.30           C
ATOM   9340  CG2 VAL C 189      17.150  30.554 -19.145  1.00101.41           C
ATOM   9341  C   VAL C 189      15.091  30.212 -21.498  1.00 83.67           C
ATOM   9342  O   VAL C 189      14.279  30.501 -20.651  1.00 87.56           O
ATOM   9343  N   LEU C 190      14.849  29.333 -22.454  1.00 76.66           N
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ATOM   9344  CA  LEU C 190      13.583  28.654 -22.563  1.00 68.93           C
ATOM   9345  CB  LEU C 190      12.831  29.150 -23.776  1.00 65.37           C
ATOM   9346  CG  LEU C 190      12.458  30.604 -23.882  1.00 67.91           C
ATOM   9347  CD1 LEU C 190      11.413  30.744 -24.953  1.00 69.80           C
ATOM   9348  CD2 LEU C 190      11.886  31.013 -22.559  1.00 74.25           C
ATOM   9349  C   LEU C 190      13.883  27.219 -22.794  1.00 69.01           C
ATOM   9350  O   LEU C 190      14.932  26.901 -23.301  1.00 73.65           O
ATOM   9351  N   PRO C 191      12.978  26.334 -22.430  1.00 67.23           N
ATOM   9352  CA  PRO C 191      13.259  24.919 -22.670  1.00 73.25           C
ATOM   9353  CB  PRO C 191      12.361  24.214 -21.644  1.00 75.04           C
ATOM   9354  CG  PRO C 191      11.492  25.288 -21.020  1.00 69.02           C
ATOM   9355  CD  PRO C 191      11.649  26.524 -21.835  1.00 63.70           C
ATOM   9356  C   PRO C 191      12.948  24.475 -24.122  1.00 71.95           C
ATOM   9357  O   PRO C 191      12.495  25.284 -24.943  1.00 66.68           O
ATOM   9358  N   SER C 192      13.164  23.210 -24.402  1.00 70.61           N
ATOM   9359  CA  SER C 192      12.933  22.702 -25.713  1.00 72.19           C
ATOM   9360  CB  SER C 192      13.241  21.227 -25.779  1.00 78.74           C
ATOM   9361  OG  SER C 192      12.690  20.673 -26.947  1.00 75.63           O
ATOM   9362  C   SER C 192      11.495  22.886 -25.951  1.00 67.77           C
ATOM   9363  O   SER C 192      10.714  22.893 -25.041  1.00 66.54           O
ATOM   9364  N   THR C 193      11.159  23.058 -27.205  1.00 71.70           N
ATOM   9365  CA  THR C 193       9.811  23.275 -27.618  1.00 71.97           C
ATOM   9366  CB  THR C 193       9.790  23.477 -29.123  1.00 76.64           C
ATOM   9367  OG1 THR C 193      11.032  23.031 -29.653  1.00 81.84           O
ATOM   9368  CG2 THR C 193       9.721  24.903 -29.430  1.00 76.76           C
ATOM   9369  C   THR C 193       8.998  22.081 -27.236  1.00 71.40           C
ATOM   9370  O   THR C 193       7.863  22.198 -26.827  1.00 71.30           O
ATOM   9371  N   MET C 194       9.595  20.918 -27.383  1.00 71.27           N
ATOM   9372  CA  MET C 194       8.950  19.655 -27.078  1.00 74.36           C
ATOM   9373  CB  MET C 194       9.744  18.537 -27.718  1.00 76.39           C
ATOM   9374  CG  MET C 194       9.705  18.524 -29.221  1.00 73.67           C
ATOM   9375  SD  MET C 194       8.043  18.286 -29.784  1.00 73.52           S
ATOM   9376  CE  MET C 194       7.478  19.955 -29.760  1.00 67.77           C
ATOM   9377  C   MET C 194       8.776  19.289 -25.623  1.00 74.57           C
ATOM   9378  O   MET C 194       8.030  18.398 -25.298  1.00 73.00           O
ATOM   9379  N   SER C 195       9.460  19.971 -24.738  1.00 84.82           N
ATOM   9380  CA  SER C 195       9.442  19.611 -23.340  1.00 86.80           C
ATOM   9381  CB  SER C 195      10.310  20.593 -22.597  1.00 87.32           C
ATOM   9382  OG  SER C 195       9.821  21.892 -22.817  1.00 86.43           O
ATOM   9383  C   SER C 195       8.101  19.594 -22.662  1.00 82.67           C
ATOM   9384  O   SER C 195       7.826  18.689 -21.884  1.00 74.84           O
ATOM   9385  N   ALA C 196       7.276  20.588 -22.916  1.00 82.46           N
ATOM   9386  CA  ALA C 196       5.992  20.607 -22.277  1.00 84.89           C
ATOM   9387  CB  ALA C 196       5.311  21.908 -22.617  1.00 86.62           C
ATOM   9388  C   ALA C 196       5.127  19.462 -22.734  1.00 79.43           C
ATOM   9389  O   ALA C 196       4.582  18.723 -21.953  1.00 83.81           O
ATOM   9390  N   VAL C 197       5.039  19.315 -24.031  1.00 71.74           N
ATOM   9391  CA  VAL C 197       4.212  18.327 -24.667  1.00 69.68           C
ATOM   9392  CB  VAL C 197       4.062  18.666 -26.139  1.00 70.91           C
ATOM   9393  CG1 VAL C 197       5.351  18.392 -26.850  1.00 67.53           C
ATOM   9394  CG2 VAL C 197       2.963  17.843 -26.748  1.00 78.97           C
ATOM   9395  C   VAL C 197       4.573  16.872 -24.572  1.00 72.72           C
ATOM   9396  O   VAL C 197       3.726  16.011 -24.497  1.00 70.74           O
ATOM   9397  N   GLN C 198       5.855  16.608 -24.576  1.00 75.02           N
ATOM   9398  CA  GLN C 198       6.382  15.278 -24.696  1.00 77.31           C
ATOM   9399  CB  GLN C 198       7.874  15.386 -24.383  1.00 85.63           C
ATOM   9400  CG  GLN C 198       8.651  14.089 -24.366  1.00 90.98           C
ATOM   9401  CD  GLN C 198       9.561  13.970 -25.545  1.00 97.44           C
ATOM   9402  OE1 GLN C 198       9.922  14.961 -26.148  1.00109.04           O
ATOM   9403  NE2 GLN C 198       9.948  12.757 -25.874  1.00103.85           N
ATOM   9404  C   GLN C 198       5.852  14.145 -23.861  1.00 73.53           C
ATOM   9405  O   GLN C 198       5.717  14.231 -22.666  1.00 72.57           O
ATOM   9406  N   LEU C 199       5.577  13.057 -24.569  1.00 74.77           N
ATOM   9407  CA  LEU C 199       5.171  11.768 -23.981  1.00 72.13           C
ATOM   9408  CB  LEU C 199       4.935  10.693 -25.066  1.00 71.13           C
ATOM   9409  CG  LEU C 199       3.524  10.403 -25.594  1.00 74.69           C
ATOM   9410  CD1 LEU C 199       2.755  11.662 -25.892  1.00 70.25           C
ATOM   9411  CD2 LEU C 199       3.564   9.544 -26.857  1.00 81.50           C
ATOM   9412  C   LEU C 199       6.266  11.294 -23.031  1.00 67.51           C
ATOM   9413  O   LEU C 199       7.436  11.283 -23.399  1.00 67.17           O
ATOM   9414  N   GLU C 200       5.868  10.840 -21.851  1.00 65.18           N
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ATOM   9415  CA  GLU C 200       6.805  10.465 -20.786  1.00 67.88           C
ATOM   9416  CB  GLU C 200       6.182  10.597 -19.381  1.00 74.15           C
ATOM   9417  CG  GLU C 200       5.040  11.611 -19.247  1.00 85.96           C
ATOM   9418  CD  GLU C 200       3.692  11.020 -19.675  1.00 97.34           C
ATOM   9419  OE1 GLU C 200       3.140  11.392 -20.755  1.00 89.91           O
ATOM   9420  OE2 GLU C 200       3.213  10.124 -18.954  1.00105.42           O
ATOM   9421  C   GLU C 200       7.361   9.040 -21.021  1.00 66.52           C
ATOM   9422  O   GLU C 200       8.434   8.684 -20.529  1.00 66.68           O
ATOM   9423  N   SER C 201       6.648   8.226 -21.792  1.00 70.35           N
ATOM   9424  CA  SER C 201       7.200   6.952 -22.269  1.00 73.46           C
ATOM   9425  CB  SER C 201       6.135   6.101 -22.951  1.00 68.72           C
ATOM   9426  OG  SER C 201       5.564   6.815 -24.021  1.00 72.49           O
ATOM   9427  C   SER C 201       8.360   7.186 -23.224  1.00 73.72           C
ATOM   9428  O   SER C 201       9.265   6.348 -23.298  1.00 78.74           O
ATOM   9429  N   LEU C 202       8.322   8.325 -23.928  1.00 76.29           N
ATOM   9430  CA  LEU C 202       9.402   8.785 -24.825  1.00 80.07           C
ATOM   9431  CB  LEU C 202       8.793   9.425 -26.085  1.00 75.90           C
ATOM   9432  CG  LEU C 202       7.690   8.637 -26.808  1.00 81.48           C
ATOM   9433  CD1 LEU C 202       7.230   9.383 -28.048  1.00 85.86           C
ATOM   9434  CD2 LEU C 202       8.127   7.229 -27.182  1.00 82.90           C
ATOM   9435  C   LEU C 202      10.440   9.749 -24.188  1.00 81.31           C
ATOM   9436  O   LEU C 202      11.257  10.329 -24.903  1.00 83.41           O
ATOM   9437  N   ASN C 203      10.417   9.913 -22.863  1.00 84.76           N
ATOM   9438  CA  ASN C 203      11.482  10.627 -22.142  1.00 86.99           C
ATOM   9439  CB  ASN C 203      11.173  10.772 -20.637  1.00 85.09           C
ATOM   9440  CG  ASN C 203      10.159  11.869 -20.322  1.00 84.10           C
ATOM   9441  OD1 ASN C 203       9.400  11.757 -19.355  1.00 79.43           O
ATOM   9442  ND2 ASN C 203      10.149  12.932 -21.113  1.00 84.89           N
ATOM   9443  C   ASN C 203      12.799   9.883 -22.275  1.00 93.49           C
ATOM   9444  O   ASN C 203      13.841  10.488 -22.538  1.00 94.28           O
ATOM   9445  N   LYS C 204      12.729   8.563 -22.116  1.00100.28           N
ATOM   9446  CA  LYS C 204      13.904   7.695 -22.109  1.00101.29           C
ATOM   9447  CB  LYS C 204      13.484   6.237 -21.838  1.00108.65           C
ATOM   9448  CG  LYS C 204      12.759   5.982 -20.510  1.00117.30           C
ATOM   9449  CD  LYS C 204      12.212   4.549 -20.409  1.00121.13           C
ATOM   9450  CE  LYS C 204      10.941   4.456 -19.566  1.00117.74           C
ATOM   9451  NZ  LYS C 204       9.740   5.005 -20.269  1.00110.50           N
ATOM   9452  C   LYS C 204      14.745   7.788 -23.406  1.00101.61           C
ATOM   9453  O   LYS C 204      15.900   7.378 -23.406  1.00106.00           O
ATOM   9454  N   CYS C 205      14.182   8.337 -24.489  1.00103.49           N
ATOM   9455  CA  CYS C 205      14.858   8.420 -25.797  1.00102.42           C
ATOM   9456  CB  CYS C 205      13.922   7.849 -26.861  1.00 96.36           C
ATOM   9457  SG  CYS C 205      13.019   6.425 -26.233  1.00 91.08           S
ATOM   9458  C   CYS C 205      15.308   9.824 -26.236  1.00106.63           C
ATOM   9459  O   CYS C 205      15.621  10.017 -27.418  1.00108.45           O
ATOM   9460  N   GLN C 206      15.362  10.784 -25.306  1.00109.59           N
ATOM   9461  CA  GLN C 206      15.728  12.177 -25.634  1.00112.01           C
ATOM   9462  CB  GLN C 206      15.116  13.173 -24.627  1.00104.10           C
ATOM   9463  CG  GLN C 206      13.594  13.256 -24.651  1.00102.80           C
ATOM   9464  CD  GLN C 206      13.014  13.371 -26.059  1.00106.45           C
ATOM   9465  OE1 GLN C 206      12.288  12.487 -26.513  1.00106.70           O
ATOM   9466  NE2 GLN C 206      13.357  14.446 -26.766  1.00102.38           N
ATOM   9467  C   GLN C 206      17.240  12.421 -25.786  1.00120.87           C
ATOM   9468  O   GLN C 206      17.645  13.327 -26.519  1.00138.36           O
ATOM   9469  N   ILE C 207      18.072  11.636 -25.108  1.00124.67           N
ATOM   9470  CA  ILE C 207      19.516  11.692 -25.340  1.00128.28           C
ATOM   9471  CB  ILE C 207      20.326  11.301 -24.080  1.00124.92           C
ATOM   9472  CG1 ILE C 207      19.985  12.270 -22.937  1.00113.64           C
ATOM   9473  CD1 ILE C 207      20.962  12.301 -21.782  1.00111.00           C
ATOM   9474  CG2 ILE C 207      21.826  11.313 -24.382  1.00133.59           C
ATOM   9475  C   ILE C 207      19.840  10.762 -26.499  1.00126.20           C
ATOM   9476  O   ILE C 207      19.370   9.628 -26.524  1.00134.58           O
ATOM   9477  N   PHE C 208      20.638  11.247 -27.448  1.00125.95           N
ATOM   9478  CA  PHE C 208      21.101  10.434 -28.574  1.00133.91           C
ATOM   9479  CB  PHE C 208      20.735  11.100 -29.902  1.00133.81           C
ATOM   9480  CG  PHE C 208      19.375  11.733 -29.917  1.00132.73           C
ATOM   9481  CD1 PHE C 208      18.225  10.942 -29.927  1.00143.33           C
ATOM   9482  CE1 PHE C 208      16.965  11.524 -29.952  1.00145.03           C
ATOM   9483  CZ  PHE C 208      16.844  12.910 -29.974  1.00140.18           C
ATOM   9484  CE2 PHE C 208      17.983  13.706 -29.971  1.00133.55           C
ATOM   9485  CD2 PHE C 208      19.239  13.119 -29.945  1.00124.20           C
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ATOM   9486  C   PHE C 208      22.624  10.251 -28.526  1.00143.81           C
ATOM   9487  O   PHE C 208      23.313  10.971 -27.794  1.00149.14           O
ATOM   9488  N   PRO C 209      23.154   9.284 -29.305  1.00140.46           N
ATOM   9489  CA  PRO C 209      24.569   9.286 -29.713  1.00145.75           C
ATOM   9490  CB  PRO C 209      24.747   7.912 -30.380  1.00139.18           C
ATOM   9491  CG  PRO C 209      23.629   7.079 -29.859  1.00131.14           C
ATOM   9492  CD  PRO C 209      22.490   8.026 -29.671  1.00125.69           C
ATOM   9493  C   PRO C 209      24.868  10.439 -30.702  1.00148.85           C
ATOM   9494  O   PRO C 209      23.964  10.874 -31.423  1.00146.83           O
ATOM   9495  N   SER C 210      26.116  10.914 -30.741  1.00148.30           N
ATOM   9496  CA  SER C 210      26.464  12.167 -31.455  1.00156.12           C
ATOM   9497  CB  SER C 210      27.522  12.981 -30.677  1.00157.41           C
ATOM   9498  OG  SER C 210      27.953  12.316 -29.501  1.00152.88           O
ATOM   9499  C   SER C 210      26.861  12.033 -32.944  1.00154.68           C
ATOM   9500  O   SER C 210      27.235  10.955 -33.421  1.00141.26           O
ATOM   9501  N   LYS C 211      26.773  13.175 -33.634  1.00159.06           N
ATOM   9502  CA  LYS C 211      26.839  13.288 -35.116  1.00165.33           C
ATOM   9503  CB  LYS C 211      26.485  14.737 -35.583  1.00156.94           C
ATOM   9504  CG  LYS C 211      27.141  15.927 -34.849  1.00151.51           C
ATOM   9505  CD  LYS C 211      26.128  16.997 -34.388  1.00142.43           C
ATOM   9506  CE  LYS C 211      26.333  17.455 -32.937  1.00128.41           C
ATOM   9507  NZ  LYS C 211      25.178  18.221 -32.369  1.00109.66           N
ATOM   9508  C   LYS C 211      28.140  12.784 -35.806  1.00174.81           C
ATOM   9509  O   LYS C 211      29.216  13.335 -35.552  1.00174.97           O
ATOM   9510  N   PRO C 212      28.038  11.741 -36.681  1.00183.91           N
ATOM   9511  CA  PRO C 212      29.173  11.306 -37.526  1.00189.11           C
ATOM   9512  CB  PRO C 212      28.583  10.130 -38.327  1.00184.72           C
ATOM   9513  CG  PRO C 212      27.523   9.579 -37.443  1.00174.62           C
ATOM   9514  CD  PRO C 212      26.914  10.784 -36.783  1.00177.41           C
ATOM   9515  C   PRO C 212      29.737  12.402 -38.463  1.00187.12           C
ATOM   9516  O   PRO C 212      29.116  12.740 -39.481  1.00189.91           O
ATOM   9517  N   VAL C 213      30.916  12.926 -38.108  1.00173.75           N
ATOM   9518  CA  VAL C 213      31.501  14.110 -38.769  1.00156.85           C
ATOM   9519  CB  VAL C 213      32.713  14.696 -37.987  1.00155.53           C
ATOM   9520  CG1 VAL C 213      32.329  15.054 -36.549  1.00147.29           C
ATOM   9521  CG2 VAL C 213      33.918  13.752 -38.026  1.00155.04           C
ATOM   9522  C   VAL C 213      31.923  13.841 -40.215  1.00134.37           C
ATOM   9523  O   VAL C 213      32.141  14.777 -40.979  1.00107.01           O
ATOM   9524  N   SER C 220      26.804  14.175 -43.186  1.00134.21           N
ATOM   9525  CA  SER C 220      25.998  13.506 -42.182  1.00134.51           C
ATOM   9526  CB  SER C 220      26.672  13.597 -40.825  1.00129.00           C
ATOM   9527  OG  SER C 220      26.695  14.933 -40.378  1.00118.01           O
ATOM   9528  C   SER C 220      24.625  14.138 -42.106  1.00128.89           C
ATOM   9529  O   SER C 220      24.039  14.239 -41.048  1.00121.53           O
ATOM   9530  N   TYR C 221      24.111  14.553 -43.244  1.00126.86           N
ATOM   9531  CA  TYR C 221      22.813  15.176 -43.306  1.00122.10           C
ATOM   9532  CB  TYR C 221      22.571  15.735 -44.709  1.00133.46           C
ATOM   9533  CG  TYR C 221      21.411  15.185 -45.508  1.00150.11           C
ATOM   9534  CD1 TYR C 221      20.533  16.041 -46.142  1.00157.98           C
ATOM   9535  CE1 TYR C 221      19.477  15.567 -46.884  1.00154.09           C
ATOM   9536  CZ  TYR C 221      19.287  14.222 -46.994  1.00148.81           C
ATOM   9537  OH  TYR C 221      18.233  13.743 -47.735  1.00136.82           O
ATOM   9538  CE2 TYR C 221      20.145  13.347 -46.369  1.00148.31           C
ATOM   9539  CD2 TYR C 221      21.203  13.833 -45.636  1.00151.42           C
ATOM   9540  C   TYR C 221      21.744  14.211 -42.859  1.00122.62           C
ATOM   9541  O   TYR C 221      20.764  14.599 -42.259  1.00112.00           O
ATOM   9542  N   LYS C 222      21.940  12.945 -43.169  1.00132.11           N
ATOM   9543  CA  LYS C 222      20.983  11.914 -42.828  1.00128.11           C
ATOM   9544  CB  LYS C 222      21.487  10.560 -43.294  1.00140.52           C
ATOM   9545  CG  LYS C 222      22.816  10.147 -42.687  1.00139.23           C
ATOM   9546  CD  LYS C 222      23.449   9.029 -43.497  1.00135.67           C
ATOM   9547  CE  LYS C 222      23.784   9.485 -44.908  1.00132.32           C
ATOM   9548  NZ  LYS C 222      24.959  10.396 -44.962  1.00129.03           N
ATOM   9549  C   LYS C 222      20.817  11.900 -41.340  1.00112.93           C
ATOM   9550  O   LYS C 222      19.745  11.657 -40.825  1.00115.88           O
ATOM   9551  N   TRP C 223      21.898  12.161 -40.642  1.00 98.85           N
ATOM   9552  CA  TRP C 223      21.851  12.176 -39.209  1.00 89.83           C
ATOM   9553  CB  TRP C 223      23.214  12.563 -38.702  1.00 81.14           C
ATOM   9554  CG  TRP C 223      23.334  12.486 -37.278  1.00 79.13           C
ATOM   9555  CD1 TRP C 223      23.798  11.450 -36.573  1.00 82.60           C
ATOM   9556  NE1 TRP C 223      23.779  11.732 -35.246  1.00 85.50           N
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ATOM   9557  CE2 TRP C 223      23.291  12.993 -35.081  1.00 88.29           C
ATOM   9558  CD2 TRP C 223      23.005  13.493 -36.346  1.00 88.13           C
ATOM   9559  CE3 TRP C 223      22.498  14.776 -36.457  1.00 95.07           C
ATOM   9560  CZ3 TRP C 223      22.299  15.500 -35.315  1.00 96.01           C
ATOM   9561  CH2 TRP C 223      22.588  14.973 -34.074  1.00 89.61           C
ATOM   9562  CZ2 TRP C 223      23.080  13.720 -33.935  1.00 88.64           C
ATOM   9563  C   TRP C 223      20.869  13.218 -38.739  1.00 90.39           C
ATOM   9564  O   TRP C 223      20.119  12.983 -37.823  1.00 97.71           O
ATOM   9565  N   TRP C 224      20.860  14.375 -39.369  1.00 84.48           N
ATOM   9566  CA  TRP C 224      19.956  15.429 -38.961  1.00 86.32           C
ATOM   9567  CB  TRP C 224      20.296  16.724 -39.674  1.00 90.45           C
ATOM   9568  CG  TRP C 224      21.480  17.338 -39.083  1.00 89.08           C
ATOM   9569  CD1 TRP C 224      22.750  17.201 -39.492  1.00 87.42           C
ATOM   9570  NE1 TRP C 224      23.588  17.892 -38.670  1.00 88.10           N
ATOM   9571  CE2 TRP C 224      22.845  18.485 -37.691  1.00 89.37           C
ATOM   9572  CD2 TRP C 224      21.516  18.149 -37.920  1.00 90.97           C
ATOM   9573  CE3 TRP C 224      20.546  18.637 -37.056  1.00 92.16           C
ATOM   9574  CZ3 TRP C 224      20.928  19.418 -36.021  1.00 94.21           C
ATOM   9575  CH2 TRP C 224      22.253  19.735 -35.814  1.00 97.08           C
ATOM   9576  CZ2 TRP C 224      23.229  19.280 -36.640  1.00 90.66           C
ATOM   9577  C   TRP C 224      18.500  15.067 -39.114  1.00 89.06           C
ATOM   9578  O   TRP C 224      17.676  15.478 -38.324  1.00 91.19           O
ATOM   9579  N   GLN C 225      18.188  14.296 -40.133  1.00 92.24           N
ATOM   9580  CA  GLN C 225      16.816  13.814 -40.391  1.00 92.08           C
ATOM   9581  CB  GLN C 225      16.692  13.076 -41.720  1.00101.27           C
ATOM   9582  CG  GLN C 225      16.386  13.992 -42.885  1.00116.12           C
ATOM   9583  CD  GLN C 225      16.729  13.334 -44.203  1.00128.51           C
ATOM   9584  OE1 GLN C 225      16.272  12.227 -44.478  1.00127.93           O
ATOM   9585  NE2 GLN C 225      17.558  13.992 -45.014  1.00138.02           N
ATOM   9586  C   GLN C 225      16.339  12.896 -39.303  1.00 79.95           C
ATOM   9587  O   GLN C 225      15.186  12.995 -38.895  1.00 74.85           O
ATOM   9588  N   LYS C 226      17.212  11.985 -38.868  1.00 75.24           N
ATOM   9589  CA  LYS C 226      16.877  11.053 -37.791  1.00 76.95           C
ATOM   9590  CB  LYS C 226      17.902   9.906 -37.698  1.00 70.79           C
ATOM   9591  C   LYS C 226      16.719  11.824 -36.463  1.00 77.63           C
ATOM   9592  O   LYS C 226      15.798  11.545 -35.685  1.00 76.77           O
ATOM   9593  N   TYR C 227      17.601  12.801 -36.230  1.00 78.72           N
ATOM   9594  CA  TYR C 227      17.454  13.791 -35.139  1.00 76.58           C
ATOM   9595  CB  TYR C 227      18.576  14.841 -35.231  1.00 74.81           C
ATOM   9596  CG  TYR C 227      18.451  16.043 -34.306  1.00 73.65           C
ATOM   9597  CD1 TYR C 227      17.654  17.147 -34.657  1.00 79.89           C
ATOM   9598  CE1 TYR C 227      17.545  18.254 -33.821  1.00 78.09           C
ATOM   9599  CZ  TYR C 227      18.255  18.275 -32.627  1.00 73.27           C
ATOM   9600  OH  TYR C 227      18.143  19.369 -31.794  1.00 76.19           O
ATOM   9601  CE2 TYR C 227      19.063  17.202 -32.271  1.00 67.31           C
ATOM   9602  CD2 TYR C 227      19.160  16.101 -33.104  1.00 66.44           C
ATOM   9603  C   TYR C 227      16.092  14.487 -35.192  1.00 73.06           C
ATOM   9604  O   TYR C 227      15.370  14.559 -34.204  1.00 74.23           O
ATOM   9605  N   GLN C 228      15.758  15.015 -36.354  1.00 70.90           N
ATOM   9606  CA  GLN C 228      14.477  15.680 -36.530  1.00 71.11           C
ATOM   9607  CB  GLN C 228      14.340  16.240 -37.944  1.00 66.53           C
ATOM   9608  CG  GLN C 228      13.689  17.603 -37.974  1.00 67.42           C
ATOM   9609  CD  GLN C 228      12.966  17.877 -39.266  1.00 70.52           C
ATOM   9610  OE1 GLN C 228      12.853  19.026 -39.703  1.00 61.74           O
ATOM   9611  NE2 GLN C 228      12.457  16.817 -39.887  1.00 76.01           N
ATOM   9612  C   GLN C 228      13.299  14.739 -36.224  1.00 74.75           C
ATOM   9613  O   GLN C 228      12.377  15.134 -35.533  1.00 83.32           O
ATOM   9614  N   LYS C 229      13.330  13.507 -36.734  1.00 79.81           N
ATOM   9615  CA  LYS C 229      12.274  12.522 -36.434  1.00 78.02           C
ATOM   9616  CB  LYS C 229      12.405  11.238 -37.293  1.00 70.09           C
ATOM   9617  C   LYS C 229      12.240  12.188 -34.924  1.00 73.15           C
ATOM   9618  O   LYS C 229      11.156  12.114 -34.350  1.00 76.30           O
ATOM   9619  N   ARG C 230      13.401  12.020 -34.281  1.00 65.27           N
ATOM   9620  CA  ARG C 230      13.432  11.567 -32.877  1.00 67.48           C
ATOM   9621  CB  ARG C 230      14.804  10.969 -32.471  1.00 56.97           C
ATOM   9622  C   ARG C 230      12.985  12.695 -31.935  1.00 74.38           C
ATOM   9623  O   ARG C 230      12.003  12.538 -31.208  1.00 82.97           O
ATOM   9624  N   LYS C 231      13.675  13.839 -31.999  1.00 80.18           N
ATOM   9625  CA  LYS C 231      13.418  14.995 -31.132  1.00 70.98           C
ATOM   9626  CB  LYS C 231      14.380  16.128 -31.450  1.00 74.74           C
ATOM   9627  CG  LYS C 231      14.129  17.393 -30.636  1.00 78.93           C
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ATOM   9628  CD  LYS C 231      15.402  18.214 -30.466  1.00 84.48           C
ATOM   9629  CE  LYS C 231      15.348  19.102 -29.232  1.00 89.91           C
ATOM   9630  NZ  LYS C 231      16.701  19.194 -28.625  1.00 92.05           N
ATOM   9631  C   LYS C 231      12.010  15.540 -31.233  1.00 66.38           C
ATOM   9632  O   LYS C 231      11.425  15.878 -30.219  1.00 77.22           O
ATOM   9633  N   PHE C 232      11.466  15.628 -32.436  1.00 56.58           N
ATOM   9634  CA  PHE C 232      10.144  16.214 -32.619  1.00 58.23           C
ATOM   9635  CB  PHE C 232      10.233  17.262 -33.712  1.00 61.95           C
ATOM   9636  CG  PHE C 232      11.264  18.295 -33.423  1.00 71.01           C
ATOM   9637  CD1 PHE C 232      11.034  19.252 -32.433  1.00 73.52           C
ATOM   9638  CE1 PHE C 232      11.993  20.191 -32.128  1.00 73.80           C
ATOM   9639  CZ  PHE C 232      13.202  20.180 -32.807  1.00 76.12           C
ATOM   9640  CE2 PHE C 232      13.454  19.222 -33.781  1.00 75.17           C
ATOM   9641  CD2 PHE C 232      12.489  18.279 -34.078  1.00 74.16           C
ATOM   9642  C   PHE C 232       8.999  15.234 -32.885  1.00 61.58           C
ATOM   9643  O   PHE C 232       7.956  15.637 -33.432  1.00 56.44           O
ATOM   9644  N   HIS C 233       9.139  13.973 -32.460  1.00 62.84           N
ATOM   9645  CA  HIS C 233       8.069  12.990 -32.689  1.00 64.19           C
ATOM   9646  CB  HIS C 233       8.447  11.591 -32.161  1.00 71.54           C
ATOM   9647  CG  HIS C 233       7.371  10.561 -32.353  1.00 78.79           C
ATOM   9648  ND1 HIS C 233       6.572  10.114 -31.319  1.00 86.04           N
ATOM   9649  CE1 HIS C 233       5.697   9.241 -31.780  1.00 84.38           C
ATOM   9650  NE2 HIS C 233       5.898   9.107 -33.079  1.00 85.13           N
ATOM   9651  CD2 HIS C 233       6.941   9.918 -33.462  1.00 79.26           C
ATOM   9652  C   HIS C 233       6.775  13.496 -32.055  1.00 59.12           C
ATOM   9653  O   HIS C 233       5.702  13.445 -32.666  1.00 56.98           O
ATOM   9654  N   CYS C 234       6.888  14.057 -30.857  1.00 57.84           N
ATOM   9655  CA  CYS C 234       5.713  14.536 -30.162  1.00 59.74           C
ATOM   9656  CB  CYS C 234       5.996  14.702 -28.674  1.00 65.60           C
ATOM   9657  SG  CYS C 234       6.112  13.066 -27.895  1.00 75.39           S
ATOM   9658  C   CYS C 234       5.096  15.765 -30.798  1.00 55.59           C
ATOM   9659  O   CYS C 234       4.067  16.237 -30.338  1.00 59.11           O
ATOM   9660  N   ALA C 235       5.667  16.248 -31.897  1.00 52.95           N
ATOM   9661  CA  ALA C 235       4.982  17.240 -32.721  1.00 56.48           C
ATOM   9662  CB  ALA C 235       5.816  17.630 -33.934  1.00 56.85           C
ATOM   9663  C   ALA C 235       3.614  16.767 -33.176  1.00 57.69           C
ATOM   9664  O   ALA C 235       2.742  17.594 -33.464  1.00 56.76           O
ATOM   9665  N   ASN C 236       3.427  15.444 -33.237  1.00 60.89           N
ATOM   9666  CA  ASN C 236       2.151  14.863 -33.653  1.00 61.59           C
ATOM   9667  CB  ASN C 236       2.311  13.372 -33.896  1.00 68.05           C
ATOM   9668  CG  ASN C 236       2.871  13.085 -35.272  1.00 75.93           C
ATOM   9669  OD1 ASN C 236       4.084  12.918 -35.430  1.00 82.92           O
ATOM   9670  ND2 ASN C 236       1.990  13.052 -36.286  1.00 75.10           N
ATOM   9671  C   ASN C 236       0.981  15.127 -32.718  1.00 57.06           C
ATOM   9672  O   ASN C 236      -0.161  14.927 -33.115  1.00 52.90           O
ATOM   9673  N   LEU C 237       1.278  15.601 -31.507  1.00 51.47           N
ATOM   9674  CA  LEU C 237       0.279  15.937 -30.523  1.00 47.82           C
ATOM   9675  CB  LEU C 237       0.841  15.738 -29.134  1.00 52.03           C
ATOM   9676  CG  LEU C 237       1.575  14.407 -28.880  1.00 54.59           C
ATOM   9677  CD1 LEU C 237       2.151  14.360 -27.471  1.00 55.55           C
ATOM   9678  CD2 LEU C 237       0.650  13.246 -29.135  1.00 51.47           C
ATOM   9679  C   LEU C 237      -0.122  17.364 -30.624  1.00 46.73           C
ATOM   9680  O   LEU C 237      -1.108  17.742 -30.045  1.00 43.08           O
ATOM   9681  N   THR C 238       0.661  18.169 -31.329  1.00 53.28           N
ATOM   9682  CA  THR C 238       0.443  19.611 -31.422  1.00 54.27           C
ATOM   9683  CB  THR C 238       1.762  20.377 -31.440  1.00 55.98           C
ATOM   9684  OG1 THR C 238       2.286  20.355 -32.772  1.00 54.95           O
ATOM   9685  CG2 THR C 238       2.790  19.782 -30.444  1.00 55.10           C
ATOM   9686  C   THR C 238      -0.211  19.845 -32.753  1.00 55.28           C
ATOM   9687  O   THR C 238      -0.455  18.879 -33.462  1.00 56.51           O
ATOM   9688  N   SER C 239      -0.450  21.102 -33.131  1.00 56.83           N
ATOM   9689  CA  SER C 239      -1.003  21.370 -34.465  1.00 61.86           C
ATOM   9690  CB  SER C 239      -2.275  22.251 -34.402  1.00 63.29           C
ATOM   9691  OG  SER C 239      -2.054  23.565 -33.965  1.00 65.25           O
ATOM   9692  C   SER C 239       0.051  21.821 -35.503  1.00 60.84           C
ATOM   9693  O   SER C 239      -0.306  22.545 -36.450  1.00 58.85           O
ATOM   9694  N   TRP C 240       1.310  21.348 -35.344  1.00 58.74           N
ATOM   9695  CA  TRP C 240       2.430  21.624 -36.286  1.00 58.34           C
ATOM   9696  CB  TRP C 240       3.170  22.932 -35.904  1.00 61.57           C
ATOM   9697  CG  TRP C 240       2.481  24.048 -36.556  1.00 65.59           C
ATOM   9698  CD1 TRP C 240       2.336  24.281 -37.924  1.00 74.23           C
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ATOM   9699  NE1 TRP C 240       1.558  25.378 -38.153  1.00 72.97           N
ATOM   9700  CE2 TRP C 240       1.172  25.865 -36.945  1.00 67.79           C
ATOM   9701  CD2 TRP C 240       1.749  25.036 -35.921  1.00 59.98           C
ATOM   9702  CE3 TRP C 240       1.514  25.322 -34.603  1.00 55.20           C
ATOM   9703  CZ3 TRP C 240       0.741  26.365 -34.326  1.00 64.99           C
ATOM   9704  CH2 TRP C 240       0.184  27.189 -35.368  1.00 74.61           C
ATOM   9705  CZ2 TRP C 240       0.402  26.938 -36.673  1.00 67.22           C
ATOM   9706  C   TRP C 240       3.468  20.505 -36.571  1.00 57.59           C
ATOM   9707  O   TRP C 240       3.609  19.554 -35.810  1.00 69.85           O
ATOM   9708  N   PRO C 241       4.200  20.624 -37.692  1.00 53.99           N
ATOM   9709  CA  PRO C 241       5.189  19.631 -38.070  1.00 54.08           C
ATOM   9710  CB  PRO C 241       5.463  19.937 -39.535  1.00 55.17           C
ATOM   9711  CG  PRO C 241       4.592  21.044 -39.939  1.00 53.33           C
ATOM   9712  CD  PRO C 241       3.985  21.621 -38.751  1.00 54.28           C
ATOM   9713  C   PRO C 241       6.533  19.656 -37.372  1.00 55.90           C
ATOM   9714  O   PRO C 241       6.984  20.668 -36.858  1.00 53.72           O
ATOM   9715  N   ARG C 242       7.216  18.534 -37.483  1.00 61.02           N
ATOM   9716  CA  ARG C 242       8.569  18.426 -36.980  1.00 66.20           C
ATOM   9717  CB  ARG C 242       9.129  17.012 -37.209  1.00 71.48           C
ATOM   9718  CG  ARG C 242       8.155  15.877 -36.837  1.00 87.64           C
ATOM   9719  CD  ARG C 242       8.838  14.516 -36.607  1.00 99.23           C
ATOM   9720  NE  ARG C 242       8.168  13.402 -37.293  1.00 94.22           N
ATOM   9721  CZ  ARG C 242       8.156  13.218 -38.619  1.00 86.41           C
ATOM   9722  NH1 ARG C 242       8.768  14.072 -39.448  1.00 74.02           N
ATOM   9723  NH2 ARG C 242       7.510  12.172 -39.132  1.00 95.36           N
ATOM   9724  C   ARG C 242       9.432  19.500 -37.664  1.00 64.77           C
ATOM   9725  O   ARG C 242      10.319  20.072 -37.032  1.00 66.81           O
ATOM   9726  N   TRP C 243       9.161  19.774 -38.947  1.00 62.61           N
ATOM   9727  CA  TRP C 243       9.956  20.746 -39.722  1.00 59.00           C
ATOM   9728  CB  TRP C 243       9.796  20.600 -41.252  1.00 49.73           C
ATOM   9729  CG  TRP C 243       8.458  20.845 -41.801  1.00 44.84           C
ATOM   9730  CD1 TRP C 243       7.538  19.902 -42.094  1.00 45.53           C
ATOM   9731  NE1 TRP C 243       6.383  20.488 -42.592  1.00 45.30           N
ATOM   9732  CE2 TRP C 243       6.564  21.839 -42.649  1.00 41.61           C
ATOM   9733  CD2 TRP C 243       7.872  22.106 -42.159  1.00 41.95           C
ATOM   9734  CE3 TRP C 243       8.300  23.419 -42.086  1.00 41.35           C
ATOM   9735  CZ3 TRP C 243       7.416  24.423 -42.502  1.00 44.23           C
ATOM   9736  CH2 TRP C 243       6.121  24.116 -43.004  1.00 40.74           C
ATOM   9737  CZ2 TRP C 243       5.686  22.836 -43.075  1.00 39.38           C
ATOM   9738  C   TRP C 243       9.760  22.197 -39.287  1.00 63.47           C
ATOM   9739  O   TRP C 243      10.691  22.997 -39.426  1.00 67.76           O
ATOM   9740  N   LEU C 244       8.585  22.534 -38.755  1.00 62.07           N
ATOM   9741  CA  LEU C 244       8.404  23.836 -38.116  1.00 60.66           C
ATOM   9742  CB  LEU C 244       6.938  24.162 -37.909  1.00 59.51           C
ATOM   9743  CG  LEU C 244       6.702  25.488 -37.192  1.00 59.78           C
ATOM   9744  CD1 LEU C 244       7.500  26.629 -37.796  1.00 61.45           C
ATOM   9745  CD2 LEU C 244       5.230  25.795 -37.276  1.00 64.08           C
ATOM   9746  C   LEU C 244       9.118  23.913 -36.769  1.00 62.02           C
ATOM   9747  O   LEU C 244       9.871  24.841 -36.540  1.00 65.00           O
ATOM   9748  N   TYR C 245       8.880  22.959 -35.873  1.00 60.22           N
ATOM   9749  CA  TYR C 245       9.584  22.961 -34.590  1.00 59.98           C
ATOM   9750  CB  TYR C 245       9.134  21.784 -33.675  1.00 59.13           C
ATOM   9751  CG  TYR C 245       7.702  21.941 -33.183  1.00 58.82           C
ATOM   9752  CD1 TYR C 245       7.375  22.935 -32.281  1.00 57.57           C
ATOM   9753  CE1 TYR C 245       6.079  23.115 -31.850  1.00 57.91           C
ATOM   9754  CZ  TYR C 245       5.079  22.295 -32.311  1.00 58.80           C
ATOM   9755  OH  TYR C 245       3.811  22.540 -31.861  1.00 58.40           O
ATOM   9756  CE2 TYR C 245       5.361  21.284 -33.211  1.00 57.85           C
ATOM   9757  CD2 TYR C 245       6.669  21.117 -33.649  1.00 61.00           C
ATOM   9758  C   TYR C 245      11.124  23.019 -34.787  1.00 61.17           C
ATOM   9759  O   TYR C 245      11.830  23.627 -33.959  1.00 67.17           O
ATOM   9760  N   SER C 246      11.630  22.450 -35.891  1.00 58.72           N
ATOM   9761  CA  SER C 246      13.081  22.444 -36.171  1.00 60.73           C
ATOM   9762  CB  SER C 246      13.443  21.467 -37.321  1.00 58.19           C
ATOM   9763  OG  SER C 246      14.649  20.740 -37.027  1.00 59.16           O
ATOM   9764  C   SER C 246      13.627  23.865 -36.429  1.00 60.03           C
ATOM   9765  O   SER C 246      14.749  24.192 -36.040  1.00 58.17           O
ATOM   9766  N   LEU C 247      12.801  24.700 -37.055  1.00 60.87           N
ATOM   9767  CA  LEU C 247      13.104  26.119 -37.275  1.00 59.16           C
ATOM   9768  CB  LEU C 247      12.094  26.738 -38.256  1.00 55.85           C
ATOM   9769  CG  LEU C 247      12.163  26.200 -39.681  1.00 54.10           C
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ATOM   9770  CD1 LEU C 247      10.986  26.677 -40.513  1.00 54.36           C
ATOM   9771  CD2 LEU C 247      13.478  26.601 -40.320  1.00 57.05           C
ATOM   9772  C   LEU C 247      13.158  26.995 -36.011  1.00 61.67           C
ATOM   9773  O   LEU C 247      13.624  28.130 -36.103  1.00 63.33           O
ATOM   9774  N   TYR C 248      12.678  26.510 -34.859  1.00 57.99           N
ATOM   9775  CA  TYR C 248      12.933  27.188 -33.581  1.00 54.97           C
ATOM   9776  CB  TYR C 248      11.631  27.524 -32.895  1.00 55.17           C
ATOM   9777  CG  TYR C 248      10.782  28.516 -33.635  1.00 60.07           C
ATOM   9778  CD1 TYR C 248       9.838  28.101 -34.568  1.00 60.73           C
ATOM   9779  CE1 TYR C 248       9.016  29.018 -35.218  1.00 61.48           C
ATOM   9780  CZ  TYR C 248       9.144  30.362 -34.953  1.00 61.97           C
ATOM   9781  OH  TYR C 248       8.350  31.273 -35.595  1.00 61.64           O
ATOM   9782  CE2 TYR C 248      10.073  30.797 -34.030  1.00 65.85           C
ATOM   9783  CD2 TYR C 248      10.883  29.875 -33.372  1.00 63.01           C
ATOM   9784  C   TYR C 248      13.814  26.382 -32.639  1.00 51.69           C
ATOM   9785  O   TYR C 248      13.725  26.541 -31.419  1.00 55.77           O
ATOM   9786  N   ASP C 249      14.698  25.559 -33.194  1.00 47.71           N
ATOM   9787  CA  ASP C 249      15.507  24.649 -32.377  1.00 49.29           C
ATOM   9788  CB  ASP C 249      15.516  23.218 -32.983  1.00 50.49           C
ATOM   9789  CG  ASP C 249      16.340  22.188 -32.141  1.00 50.38           C
ATOM   9790  OD1 ASP C 249      16.167  22.001 -30.924  1.00 48.46           O
ATOM   9791  OD2 ASP C 249      17.168  21.512 -32.740  1.00 55.10           O
ATOM   9792  C   ASP C 249      16.905  25.165 -32.304  1.00 45.92           C
ATOM   9793  O   ASP C 249      17.575  25.144 -33.320  1.00 50.53           O
ATOM   9794  N   ALA C 250      17.378  25.559 -31.121  1.00 44.56           N
ATOM   9795  CA  ALA C 250      18.735  26.143 -30.994  1.00 44.29           C
ATOM   9796  CB  ALA C 250      19.220  26.290 -29.547  1.00 38.91           C
ATOM   9797  C   ALA C 250      19.730  25.331 -31.805  1.00 50.14           C
ATOM   9798  O   ALA C 250      20.396  25.867 -32.689  1.00 60.18           O
ATOM   9799  N   GLU C 251      19.782  24.038 -31.551  1.00 53.06           N
ATOM   9800  CA  GLU C 251      20.836  23.197 -32.093  1.00 56.16           C
ATOM   9801  CB  GLU C 251      20.732  21.813 -31.454  1.00 66.43           C
ATOM   9802  CG  GLU C 251      21.479  21.695 -30.141  1.00 71.00           C
ATOM   9803  CD  GLU C 251      22.997  21.734 -30.346  1.00 77.05           C
ATOM   9804  OE1 GLU C 251      23.491  21.584 -31.525  1.00 77.89           O
ATOM   9805  OE2 GLU C 251      23.683  21.926 -29.302  1.00 78.52           O
ATOM   9806  C   GLU C 251      20.813  23.091 -33.608  1.00 51.73           C
ATOM   9807  O   GLU C 251      21.848  23.229 -34.246  1.00 50.63           O
ATOM   9808  N   THR C 252      19.636  22.850 -34.167  1.00 49.50           N
ATOM   9809  CA  THR C 252      19.466  22.911 -35.590  1.00 50.62           C
ATOM   9810  CB  THR C 252      17.995  22.683 -36.046  1.00 51.12           C
ATOM   9811  OG1 THR C 252      17.437  21.437 -35.604  1.00 49.00           O
ATOM   9812  CG2 THR C 252      17.960  22.700 -37.557  1.00 53.71           C
ATOM   9813  C   THR C 252      19.946  24.324 -36.103  1.00 51.51           C
ATOM   9814  O   THR C 252      20.736  24.413 -37.043  1.00 51.17           O
ATOM   9815  N   LEU C 253      19.473  25.413 -35.489  1.00 50.28           N
ATOM   9816  CA  LEU C 253      19.836  26.783 -35.916  1.00 49.76           C
ATOM   9817  CB  LEU C 253      19.091  27.819 -35.081  1.00 52.09           C
ATOM   9818  CG  LEU C 253      17.553  27.919 -35.132  1.00 54.12           C
ATOM   9819  CD1 LEU C 253      17.022  28.637 -33.904  1.00 55.56           C
ATOM   9820  CD2 LEU C 253      17.087  28.682 -36.347  1.00 54.30           C
ATOM   9821  C   LEU C 253      21.340  27.084 -35.801  1.00 50.33           C
ATOM   9822  O   LEU C 253      21.893  27.774 -36.639  1.00 46.58           O
ATOM   9823  N   MET C 254      22.006  26.592 -34.752  1.00 54.36           N
ATOM   9824  CA  MET C 254      23.466  26.767 -34.617  1.00 54.30           C
ATOM   9825  CB  MET C 254      24.001  26.298 -33.264  1.00 58.02           C
ATOM   9826  CG  MET C 254      23.645  27.221 -32.105  1.00 62.52           C
ATOM   9827  SD  MET C 254      24.347  26.667 -30.522  1.00 69.15           S
ATOM   9828  CE  MET C 254      22.901  25.870 -29.873  1.00 66.84           C
ATOM   9829  C   MET C 254      24.166  26.037 -35.737  1.00 52.91           C
ATOM   9830  O   MET C 254      25.002  26.608 -36.402  1.00 48.43           O
ATOM   9831  N   ASP C 255      23.800  24.787 -35.987  1.00 55.59           N
ATOM   9832  CA  ASP C 255      24.431  24.066 -37.093  1.00 57.64           C
ATOM   9833  CB  ASP C 255      24.007  22.586 -37.073  1.00 61.03           C
ATOM   9834  CG  ASP C 255      24.623  21.766 -38.234  1.00 65.64           C
ATOM   9835  OD1 ASP C 255      25.822  21.383 -38.033  1.00 64.58           O
ATOM   9836  OD2 ASP C 255      23.895  21.519 -39.289  1.00 57.57           O
ATOM   9837  C   ASP C 255      24.214  24.763 -38.488  1.00 52.82           C
ATOM   9838  O   ASP C 255      25.106  24.799 -39.318  1.00 48.47           O
ATOM   9839  N   ARG C 256      23.051  25.345 -38.725  1.00 51.66           N
ATOM   9840  CA  ARG C 256      22.809  26.075 -39.990  1.00 53.45           C
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ATOM   9841  CB  ARG C 256      21.318  26.459 -40.108  1.00 51.60           C
ATOM   9842  CG  ARG C 256      20.422  25.308 -40.514  1.00 49.55           C
ATOM   9843  CD  ARG C 256      18.974  25.687 -40.429  1.00 49.04           C
ATOM   9844  NE  ARG C 256      18.677  26.752 -41.361  1.00 49.06           N
ATOM   9845  CZ  ARG C 256      17.658  27.611 -41.269  1.00 53.96           C
ATOM   9846  NH1 ARG C 256      16.746  27.547 -40.289  1.00 58.53           N
ATOM   9847  NH2 ARG C 256      17.539  28.570 -42.182  1.00 55.13           N
ATOM   9848  C   ARG C 256      23.720  27.321 -40.171  1.00 54.69           C
ATOM   9849  O   ARG C 256      24.292  27.560 -41.262  1.00 53.34           O
ATOM   9850  N   ILE C 257      23.841  28.092 -39.091  1.00 56.12           N
ATOM   9851  CA  ILE C 257      24.777  29.206 -39.038  1.00 60.71           C
ATOM   9852  CB  ILE C 257      24.701  30.008 -37.710  1.00 58.11           C
ATOM   9853  CG1 ILE C 257      23.324  30.613 -37.524  1.00 55.91           C
ATOM   9854  CD1 ILE C 257      23.045  30.854 -36.075  1.00 57.77           C
ATOM   9855  CG2 ILE C 257      25.758  31.126 -37.667  1.00 57.74           C
ATOM   9856  C   ILE C 257      26.217  28.696 -39.224  1.00 63.16           C
ATOM   9857  O   ILE C 257      27.014  29.352 -39.888  1.00 72.69           O
ATOM   9858  N   LYS C 258      26.547  27.541 -38.656  1.00 61.72           N
ATOM   9859  CA  LYS C 258      27.900  27.034 -38.749  1.00 60.94           C
ATOM   9860  CB  LYS C 258      28.093  25.782 -37.941  1.00 62.36           C
ATOM   9861  CG  LYS C 258      28.266  26.002 -36.475  1.00 66.71           C
ATOM   9862  CD  LYS C 258      28.283  24.634 -35.830  1.00 73.39           C
ATOM   9863  CE  LYS C 258      28.892  24.645 -34.448  1.00 77.70           C
ATOM   9864  NZ  LYS C 258      28.819  23.248 -33.957  1.00 79.38           N
ATOM   9865  C   LYS C 258      28.284  26.718 -40.152  1.00 62.35           C
ATOM   9866  O   LYS C 258      29.441  26.497 -40.408  1.00 67.86           O
ATOM   9867  N   LYS C 259      27.332  26.668 -41.062  1.00 66.64           N
ATOM   9868  CA  LYS C 259      27.664  26.402 -42.426  1.00 71.48           C
ATOM   9869  CB  LYS C 259      26.544  25.658 -43.093  1.00 72.80           C
ATOM   9870  CG  LYS C 259      26.548  24.249 -42.571  1.00 76.72           C
ATOM   9871  CD  LYS C 259      25.215  23.558 -42.660  1.00 81.57           C
ATOM   9872  CE  LYS C 259      25.395  22.118 -42.210  1.00 88.20           C
ATOM   9873  NZ  LYS C 259      24.368  21.263 -42.852  1.00 95.48           N
ATOM   9874  C   LYS C 259      28.064  27.646 -43.159  1.00 79.30           C
ATOM   9875  O   LYS C 259      29.022  27.541 -43.906  1.00 90.65           O
ATOM   9876  N   GLN C 260      27.425  28.819 -42.950  1.00 86.51           N
ATOM   9877  CA  GLN C 260      28.027  30.095 -43.522  1.00 91.27           C
ATOM   9878  CB  GLN C 260      27.149  31.400 -43.633  1.00 94.88           C
ATOM   9879  CG  GLN C 260      25.625  31.355 -43.427  1.00104.21           C
ATOM   9880  CD  GLN C 260      24.806  30.468 -44.379  1.00102.82           C
ATOM   9881  OE1 GLN C 260      23.562  30.512 -44.369  1.00 92.30           O
ATOM   9882  NE2 GLN C 260      25.482  29.647 -45.169  1.00103.01           N
ATOM   9883  C   GLN C 260      29.349  30.400 -42.813  1.00 78.57           C
ATOM   9884  O   GLN C 260      30.259  30.922 -43.430  1.00 85.82           O
ATOM   9885  N   LEU C 261      29.476  30.037 -41.553  1.00 68.99           N
ATOM   9886  CA  LEU C 261      30.778  30.120 -40.886  1.00 71.21           C
ATOM   9887  CB  LEU C 261      30.642  29.922 -39.365  1.00 67.62           C
ATOM   9888  CG  LEU C 261      29.826  30.958 -38.572  1.00 67.41           C
ATOM   9889  CD1 LEU C 261      29.905  30.630 -37.091  1.00 65.89           C
ATOM   9890  CD2 LEU C 261      30.286  32.400 -38.838  1.00 69.25           C
ATOM   9891  C   LEU C 261      31.865  29.171 -41.428  1.00 74.55           C
ATOM   9892  O   LEU C 261      33.051  29.528 -41.404  1.00 75.53           O
ATOM   9893  N   ARG C 262      31.491  27.976 -41.889  1.00 79.28           N
ATOM   9894  CA  ARG C 262      32.478  27.057 -42.476  1.00 82.08           C
ATOM   9895  CB  ARG C 262      31.924  25.639 -42.661  1.00 90.78           C
ATOM   9896  CG  ARG C 262      32.963  24.516 -42.517  1.00100.04           C
ATOM   9897  CD  ARG C 262      32.319  23.114 -42.464  1.00107.07           C
ATOM   9898  NE  ARG C 262      31.336  22.962 -41.369  1.00108.21           N
ATOM   9899  CZ  ARG C 262      31.627  22.768 -40.075  1.00108.25           C
ATOM   9900  NH1 ARG C 262      32.892  22.682 -39.650  1.00112.35           N
ATOM   9901  NH2 ARG C 262      30.641  22.668 -39.185  1.00104.36           N
ATOM   9902  C   ARG C 262      33.002  27.598 -43.804  1.00 78.74           C
ATOM   9903  O   ARG C 262      34.153  27.358 -44.125  1.00 87.52           O
ATOM   9904  N   GLU C 263      32.211  28.342 -44.554  1.00 71.98           N
ATOM   9905  CA  GLU C 263      32.752  28.851 -45.795  1.00 75.35           C
ATOM   9906  CB  GLU C 263      31.684  29.109 -46.826  1.00 78.86           C
ATOM   9907  CG  GLU C 263      30.637  30.077 -46.401  1.00 87.82           C
ATOM   9908  CD  GLU C 263      29.562  30.167 -47.436  1.00 96.74           C
ATOM   9909  OE1 GLU C 263      29.232  29.123 -48.019  1.00 89.56           O
ATOM   9910  OE2 GLU C 263      29.060  31.277 -47.668  1.00107.65           O
ATOM   9911  C   GLU C 263      33.663  30.043 -45.583  1.00 73.97           C
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ATOM   9912  O   GLU C 263      34.587  30.251 -46.338  1.00 77.78           O
ATOM   9913  N   TRP C 264      33.398  30.842 -44.570  1.00 73.71           N
ATOM   9914  CA  TRP C 264      34.290  31.928 -44.233  1.00 71.00           C
ATOM   9915  CB  TRP C 264      33.669  32.833 -43.196  1.00 70.18           C
ATOM   9916  CG  TRP C 264      32.533  33.574 -43.746  1.00 66.22           C
ATOM   9917  CD1 TRP C 264      32.217  33.709 -45.047  1.00 66.03           C
ATOM   9918  NE1 TRP C 264      31.105  34.475 -45.188  1.00 63.82           N
ATOM   9919  CE2 TRP C 264      30.683  34.857 -43.950  1.00 60.86           C
ATOM   9920  CD2 TRP C 264      31.566  34.312 -43.023  1.00 63.81           C
ATOM   9921  CE3 TRP C 264      31.348  34.551 -41.676  1.00 66.60           C
ATOM   9922  CZ3 TRP C 264      30.289  35.315 -41.316  1.00 68.19           C
ATOM   9923  CH2 TRP C 264      29.440  35.850 -42.259  1.00 63.45           C
ATOM   9924  CZ2 TRP C 264      29.617  35.630 -43.582  1.00 59.24           C
ATOM   9925  C   TRP C 264      35.550  31.261 -43.713  1.00 76.45           C
ATOM   9926  O   TRP C 264      36.656  31.680 -43.982  1.00 70.93           O
ATOM   9927  N   ASP C 265      35.329  30.194 -42.952  1.00 85.62           N
ATOM   9928  CA  ASP C 265      36.351  29.333 -42.359  1.00 82.69           C
ATOM   9929  CB  ASP C 265      37.355  28.885 -43.407  1.00 83.49           C
ATOM   9930  CG  ASP C 265      37.785  27.454 -43.221  1.00 85.85           C
ATOM   9931  OD1 ASP C 265      38.205  27.102 -42.107  1.00 87.40           O
ATOM   9932  OD2 ASP C 265      37.712  26.680 -44.190  1.00 79.43           O
ATOM   9933  C   ASP C 265      37.062  29.924 -41.170  1.00 82.49           C
ATOM   9934  O   ASP C 265      37.949  29.298 -40.610  1.00 73.71           O
ATOM   9935  N   ASP C 270      35.989  25.968 -39.580  1.00 72.36           N
ATOM   9936  CA  ASP C 270      37.196  25.170 -39.547  1.00 86.48           C
ATOM   9937  CB  ASP C 270      38.271  25.746 -40.478  1.00 82.60           C
ATOM   9938  C   ASP C 270      37.639  25.229 -38.122  1.00 90.78           C
ATOM   9939  O   ASP C 270      38.719  25.713 -37.824  1.00 84.79           O
ATOM   9940  N   ASP C 271      36.785  24.739 -37.232  1.00101.59           N
ATOM   9941  CA  ASP C 271      37.093  24.762 -35.815  1.00107.33           C
ATOM   9942  CB  ASP C 271      37.585  26.145 -35.409  1.00103.38           C
ATOM   9943  C   ASP C 271      35.920  24.375 -34.937  1.00112.23           C
ATOM   9944  O   ASP C 271      34.952  23.773 -35.391  1.00100.91           O
ATOM   9945  N   SER C 272      36.046  24.719 -33.661  1.00122.93           N
ATOM   9946  CA  SER C 272      35.035  24.452 -32.651  1.00122.81           C
ATOM   9947  CB  SER C 272      35.590  23.527 -31.584  1.00110.79           C
ATOM   9948  OG  SER C 272      36.162  22.390 -32.187  1.00101.24           O
ATOM   9949  C   SER C 272      34.552  25.753 -32.020  1.00121.46           C
ATOM   9950  O   SER C 272      35.337  26.653 -31.724  1.00103.59           O
ATOM   9951  N   LEU C 273      33.242  25.832 -31.820  1.00123.28           N
ATOM   9952  CA  LEU C 273      32.585  27.003 -31.259  1.00116.79           C
ATOM   9953  CB  LEU C 273      31.741  27.703 -32.306  1.00117.04           C
ATOM   9954  CG  LEU C 273      32.512  28.587 -33.274  1.00114.95           C
ATOM   9955  CD1 LEU C 273      33.927  28.095 -33.522  1.00115.59           C
ATOM   9956  CD2 LEU C 273      31.741  28.670 -34.571  1.00107.70           C
ATOM   9957  C   LEU C 273      31.748  26.668 -30.050  1.00111.56           C
ATOM   9958  O   LEU C 273      31.462  25.512 -29.771  1.00121.15           O
ATOM   9959  N   PRO C 274      31.362  27.762 -29.300  1.00106.85           N
ATOM   9960  CA  PRO C 274      30.634  27.433 -28.068  1.00104.93           C
ATOM   9961  CB  PRO C 274      30.226  28.802 -27.520  1.00102.73           C
ATOM   9962  CG  PRO C 274      31.201  29.751 -28.056  1.00102.92           C
ATOM   9963  CD  PRO C 274      31.344  29.285 -29.450  1.00105.09           C
ATOM   9964  C   PRO C 274      29.372  26.595 -28.091  1.00102.65           C
ATOM   9965  O   PRO C 274      28.454  26.893 -28.820  1.00105.18           O
ATOM   9966  N   SER C 275      29.327  25.567 -27.257  1.00 95.38           N
ATOM   9967  CA  SER C 275      28.097  24.797 -27.045  1.00 84.85           C
ATOM   9968  CB  SER C 275      28.280  23.803 -25.882  1.00 85.79           C
ATOM   9969  OG  SER C 275      29.646  23.635 -25.544  1.00 87.81           O
ATOM   9970  C   SER C 275      26.892  25.719 -26.722  1.00 77.02           C
ATOM   9971  O   SER C 275      25.804  25.534 -27.244  1.00 70.76           O
ATOM   9972  N   ASN C 276      27.078  26.717 -25.864  1.00 72.54           N
ATOM   9973  CA  ASN C 276      25.931  27.481 -25.408  1.00 67.97           C
ATOM   9974  CB  ASN C 276      26.292  28.373 -24.230  1.00 70.85           C
ATOM   9975  CG  ASN C 276      25.056  28.861 -23.484  1.00 76.37           C
ATOM   9976  OD1 ASN C 276      24.215  29.592 -24.025  1.00 81.18           O
ATOM   9977  ND2 ASN C 276      24.928  28.449 -22.239  1.00 78.65           N
ATOM   9978  C   ASN C 276      25.253  28.327 -26.511  1.00 65.01           C
ATOM   9979  O   ASN C 276      25.871  29.216 -27.124  1.00 63.06           O
ATOM   9980  N   PRO C 277      23.964  28.085 -26.742  1.00 58.92           N
ATOM   9981  CA  PRO C 277      23.190  29.007 -27.565  1.00 59.42           C
ATOM   9982  CB  PRO C 277      21.754  28.586 -27.311  1.00 56.38           C
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ATOM   9983  CG  PRO C 277      21.822  27.216 -26.794  1.00 55.10           C
ATOM   9984  CD  PRO C 277      23.141  27.032 -26.154  1.00 55.93           C
ATOM   9985  C   PRO C 277      23.389  30.521 -27.241  1.00 61.01           C
ATOM   9986  O   PRO C 277      23.714  31.275 -28.125  1.00 75.08           O
ATOM   9987  N   ILE C 278      23.238  30.976 -26.014  1.00 61.07           N
ATOM   9988  CA  ILE C 278      23.538  32.379 -25.728  1.00 61.43           C
ATOM   9989  CB  ILE C 278      23.586  32.646 -24.229  1.00 57.67           C
ATOM   9990  CG1 ILE C 278      22.212  32.512 -23.642  1.00 57.15           C
ATOM   9991  CD1 ILE C 278      22.261  32.240 -22.170  1.00 60.10           C
ATOM   9992  CG2 ILE C 278      24.052  34.062 -23.990  1.00 59.03           C
ATOM   9993  C   ILE C 278      24.916  32.803 -26.301  1.00 64.79           C
ATOM   9994  O   ILE C 278      25.043  33.798 -27.058  1.00 55.87           O
ATOM   9995  N   ASP C 279      25.939  32.030 -25.921  1.00 66.93           N
ATOM   9996  CA  ASP C 279      27.328  32.364 -26.249  1.00 67.06           C
ATOM   9997  CB  ASP C 279      28.317  31.455 -25.509  1.00 70.56           C
ATOM   9998  CG  ASP C 279      28.299  31.684 -23.995  1.00 75.30           C
ATOM   9999  OD1 ASP C 279      27.588  32.601 -23.495  1.00 75.41           O
ATOM  10000  OD2 ASP C 279      28.999  30.929 -23.302  1.00 82.09           O
ATOM  10001  C   ASP C 279      27.556  32.324 -27.733  1.00 59.14           C
ATOM  10002  O   ASP C 279      27.944  33.311 -28.330  1.00 61.45           O
ATOM  10003  N   PHE C 280      27.268  31.199 -28.335  1.00 53.48           N
ATOM  10004  CA  PHE C 280      27.249  31.137 -29.785  1.00 52.81           C
ATOM  10005  CB  PHE C 280      26.538  29.861 -30.257  1.00 52.64           C
ATOM  10006  CG  PHE C 280      26.758  29.547 -31.700  1.00 51.37           C
ATOM  10007  CD2 PHE C 280      25.860  29.964 -32.651  1.00 51.85           C
ATOM  10008  CE2 PHE C 280      26.040  29.677 -33.984  1.00 52.24           C
ATOM  10009  CZ  PHE C 280      27.145  28.957 -34.373  1.00 56.25           C
ATOM  10010  CE1 PHE C 280      28.050  28.518 -33.415  1.00 57.45           C
ATOM  10011  CD1 PHE C 280      27.854  28.830 -32.090  1.00 53.95           C
ATOM  10012  C   PHE C 280      26.568  32.374 -30.376  1.00 48.86           C
ATOM  10013  O   PHE C 280      27.170  33.096 -31.157  1.00 49.19           O
ATOM  10014  N   SER C 281      25.343  32.640 -29.959  1.00 45.41           N
ATOM  10015  CA  SER C 281      24.576  33.699 -30.554  1.00 47.73           C
ATOM  10016  CB  SER C 281      23.148  33.763 -29.987  1.00 49.00           C
ATOM  10017  OG  SER C 281      23.103  34.532 -28.801  1.00 51.42           O
ATOM  10018  C   SER C 281      25.261  35.075 -30.445  1.00 48.28           C
ATOM  10019  O   SER C 281      25.157  35.877 -31.367  1.00 45.65           O
ATOM  10020  N   TYR C 282      25.952  35.336 -29.335  1.00 49.76           N
ATOM  10021  CA  TYR C 282      26.722  36.591 -29.182  1.00 49.30           C
ATOM  10022  CB  TYR C 282      27.046  36.907 -27.716  1.00 47.42           C
ATOM  10023  CG  TYR C 282      25.877  37.453 -26.984  1.00 46.84           C
ATOM  10024  CD1 TYR C 282      25.106  38.450 -27.536  1.00 49.64           C
ATOM  10025  CE1 TYR C 282      24.004  38.937 -26.901  1.00 51.66           C
ATOM  10026  CZ  TYR C 282      23.681  38.435 -25.687  1.00 51.99           C
ATOM  10027  OH  TYR C 282      22.593  38.953 -25.053  1.00 67.24           O
ATOM  10028  CE2 TYR C 282      24.402  37.427 -25.118  1.00 47.77           C
ATOM  10029  CD2 TYR C 282      25.497  36.939 -25.775  1.00 47.04           C
ATOM  10030  C   TYR C 282      28.003  36.616 -29.978  1.00 52.26           C
ATOM  10031  O   TYR C 282      28.453  37.678 -30.407  1.00 53.45           O
ATOM  10032  N   ARG C 283      28.600  35.451 -30.157  1.00 56.28           N
ATOM  10033  CA  ARG C 283      29.750  35.344 -30.997  1.00 59.67           C
ATOM  10034  CB  ARG C 283      30.350  33.944 -30.916  1.00 69.46           C
ATOM  10035  CG  ARG C 283      31.779  33.862 -31.427  1.00 82.10           C
ATOM  10036  CD  ARG C 283      32.791  34.581 -30.523  1.00 89.24           C
ATOM  10037  NE  ARG C 283      33.820  33.622 -30.126  1.00100.19           N
ATOM  10038  CZ  ARG C 283      33.733  32.769 -29.092  1.00109.61           C
ATOM  10039  NH1 ARG C 283      34.740  31.918 -28.855  1.00112.90           N
ATOM  10040  NH2 ARG C 283      32.674  32.764 -28.269  1.00109.41           N
ATOM  10041  C   ARG C 283      29.359  35.703 -32.429  1.00 53.64           C
ATOM  10042  O   ARG C 283      30.011  36.530 -33.034  1.00 46.54           O
ATOM  10043  N   VAL C 284      28.283  35.138 -32.966  1.00 50.99           N
ATOM  10044  CA  VAL C 284      28.090  35.313 -34.388  1.00 52.17           C
ATOM  10045  CB  VAL C 284      27.199  34.258 -35.128  1.00 55.21           C
ATOM  10046  CG1 VAL C 284      27.021  32.991 -34.310  1.00 56.37           C
ATOM  10047  CG2 VAL C 284      25.865  34.824 -35.637  1.00 53.87           C
ATOM  10048  C   VAL C 284      27.627  36.719 -34.576  1.00 52.13           C
ATOM  10049  O   VAL C 284      27.886  37.304 -35.613  1.00 56.73           O
ATOM  10050  N   ALA C 285      26.970  37.272 -33.570  1.00 51.83           N
ATOM  10051  CA  ALA C 285      26.529  38.665 -33.631  1.00 52.06           C
ATOM  10052  CB  ALA C 285      25.948  39.109 -32.310  1.00 51.27           C
ATOM  10053  C   ALA C 285      27.638  39.594 -34.012  1.00 54.02           C
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ATOM  10054  O   ALA C 285      27.415  40.497 -34.831  1.00 59.06           O
ATOM  10055  N   ALA C 286      28.814  39.384 -33.407  1.00 56.11           N
ATOM  10056  CA  ALA C 286      30.018  40.204 -33.680  1.00 57.23           C
ATOM  10057  CB  ALA C 286      31.102  39.987 -32.641  1.00 58.16           C
ATOM  10058  C   ALA C 286      30.610  40.044 -35.067  1.00 58.41           C
ATOM  10059  O   ALA C 286      31.097  40.986 -35.577  1.00 65.42           O
ATOM  10060  N   CYS C 287      30.562  38.880 -35.687  1.00 64.17           N
ATOM  10061  CA  CYS C 287      30.903  38.743 -37.117  1.00 67.80           C
ATOM  10062  CB  CYS C 287      30.660  37.309 -37.573  1.00 73.27           C
ATOM  10063  SG  CYS C 287      31.392  36.131 -36.464  1.00 82.76           S
ATOM  10064  C   CYS C 287      30.079  39.590 -38.087  1.00 63.51           C
ATOM  10065  O   CYS C 287      30.453  39.747 -39.231  1.00 64.16           O
ATOM  10066  N   LEU C 288      28.917  40.057 -37.699  1.00 60.32           N
ATOM  10067  CA  LEU C 288      28.076  40.632 -38.702  1.00 62.82           C
ATOM  10068  CB  LEU C 288      26.616  40.414 -38.390  1.00 63.18           C
ATOM  10069  CG  LEU C 288      26.160  39.025 -38.030  1.00 63.29           C
ATOM  10070  CD1 LEU C 288      24.647  39.091 -38.140  1.00 63.51           C
ATOM  10071  CD2 LEU C 288      26.776  37.922 -38.908  1.00 66.66           C
ATOM  10072  C   LEU C 288      28.346  42.120 -38.883  1.00 65.85           C
ATOM  10073  O   LEU C 288      28.172  42.910 -37.898  1.00 57.97           O
ATOM  10074  N   PRO C 289      28.751  42.496 -40.136  1.00 71.69           N
ATOM  10075  CA  PRO C 289      28.918  43.885 -40.534  1.00 74.49           C
ATOM  10076  CB  PRO C 289      29.705  43.780 -41.839  1.00 75.98           C
ATOM  10077  CG  PRO C 289      29.256  42.479 -42.458  1.00 74.09           C
ATOM  10078  CD  PRO C 289      28.951  41.584 -41.300  1.00 73.51           C
ATOM  10079  C   PRO C 289      27.541  44.431 -40.779  1.00 76.02           C
ATOM  10080  O   PRO C 289      26.971  44.241 -41.865  1.00 74.09           O
ATOM  10081  N   ILE C 290      26.993  45.021 -39.728  1.00 75.03           N
ATOM  10082  CA  ILE C 290      25.654  45.591 -39.744  1.00 77.74           C
ATOM  10083  CB  ILE C 290      24.589  44.714 -38.990  1.00 78.37           C
ATOM  10084  CG1 ILE C 290      25.027  44.358 -37.559  1.00 78.45           C
ATOM  10085  CD1 ILE C 290      23.879  43.893 -36.704  1.00 75.12           C
ATOM  10086  CG2 ILE C 290      24.253  43.430 -39.746  1.00 74.27           C
ATOM  10087  C   ILE C 290      25.769  46.958 -39.105  1.00 76.08           C
ATOM  10088  O   ILE C 290      26.740  47.215 -38.420  1.00 68.41           O
ATOM  10089  N   ASP C 291      24.781  47.822 -39.328  1.00 81.29           N
ATOM  10090  CA  ASP C 291      24.826  49.185 -38.789  1.00 84.93           C
ATOM  10091  CB  ASP C 291      23.919  50.186 -39.542  1.00 96.32           C
ATOM  10092  CG  ASP C 291      22.478  49.706 -39.695  1.00108.44           C
ATOM  10093  OD1 ASP C 291      22.251  48.667 -40.374  1.00116.16           O
ATOM  10094  OD2 ASP C 291      21.574  50.390 -39.161  1.00117.36           O
ATOM  10095  C   ASP C 291      24.505  49.148 -37.326  1.00 75.76           C
ATOM  10096  O   ASP C 291      23.997  48.154 -36.838  1.00 69.00           O
ATOM  10097  N   ASP C 292      24.825  50.248 -36.652  1.00 76.41           N
ATOM  10098  CA  ASP C 292      24.695  50.393 -35.197  1.00 79.53           C
ATOM  10099  CB  ASP C 292      25.105  51.825 -34.693  1.00 83.34           C
ATOM  10100  CG  ASP C 292      26.644  52.040 -34.538  1.00 84.16           C
ATOM  10101  OD1 ASP C 292      27.421  51.787 -35.509  1.00 83.52           O
ATOM  10102  OD2 ASP C 292      27.053  52.534 -33.443  1.00 75.96           O
ATOM  10103  C   ASP C 292      23.252  50.121 -34.744  1.00 79.18           C
ATOM  10104  O   ASP C 292      23.011  49.793 -33.577  1.00 80.31           O
ATOM  10105  N   VAL C 293      22.278  50.297 -35.623  1.00 77.77           N
ATOM  10106  CA  VAL C 293      20.914  50.313 -35.129  1.00 81.77           C
ATOM  10107  CB  VAL C 293      20.029  51.403 -35.842  1.00 83.33           C
ATOM  10108  CG1 VAL C 293      19.145  50.827 -36.967  1.00 77.83           C
ATOM  10109  CG2 VAL C 293      19.231  52.200 -34.779  1.00 81.19           C
ATOM  10110  C   VAL C 293      20.365  48.901 -35.095  1.00 75.02           C
ATOM  10111  O   VAL C 293      19.539  48.603 -34.237  1.00 76.74           O
ATOM  10112  N   LEU C 294      20.853  48.039 -35.983  1.00 69.56           N
ATOM  10113  CA  LEU C 294      20.495  46.626 -35.941  1.00 75.36           C
ATOM  10114  CB  LEU C 294      20.768  45.947 -37.277  1.00 80.19           C
ATOM  10115  CG  LEU C 294      20.025  46.395 -38.532  1.00 85.58           C
ATOM  10116  CD1 LEU C 294      20.155  45.275 -39.560  1.00 87.90           C
ATOM  10117  CD2 LEU C 294      18.563  46.762 -38.290  1.00 88.35           C
ATOM  10118  C   LEU C 294      21.254  45.869 -34.841  1.00 76.69           C
ATOM  10119  O   LEU C 294      20.667  45.055 -34.111  1.00 78.02           O
ATOM  10120  N   ARG C 295      22.564  46.105 -34.747  1.00 70.40           N
ATOM  10121  CA  ARG C 295      23.344  45.652 -33.607  1.00 63.89           C
ATOM  10122  CB  ARG C 295      24.600  46.493 -33.472  1.00 67.15           C
ATOM  10123  CG  ARG C 295      25.859  45.861 -32.910  1.00 65.37           C
ATOM  10124  CD  ARG C 295      26.391  44.853 -33.902  1.00 70.46           C
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ATOM  10125  NE  ARG C 295      27.795  44.913 -34.293  1.00 67.34           N
ATOM  10126  CZ  ARG C 295      28.819  45.237 -33.524  1.00 61.84           C
ATOM  10127  NH1 ARG C 295      28.680  45.604 -32.251  1.00 56.61           N
ATOM  10128  NH2 ARG C 295      30.021  45.188 -34.068  1.00 62.27           N
ATOM  10129  C   ARG C 295      22.476  45.825 -32.377  1.00 62.29           C
ATOM  10130  O   ARG C 295      22.274  44.874 -31.661  1.00 73.38           O
ATOM  10131  N   ILE C 296      21.893  47.001 -32.171  1.00 57.98           N
ATOM  10132  CA  ILE C 296      21.041  47.211 -31.005  1.00 60.60           C
ATOM  10133  CB  ILE C 296      20.698  48.702 -30.728  1.00 62.26           C
ATOM  10134  CG1 ILE C 296      21.967  49.513 -30.493  1.00 67.75           C
ATOM  10135  CD1 ILE C 296      21.764  51.018 -30.585  1.00 71.44           C
ATOM  10136  CG2 ILE C 296      19.889  48.860 -29.446  1.00 59.91           C
ATOM  10137  C   ILE C 296      19.779  46.356 -31.055  1.00 60.96           C
ATOM  10138  O   ILE C 296      19.389  45.845 -30.026  1.00 64.67           O
ATOM  10139  N   GLN C 297      19.131  46.198 -32.201  1.00 66.26           N
ATOM  10140  CA  GLN C 297      17.989  45.264 -32.282  1.00 76.28           C
ATOM  10141  CB  GLN C 297      17.453  45.018 -33.727  1.00 91.66           C
ATOM  10142  CG  GLN C 297      16.982  46.205 -34.574  1.00101.09           C
ATOM  10143  CD  GLN C 297      15.773  46.916 -34.006  1.00105.06           C
ATOM  10144  OE1 GLN C 297      14.735  46.996 -34.659  1.00114.20           O
ATOM  10145  NE2 GLN C 297      15.907  47.451 -32.794  1.00 97.92           N
ATOM  10146  C   GLN C 297      18.407  43.906 -31.725  1.00 71.34           C
ATOM  10147  O   GLN C 297      17.758  43.376 -30.824  1.00 73.11           O
ATOM  10148  N   LEU C 298      19.484  43.366 -32.288  1.00 65.05           N
ATOM  10149  CA  LEU C 298      20.041  42.116 -31.871  1.00 63.38           C
ATOM  10150  CB  LEU C 298      21.364  41.888 -32.547  1.00 62.00           C
ATOM  10151  CG  LEU C 298      21.386  41.004 -33.752  1.00 63.58           C
ATOM  10152  CD1 LEU C 298      22.818  40.503 -33.879  1.00 67.05           C
ATOM  10153  CD2 LEU C 298      20.446  39.817 -33.650  1.00 63.80           C
ATOM  10154  C   LEU C 298      20.310  42.040 -30.392  1.00 66.91           C
ATOM  10155  O   LEU C 298      19.990  41.055 -29.738  1.00 78.15           O
ATOM  10156  N   LEU C 299      20.950  43.059 -29.865  1.00 67.09           N
ATOM  10157  CA  LEU C 299      21.248  43.100 -28.428  1.00 68.52           C
ATOM  10158  CB  LEU C 299      22.054  44.351 -28.111  1.00 68.12           C
ATOM  10159  CG  LEU C 299      23.556  44.141 -28.065  1.00 71.12           C
ATOM  10160  CD1 LEU C 299      23.909  44.005 -26.594  1.00 80.41           C
ATOM  10161  CD2 LEU C 299      24.079  42.944 -28.860  1.00 72.31           C
ATOM  10162  C   LEU C 299      20.024  43.060 -27.545  1.00 67.34           C
ATOM  10163  O   LEU C 299      20.000  42.361 -26.528  1.00 65.26           O
ATOM  10164  N   LYS C 300      19.020  43.820 -27.950  1.00 69.80           N
ATOM  10165  CA  LYS C 300      17.825  43.956 -27.168  1.00 75.00           C
ATOM  10166  CB  LYS C 300      16.977  45.142 -27.666  1.00 75.53           C
ATOM  10167  CG  LYS C 300      17.520  46.512 -27.239  1.00 75.88           C
ATOM  10168  CD  LYS C 300      16.409  47.481 -26.845  1.00 80.67           C
ATOM  10169  CE  LYS C 300      16.765  48.918 -27.216  1.00 87.48           C
ATOM  10170  NZ  LYS C 300      15.673  49.894 -26.931  1.00 90.31           N
ATOM  10171  C   LYS C 300      17.057  42.617 -27.060  1.00 77.49           C
ATOM  10172  O   LYS C 300      16.665  42.228 -25.948  1.00 77.84           O
ATOM  10173  N   ILE C 301      16.890  41.909 -28.185  1.00 78.10           N
ATOM  10174  CA  ILE C 301      16.444  40.478 -28.216  1.00 74.29           C
ATOM  10175  CB  ILE C 301      16.696  39.876 -29.635  1.00 74.47           C
ATOM  10176  CG1 ILE C 301      15.442  40.047 -30.502  1.00 80.31           C
ATOM  10177  CD1 ILE C 301      15.680  39.951 -32.014  1.00 85.92           C
ATOM  10178  CG2 ILE C 301      17.158  38.426 -29.617  1.00 72.23           C
ATOM  10179  C   ILE C 301      17.123  39.669 -27.098  1.00 71.81           C
ATOM  10180  O   ILE C 301      18.351  39.547 -27.044  1.00 70.60           O
ATOM  10181  N   GLY C 302      16.317  39.177 -26.171  1.00 73.23           N
ATOM  10182  CA  GLY C 302      16.850  38.595 -24.917  1.00 76.32           C
ATOM  10183  C   GLY C 302      17.048  37.092 -24.995  1.00 76.44           C
ATOM  10184  O   GLY C 302      17.978  36.515 -24.328  1.00 66.11           O
ATOM  10185  N   SER C 303      16.155  36.501 -25.821  1.00 71.52           N
ATOM  10186  CA  SER C 303      16.111  35.075 -26.163  1.00 64.18           C
ATOM  10187  CB  SER C 303      14.727  34.768 -26.733  1.00 67.60           C
ATOM  10188  OG  SER C 303      14.811  34.087 -27.969  1.00 68.29           O
ATOM  10189  C   SER C 303      17.127  34.677 -27.212  1.00 54.90           C
ATOM  10190  O   SER C 303      17.083  35.208 -28.308  1.00 50.27           O
ATOM  10191  N   ALA C 304      18.000  33.717 -26.928  1.00 48.26           N
ATOM  10192  CA  ALA C 304      18.993  33.316 -27.946  1.00 47.96           C
ATOM  10193  CB  ALA C 304      20.059  32.408 -27.353  1.00 47.70           C
ATOM  10194  C   ALA C 304      18.403  32.682 -29.215  1.00 47.54           C
ATOM  10195  O   ALA C 304      18.925  32.815 -30.281  1.00 45.52           O
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ATOM  10196  N   ILE C 305      17.303  31.991 -29.093  1.00 49.44           N
ATOM  10197  CA  ILE C 305      16.698  31.398 -30.254  1.00 51.24           C
ATOM  10198  CB  ILE C 305      15.475  30.520 -29.864  1.00 52.26           C
ATOM  10199  CG1 ILE C 305      15.883  29.378 -28.954  1.00 49.68           C
ATOM  10200  CD1 ILE C 305      16.839  28.429 -29.617  1.00 51.01           C
ATOM  10201  CG2 ILE C 305      14.754  29.946 -31.091  1.00 53.19           C
ATOM  10202  C   ILE C 305      16.289  32.481 -31.248  1.00 50.62           C
ATOM  10203  O   ILE C 305      16.508  32.333 -32.452  1.00 51.27           O
ATOM  10204  N   GLN C 306      15.683  33.556 -30.775  1.00 53.33           N
ATOM  10205  CA  GLN C 306      15.315  34.651 -31.702  1.00 58.97           C
ATOM  10206  CB  GLN C 306      14.385  35.681 -31.052  1.00 60.03           C
ATOM  10207  CG  GLN C 306      12.981  35.128 -30.879  1.00 64.60           C
ATOM  10208  CD  GLN C 306      12.151  35.853 -29.829  1.00 70.01           C
ATOM  10209  OE1 GLN C 306      12.678  36.504 -28.920  1.00 72.00           O
ATOM  10210  NE2 GLN C 306      10.830  35.730 -29.945  1.00 74.80           N
ATOM  10211  C   GLN C 306      16.552  35.332 -32.285  1.00 59.15           C
ATOM  10212  O   GLN C 306      16.510  35.740 -33.447  1.00 67.07           O
ATOM  10213  N   ARG C 307      17.631  35.423 -31.487  1.00 54.03           N
ATOM  10214  CA  ARG C 307      18.909  35.997 -31.916  1.00 50.35           C
ATOM  10215  CB  ARG C 307      19.911  36.083 -30.744  1.00 52.19           C
ATOM  10216  CG  ARG C 307      20.737  37.364 -30.723  1.00 54.21           C
ATOM  10217  CD  ARG C 307      21.639  37.538 -29.490  1.00 56.93           C
ATOM  10218  NE  ARG C 307      20.886  37.812 -28.263  1.00 55.51           N
ATOM  10219  CZ  ARG C 307      20.867  37.024 -27.186  1.00 59.80           C
ATOM  10220  NH1 ARG C 307      21.604  35.920 -27.114  1.00 60.19           N
ATOM  10221  NH2 ARG C 307      20.110  37.340 -26.135  1.00 64.72           N
ATOM  10222  C   ARG C 307      19.515  35.213 -33.079  1.00 48.56           C
ATOM  10223  O   ARG C 307      19.938  35.798 -34.055  1.00 53.19           O
ATOM  10224  N   LEU C 308      19.519  33.889 -32.974  1.00 48.13           N
ATOM  10225  CA  LEU C 308      20.055  32.985 -33.982  1.00 44.96           C
ATOM  10226  CB  LEU C 308      20.048  31.558 -33.475  1.00 42.71           C
ATOM  10227  CG  LEU C 308      20.922  31.384 -32.262  1.00 44.92           C
ATOM  10228  CD1 LEU C 308      20.440  30.284 -31.331  1.00 45.43           C
ATOM  10229  CD2 LEU C 308      22.330  31.114 -32.712  1.00 46.01           C
ATOM  10230  C   LEU C 308      19.218  33.048 -35.250  1.00 46.74           C
ATOM  10231  O   LEU C 308      19.727  32.921 -36.349  1.00 48.62           O
ATOM  10232  N   ARG C 309      17.924  33.221 -35.132  1.00 49.44           N
ATOM  10233  CA  ARG C 309      17.120  33.240 -36.355  1.00 55.02           C
ATOM  10234  CB  ARG C 309      15.665  33.058 -36.028  1.00 52.02           C
ATOM  10235  CG  ARG C 309      15.433  31.688 -35.490  1.00 52.07           C
ATOM  10236  CD  ARG C 309      14.143  31.739 -34.776  1.00 54.64           C
ATOM  10237  NE  ARG C 309      13.151  32.319 -35.656  1.00 51.99           N
ATOM  10238  CZ  ARG C 309      12.554  31.653 -36.606  1.00 51.06           C
ATOM  10239  NH1 ARG C 309      11.646  32.254 -37.327  1.00 53.49           N
ATOM  10240  NH2 ARG C 309      12.833  30.378 -36.819  1.00 53.82           N
ATOM  10241  C   ARG C 309      17.310  34.539 -37.109  1.00 57.69           C
ATOM  10242  O   ARG C 309      17.397  34.579 -38.349  1.00 61.67           O
ATOM  10243  N   CYS C 310      17.325  35.591 -36.323  1.00 57.45           N
ATOM  10244  CA  CYS C 310      17.594  36.885 -36.795  1.00 59.70           C
ATOM  10245  CB  CYS C 310      17.414  37.870 -35.636  1.00 63.19           C
ATOM  10246  SG  CYS C 310      17.885  39.467 -36.223  1.00 76.75           S
ATOM  10247  C   CYS C 310      19.005  36.924 -37.420  1.00 56.48           C
ATOM  10248  O   CYS C 310      19.221  37.573 -38.436  1.00 58.02           O
ATOM  10249  N   GLU C 311      19.968  36.227 -36.849  1.00 53.51           N
ATOM  10250  CA  GLU C 311      21.293  36.207 -37.471  1.00 54.87           C
ATOM  10251  CB  GLU C 311      22.328  35.714 -36.483  1.00 53.70           C
ATOM  10252  CG  GLU C 311      22.636  36.701 -35.376  1.00 51.83           C
ATOM  10253  CD  GLU C 311      23.218  36.013 -34.156  1.00 54.27           C
ATOM  10254  OE1 GLU C 311      23.628  36.730 -33.230  1.00 53.49           O
ATOM  10255  OE2 GLU C 311      23.285  34.750 -34.120  1.00 55.88           O
ATOM  10256  C   GLU C 311      21.356  35.364 -38.759  1.00 56.18           C
ATOM  10257  O   GLU C 311      22.173  35.591 -39.616  1.00 55.15           O
ATOM  10258  N   LEU C 312      20.518  34.348 -38.860  1.00 61.05           N
ATOM  10259  CA  LEU C 312      20.391  33.592 -40.091  1.00 57.42           C
ATOM  10260  CB  LEU C 312      19.529  32.357 -39.913  1.00 56.61           C
ATOM  10261  CG  LEU C 312      20.329  31.125 -39.530  1.00 59.86           C
ATOM  10262  CD1 LEU C 312      19.359  29.971 -39.312  1.00 65.67           C
ATOM  10263  CD2 LEU C 312      21.336  30.744 -40.601  1.00 61.02           C
ATOM  10264  C   LEU C 312      19.802  34.467 -41.136  1.00 55.75           C
ATOM  10265  O   LEU C 312      20.289  34.481 -42.240  1.00 58.67           O
ATOM  10266  N   ASP C 313      18.764  35.208 -40.788  1.00 55.33           N
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ATOM  10267  CA  ASP C 313      18.127  36.089 -41.746  1.00 58.16           C
ATOM  10268  CB  ASP C 313      16.962  36.850 -41.117  1.00 62.68           C
ATOM  10269  CG  ASP C 313      15.932  37.266 -42.129  1.00 73.12           C
ATOM  10270  OD1 ASP C 313      15.233  36.348 -42.603  1.00 83.27           O
ATOM  10271  OD2 ASP C 313      15.801  38.484 -42.454  1.00 84.53           O
ATOM  10272  C   ASP C 313      19.178  37.050 -42.306  1.00 56.77           C
ATOM  10273  O   ASP C 313      19.445  37.042 -43.500  1.00 54.82           O
ATOM  10274  N   ILE C 314      19.843  37.797 -41.429  1.00 57.88           N
ATOM  10275  CA  ILE C 314      20.811  38.817 -41.841  1.00 56.63           C
ATOM  10276  CB  ILE C 314      21.551  39.446 -40.631  1.00 57.04           C
ATOM  10277  CG1 ILE C 314      20.604  40.290 -39.758  1.00 57.36           C
ATOM  10278  CD1 ILE C 314      20.926  40.214 -38.261  1.00 55.70           C
ATOM  10279  CG2 ILE C 314      22.689  40.341 -41.075  1.00 54.93           C
ATOM  10280  C   ILE C 314      21.792  38.148 -42.790  1.00 55.40           C
ATOM  10281  O   ILE C 314      21.982  38.592 -43.914  1.00 55.07           O
ATOM  10282  N   MET C 315      22.362  37.039 -42.375  1.00 54.51           N
ATOM  10283  CA  MET C 315      23.300  36.366 -43.241  1.00 58.70           C
ATOM  10284  CB  MET C 315      23.955  35.160 -42.560  1.00 62.59           C
ATOM  10285  CG  MET C 315      24.873  35.419 -41.368  1.00 62.93           C
ATOM  10286  SD  MET C 315      25.016  33.818 -40.520  1.00 66.58           S
ATOM  10287  CE  MET C 315      26.783  33.747 -40.301  1.00 72.97           C
ATOM  10288  C   MET C 315      22.736  35.918 -44.602  1.00 58.77           C
ATOM  10289  O   MET C 315      23.509  35.828 -45.549  1.00 66.41           O
ATOM  10290  N   ASN C 316      21.457  35.589 -44.739  1.00 57.58           N
ATOM  10291  CA  ASN C 316      20.998  35.088 -46.055  1.00 60.47           C
ATOM  10292  CB  ASN C 316      19.882  34.044 -45.969  1.00 61.87           C
ATOM  10293  CG  ASN C 316      20.274  32.830 -45.127  1.00 65.73           C
ATOM  10294  OD1 ASN C 316      21.372  32.291 -45.240  1.00 70.27           O
ATOM  10295  ND2 ASN C 316      19.380  32.417 -44.250  1.00 68.04           N
ATOM  10296  C   ASN C 316      20.595  36.243 -46.943  1.00 64.77           C
ATOM  10297  O   ASN C 316      21.055  36.317 -48.095  1.00 70.91           O
ATOM  10298  N   LYS C 317      19.776  37.153 -46.397  1.00 65.68           N
ATOM  10299  CA  LYS C 317      19.275  38.339 -47.119  1.00 63.55           C
ATOM  10300  CB  LYS C 317      18.124  39.015 -46.322  1.00 56.69           C
ATOM  10301  C   LYS C 317      20.424  39.319 -47.517  1.00 67.89           C
ATOM  10302  O   LYS C 317      20.637  39.563 -48.679  1.00 66.62           O
ATOM  10303  N   CYS C 318      21.196  39.826 -46.565  1.00 82.04           N
ATOM  10304  CA  CYS C 318      22.182  40.913 -46.827  1.00 89.35           C
ATOM  10305  CB  CYS C 318      22.633  41.587 -45.496  1.00 94.63           C
ATOM  10306  SG  CYS C 318      21.297  42.266 -44.429  1.00 93.58           S
ATOM  10307  C   CYS C 318      23.410  40.407 -47.580  1.00 86.84           C
ATOM  10308  O   CYS C 318      24.188  39.636 -47.031  1.00 92.06           O
ATOM  10309  N   THR C 319      23.600  40.875 -48.812  1.00 87.09           N
ATOM  10310  CA  THR C 319      24.667  40.357 -49.710  1.00 83.63           C
ATOM  10311  CB  THR C 319      24.019  39.623 -50.866  1.00 85.73           C
ATOM  10312  OG1 THR C 319      23.012  40.480 -51.423  1.00 81.93           O
ATOM  10313  CG2 THR C 319      23.416  38.308 -50.340  1.00 89.50           C
ATOM  10314  C   THR C 319      25.698  41.333 -50.330  1.00 75.50           C
ATOM  10315  O   THR C 319      26.768  40.882 -50.741  1.00 73.31           O
ATOM  10316  N   SER C 320      25.371  42.624 -50.444  1.00 68.15           N
ATOM  10317  CA  SER C 320      26.339  43.657 -50.841  1.00 64.38           C
ATOM  10318  CB  SER C 320      25.769  44.617 -51.920  1.00 63.68           C
ATOM  10319  OG  SER C 320      24.964  45.668 -51.375  1.00 63.30           O
ATOM  10320  C   SER C 320      26.681  44.426 -49.601  1.00 63.33           C
ATOM  10321  O   SER C 320      26.015  44.299 -48.593  1.00 72.63           O
ATOM  10322  N   LEU C 321      27.721  45.231 -49.684  1.00 59.64           N
ATOM  10323  CA  LEU C 321      28.085  46.149 -48.635  1.00 55.79           C
ATOM  10324  CB  LEU C 321      29.228  45.538 -47.824  1.00 56.93           C
ATOM  10325  CG  LEU C 321      28.885  44.397 -46.870  1.00 54.06           C
ATOM  10326  CD1 LEU C 321      30.057  43.522 -46.520  1.00 54.92           C
ATOM  10327  CD2 LEU C 321      28.351  45.004 -45.615  1.00 53.62           C
ATOM  10328  C   LEU C 321      28.561  47.386 -49.352  1.00 54.79           C
ATOM  10329  O   LEU C 321      29.326  47.278 -50.297  1.00 52.31           O
ATOM  10330  N   CYS C 322      28.100  48.551 -48.917  1.00 56.71           N
ATOM  10331  CA  CYS C 322      28.351  49.836 -49.595  1.00 56.03           C
ATOM  10332  CB  CYS C 322      27.068  50.341 -50.209  1.00 57.76           C
ATOM  10333  SG  CYS C 322      26.318  49.035 -51.187  1.00 70.46           S
ATOM  10334  C   CYS C 322      28.859  50.897 -48.644  1.00 55.51           C
ATOM  10335  O   CYS C 322      28.942  50.721 -47.442  1.00 55.55           O
ATOM  10336  N   CYS C 323      29.229  52.013 -49.225  1.00 54.06           N
ATOM  10337  CA  CYS C 323      29.794  53.108 -48.502  1.00 51.54           C
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ATOM  10338  CB  CYS C 323      30.462  54.027 -49.518  1.00 50.83           C
ATOM  10339  SG  CYS C 323      30.870  55.680 -48.977  1.00 48.55           S
ATOM  10340  C   CYS C 323      28.624  53.750 -47.796  1.00 54.01           C
ATOM  10341  O   CYS C 323      27.647  54.047 -48.422  1.00 55.68           O
ATOM  10342  N   LYS C 324      28.697  53.910 -46.480  1.00 59.33           N
ATOM  10343  CA  LYS C 324      27.598  54.498 -45.714  1.00 58.51           C
ATOM  10344  CB  LYS C 324      27.922  54.566 -44.226  1.00 61.62           C
ATOM  10345  CG  LYS C 324      26.750  54.817 -43.270  1.00 67.51           C
ATOM  10346  CD  LYS C 324      27.143  54.470 -41.816  1.00 72.37           C
ATOM  10347  CE  LYS C 324      26.248  55.064 -40.715  1.00 79.29           C
ATOM  10348  NZ  LYS C 324      25.222  54.154 -40.084  1.00 80.93           N
ATOM  10349  C   LYS C 324      27.288  55.877 -46.244  1.00 59.16           C
ATOM  10350  O   LYS C 324      26.134  56.205 -46.375  1.00 66.75           O
ATOM  10351  N   GLN C 325      28.313  56.714 -46.401  1.00 59.17           N
ATOM  10352  CA  GLN C 325      28.109  58.096 -46.839  1.00 62.07           C
ATOM  10353  CB  GLN C 325      29.394  58.905 -46.629  1.00 66.88           C
ATOM  10354  CG  GLN C 325      29.287  60.360 -47.053  1.00 74.67           C
ATOM  10355  CD  GLN C 325      28.213  61.112 -46.291  1.00 84.94           C
ATOM  10356  OE1 GLN C 325      27.534  60.547 -45.433  1.00 91.35           O
ATOM  10357  NE2 GLN C 325      28.054  62.393 -46.601  1.00 91.02           N
ATOM  10358  C   GLN C 325      27.595  58.320 -48.258  1.00 62.10           C
ATOM  10359  O   GLN C 325      26.664  59.099 -48.464  1.00 60.70           O
ATOM  10360  N   CYS C 326      28.191  57.645 -49.235  1.00 67.47           N
ATOM  10361  CA  CYS C 326      27.742  57.810 -50.609  1.00 60.32           C
ATOM  10362  CB  CYS C 326      28.695  57.105 -51.575  1.00 51.56           C
ATOM  10363  SG  CYS C 326      30.396  57.715 -51.524  1.00 47.70           S
ATOM  10364  C   CYS C 326      26.342  57.245 -50.747  1.00 64.60           C
ATOM  10365  O   CYS C 326      25.457  57.845 -51.357  1.00 70.48           O
ATOM  10366  N   GLN C 327      26.169  56.067 -50.161  1.00 66.87           N
ATOM  10367  CA  GLN C 327      24.908  55.348 -50.172  1.00 75.33           C
ATOM  10368  CB  GLN C 327      23.737  56.306 -49.947  1.00 80.37           C
ATOM  10369  CG  GLN C 327      22.375  55.632 -49.946  1.00 85.62           C
ATOM  10370  CD  GLN C 327      22.244  54.582 -48.861  1.00 89.48           C
ATOM  10371  OE1 GLN C 327      23.177  54.347 -48.093  1.00 91.97           O
ATOM  10372  NE2 GLN C 327      21.081  53.944 -48.792  1.00 89.03           N
ATOM  10373  C   GLN C 327      24.754  54.630 -51.508  1.00 76.75           C
ATOM  10374  O   GLN C 327      23.794  53.888 -51.716  1.00 81.01           O
ATOM  10375  N   GLU C 328      25.704  54.855 -52.413  1.00 74.61           N
ATOM  10376  CA  GLU C 328      25.653  54.223 -53.726  1.00 81.84           C
ATOM  10377  CB  GLU C 328      24.809  55.070 -54.685  1.00 98.99           C
ATOM  10378  CG  GLU C 328      23.370  55.267 -54.237  1.00105.83           C
ATOM  10379  CD  GLU C 328      22.567  56.108 -55.210  1.00111.97           C
ATOM  10380  OE1 GLU C 328      21.368  56.340 -54.948  1.00110.95           O
ATOM  10381  OE2 GLU C 328      23.135  56.538 -56.236  1.00107.47           O
ATOM  10382  C   GLU C 328      27.001  53.890 -54.376  1.00 79.02           C
ATOM  10383  O   GLU C 328      27.347  54.476 -55.403  1.00 72.82           O
ATOM  10384  N   THR C 329      27.756  52.952 -53.813  1.00 71.09           N
ATOM  10385  CA  THR C 329      28.986  52.579 -54.427  1.00 68.53           C
ATOM  10386  CB  THR C 329      30.068  53.481 -53.916  1.00 68.77           C
ATOM  10387  OG1 THR C 329      29.583  54.816 -54.017  1.00 79.34           O
ATOM  10388  CG2 THR C 329      31.301  53.337 -54.734  1.00 62.51           C
ATOM  10389  C   THR C 329      29.107  51.254 -53.796  1.00 69.82           C
ATOM  10390  O   THR C 329      28.999  51.178 -52.590  1.00 69.34           O
ATOM  10391  N   GLU C 330      29.338  50.208 -54.568  1.00 66.54           N
ATOM  10392  CA  GLU C 330      29.418  48.907 -53.966  1.00 66.32           C
ATOM  10393  CB  GLU C 330      28.867  47.866 -54.908  1.00 73.03           C
ATOM  10394  CG  GLU C 330      28.281  46.673 -54.203  1.00 81.79           C
ATOM  10395  CD  GLU C 330      28.349  45.421 -55.028  1.00 85.68           C
ATOM  10396  OE1 GLU C 330      27.332  44.725 -55.103  1.00 90.09           O
ATOM  10397  OE2 GLU C 330      29.412  45.130 -55.603  1.00 81.79           O
ATOM  10398  C   GLU C 330      30.826  48.586 -53.659  1.00 65.24           C
ATOM  10399  O   GLU C 330      31.603  48.335 -54.546  1.00 69.17           O
ATOM  10400  N   ILE C 331      31.144  48.575 -52.379  1.00 65.56           N
ATOM  10401  CA  ILE C 331      32.514  48.240 -51.907  1.00 62.03           C
ATOM  10402  CB  ILE C 331      32.842  48.755 -50.477  1.00 63.25           C
ATOM  10403  CG1 ILE C 331      32.439  50.219 -50.261  1.00 64.10           C
ATOM  10404  CD1 ILE C 331      32.996  51.202 -51.252  1.00 65.71           C
ATOM  10405  CG2 ILE C 331      34.332  48.620 -50.168  1.00 64.58           C
ATOM  10406  C   ILE C 331      32.816  46.729 -51.984  1.00 56.99           C
ATOM  10407  O   ILE C 331      33.879  46.384 -52.417  1.00 54.02           O
ATOM  10408  N   THR C 332      31.908  45.846 -51.574  1.00 57.20           N
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ATOM  10409  CA  THR C 332      32.144  44.386 -51.691  1.00 59.62           C
ATOM  10410  CB  THR C 332      33.243  43.902 -50.700  1.00 60.14           C
ATOM  10411  OG1 THR C 332      33.612  42.542 -50.998  1.00 59.59           O
ATOM  10412  CG2 THR C 332      32.767  44.025 -49.235  1.00 58.65           C
ATOM  10413  C   THR C 332      30.874  43.501 -51.529  1.00 60.48           C
ATOM  10414  O   THR C 332      29.762  44.023 -51.344  1.00 62.74           O
ATOM  10415  N   THR C 333      31.063  42.173 -51.603  1.00 58.28           N
ATOM  10416  CA  THR C 333      29.978  41.200 -51.442  1.00 60.59           C
ATOM  10417  CB  THR C 333      29.702  40.461 -52.771  1.00 65.84           C
ATOM  10418  OG1 THR C 333      30.677  39.421 -52.985  1.00 74.56           O
ATOM  10419  CG2 THR C 333      29.756  41.433 -53.955  1.00 65.30           C
ATOM  10420  C   THR C 333      30.260  40.168 -50.334  1.00 56.23           C
ATOM  10421  O   THR C 333      31.396  39.926 -49.979  1.00 50.53           O
ATOM  10422  N   LYS C 334      29.195  39.571 -49.813  1.00 57.17           N
ATOM  10423  CA  LYS C 334      29.249  38.412 -48.914  1.00 59.65           C
ATOM  10424  CB  LYS C 334      27.833  37.817 -48.717  1.00 67.92           C
ATOM  10425  CG  LYS C 334      27.717  36.429 -48.029  1.00 77.63           C
ATOM  10426  CD  LYS C 334      26.333  35.769 -48.250  1.00 81.26           C
ATOM  10427  CE  LYS C 334      26.332  34.253 -48.022  1.00 82.21           C
ATOM  10428  NZ  LYS C 334      25.922  33.859 -46.643  1.00 85.96           N
ATOM  10429  C   LYS C 334      30.178  37.336 -49.442  1.00 56.11           C
ATOM  10430  O   LYS C 334      30.890  36.698 -48.659  1.00 51.96           O
ATOM  10431  N   ASN C 335      30.174  37.120 -50.757  1.00 56.08           N
ATOM  10432  CA  ASN C 335      31.061  36.115 -51.351  1.00 59.70           C
ATOM  10433  CB  ASN C 335      31.032  36.205 -52.876  1.00 70.75           C
ATOM  10434  CG  ASN C 335      30.055  35.254 -53.511  1.00 76.17           C
ATOM  10435  OD1 ASN C 335      30.030  35.130 -54.743  1.00 87.29           O
ATOM  10436  ND2 ASN C 335      29.256  34.568 -52.699  1.00 72.75           N
ATOM  10437  C   ASN C 335      32.509  36.237 -50.937  1.00 57.14           C
ATOM  10438  O   ASN C 335      33.236  35.263 -50.970  1.00 55.63           O
ATOM  10439  N   GLU C 336      32.919  37.461 -50.609  1.00 57.34           N
ATOM  10440  CA  GLU C 336      34.298  37.812 -50.398  1.00 55.23           C
ATOM  10441  CB  GLU C 336      34.585  39.218 -50.961  1.00 60.72           C
ATOM  10442  CG  GLU C 336      34.213  39.457 -52.433  1.00 66.27           C
ATOM  10443  CD  GLU C 336      34.834  38.449 -53.424  1.00 74.85           C
ATOM  10444  OE1 GLU C 336      34.182  38.205 -54.478  1.00 84.59           O
ATOM  10445  OE2 GLU C 336      35.946  37.891 -53.167  1.00 75.15           O
ATOM  10446  C   GLU C 336      34.648  37.784 -48.951  1.00 50.33           C
ATOM  10447  O   GLU C 336      35.801  37.682 -48.625  1.00 51.45           O
ATOM  10448  N   ILE C 337      33.681  37.882 -48.054  1.00 48.79           N
ATOM  10449  CA  ILE C 337      34.000  37.883 -46.625  1.00 48.12           C
ATOM  10450  CB  ILE C 337      32.735  37.959 -45.771  1.00 46.70           C
ATOM  10451  CG1 ILE C 337      32.202  39.393 -45.785  1.00 46.46           C
ATOM  10452  CD1 ILE C 337      30.765  39.529 -45.281  1.00 47.54           C
ATOM  10453  CG2 ILE C 337      33.001  37.523 -44.341  1.00 46.62           C
ATOM  10454  C   ILE C 337      34.746  36.632 -46.280  1.00 49.17           C
ATOM  10455  O   ILE C 337      34.407  35.586 -46.800  1.00 55.79           O
ATOM  10456  N   PHE C 338      35.751  36.735 -45.419  1.00 50.59           N
ATOM  10457  CA  PHE C 338      36.488  35.554 -44.954  1.00 54.39           C
ATOM  10458  CB  PHE C 338      37.473  35.069 -46.027  1.00 55.70           C
ATOM  10459  CG  PHE C 338      38.771  35.807 -46.035  1.00 55.30           C
ATOM  10460  CD1 PHE C 338      38.802  37.175 -46.250  1.00 56.42           C
ATOM  10461  CE1 PHE C 338      40.006  37.856 -46.264  1.00 59.84           C
ATOM  10462  CZ  PHE C 338      41.205  37.167 -46.060  1.00 61.18           C
ATOM  10463  CE2 PHE C 338      41.176  35.803 -45.858  1.00 60.88           C
ATOM  10464  CD2 PHE C 338      39.958  35.134 -45.829  1.00 57.73           C
ATOM  10465  C   PHE C 338      37.230  35.834 -43.664  1.00 54.00           C
ATOM  10466  O   PHE C 338      37.440  37.007 -43.334  1.00 51.54           O
ATOM  10467  N   SER C 339      37.653  34.771 -42.968  1.00 54.52           N
ATOM  10468  CA  SER C 339      38.244  34.915 -41.629  1.00 58.90           C
ATOM  10469  CB  SER C 339      37.536  34.032 -40.625  1.00 55.95           C
ATOM  10470  OG  SER C 339      36.203  34.454 -40.497  1.00 56.64           O
ATOM  10471  C   SER C 339      39.741  34.667 -41.521  1.00 65.07           C
ATOM  10472  O   SER C 339      40.219  33.555 -41.840  1.00 64.88           O
ATOM  10473  N   LEU C 340      40.442  35.731 -41.069  1.00 70.38           N
ATOM  10474  CA  LEU C 340      41.804  35.673 -40.519  1.00 70.00           C
ATOM  10475  CB  LEU C 340      42.650  36.852 -40.979  1.00 69.34           C
ATOM  10476  CG  LEU C 340      42.864  36.955 -42.470  1.00 70.59           C
ATOM  10477  CD1 LEU C 340      43.730  38.175 -42.718  1.00 73.21           C
ATOM  10478  CD2 LEU C 340      43.529  35.709 -43.001  1.00 69.77           C
ATOM  10479  C   LEU C 340      41.879  35.681 -39.008  1.00 71.69           C
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ATOM  10480  O   LEU C 340      42.927  35.358 -38.500  1.00 81.40           O
ATOM  10481  N   SER C 341      40.838  36.101 -38.281  1.00 72.91           N
ATOM  10482  CA  SER C 341      40.843  35.997 -36.798  1.00 68.51           C
ATOM  10483  CB  SER C 341      40.135  37.189 -36.084  1.00 72.22           C
ATOM  10484  OG  SER C 341      40.695  37.558 -34.798  1.00 73.99           O
ATOM  10485  C   SER C 341      40.138  34.732 -36.444  1.00 64.76           C
ATOM  10486  O   SER C 341      39.111  34.387 -36.993  1.00 63.85           O
ATOM  10487  N   LEU C 342      40.673  34.055 -35.471  1.00 69.05           N
ATOM  10488  CA  LEU C 342      39.899  33.061 -34.768  1.00 70.23           C
ATOM  10489  CB  LEU C 342      40.666  32.602 -33.556  1.00 71.53           C
ATOM  10490  CG  LEU C 342      40.650  31.110 -33.509  1.00 73.64           C
ATOM  10491  CD1 LEU C 342      41.929  30.629 -34.183  1.00 71.07           C
ATOM  10492  CD2 LEU C 342      40.492  30.693 -32.040  1.00 81.16           C
ATOM  10493  C   LEU C 342      38.563  33.593 -34.277  1.00 69.11           C
ATOM  10494  O   LEU C 342      37.595  32.853 -34.213  1.00 73.46           O
ATOM  10495  N   CYS C 343      38.535  34.861 -33.873  1.00 71.08           N
ATOM  10496  CA  CYS C 343      37.282  35.559 -33.562  1.00 73.25           C
ATOM  10497  CB  CYS C 343      37.560  36.996 -33.117  1.00 76.24           C
ATOM  10498  SG  CYS C 343      38.451  37.112 -31.555  1.00 80.48           S
ATOM  10499  C   CYS C 343      36.236  35.585 -34.700  1.00 69.09           C
ATOM  10500  O   CYS C 343      35.033  35.615 -34.424  1.00 71.64           O
ATOM  10501  N   GLY C 344      36.683  35.579 -35.955  1.00 63.38           N
ATOM  10502  CA  GLY C 344      35.786  35.683 -37.094  1.00 59.70           C
ATOM  10503  C   GLY C 344      36.228  36.616 -38.208  1.00 59.05           C
ATOM  10504  O   GLY C 344      37.373  37.082 -38.245  1.00 60.80           O
ATOM  10505  N   PRO C 345      35.304  36.900 -39.146  1.00 59.03           N
ATOM  10506  CA  PRO C 345      35.638  37.805 -40.219  1.00 58.21           C
ATOM  10507  CB  PRO C 345      34.483  37.616 -41.200  1.00 57.49           C
ATOM  10508  CG  PRO C 345      33.326  37.282 -40.350  1.00 56.10           C
ATOM  10509  CD  PRO C 345      33.917  36.414 -39.286  1.00 58.21           C
ATOM  10510  C   PRO C 345      35.703  39.232 -39.772  1.00 57.19           C
ATOM  10511  O   PRO C 345      36.255  40.016 -40.491  1.00 61.52           O
ATOM  10512  N   MET C 346      35.158  39.580 -38.613  1.00 56.75           N
ATOM  10513  CA  MET C 346      35.249  40.954 -38.164  1.00 58.62           C
ATOM  10514  CB  MET C 346      33.973  41.709 -38.555  1.00 56.79           C
ATOM  10515  CG  MET C 346      33.845  43.090 -37.942  1.00 55.24           C
ATOM  10516  SD  MET C 346      32.414  43.986 -38.521  1.00 53.69           S
ATOM  10517  CE  MET C 346      31.185  43.396 -37.384  1.00 56.80           C
ATOM  10518  C   MET C 346      35.526  41.017 -36.663  1.00 60.33           C
ATOM  10519  O   MET C 346      35.159  40.102 -35.921  1.00 66.43           O
ATOM  10520  N   ALA C 347      36.177  42.111 -36.251  1.00 56.90           N
ATOM  10521  CA  ALA C 347      36.733  42.280 -34.924  1.00 51.86           C
ATOM  10522  CB  ALA C 347      37.841  41.285 -34.701  1.00 50.85           C
ATOM  10523  C   ALA C 347      37.287  43.675 -34.725  1.00 51.42           C
ATOM  10524  O   ALA C 347      37.660  44.353 -35.665  1.00 55.87           O
ATOM  10525  N   ALA C 348      37.392  44.046 -33.462  1.00 53.28           N
ATOM  10526  CA  ALA C 348      37.738  45.384 -33.005  1.00 51.74           C
ATOM  10527  CB  ALA C 348      36.941  45.702 -31.724  1.00 51.30           C
ATOM  10528  C   ALA C 348      39.248  45.473 -32.748  1.00 50.15           C
ATOM  10529  O   ALA C 348      39.797  44.586 -32.117  1.00 55.65           O
ATOM  10530  N   TYR C 349      39.887  46.522 -33.268  1.00 49.77           N
ATOM  10531  CA  TYR C 349      41.317  46.811 -33.122  1.00 50.32           C
ATOM  10532  CB  TYR C 349      42.057  46.545 -34.437  1.00 51.01           C
ATOM  10533  CG  TYR C 349      41.897  45.111 -34.942  1.00 52.09           C
ATOM  10534  CD1 TYR C 349      42.511  44.043 -34.304  1.00 52.62           C
ATOM  10535  CE1 TYR C 349      42.357  42.734 -34.752  1.00 52.46           C
ATOM  10536  CZ  TYR C 349      41.565  42.464 -35.842  1.00 53.79           C
ATOM  10537  OH  TYR C 349      41.390  41.159 -36.317  1.00 54.92           O
ATOM  10538  CE2 TYR C 349      40.940  43.520 -36.475  1.00 55.71           C
ATOM  10539  CD2 TYR C 349      41.114  44.824 -36.024  1.00 52.80           C
ATOM  10540  C   TYR C 349      41.434  48.284 -32.767  1.00 50.39           C
ATOM  10541  O   TYR C 349      40.567  49.058 -33.149  1.00 48.88           O
ATOM  10542  N   VAL C 350      42.456  48.679 -32.011  1.00 51.23           N
ATOM  10543  CA  VAL C 350      42.636  50.110 -31.752  1.00 54.36           C
ATOM  10544  CB  VAL C 350      42.928  50.545 -30.301  1.00 54.87           C
ATOM  10545  CG1 VAL C 350      41.633  50.924 -29.646  1.00 59.12           C
ATOM  10546  CG2 VAL C 350      43.634  49.495 -29.493  1.00 53.81           C
ATOM  10547  C   VAL C 350      43.754  50.588 -32.582  1.00 56.42           C
ATOM  10548  O   VAL C 350      44.716  49.838 -32.831  1.00 57.45           O
ATOM  10549  N   ASN C 351      43.647  51.847 -32.983  1.00 52.82           N
ATOM  10550  CA  ASN C 351      44.725  52.436 -33.724  1.00 54.22           C
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ATOM  10551  CB  ASN C 351      44.168  53.298 -34.861  1.00 55.67           C
ATOM  10552  CG  ASN C 351      43.786  54.681 -34.440  1.00 54.78           C
ATOM  10553  OD1 ASN C 351      43.720  55.014 -33.255  1.00 56.66           O
ATOM  10554  ND2 ASN C 351      43.510  55.503 -35.424  1.00 54.50           N
ATOM  10555  C   ASN C 351      45.647  53.158 -32.762  1.00 54.94           C
ATOM  10556  O   ASN C 351      45.445  53.104 -31.523  1.00 56.91           O
ATOM  10557  N   PRO C 352      46.660  53.836 -33.304  1.00 53.49           N
ATOM  10558  CA  PRO C 352      47.627  54.461 -32.432  1.00 54.74           C
ATOM  10559  CB  PRO C 352      48.591  55.074 -33.411  1.00 52.95           C
ATOM  10560  CG  PRO C 352      48.578  54.117 -34.531  1.00 52.55           C
ATOM  10561  CD  PRO C 352      47.127  53.860 -34.693  1.00 52.81           C
ATOM  10562  C   PRO C 352      47.072  55.531 -31.500  1.00 56.94           C
ATOM  10563  O   PRO C 352      47.627  55.733 -30.400  1.00 58.56           O
ATOM  10564  N   HIS C 353      46.000  56.192 -31.936  1.00 56.29           N
ATOM  10565  CA  HIS C 353      45.422  57.295 -31.189  1.00 59.20           C
ATOM  10566  CB  HIS C 353      44.963  58.390 -32.160  1.00 60.73           C
ATOM  10567  CG  HIS C 353      46.078  58.932 -33.009  1.00 64.95           C
ATOM  10568  ND1 HIS C 353      47.160  59.605 -32.479  1.00 66.74           N
ATOM  10569  CE1 HIS C 353      47.996  59.932 -33.450  1.00 69.10           C
ATOM  10570  NE2 HIS C 353      47.499  59.493 -34.593  1.00 68.51           N
ATOM  10571  CD2 HIS C 353      46.301  58.861 -34.345  1.00 68.30           C
ATOM  10572  C   HIS C 353      44.311  56.861 -30.230  1.00 61.16           C
ATOM  10573  O   HIS C 353      43.797  57.686 -29.444  1.00 58.86           O
ATOM  10574  N   GLY C 354      43.976  55.567 -30.268  1.00 61.78           N
ATOM  10575  CA  GLY C 354      42.974  54.985 -29.387  1.00 60.08           C
ATOM  10576  C   GLY C 354      41.601  54.997 -29.987  1.00 58.33           C
ATOM  10577  O   GLY C 354      40.643  54.821 -29.244  1.00 60.53           O
ATOM  10578  N   TYR C 355      41.508  55.214 -31.308  1.00 57.14           N
ATOM  10579  CA  TYR C 355      40.273  55.022 -32.059  1.00 59.57           C
ATOM  10580  CB  TYR C 355      40.315  55.717 -33.410  1.00 66.46           C
ATOM  10581  CG  TYR C 355      40.087  57.217 -33.354  1.00 85.96           C
ATOM  10582  CD1 TYR C 355      40.971  58.083 -32.643  1.00 93.18           C
ATOM  10583  CE1 TYR C 355      40.765  59.467 -32.593  1.00 93.64           C
ATOM  10584  CZ  TYR C 355      39.671  60.017 -33.266  1.00102.46           C
ATOM  10585  OH  TYR C 355      39.428  61.376 -33.238  1.00102.82           O
ATOM  10586  CE2 TYR C 355      38.801  59.191 -33.990  1.00105.92           C
ATOM  10587  CD2 TYR C 355      39.009  57.803 -34.034  1.00 98.25           C
ATOM  10588  C   TYR C 355      40.137  53.529 -32.289  1.00 57.91           C
ATOM  10589  O   TYR C 355      41.095  52.883 -32.763  1.00 59.69           O
ATOM  10590  N   VAL C 356      38.979  52.972 -31.926  1.00 52.84           N
ATOM  10591  CA  VAL C 356      38.703  51.549 -32.116  1.00 52.60           C
ATOM  10592  CB  VAL C 356      37.691  50.998 -31.078  1.00 54.75           C
ATOM  10593  CG1 VAL C 356      37.425  49.514 -31.314  1.00 55.56           C
ATOM  10594  CG2 VAL C 356      38.151  51.227 -29.655  1.00 53.06           C
ATOM  10595  C   VAL C 356      38.041  51.352 -33.456  1.00 49.80           C
ATOM  10596  O   VAL C 356      37.099  52.043 -33.767  1.00 46.07           O
ATOM  10597  N   HIS C 357      38.469  50.370 -34.223  1.00 52.32           N
ATOM  10598  CA  HIS C 357      37.818  50.080 -35.519  1.00 55.88           C
ATOM  10599  CB  HIS C 357      38.746  50.355 -36.725  1.00 59.49           C
ATOM  10600  CG  HIS C 357      39.001  51.806 -36.995  1.00 58.51           C
ATOM  10601  ND1 HIS C 357      38.681  52.400 -38.193  1.00 58.47           N
ATOM  10602  CE1 HIS C 357      38.993  53.680 -38.140  1.00 61.43           C
ATOM  10603  NE2 HIS C 357      39.511  53.937 -36.954  1.00 59.43           N
ATOM  10604  CD2 HIS C 357      39.542  52.776 -36.226  1.00 59.88           C
ATOM  10605  C   HIS C 357      37.456  48.623 -35.547  1.00 54.91           C
ATOM  10606  O   HIS C 357      38.295  47.779 -35.246  1.00 52.60           O
ATOM  10607  N   GLU C 358      36.225  48.338 -35.954  1.00 56.26           N
ATOM  10608  CA  GLU C 358      35.791  46.969 -36.164  1.00 56.27           C
ATOM  10609  CB  GLU C 358      34.347  46.832 -35.795  1.00 58.59           C
ATOM  10610  CG  GLU C 358      34.117  47.294 -34.379  1.00 61.13           C
ATOM  10611  CD  GLU C 358      32.764  46.897 -33.874  1.00 62.04           C
ATOM  10612  OE1 GLU C 358      32.534  45.685 -33.635  1.00 56.56           O
ATOM  10613  OE2 GLU C 358      31.933  47.824 -33.750  1.00 69.40           O
ATOM  10614  C   GLU C 358      36.012  46.641 -37.614  1.00 54.88           C
ATOM  10615  O   GLU C 358      35.355  47.179 -38.495  1.00 54.39           O
ATOM  10616  N   THR C 359      36.962  45.767 -37.887  1.00 54.30           N
ATOM  10617  CA  THR C 359      37.387  45.653 -39.256  1.00 54.05           C
ATOM  10618  CB  THR C 359      38.794  46.224 -39.494  1.00 50.96           C
ATOM  10619  OG1 THR C 359      39.622  45.233 -40.103  1.00 52.14           O
ATOM  10620  CG2 THR C 359      39.378  46.787 -38.243  1.00 47.63           C
ATOM  10621  C   THR C 359      37.127  44.250 -39.814  1.00 52.22           C
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ATOM  10622  O   THR C 359      37.625  43.239 -39.341  1.00 54.38           O
ATOM  10623  N   LEU C 360      36.271  44.244 -40.803  1.00 49.33           N
ATOM  10624  CA  LEU C 360      35.873  43.075 -41.477  1.00 52.13           C
ATOM  10625  CB  LEU C 360      34.463  43.294 -42.044  1.00 55.97           C
ATOM  10626  CG  LEU C 360      33.949  42.304 -43.109  1.00 58.25           C
ATOM  10627  CD1 LEU C 360      33.601  41.004 -42.417  1.00 56.25           C
ATOM  10628  CD2 LEU C 360      32.784  42.869 -43.942  1.00 58.72           C
ATOM  10629  C   LEU C 360      36.860  42.813 -42.619  1.00 51.08           C
ATOM  10630  O   LEU C 360      37.055  43.656 -43.489  1.00 54.31           O
ATOM  10631  N   THR C 361      37.401  41.609 -42.643  1.00 47.34           N
ATOM  10632  CA  THR C 361      38.354  41.185 -43.627  1.00 47.71           C
ATOM  10633  CB  THR C 361      39.359  40.204 -42.974  1.00 47.33           C
ATOM  10634  OG1 THR C 361      38.712  39.236 -42.107  1.00 49.67           O
ATOM  10635  CG2 THR C 361      40.285  40.987 -42.140  1.00 47.74           C
ATOM  10636  C   THR C 361      37.703  40.510 -44.816  1.00 49.82           C
ATOM  10637  O   THR C 361      36.999  39.540 -44.630  1.00 55.74           O
ATOM  10638  N   VAL C 362      37.967  40.982 -46.038  1.00 50.38           N
ATOM  10639  CA  VAL C 362      37.466  40.331 -47.281  1.00 48.47           C
ATOM  10640  CB  VAL C 362      36.372  41.170 -47.940  1.00 50.15           C
ATOM  10641  CG1 VAL C 362      35.265  41.440 -46.952  1.00 51.77           C
ATOM  10642  CG2 VAL C 362      36.900  42.499 -48.468  1.00 52.27           C
ATOM  10643  C   VAL C 362      38.580  40.123 -48.282  1.00 47.04           C
ATOM  10644  O   VAL C 362      39.565  40.819 -48.188  1.00 44.92           O
ATOM  10645  N   TYR C 363      38.422  39.184 -49.220  1.00 50.37           N
ATOM  10646  CA  TYR C 363      39.446  38.894 -50.257  1.00 56.43           C
ATOM  10647  CB  TYR C 363      39.192  37.602 -51.041  1.00 59.78           C
ATOM  10648  CG  TYR C 363      39.542  36.380 -50.258  1.00 68.48           C
ATOM  10649  CD1 TYR C 363      40.856  36.118 -49.931  1.00 73.24           C
ATOM  10650  CE1 TYR C 363      41.196  35.007 -49.165  1.00 76.10           C
ATOM  10651  CZ  TYR C 363      40.216  34.124 -48.748  1.00 76.60           C
ATOM  10652  OH  TYR C 363      40.629  33.056 -48.009  1.00 82.67           O
ATOM  10653  CE2 TYR C 363      38.881  34.340 -49.057  1.00 73.25           C
ATOM  10654  CD2 TYR C 363      38.548  35.470 -49.804  1.00 73.31           C
ATOM  10655  C   TYR C 363      39.584  39.973 -51.285  1.00 58.39           C
ATOM  10656  O   TYR C 363      40.697  40.153 -51.769  1.00 60.66           O
ATOM  10657  N   LYS C 364      38.469  40.634 -51.629  1.00 59.20           N
ATOM  10658  CA  LYS C 364      38.391  41.612 -52.726  1.00 64.50           C
ATOM  10659  CB  LYS C 364      37.986  40.941 -54.049  1.00 74.47           C
ATOM  10660  CG  LYS C 364      39.085  40.854 -55.137  1.00 87.51           C
ATOM  10661  CD  LYS C 364      40.012  39.613 -55.082  1.00 94.46           C
ATOM  10662  CE  LYS C 364      39.272  38.271 -55.244  1.00 97.47           C
ATOM  10663  NZ  LYS C 364      39.649  37.457 -56.435  1.00 98.52           N
ATOM  10664  C   LYS C 364      37.452  42.807 -52.465  1.00 61.34           C
ATOM  10665  O   LYS C 364      36.395  42.691 -51.844  1.00 57.80           O
ATOM  10666  N   ALA C 365      37.847  43.964 -52.970  1.00 57.60           N
ATOM  10667  CA  ALA C 365      37.054  45.146 -52.797  1.00 56.66           C
ATOM  10668  CB  ALA C 365      37.504  45.878 -51.567  1.00 56.77           C
ATOM  10669  C   ALA C 365      37.177  46.015 -54.006  1.00 57.44           C
ATOM  10670  O   ALA C 365      38.084  45.865 -54.784  1.00 64.68           O
ATOM  10671  N   CYS C 366      36.255  46.938 -54.156  1.00 59.73           N
ATOM  10672  CA  CYS C 366      36.144  47.716 -55.373  1.00 65.32           C
ATOM  10673  CB  CYS C 366      34.962  47.200 -56.166  1.00 67.01           C
ATOM  10674  SG  CYS C 366      35.421  45.652 -56.916  1.00 70.80           S
ATOM  10675  C   CYS C 366      35.945  49.181 -55.091  1.00 63.72           C
ATOM  10676  O   CYS C 366      35.554  49.535 -53.985  1.00 68.53           O
ATOM  10677  N   ASN C 367      36.188  50.013 -56.104  1.00 54.92           N
ATOM  10678  CA  ASN C 367      35.939  51.446 -56.022  1.00 53.17           C
ATOM  10679  CB  ASN C 367      34.440  51.733 -55.976  1.00 52.34           C
ATOM  10680  CG  ASN C 367      33.655  50.913 -56.946  1.00 48.55           C
ATOM  10681  OD1 ASN C 367      32.745  50.212 -56.558  1.00 47.29           O
ATOM  10682  ND2 ASN C 367      34.023  50.952 -58.189  1.00 48.73           N
ATOM  10683  C   ASN C 367      36.592  52.122 -54.829  1.00 54.27           C
ATOM  10684  O   ASN C 367      36.026  53.041 -54.181  1.00 51.28           O
ATOM  10685  N   LEU C 368      37.777  51.628 -54.519  1.00 56.96           N
ATOM  10686  CA  LEU C 368      38.536  52.139 -53.418  1.00 56.09           C
ATOM  10687  CB  LEU C 368      38.894  51.010 -52.476  1.00 54.24           C
ATOM  10688  CG  LEU C 368      37.791  50.303 -51.736  1.00 51.55           C
ATOM  10689  CD1 LEU C 368      38.390  49.324 -50.723  1.00 53.04           C
ATOM  10690  CD2 LEU C 368      36.937  51.348 -51.046  1.00 52.49           C
ATOM  10691  C   LEU C 368      39.766  52.701 -54.067  1.00 56.35           C
ATOM  10692  O   LEU C 368      40.301  52.092 -54.992  1.00 61.83           O
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ATOM  10693  N   ASN C 369      40.171  53.879 -53.640  1.00 54.58           N
ATOM  10694  CA  ASN C 369      41.404  54.476 -54.121  1.00 55.13           C
ATOM  10695  CB  ASN C 369      41.180  55.927 -54.615  1.00 54.12           C
ATOM  10696  CG  ASN C 369      40.545  55.982 -55.991  1.00 57.35           C
ATOM  10697  OD1 ASN C 369      40.665  55.040 -56.764  1.00 65.22           O
ATOM  10698  ND2 ASN C 369      39.855  57.074 -56.307  1.00 62.32           N
ATOM  10699  C   ASN C 369      42.329  54.334 -52.925  1.00 54.38           C
ATOM  10700  O   ASN C 369      41.849  54.400 -51.777  1.00 55.08           O
ATOM  10701  N   LEU C 370      43.615  54.070 -53.201  1.00 51.25           N
ATOM  10702  CA  LEU C 370      44.642  53.802 -52.178  1.00 48.72           C
ATOM  10703  CB  LEU C 370      45.508  52.648 -52.601  1.00 45.31           C
ATOM  10704  CG  LEU C 370      44.758  51.362 -52.797  1.00 44.46           C
ATOM  10705  CD1 LEU C 370      45.451  50.405 -53.755  1.00 42.70           C
ATOM  10706  CD2 LEU C 370      44.530  50.739 -51.432  1.00 46.40           C
ATOM  10707  C   LEU C 370      45.530  54.999 -52.081  1.00 52.46           C
ATOM  10708  O   LEU C 370      46.037  55.478 -53.091  1.00 57.05           O
ATOM  10709  N   ILE C 371      45.727  55.539 -50.903  1.00 57.54           N
ATOM  10710  CA  ILE C 371      46.541  56.743 -50.863  1.00 65.22           C
ATOM  10711  CB  ILE C 371      45.709  58.067 -50.732  1.00 69.81           C
ATOM  10712  CG1 ILE C 371      45.301  58.340 -49.290  1.00 74.09           C
ATOM  10713  CD1 ILE C 371      46.270  59.242 -48.544  1.00 80.49           C
ATOM  10714  CG2 ILE C 371      44.477  58.052 -51.656  1.00 68.15           C
ATOM  10715  C   ILE C 371      47.598  56.526 -49.821  1.00 61.40           C
ATOM  10716  O   ILE C 371      47.377  55.827 -48.857  1.00 61.03           O
ATOM  10717  N   GLY C 372      48.759  57.116 -50.052  1.00 62.66           N
ATOM  10718  CA  GLY C 372      49.933  56.866 -49.230  1.00 62.72           C
ATOM  10719  C   GLY C 372      50.642  55.568 -49.560  1.00 60.91           C
ATOM  10720  O   GLY C 372      50.268  54.854 -50.504  1.00 54.32           O
ATOM  10721  N   ARG C 373      51.673  55.268 -48.766  1.00 62.57           N
ATOM  10722  CA  ARG C 373      52.475  54.111 -49.034  1.00 63.26           C
ATOM  10723  CB  ARG C 373      53.845  54.569 -49.516  1.00 70.60           C
ATOM  10724  CG  ARG C 373      54.009  54.230 -51.003  1.00 80.59           C
ATOM  10725  CD  ARG C 373      54.534  55.318 -51.919  1.00 88.87           C
ATOM  10726  NE  ARG C 373      55.913  55.097 -52.388  1.00102.49           N
ATOM  10727  CZ  ARG C 373      56.386  53.997 -53.008  1.00107.67           C
ATOM  10728  NH1 ARG C 373      57.674  53.967 -53.399  1.00107.60           N
ATOM  10729  NH2 ARG C 373      55.610  52.916 -53.232  1.00106.17           N
ATOM  10730  C   ARG C 373      52.452  53.015 -47.959  1.00 57.81           C
ATOM  10731  O   ARG C 373      52.157  53.296 -46.787  1.00 56.79           O
ATOM  10732  N   PRO C 374      52.645  51.738 -48.379  1.00 52.75           N
ATOM  10733  CA  PRO C 374      52.359  50.657 -47.449  1.00 53.03           C
ATOM  10734  CB  PRO C 374      52.682  49.385 -48.259  1.00 51.32           C
ATOM  10735  CG  PRO C 374      52.350  49.771 -49.639  1.00 50.56           C
ATOM  10736  CD  PRO C 374      52.899  51.182 -49.716  1.00 53.08           C
ATOM  10737  C   PRO C 374      53.221  50.766 -46.254  1.00 50.84           C
ATOM  10738  O   PRO C 374      54.311  51.259 -46.387  1.00 57.62           O
ATOM  10739  N   SER C 375      52.715  50.370 -45.101  1.00 48.15           N
ATOM  10740  CA  SER C 375      53.438  50.532 -43.846  1.00 49.11           C
ATOM  10741  CB  SER C 375      53.055  51.834 -43.131  1.00 47.80           C
ATOM  10742  OG  SER C 375      53.597  51.923 -41.825  1.00 44.07           O
ATOM  10743  C   SER C 375      53.044  49.383 -43.002  1.00 52.63           C
ATOM  10744  O   SER C 375      51.922  48.899 -43.112  1.00 57.57           O
ATOM  10745  N   THR C 376      53.961  48.966 -42.142  1.00 53.34           N
ATOM  10746  CA  THR C 376      53.717  47.886 -41.209  1.00 51.18           C
ATOM  10747  CB  THR C 376      54.877  46.935 -41.286  1.00 47.74           C
ATOM  10748  OG1 THR C 376      56.023  47.591 -40.759  1.00 47.05           O
ATOM  10749  CG2 THR C 376      55.162  46.601 -42.702  1.00 48.45           C
ATOM  10750  C   THR C 376      53.624  48.471 -39.796  1.00 53.32           C
ATOM  10751  O   THR C 376      53.603  47.736 -38.797  1.00 56.85           O
ATOM  10752  N   GLU C 377      53.559  49.796 -39.710  1.00 54.24           N
ATOM  10753  CA  GLU C 377      53.641  50.448 -38.432  1.00 57.82           C
ATOM  10754  CB  GLU C 377      53.921  51.935 -38.567  1.00 60.62           C
ATOM  10755  CG  GLU C 377      54.524  52.555 -37.330  1.00 67.35           C
ATOM  10756  CD  GLU C 377      54.651  54.066 -37.454  1.00 82.35           C
ATOM  10757  OE1 GLU C 377      54.350  54.661 -38.561  1.00 92.77           O
ATOM  10758  OE2 GLU C 377      55.043  54.658 -36.419  1.00 84.76           O
ATOM  10759  C   GLU C 377      52.326  50.198 -37.771  1.00 55.27           C
ATOM  10760  O   GLU C 377      51.285  50.490 -38.333  1.00 62.99           O
ATOM  10761  N   HIS C 378      52.382  49.572 -36.615  1.00 51.49           N
ATOM  10762  CA  HIS C 378      51.226  49.393 -35.771  1.00 50.76           C
ATOM  10763  CB  HIS C 378      50.636  50.741 -35.461  1.00 50.11           C
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ATOM	10764	CG	HIS	C	378	49.831	50.759	-34.227	1.00	51.40	C
ATOM	10765	ND1	HIS	C	378	48.462	50.659	-34.235	1.00	57.26	N
ATOM	10766	CE1	HIS	C	378	48.005	50.760	-33.000	1.00	56.04	C
ATOM	10767	NE2	HIS	C	378	49.036	50.908	-32.196	1.00	53.88	N
ATOM	10768	CD2	HIS	C	378	50.190	50.907	-32.941	1.00	53.83	C
ATOM	10769	C	HIS	C	378	50.189	48.485	-36.391	1.00	48.51	C
ATOM	10770	O	HIS	C	378	49.020	48.518	-36.019	1.00	50.74	O
ATOM	10771	N	SER	C	379	50.634	47.646	-37.313	1.00	45.39	N
ATOM	10772	CA	SER	C	379	49.724	46.834	-38.057	1.00	45.00	C
ATOM	10773	CB	SER	C	379	50.399	46.156	-39.216	1.00	43.37	C
ATOM	10774	OG	SER	C	379	49.527	45.182	-39.703	1.00	41.91	O
ATOM	10775	C	SER	C	379	49.114	45.764	-37.186	1.00	50.14	C
ATOM	10776	O	SER	C	379	49.794	45.001	-36.503	1.00	55.29	O
ATOM	10777	N	TRP	C	380	47.807	45.674	-37.298	1.00	54.02	N
ATOM	10778	CA	TRP	C	380	46.991	44.773	-36.516	1.00	52.59	C
ATOM	10779	CB	TRP	C	380	45.546	45.214	-36.652	1.00	51.97	C
ATOM	10780	CG	TRP	C	380	45.248	46.556	-36.216	1.00	52.35	C
ATOM	10781	CD1	TRP	C	380	45.794	47.232	-35.176	1.00	52.72	C
ATOM	10782	NE1	TRP	C	380	45.223	48.482	-35.074	1.00	53.90	N
ATOM	10783	CE2	TRP	C	380	44.262	48.597	-36.044	1.00	52.06	C
ATOM	10784	CD2	TRP	C	380	44.270	47.411	-36.791	1.00	53.21	C
ATOM	10785	CE3	TRP	C	380	43.387	47.282	-37.861	1.00	52.77	C
ATOM	10786	CZ3	TRP	C	380	42.548	48.327	-38.150	1.00	51.84	C
ATOM	10787	CH2	TRP	C	380	42.565	49.483	-37.383	1.00	51.86	C
ATOM	10788	CZ2	TRP	C	380	43.410	49.627	-36.322	1.00	50.98	C
ATOM	10789	C	TRP	C	380	47.055	43.308	-36.980	1.00	52.11	C
ATOM	10790	O	TRP	C	380	46.584	42.391	-36.277	1.00	54.45	O
ATOM	10791	N	PHE	C	381	47.553	43.103	-38.186	1.00	49.89	N
ATOM	10792	CA	PHE	C	381	47.734	41.781	-38.706	1.00	51.02	C
ATOM	10793	CB	PHE	C	381	46.889	41.583	-39.949	1.00	50.95	C
ATOM	10794	CG	PHE	C	381	45.418	41.654	-39.720	1.00	47.99	C
ATOM	10795	CD1	PHE	C	381	44.721	40.532	-39.406	1.00	46.54	C
ATOM	10796	CE1	PHE	C	381	43.378	40.565	-39.241	1.00	47.87	C
ATOM	10797	CZ	PHE	C	381	42.697	41.745	-39.423	1.00	49.21	C
ATOM	10798	CE2	PHE	C	381	43.379	42.873	-39.789	1.00	48.95	C
ATOM	10799	CD2	PHE	C	381	44.741	42.819	-39.943	1.00	49.04	C
ATOM	10800	C	PHE	C	381	49.197	41.648	-39.073	1.00	50.17	C
ATOM	10801	O	PHE	C	381	49.587	42.056	-40.152	1.00	51.21	O
ATOM	10802	N	PRO	C	382	50.019	41.084	-38.181	1.00	50.59	N
ATOM	10803	CA	PRO	C	382	51.442	41.025	-38.467	1.00	52.39	C
ATOM	10804	CB	PRO	C	382	52.009	40.411	-37.215	1.00	51.15	C
ATOM	10805	CG	PRO	C	382	51.120	40.931	-36.159	1.00	51.04	C
ATOM	10806	CD	PRO	C	382	49.769	40.757	-36.776	1.00	50.87	C
ATOM	10807	C	PRO	C	382	51.828	40.202	-39.666	1.00	55.27	C
ATOM	10808	O	PRO	C	382	51.225	39.152	-39.951	1.00	55.66	O
ATOM	10809	N	GLY	C	383	52.824	40.718	-40.378	1.00	56.47	N
ATOM	10810	CA	GLY	C	383	53.231	40.142	-41.656	1.00	58.57	C
ATOM	10811	C	GLY	C	383	52.639	40.945	-42.785	1.00	57.15	C
ATOM	10812	O	GLY	C	383	53.139	40.923	-43.878	1.00	56.06	O
ATOM	10813	N	TYR	C	384	51.577	41.676	-42.504	1.00	57.82	N
ATOM	10814	CA	TYR	C	384	50.943	42.479	-43.490	1.00	57.05	C
ATOM	10815	CB	TYR	C	384	49.453	42.093	-43.584	1.00	58.31	C
ATOM	10816	CG	TYR	C	384	49.199	40.711	-44.150	1.00	57.53	C
ATOM	10817	CD1	TYR	C	384	49.330	40.465	-45.499	1.00	60.22	C
ATOM	10818	CE1	TYR	C	384	49.112	39.189	-46.032	1.00	63.00	C
ATOM	10819	CZ	TYR	C	384	48.725	38.129	-45.204	1.00	61.12	C
ATOM	10820	OH	TYR	C	384	48.498	36.886	-45.727	1.00	53.17	O
ATOM	10821	CE2	TYR	C	384	48.558	38.361	-43.853	1.00	61.16	C
ATOM	10822	CD2	TYR	C	384	48.802	39.651	-43.336	1.00	61.37	C
ATOM	10823	C	TYR	C	384	51.193	43.992	-43.191	1.00	56.81	C
ATOM	10824	O	TYR	C	384	51.361	44.446	-42.009	1.00	53.77	O
ATOM	10825	N	ALA	C	385	51.311	44.722	-44.306	1.00	53.88	N
ATOM	10826	CA	ALA	C	385	51.361	46.159	-44.329	1.00	52.95	C
ATOM	10827	CB	ALA	C	385	52.412	46.636	-45.286	1.00	51.79	C
ATOM	10828	C	ALA	C	385	50.022	46.677	-44.793	1.00	55.28	C
ATOM	10829	O	ALA	C	385	49.314	46.022	-45.563	1.00	55.77	O
ATOM	10830	N	TRP	C	386	49.726	47.899	-44.367	1.00	54.32	N
ATOM	10831	CA	TRP	C	386	48.453	48.514	-44.602	1.00	53.20	C
ATOM	10832	CB	TRP	C	386	47.766	48.831	-43.282	1.00	51.97	C
ATOM	10833	CG	TRP	C	386	48.539	49.599	-42.337	1.00	51.56	C
ATOM	10834	CD1	TRP	C	386	49.260	49.110	-41.311	1.00	52.93	C

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ATOM  10835  NE1 TRP C 386      49.872  50.133 -40.609  1.00 53.61           N
ATOM  10836  CE2 TRP C 386      49.537  51.320 -41.191  1.00 53.47           C
ATOM  10837  CD2 TRP C 386      48.688  51.020 -42.295  1.00 53.55           C
ATOM  10838  CE3 TRP C 386      48.192  52.074 -43.071  1.00 50.53           C
ATOM  10839  CZ3 TRP C 386      48.548  53.368 -42.723  1.00 50.36           C
ATOM  10840  CH2 TRP C 386      49.347  53.627 -41.599  1.00 50.77           C
ATOM  10841  CZ2 TRP C 386      49.862  52.618 -40.828  1.00 50.83           C
ATOM  10842  C   TRP C 386      48.615  49.759 -45.447  1.00 53.53           C
ATOM  10843  O   TRP C 386      49.555  50.506 -45.273  1.00 60.62           O
ATOM  10844  N   THR C 387      47.699  49.953 -46.380  1.00 52.97           N
ATOM  10845  CA  THR C 387      47.568  51.187 -47.148  1.00 52.60           C
ATOM  10846  CB  THR C 387      47.671  50.915 -48.644  1.00 53.67           C
ATOM  10847  OG1 THR C 387      48.924  50.279 -48.938  1.00 57.32           O
ATOM  10848  CG2 THR C 387      47.496  52.184 -49.432  1.00 52.77           C
ATOM  10849  C   THR C 387      46.160  51.659 -46.950  1.00 50.11           C
ATOM  10850  O   THR C 387      45.256  50.854 -46.951  1.00 53.44           O
ATOM  10851  N   VAL C 388      45.970  52.953 -46.825  1.00 46.97           N
ATOM  10852  CA  VAL C 388      44.650  53.515 -46.586  1.00 46.18           C
ATOM  10853  CB  VAL C 388      44.824  54.970 -46.107  1.00 45.36           C
ATOM  10854  CG1 VAL C 388      43.533  55.787 -46.122  1.00 44.74           C
ATOM  10855  CG2 VAL C 388      45.436  54.964 -44.736  1.00 46.64           C
ATOM  10856  C   VAL C 388      43.777  53.452 -47.852  1.00 47.76           C
ATOM  10857  O   VAL C 388      44.224  53.815 -48.934  1.00 49.17           O
ATOM  10858  N   ALA C 389      42.529  53.013 -47.701  1.00 49.13           N
ATOM  10859  CA  ALA C 389      41.566  52.960 -48.807  1.00 50.92           C
ATOM  10860  CB  ALA C 389      40.998  51.563 -48.919  1.00 51.61           C
ATOM  10861  C   ALA C 389      40.420  53.947 -48.592  1.00 52.68           C
ATOM  10862  O   ALA C 389      39.861  53.992 -47.475  1.00 53.97           O
ATOM  10863  N   GLN C 390      40.060  54.710 -49.637  1.00 50.12           N
ATOM  10864  CA  GLN C 390      38.858  55.532 -49.579  1.00 50.43           C
ATOM  10865  CB  GLN C 390      39.181  57.036 -49.363  1.00 50.20           C
ATOM  10866  CG  GLN C 390      40.508  57.546 -49.884  1.00 53.02           C
ATOM  10867  CD  GLN C 390      40.975  58.898 -49.280  1.00 54.09           C
ATOM  10868  OE1 GLN C 390      41.359  58.963 -48.132  1.00 59.38           O
ATOM  10869  NE2 GLN C 390      41.010  59.945 -50.084  1.00 52.65           N
ATOM  10870  C   GLN C 390      37.871  55.272 -50.731  1.00 51.32           C
ATOM  10871  O   GLN C 390      38.220  54.672 -51.736  1.00 52.84           O
ATOM  10872  N   CYS C 391      36.619  55.688 -50.533  1.00 50.95           N
ATOM  10873  CA  CYS C 391      35.601  55.660 -51.566  1.00 51.82           C
ATOM  10874  CB  CYS C 391      34.249  56.095 -51.013  1.00 53.56           C
ATOM  10875  SG  CYS C 391      32.721  55.917 -52.024  1.00 58.62           S
ATOM  10876  C   CYS C 391      36.042  56.630 -52.637  1.00 53.32           C
ATOM  10877  O   CYS C 391      36.244  57.830 -52.409  1.00 57.91           O
ATOM  10878  N   LYS C 392      35.996  56.074 -53.820  1.00 50.33           N
ATOM  10879  CA  LYS C 392      36.326  56.669 -55.058  1.00 44.20           C
ATOM  10880  CB  LYS C 392      36.001  55.606 -56.086  1.00 43.62           C
ATOM  10881  CG  LYS C 392      35.688  56.075 -57.468  1.00 46.84           C
ATOM  10882  CD  LYS C 392      34.752  55.107 -58.162  1.00 45.10           C
ATOM  10883  CE  LYS C 392      35.427  53.815 -58.518  1.00 45.47           C
ATOM  10884  NZ  LYS C 392      34.561  53.091 -59.471  1.00 46.85           N
ATOM  10885  C   LYS C 392      35.458  57.882 -55.245  1.00 42.93           C
ATOM  10886  O   LYS C 392      35.889  58.853 -55.794  1.00 42.11           O
ATOM  10887  N   ILE C 393      34.218  57.829 -54.809  1.00 41.91           N
ATOM  10888  CA  ILE C 393      33.315  58.950 -54.973  1.00 42.65           C
ATOM  10889  CB  ILE C 393      31.885  58.424 -55.008  1.00 44.17           C
ATOM  10890  CG1 ILE C 393      31.789  57.203 -55.881  1.00 44.37           C
ATOM  10891  CD1 ILE C 393      31.852  57.506 -57.344  1.00 44.99           C
ATOM  10892  CG2 ILE C 393      30.927  59.476 -55.502  1.00 43.96           C
ATOM  10893  C   ILE C 393      33.236  60.036 -53.930  1.00 42.33           C
ATOM  10894  O   ILE C 393      33.250  61.185 -54.244  1.00 48.08           O
ATOM  10895  N   CYS C 394      33.129  59.646 -52.685  1.00 41.11           N
ATOM  10896  CA  CYS C 394      32.911  60.521 -51.551  1.00 42.59           C
ATOM  10897  CB  CYS C 394      31.779  59.967 -50.670  1.00 40.60           C
ATOM  10898  SG  CYS C 394      32.085  58.445 -49.811  1.00 41.76           S
ATOM  10899  C   CYS C 394      34.147  60.783 -50.705  1.00 46.71           C
ATOM  10900  O   CYS C 394      34.119  61.662 -49.855  1.00 50.52           O
ATOM  10901  N   ALA C 395      35.225  60.027 -50.940  1.00 48.52           N
ATOM  10902  CA  ALA C 395      36.484  60.168 -50.208  1.00 45.80           C
ATOM  10903  CB  ALA C 395      36.866  61.616 -50.149  1.00 45.61           C
ATOM  10904  C   ALA C 395      36.492  59.544 -48.794  1.00 47.94           C
ATOM  10905  O   ALA C 395      37.475  59.654 -48.034  1.00 46.06           O
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ATOM  10906  N   SER C 396      35.424  58.832 -48.446  1.00 50.73           N
ATOM  10907  CA  SER C 396      35.270  58.345 -47.085  1.00 50.59           C
ATOM  10908  CB  SER C 396      33.855  57.786 -46.847  1.00 52.05           C
ATOM  10909  OG  SER C 396      32.873  58.827 -46.856  1.00 58.68           O
ATOM  10910  C   SER C 396      36.329  57.288 -46.829  1.00 50.09           C
ATOM  10911  O   SER C 396      36.541  56.415 -47.632  1.00 47.09           O
ATOM  10912  N   HIS C 397      37.017  57.400 -45.710  1.00 53.33           N
ATOM  10913  CA  HIS C 397      37.879  56.353 -45.280  1.00 54.59           C
ATOM  10914  CB  HIS C 397      38.655  56.794 -44.066  1.00 58.23           C
ATOM  10915  CG  HIS C 397      39.667  55.803 -43.639  1.00 67.82           C
ATOM  10916  ND1 HIS C 397      39.323  54.572 -43.117  1.00 77.34           N
ATOM  10917  CE1 HIS C 397      40.418  53.892 -42.852  1.00 80.46           C
ATOM  10918  NE2 HIS C 397      41.457  54.635 -43.194  1.00 82.40           N
ATOM  10919  CD2 HIS C 397      41.013  55.836 -43.685  1.00 71.07           C
ATOM  10920  C   HIS C 397      37.039  55.099 -45.004  1.00 55.08           C
ATOM  10921  O   HIS C 397      36.421  54.961 -43.951  1.00 53.65           O
ATOM  10922  N   ILE C 398      37.028  54.202 -45.985  1.00 56.59           N
ATOM  10923  CA  ILE C 398      36.366  52.884 -45.918  1.00 55.63           C
ATOM  10924  CB  ILE C 398      36.120  52.356 -47.373  1.00 55.85           C
ATOM  10925  CG1 ILE C 398      35.063  53.189 -48.074  1.00 59.80           C
ATOM  10926  CD1 ILE C 398      33.763  53.358 -47.313  1.00 63.49           C
ATOM  10927  CG2 ILE C 398      35.671  50.920 -47.461  1.00 55.04           C
ATOM  10928  C   ILE C 398      37.164  51.837 -45.125  1.00 55.91           C
ATOM  10929  O   ILE C 398      36.571  50.877 -44.645  1.00 57.92           O
ATOM  10930  N   GLY C 399      38.492  51.979 -45.002  1.00 55.44           N
ATOM  10931  CA  GLY C 399      39.354  50.850 -44.535  1.00 51.73           C
ATOM  10932  C   GLY C 399      40.817  50.865 -44.995  1.00 48.62           C
ATOM  10933  O   GLY C 399      41.449  51.945 -45.123  1.00 48.63           O
ATOM  10934  N   TRP C 400      41.363  49.670 -45.200  1.00 42.81           N
ATOM  10935  CA  TRP C 400      42.744  49.513 -45.584  1.00 44.53           C
ATOM  10936  CB  TRP C 400      43.669  49.360 -44.356  1.00 45.66           C
ATOM  10937  CG  TRP C 400      43.625  50.497 -43.357  1.00 46.57           C
ATOM  10938  CD1 TRP C 400      44.434  51.585 -43.316  1.00 47.05           C
ATOM  10939  NE1 TRP C 400      44.084  52.405 -42.287  1.00 47.56           N
ATOM  10940  CE2 TRP C 400      43.027  51.838 -41.634  1.00 49.37           C
ATOM  10941  CD2 TRP C 400      42.721  50.638 -42.282  1.00 47.78           C
ATOM  10942  CE3 TRP C 400      41.667  49.858 -41.799  1.00 51.80           C
ATOM  10943  CZ3 TRP C 400      40.974  50.282 -40.688  1.00 53.57           C
ATOM  10944  CH2 TRP C 400      41.303  51.495 -40.057  1.00 54.33           C
ATOM  10945  CZ2 TRP C 400      42.325  52.282 -40.517  1.00 53.39           C
ATOM  10946  C   TRP C 400      42.926  48.286 -46.446  1.00 47.26           C
ATOM  10947  O   TRP C 400      42.432  47.197 -46.128  1.00 49.37           O
ATOM  10948  N   LYS C 401      43.648  48.449 -47.541  1.00 49.85           N
ATOM  10949  CA  LYS C 401      44.212  47.311 -48.242  1.00 51.10           C
ATOM  10950  CB  LYS C 401      44.705  47.748 -49.592  1.00 49.87           C
ATOM  10951  CG  LYS C 401      45.155  46.591 -50.402  1.00 50.51           C
ATOM  10952  CD  LYS C 401      45.605  47.039 -51.767  1.00 52.22           C
ATOM  10953  CE  LYS C 401      45.951  45.770 -52.523  1.00 54.14           C
ATOM  10954  NZ  LYS C 401      45.524  45.913 -53.915  1.00 59.62           N
ATOM  10955  C   LYS C 401      45.397  46.784 -47.441  1.00 53.72           C
ATOM  10956  O   LYS C 401      46.259  47.566 -47.048  1.00 55.77           O
ATOM  10957  N   PHE C 402      45.453  45.470 -47.214  1.00 55.85           N
ATOM  10958  CA  PHE C 402      46.620  44.819 -46.572  1.00 53.27           C
ATOM  10959  CB  PHE C 402      46.207  43.945 -45.388  1.00 51.61           C
ATOM  10960  CG  PHE C 402      45.719  44.730 -44.184  1.00 49.13           C
ATOM  10961  CD2 PHE C 402      44.392  45.025 -44.020  1.00 46.56           C
ATOM  10962  CE2 PHE C 402      43.960  45.736 -42.918  1.00 46.24           C
ATOM  10963  CZ  PHE C 402      44.850  46.171 -41.978  1.00 44.51           C
ATOM  10964  CE1 PHE C 402      46.171  45.886 -42.127  1.00 46.67           C
ATOM  10965  CD1 PHE C 402      46.607  45.181 -43.225  1.00 48.88           C
ATOM  10966  C   PHE C 402      47.369  43.991 -47.595  1.00 55.34           C
ATOM  10967  O   PHE C 402      46.760  43.340 -48.455  1.00 55.47           O
ATOM  10968  N   THR C 403      48.698  44.045 -47.500  1.00 59.11           N
ATOM  10969  CA  THR C 403      49.637  43.453 -48.498  1.00 56.23           C
ATOM  10970  CB  THR C 403      50.225  44.526 -49.475  1.00 49.96           C
ATOM  10971  OG1 THR C 403      50.804  45.618 -48.750  1.00 46.32           O
ATOM  10972  CG2 THR C 403      49.149  45.070 -50.311  1.00 47.32           C
ATOM  10973  C   THR C 403      50.768  42.722 -47.750  1.00 56.56           C
ATOM  10974  O   THR C 403      51.266  43.212 -46.732  1.00 58.24           O
ATOM  10975  N   ALA C 404      51.146  41.552 -48.255  1.00 57.04           N
ATOM  10976  CA  ALA C 404      52.140  40.683 -47.623  1.00 58.15           C
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ATOM  10977  CB  ALA C 404      52.066  39.336 -48.280  1.00 61.48           C
ATOM  10978  C   ALA C 404      53.581  41.199 -47.704  1.00 58.44           C
ATOM  10979  O   ALA C 404      53.951  41.730 -48.727  1.00 61.73           O
ATOM  10980  N   THR C 405      54.372  41.035 -46.633  1.00 60.89           N
ATOM  10981  CA  THR C 405      55.774  41.515 -46.568  1.00 61.21           C
ATOM  10982  CB  THR C 405      56.233  42.153 -45.195  1.00 60.72           C
ATOM  10983  OG1 THR C 405      55.929  41.314 -44.081  1.00 64.18           O
ATOM  10984  CG2 THR C 405      55.562  43.492 -44.947  1.00 59.65           C
ATOM  10985  C   THR C 405      56.742  40.443 -47.008  1.00 62.56           C
ATOM  10986  O   THR C 405      57.746  40.792 -47.546  1.00 65.05           O
ATOM  10987  N   LYS C 406      56.436  39.159 -46.795  1.00 72.23           N
ATOM  10988  CA  LYS C 406      57.206  38.016 -47.350  1.00 73.01           C
ATOM  10989  CB  LYS C 406      57.461  36.946 -46.278  1.00 78.76           C
ATOM  10990  CG  LYS C 406      57.717  37.388 -44.821  1.00 84.74           C
ATOM  10991  CD  LYS C 406      57.731  36.133 -43.923  1.00 94.25           C
ATOM  10992  CE  LYS C 406      56.961  36.241 -42.600  1.00100.40           C
ATOM  10993  NZ  LYS C 406      57.817  36.011 -41.396  1.00104.54           N
ATOM  10994  C   LYS C 406      56.397  37.377 -48.491  1.00 73.88           C
ATOM  10995  O   LYS C 406      55.172  37.383 -48.462  1.00 72.19           O
ATOM  10996  N   LYS C 407      57.066  36.778 -49.470  1.00 81.65           N
ATOM  10997  CA  LYS C 407      56.420  36.402 -50.757  1.00 84.93           C
ATOM  10998  CB  LYS C 407      57.388  36.635 -51.913  1.00 93.10           C
ATOM  10999  CG  LYS C 407      57.837  38.101 -52.012  1.00104.68           C
ATOM  11000  CD  LYS C 407      56.969  38.916 -52.956  1.00104.60           C
ATOM  11001  CE  LYS C 407      57.445  38.691 -54.386  1.00106.38           C
ATOM  11002  NZ  LYS C 407      56.332  38.784 -55.368  1.00108.87           N
ATOM  11003  C   LYS C 407      55.877  34.997 -50.819  1.00 79.45           C
ATOM  11004  O   LYS C 407      55.467  34.551 -51.864  1.00 78.10           O
ATOM  11005  N   ASP C 408      55.818  34.332 -49.679  1.00 81.30           N
ATOM  11006  CA  ASP C 408      55.269  32.984 -49.549  1.00 85.40           C
ATOM  11007  CB  ASP C 408      56.397  32.075 -49.091  1.00 87.70           C
ATOM  11008  CG  ASP C 408      56.917  32.473 -47.729  1.00 87.25           C
ATOM  11009  OD1 ASP C 408      57.253  33.656 -47.547  1.00 84.95           O
ATOM  11010  OD2 ASP C 408      56.943  31.629 -46.828  1.00100.38           O
ATOM  11011  C   ASP C 408      54.133  32.908 -48.500  1.00 87.26           C
ATOM  11012  O   ASP C 408      53.797  31.818 -48.029  1.00 92.52           O
ATOM  11013  N   MET C 409      53.613  34.059 -48.121  1.00 86.38           N
ATOM  11014  CA  MET C 409      52.528  34.131 -47.185  1.00 79.70           C
ATOM  11015  CB  MET C 409      52.416  35.524 -46.615  1.00 77.96           C
ATOM  11016  CG  MET C 409      53.541  35.994 -45.743  1.00 74.98           C
ATOM  11017  SD  MET C 409      52.931  37.477 -44.967  1.00 75.58           S
ATOM  11018  CE  MET C 409      54.194  37.755 -43.754  1.00 79.27           C
ATOM  11019  C   MET C 409      51.314  33.952 -48.022  1.00 75.41           C
ATOM  11020  O   MET C 409      51.356  34.211 -49.200  1.00 74.86           O
ATOM  11021  N   SER C 410      50.224  33.516 -47.427  1.00 72.56           N
ATOM  11022  CA  SER C 410      48.991  33.421 -48.159  1.00 73.08           C
ATOM  11023  CB  SER C 410      48.744  32.029 -48.667  1.00 78.16           C
ATOM  11024  OG  SER C 410      47.460  31.974 -49.242  1.00 81.84           O
ATOM  11025  C   SER C 410      47.901  33.795 -47.205  1.00 69.09           C
ATOM  11026  O   SER C 410      47.907  33.296 -46.103  1.00 66.45           O
ATOM  11027  N   PRO C 411      46.887  34.664 -47.590  1.00 63.85           N
ATOM  11028  CA  PRO C 411      46.956  35.239 -48.934  1.00 62.37           C
ATOM  11029  CB  PRO C 411      45.555  35.727 -49.139  1.00 65.32           C
ATOM  11030  CG  PRO C 411      45.264  36.341 -47.850  1.00 68.06           C
ATOM  11031  CD  PRO C 411      45.626  35.239 -46.940  1.00 67.59           C
ATOM  11032  C   PRO C 411      47.889  36.432 -49.034  1.00 62.80           C
ATOM  11033  O   PRO C 411      48.234  36.992 -48.012  1.00 63.03           O
ATOM  11034  N   GLN C 412      48.299  36.778 -50.254  1.00 64.57           N
ATOM  11035  CA  GLN C 412      49.184  37.908 -50.543  1.00 65.40           C
ATOM  11036  CB  GLN C 412      49.682  37.856 -51.981  1.00 67.79           C
ATOM  11037  CG  GLN C 412      50.895  36.970 -52.192  1.00 68.80           C
ATOM  11038  CD  GLN C 412      52.150  37.541 -51.590  1.00 73.09           C
ATOM  11039  OE1 GLN C 412      52.624  38.590 -51.995  1.00 75.31           O
ATOM  11040  NE2 GLN C 412      52.696  36.847 -50.621  1.00 72.30           N
ATOM  11041  C   GLN C 412      48.586  39.264 -50.246  1.00 63.27           C
ATOM  11042  O   GLN C 412      49.253  40.128 -49.723  1.00 62.35           O
ATOM  11043  N   LYS C 413      47.326  39.445 -50.597  1.00 62.93           N
ATOM  11044  CA  LYS C 413      46.606  40.665 -50.293  1.00 61.89           C
ATOM  11045  CB  LYS C 413      46.659  41.621 -51.493  1.00 68.00           C
ATOM  11046  CG  LYS C 413      45.593  41.530 -52.597  1.00 75.00           C
ATOM  11047  CD  LYS C 413      45.771  40.404 -53.608  1.00 84.90           C
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ATOM  11048  CE  LYS C 413      44.571  39.454 -53.573  1.00100.96           C
ATOM  11049  NZ  LYS C 413      44.777  38.150 -54.272  1.00107.82           N
ATOM  11050  C   LYS C 413      45.184  40.417 -49.817  1.00 57.19           C
ATOM  11051  O   LYS C 413      44.631  39.330 -49.980  1.00 51.84           O
ATOM  11052  N   PHE C 414      44.625  41.446 -49.192  1.00 54.96           N
ATOM  11053  CA  PHE C 414      43.232  41.457 -48.739  1.00 54.18           C
ATOM  11054  CB  PHE C 414      42.943  40.422 -47.644  1.00 51.40           C
ATOM  11055  CG  PHE C 414      43.549  40.725 -46.319  1.00 47.97           C
ATOM  11056  CD1 PHE C 414      42.895  41.514 -45.417  1.00 49.55           C
ATOM  11057  CE1 PHE C 414      43.423  41.766 -44.159  1.00 49.34           C
ATOM  11058  CZ  PHE C 414      44.618  41.213 -43.807  1.00 48.75           C
ATOM  11059  CE2 PHE C 414      45.274  40.414 -44.713  1.00 48.68           C
ATOM  11060  CD2 PHE C 414      44.732  40.172 -45.956  1.00 47.38           C
ATOM  11061  C   PHE C 414      42.891  42.816 -48.205  1.00 54.46           C
ATOM  11062  O   PHE C 414      43.789  43.608 -47.958  1.00 56.42           O
ATOM  11063  N   TRP C 415      41.607  43.065 -47.996  1.00 52.85           N
ATOM  11064  CA  TRP C 415      41.167  44.359 -47.561  1.00 54.67           C
ATOM  11065  CB  TRP C 415      40.191  44.937 -48.577  1.00 57.33           C
ATOM  11066  CG  TRP C 415      40.751  45.576 -49.899  1.00 64.12           C
ATOM  11067  CD1 TRP C 415      40.961  46.962 -50.197  1.00 67.17           C
ATOM  11068  NE1 TRP C 415      41.403  47.114 -51.496  1.00 64.95           N
ATOM  11069  CE2 TRP C 415      41.462  45.862 -52.064  1.00 70.16           C
ATOM  11070  CD2 TRP C 415      41.050  44.888 -51.089  1.00 63.96           C
ATOM  11071  CE3 TRP C 415      41.040  43.546 -51.435  1.00 67.78           C
ATOM  11072  CZ3 TRP C 415      41.434  43.181 -52.754  1.00 81.27           C
ATOM  11073  CH2 TRP C 415      41.827  44.155 -53.697  1.00 82.52           C
ATOM  11074  CZ2 TRP C 415      41.855  45.499 -53.362  1.00 80.24           C
ATOM  11075  C   TRP C 415      40.515  44.199 -46.178  1.00 56.94           C
ATOM  11076  O   TRP C 415      39.828  43.200 -45.910  1.00 54.90           O
ATOM  11077  N   GLY C 416      40.761  45.168 -45.293  1.00 57.27           N
ATOM  11078  CA  GLY C 416      40.162  45.214 -43.955  1.00 55.33           C
ATOM  11079  C   GLY C 416      39.356  46.482 -43.948  1.00 56.47           C
ATOM  11080  O   GLY C 416      39.948  47.557 -43.995  1.00 61.28           O
ATOM  11081  N   LEU C 417      38.022  46.361 -43.932  1.00 54.60           N
ATOM  11082  CA  LEU C 417      37.094  47.488 -44.096  1.00 50.94           C
ATOM  11083  CB  LEU C 417      36.060  47.179 -45.144  1.00 50.76           C
ATOM  11084  CG  LEU C 417      36.592  46.593 -46.439  1.00 51.17           C
ATOM  11085  CD1 LEU C 417      35.525  45.773 -47.151  1.00 50.29           C
ATOM  11086  CD2 LEU C 417      37.124  47.688 -47.331  1.00 51.22           C
ATOM  11087  C   LEU C 417      36.380  47.745 -42.791  1.00 51.81           C
ATOM  11088  O   LEU C 417      36.024  46.837 -42.057  1.00 53.19           O
ATOM  11089  N   THR C 418      36.133  49.004 -42.526  1.00 52.02           N
ATOM  11090  CA  THR C 418      35.870  49.453 -41.176  1.00 51.55           C
ATOM  11091  CB  THR C 418      36.644  50.772 -40.866  1.00 52.35           C
ATOM  11092  OG1 THR C 418      36.131  51.393 -39.737  1.00 56.03           O
ATOM  11093  CG2 THR C 418      36.484  51.857 -41.887  1.00 56.05           C
ATOM  11094  C   THR C 418      34.365  49.552 -41.073  1.00 51.47           C
ATOM  11095  O   THR C 418      33.760  50.348 -41.759  1.00 51.53           O
ATOM  11096  N   ARG C 419      33.772  48.706 -40.228  1.00 53.28           N
ATOM  11097  CA  ARG C 419      32.305  48.608 -40.013  1.00 50.71           C
ATOM  11098  CB  ARG C 419      31.956  47.943 -38.668  1.00 52.00           C
ATOM  11099  CG  ARG C 419      30.482  47.548 -38.506  1.00 54.53           C
ATOM  11100  CD  ARG C 419      30.131  46.893 -37.162  1.00 56.43           C
ATOM  11101  NE  ARG C 419      29.940  47.874 -36.092  1.00 61.63           N
ATOM  11102  CZ  ARG C 419      28.788  48.407 -35.678  1.00 69.97           C
ATOM  11103  NH1 ARG C 419      28.811  49.312 -34.695  1.00 73.86           N
ATOM  11104  NH2 ARG C 419      27.610  48.054 -36.200  1.00 73.82           N
ATOM  11105  C   ARG C 419      31.560  49.907 -40.136  1.00 49.04           C
ATOM  11106  O   ARG C 419      30.663  50.007 -40.937  1.00 49.26           O
ATOM  11107  N   SER C 420      31.935  50.935 -39.406  1.00 51.24           N
ATOM  11108  CA  SER C 420      31.127  52.182 -39.465  1.00 54.77           C
ATOM  11109  CB  SER C 420      31.681  53.248 -38.533  1.00 56.67           C
ATOM  11110  OG  SER C 420      32.885  53.759 -39.077  1.00 62.18           O
ATOM  11111  C   SER C 420      30.973  52.819 -40.851  1.00 53.24           C
ATOM  11112  O   SER C 420      30.024  53.550 -41.094  1.00 51.97           O
ATOM  11113  N   ALA C 421      31.929  52.555 -41.730  1.00 55.54           N
ATOM  11114  CA  ALA C 421      31.968  53.146 -43.074  1.00 57.82           C
ATOM  11115  CB  ALA C 421      33.399  53.171 -43.598  1.00 59.68           C
ATOM  11116  C   ALA C 421      31.129  52.427 -44.072  1.00 54.71           C
ATOM  11117  O   ALA C 421      30.968  52.942 -45.170  1.00 51.68           O
ATOM  11118  N   LEU C 422      30.632  51.255 -43.677  1.00 56.97           N
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ATOM  11119  CA  LEU C 422      29.901  50.339 -44.523  1.00 62.41           C
ATOM  11120  CB  LEU C 422      30.371  48.921 -44.226  1.00 65.16           C
ATOM  11121  CG  LEU C 422      31.766  48.638 -44.799  1.00 68.81           C
ATOM  11122  CD1 LEU C 422      32.290  47.304 -44.296  1.00 69.74           C
ATOM  11123  CD2 LEU C 422      31.768  48.683 -46.331  1.00 67.47           C
ATOM  11124  C   LEU C 422      28.396  50.399 -44.328  1.00 65.83           C
ATOM  11125  O   LEU C 422      27.922  50.979 -43.380  1.00 78.90           O
ATOM  11126  N   LEU C 423      27.647  49.784 -45.231  1.00 67.80           N
ATOM  11127  CA  LEU C 423      26.196  49.738 -45.150  1.00 68.67           C
ATOM  11128  CB  LEU C 423      25.629  51.005 -45.784  1.00 71.16           C
ATOM  11129  CG  LEU C 423      24.215  51.533 -45.490  1.00 72.49           C
ATOM  11130  CD1 LEU C 423      23.288  51.391 -46.718  1.00 71.31           C
ATOM  11131  CD2 LEU C 423      23.643  50.955 -44.166  1.00 72.52           C
ATOM  11132  C   LEU C 423      25.694  48.482 -45.856  1.00 73.79           C
ATOM  11133  O   LEU C 423      25.713  48.435 -47.083  1.00 70.72           O
ATOM  11134  N   PRO C 424      25.282  47.433 -45.085  1.00 88.28           N
ATOM  11135  CA  PRO C 424      24.843  46.204 -45.749  1.00 91.80           C
ATOM  11136  CB  PRO C 424      24.639  45.217 -44.595  1.00 91.55           C
ATOM  11137  CG  PRO C 424      24.250  46.083 -43.452  1.00 93.55           C
ATOM  11138  CD  PRO C 424      25.083  47.333 -43.620  1.00 94.39           C
ATOM  11139  C   PRO C 424      23.549  46.478 -46.466  1.00 94.56           C
ATOM  11140  O   PRO C 424      22.722  47.221 -45.956  1.00 86.24           O
ATOM  11141  N   THR C 425      23.374  45.841 -47.611  1.00107.49           N
ATOM  11142  CA  THR C 425      22.194  46.023 -48.419  1.00108.14           C
ATOM  11143  CB  THR C 425      22.517  46.981 -49.557  1.00100.65           C
ATOM  11144  OG1 THR C 425      23.110  48.156 -49.008  1.00 87.95           O
ATOM  11145  CG2 THR C 425      21.263  47.365 -50.253  1.00106.34           C
ATOM  11146  C   THR C 425      21.638  44.739 -49.013  1.00111.97           C
ATOM  11147  O   THR C 425      22.317  43.733 -49.075  1.00106.64           O
ATOM  11148  N   ILE C 426      20.382  44.781 -49.435  1.00119.03           N
ATOM  11149  CA  ILE C 426      19.755  43.636 -50.083  1.00121.37           C
ATOM  11150  CB  ILE C 426      18.522  43.097 -49.340  1.00118.00           C
ATOM  11151  CG1 ILE C 426      17.382  44.094 -49.361  1.00116.20           C
ATOM  11152  CD1 ILE C 426      16.219  43.638 -48.509  1.00121.35           C
ATOM  11153  CG2 ILE C 426      18.869  42.764 -47.904  1.00113.87           C
ATOM  11154  C   ILE C 426      19.464  44.094 -51.504  1.00112.71           C
ATOM  11155  O   ILE C 426      18.885  45.144 -51.729  1.00102.94           O
ATOM  11156  N   PRO C 427      19.906  43.241 -52.495  1.00111.44           N
ATOM  11157  CA  PRO C 427      19.744  43.735 -53.871  1.00116.12           C
ATOM  11158  CB  PRO C 427      20.459  42.678 -54.703  1.00115.01           C
ATOM  11159  CG  PRO C 427      20.174  41.430 -53.979  1.00115.80           C
ATOM  11160  CD  PRO C 427      20.534  41.849 -52.596  1.00112.68           C
ATOM  11161  C   PRO C 427      18.382  43.980 -54.493  1.00115.11           C
ATOM  11162  O   PRO C 427      17.363  43.432 -54.108  1.00113.38           O
ATOM  11163  N   ASP C 428      18.421  44.858 -55.488  1.00108.40           N
ATOM  11164  CA  ASP C 428      17.244  45.269 -56.281  1.00105.21           C
ATOM  11165  CB  ASP C 428      15.981  44.340 -56.147  1.00104.41           C
ATOM  11166  CG  ASP C 428      16.145  42.955 -56.840  1.00 97.39           C
ATOM  11167  OD1 ASP C 428      17.063  42.788 -57.675  1.00 92.07           O
ATOM  11168  OD2 ASP C 428      15.330  42.041 -56.562  1.00 84.49           O
ATOM  11169  C   ASP C 428      16.907  46.717 -55.915  1.00 98.25           C
ATOM  11170  O   ASP C 428      17.141  47.632 -56.707  1.00 86.27           O
TER   11171      ASP C 428
HETATM11172  C22 MOL E   1      52.219  55.861 -30.232  1.00165.51           C
HETATM11173  C23 MOL E   1      51.226  56.603 -29.327  1.00173.28           C
HETATM11174  O5  MOL E   1      51.429  58.038 -29.381  1.00169.11           O
HETATM11175  C24 MOL E   1      51.362  58.545 -30.730  1.00156.65           C
HETATM11176  C25 MOL E   1      52.393  57.812 -31.594  1.00158.72           C
HETATM11177  N3  MOL E   1      52.073  56.374 -31.602  1.00155.78           N
HETATM11178  C21 MOL E   1      52.945  55.643 -32.543  1.00131.27           C
HETATM11179  C20 MOL E   1      52.372  55.752 -33.967  1.00104.63           C
HETATM11180  C19 MOL E   1      52.293  54.632 -34.791  1.00 94.32           C
HETATM11181  C17 MOL E   1      51.767  54.754 -36.078  1.00 97.81           C
HETATM11182  C18 MOL E   1      51.925  56.985 -34.439  1.00100.94           C
HETATM11183  C16 MOL E   1      51.401  57.107 -35.722  1.00 99.76           C
HETATM11184  C15 MOL E   1      51.318  55.991 -36.549  1.00101.01           C
HETATM11185  C14 MOL E   1      50.789  56.135 -37.841  1.00 93.53           C
HETATM11186  O4  MOL E   1      49.814  55.208 -38.385  1.00 82.82           O
HETATM11187  C3  MOL E   1      48.512  55.568 -38.169  1.00 71.21           C
HETATM11188  C2  MOL E   1      48.154  56.874 -37.858  1.00 69.98           C
HETATM11189  C1  MOL E   1      46.814  57.200 -37.650  1.00 69.30           C
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HETATM11190  C4  MOL E   1      45.817  56.235 -37.746  1.00 64.04           C
HETATM11191  C5  MOL E   1      46.165  54.930 -38.064  1.00 69.09           C
HETATM11192  C8  MOL E   1      45.424  53.758 -38.215  1.00 68.74           C
HETATM11193  O1  MOL E   1      44.208  53.673 -38.052  1.00 64.61           O
HETATM11194  C6  MOL E   1      47.505  54.617 -38.264  1.00 70.76           C
HETATM11195  C7  MOL E   1      47.613  53.135 -38.585  1.00 73.04           C
HETATM11196  N1  MOL E   1      46.208  52.721 -38.490  1.00 68.39           N
HETATM11197  C9  MOL E   1      45.746  51.339 -38.642  1.00 63.16           C
HETATM11198  C10 MOL E   1      46.070  50.827 -40.043  1.00 61.46           C
HETATM11199  C11 MOL E   1      45.735  49.342 -40.156  1.00 63.25           C
HETATM11200  C12 MOL E   1      46.446  48.544 -39.064  1.00 62.86           C
HETATM11201  O3  MOL E   1      46.731  47.365 -39.255  1.00 63.54           O
HETATM11202  N2  MOL E   1      46.784  49.144 -37.847  1.00 63.79           N
HETATM11203  C13 MOL E   1      46.470  50.484 -37.594  1.00 64.54           C
HETATM11204  O2  MOL E   1      46.780  50.978 -36.510  1.00 59.72           O
HETATM11205 ZN    ZN D   1      31.556  56.746 -50.977  1.00126.39          ZN
END
```

TABLE 7. Atomic coordinates for CRBN(TBD): Compound B (Murine protein)

```
HEADER    ----                                      XX-XXX-XX   xxxx
COMPND    ---
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM     : REFMAC 5.6.0117
REMARK   3   AUTHORS     : MURSHUDOV,VAGIN,DODSON
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   2.21
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  50.00
REMARK   3   DATA CUTOFF            (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.03
REMARK   3   NUMBER OF REFLECTIONS             :    7777
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD          : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION  : RANDOM
REMARK   3   R VALUE     (WORKING + TEST SET) : 0.22404
REMARK   3   R VALUE            (WORKING SET) :  0.22296
REMARK   3   FREE R VALUE                     :  0.24841
REMARK   3   FREE R VALUE TEST SET SIZE   (%) :  4.6
REMARK   3   FREE R VALUE TEST SET COUNT      :   379
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED           :      20
REMARK   3   BIN RESOLUTION RANGE HIGH           :    2.206
REMARK   3   BIN RESOLUTION RANGE LOW            :    2.263
REMARK   3   REFLECTION IN BIN     (WORKING SET) :      484
REMARK   3   BIN COMPLETENESS (WORKING+TEST) (%) :    98.44
REMARK   3   BIN R VALUE           (WORKING SET) :    0.232
REMARK   3   BIN FREE R VALUE SET COUNT          :       21
REMARK   3   BIN FREE R VALUE                    :    0.226
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   ALL ATOMS                :      902
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT           (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  43.420
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) :    -0.57
REMARK   3    B22 (A**2) :    -0.57
REMARK   3    B33 (A**2) :     0.85
REMARK   3    B12 (A**2) :    -0.28
REMARK   3    B13 (A**2) :     0.00
REMARK   3    B23 (A**2) :     0.00
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REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                            (A):   0.233
REMARK   3   ESU BASED ON FREE R VALUE                       (A):   0.190
REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                 (A):   0.140
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):   9.721
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.943
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.942
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES        COUNT    RMS    WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS        (A):   916 ; 0.012 ; 0.019
REMARK   3   BOND ANGLES REFINED ATOMS   (DEGREES):  1250 ; 1.637 ; 1.919
REMARK   3   TORSION ANGLES, PERIOD 1    (DEGREES):   108 ;11.923 ; 5.000
REMARK   3   TORSION ANGLES, PERIOD 2    (DEGREES):    31 ;31.950 ;23.548
REMARK   3   TORSION ANGLES, PERIOD 3    (DEGREES):   144 ;19.557 ;15.000
REMARK   3   TORSION ANGLES, PERIOD 4    (DEGREES):     2 ;26.606 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS       (A**3):   136 ; 0.108 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS      (A):   676 ; 0.018 ; 0.021
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.     COUNT   RMS    WEIGHT
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3  TWIN DETAILS
REMARK   3   NUMBER OF TWIN DOMAINS  : NULL
REMARK   3
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :    1
REMARK   3   ATOM RECORD CONTAINS RESIDUAL B FACTORS ONLY
REMARK   3
REMARK   3   TLS GROUP :     1
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   D   -10        D  9999
REMARK   3    ORIGIN FOR THE GROUP (A):  24.9839 -14.3091  -7.2602
REMARK   3    T TENSOR
REMARK   3      T11:   0.0185 T22:   0.0562
REMARK   3      T33:   0.1037 T12:  -0.0004
REMARK   3      T13:   0.0131 T23:  -0.0551
REMARK   3    L TENSOR
REMARK   3      L11:   0.8932 L22:   1.0237
REMARK   3      L33:   0.9694 L12:  -0.1495
REMARK   3      L13:   0.2113 L23:  -0.2061
REMARK   3    S TENSOR
REMARK   3      S11:   0.0330 S12:  -0.0487 S13:   0.0462
REMARK   3      S21:  -0.0824 S22:  -0.1677 S23:   0.1793
REMARK   3      S31:   0.1011 S32:  -0.1109 S33:   0.1347
REMARK   3
REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED :  MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.20
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS:
REMARK   3  HYDROGENS HAVE BEEN USED IF PRESENT IN THE INPUT
REMARK   3  U VALUES      : RESIDUAL ONLY
REMARK   3
LINKR           CYS D 346                    PRO D 348                gap
LINKR           SER D 344                    MET D 349                gap
LINKR           SER D 344                    GLU D 361                gap
CRYST1   75.625   75.625   90.989  90.00  90.00 120.00 P 64 2 2
SCALE1      0.013223  0.007634  0.000000        0.00000
SCALE2      0.000000  0.015269  0.000000        0.00000
SCALE3      0.000000  0.000000  0.010990        0.00000
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ATOM      1  N   THR D 322      13.672  -7.475 -20.728  1.00 55.10           N
ATOM      2  CA  THR D 322      14.200  -7.347 -19.335  1.00 60.06           C
ATOM      3  CB  THR D 322      13.050  -7.203 -18.304  1.00 64.30           C
ATOM      4  OG1 THR D 322      12.333  -8.446 -18.191  1.00 62.59           O
ATOM      5  CG2 THR D 322      12.088  -6.078 -18.710  1.00 65.54           C
ATOM      6  C   THR D 322      15.107  -8.534 -18.957  1.00 55.03           C
ATOM      7  O   THR D 322      15.077  -9.032 -17.831  1.00 53.46           O
ATOM      8  N   SER D 323      15.912  -8.979 -19.912  1.00 55.16           N
ATOM      9  CA  SER D 323      16.828 -10.090 -19.702  1.00 55.75           C
ATOM     10  CB  SER D 323      17.131 -10.771 -21.028  1.00 60.48           C
ATOM     11  OG  SER D 323      15.947 -11.036 -21.744  1.00 72.98           O
ATOM     12  C   SER D 323      18.145  -9.584 -19.162  1.00 55.35           C
ATOM     13  O   SER D 323      18.665  -8.571 -19.651  1.00 56.06           O
ATOM     14  N   LEU D 324      18.696 -10.301 -18.178  1.00 52.68           N
ATOM     15  CA  LEU D 324      20.077 -10.068 -17.735  1.00 51.99           C
ATOM     16  CB  LEU D 324      20.194  -9.944 -16.211  1.00 52.06           C
ATOM     17  CG  LEU D 324      19.509  -8.747 -15.536  1.00 57.37           C
ATOM     18  CD1 LEU D 324      19.826  -8.718 -14.052  1.00 60.77           C
ATOM     19  CD2 LEU D 324      19.875  -7.414 -16.175  1.00 61.96           C
ATOM     20  C   LEU D 324      20.953 -11.183 -18.242  1.00 49.84           C
ATOM     21  O   LEU D 324      20.694 -12.368 -17.987  1.00 51.57           O
ATOM     22  N   CYS D 325      21.990 -10.795 -18.977  1.00 46.85           N
ATOM     23  CA  CYS D 325      22.846 -11.749 -19.666  1.00 46.10           C
ATOM     24  CB  CYS D 325      22.657 -11.629 -21.184  1.00 49.02           C
ATOM     25  SG  CYS D 325      23.426 -10.165 -21.913  1.00 60.70           S
ATOM     26  C   CYS D 325      24.310 -11.564 -19.287  1.00 42.99           C
ATOM     27  O   CYS D 325      24.696 -10.532 -18.728  1.00 43.59           O
ATOM     28  N   CYS D 326      25.119 -12.574 -19.575  1.00 40.31           N
ATOM     29  CA  CYS D 326      26.543 -12.489 -19.361  1.00 39.19           C
ATOM     30  CB  CYS D 326      27.203 -13.794 -19.740  1.00 38.72           C
ATOM     31  SG  CYS D 326      28.997 -13.701 -19.671  1.00 41.08           S
ATOM     32  C   CYS D 326      27.141 -11.334 -20.174  1.00 41.88           C
ATOM     33  O   CYS D 326      26.911 -11.242 -21.375  1.00 36.63           O
ATOM     34  N   LYS D 327      27.879 -10.447 -19.500  1.00 42.93           N
ATOM     35  CA  LYS D 327      28.453  -9.273 -20.145  1.00 45.29           C
ATOM     36  CB  LYS D 327      29.097  -8.335 -19.128  1.00 43.86           C
ATOM     37  CG  LYS D 327      30.084  -7.342 -19.737  1.00 46.50           C
ATOM     38  CD  LYS D 327      29.730  -5.904 -19.397  1.00 46.09           C
ATOM     39  CE  LYS D 327      30.236  -5.506 -18.025  1.00 50.55           C
ATOM     40  NZ  LYS D 327      29.270  -4.636 -17.300  1.00 44.51           N
ATOM     41  C   LYS D 327      29.473  -9.638 -21.224  1.00 50.10           C
ATOM     42  O   LYS D 327      29.498  -9.025 -22.295  1.00 50.45           O
ATOM     43  N   GLN D 328      30.313 -10.622 -20.939  1.00 47.77           N
ATOM     44  CA  GLN D 328      31.357 -11.005 -21.872  1.00 50.83           C
ATOM     45  CB  GLN D 328      32.446 -11.817 -21.160  1.00 55.48           C
ATOM     46  CG  GLN D 328      32.938 -13.014 -21.959  1.00 63.92           C
ATOM     47  CD  GLN D 328      34.450 -13.079 -22.068  1.00 71.71           C
ATOM     48  OE1 GLN D 328      35.169 -12.249 -21.500  1.00 82.03           O
ATOM     49  NE2 GLN D 328      34.944 -14.062 -22.823  1.00 68.78           N
ATOM     50  C   GLN D 328      30.823 -11.722 -23.122  1.00 48.23           C
ATOM     51  O   GLN D 328      31.237 -11.420 -24.230  1.00 51.14           O
ATOM     52  N   CYS D 329      29.901 -12.660 -22.970  1.00 47.76           N
ATOM     53  CA  CYS D 329      29.475 -13.403 -24.160  1.00 47.29           C
ATOM     54  CB  CYS D 329      29.583 -14.920 -23.951  1.00 47.05           C
ATOM     55  SG  CYS D 329      28.319 -15.712 -22.918  1.00 43.18           S
ATOM     56  C   CYS D 329      28.137 -12.981 -24.785  1.00 49.59           C
ATOM     57  O   CYS D 329      27.953 -13.153 -25.987  1.00 52.20           O
ATOM     58  N   GLN D 330      27.225 -12.422 -23.985  1.00 50.36           N
ATOM     59  CA  GLN D 330      25.881 -12.010 -24.448  1.00 55.28           C
ATOM     60  CB  GLN D 330      25.960 -11.017 -25.599  1.00 58.87           C
ATOM     61  CG  GLN D 330      25.703  -9.583 -25.205  1.00 70.06           C
ATOM     62  CD  GLN D 330      26.989  -8.839 -24.959  1.00 72.93           C
ATOM     63  OE1 GLN D 330      27.182  -7.734 -25.455  1.00 73.11           O
ATOM     64  NE2 GLN D 330      27.893  -9.456 -24.212  1.00 76.86           N
ATOM     65  C   GLN D 330      24.966 -13.135 -24.884  1.00 57.66           C
ATOM     66  O   GLN D 330      23.834 -12.882 -25.289  1.00 59.24           O
ATOM     67  N   GLU D 331      25.442 -14.368 -24.822  1.00 58.30           N
ATOM     68  CA  GLU D 331      24.738 -15.452 -25.491  1.00 60.98           C
ATOM     69  CB  GLU D 331      25.695 -16.568 -25.838  1.00 58.80           C
ATOM     70  CG  GLU D 331      26.536 -16.291 -27.060  1.00 59.50           C
ATOM     71  CD  GLU D 331      27.337 -17.508 -27.439  1.00 62.16           C
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ATOM     72  OE1 GLU D 331      28.555 -17.360 -27.714  1.00 59.84           O
ATOM     73  OE2 GLU D 331      26.744 -18.618 -27.421  1.00 60.25           O
ATOM     74  C   GLU D 331      23.603 -16.045 -24.693  1.00 63.63           C
ATOM     75  O   GLU D 331      22.728 -16.703 -25.263  1.00 61.62           O
ATOM     76  N   THR D 332      23.635 -15.860 -23.380  1.00 57.44           N
ATOM     77  CA  THR D 332      22.675 -16.538 -22.525  1.00 57.63           C
ATOM     78  CB  THR D 332      23.376 -17.554 -21.605  1.00 62.66           C
ATOM     79  OG1 THR D 332      24.622 -17.002 -21.145  1.00 69.08           O
ATOM     80  CG2 THR D 332      23.626 -18.869 -22.353  1.00 63.16           C
ATOM     81  C   THR D 332      21.939 -15.562 -21.653  1.00 51.94           C
ATOM     82  O   THR D 332      22.478 -14.538 -21.305  1.00 51.40           O
ATOM     83  N   GLU D 333      20.709 -15.906 -21.293  1.00 49.82           N
ATOM     84  CA  GLU D 333      19.986 -15.213 -20.244  1.00 53.71           C
ATOM     85  CB  GLU D 333      18.487 -15.207 -20.554  1.00 51.89           C
ATOM     86  CG  GLU D 333      17.589 -14.979 -19.348  1.00 55.85           C
ATOM     87  CD  GLU D 333      16.227 -14.397 -19.707  1.00 64.62           C
ATOM     88  OE1 GLU D 333      16.170 -13.361 -20.405  1.00 64.59           O
ATOM     89  OE2 GLU D 333      15.201 -14.964 -19.272  1.00 67.76           O
ATOM     90  C   GLU D 333      20.270 -15.861 -18.883  1.00 50.97           C
ATOM     91  O   GLU D 333      19.865 -16.987 -18.643  1.00 54.02           O
ATOM     92  N   ILE D 334      20.982 -15.156 -18.005  1.00 48.03           N
ATOM     93  CA  ILE D 334      21.256 -15.671 -16.659  1.00 43.93           C
ATOM     94  CB  ILE D 334      22.414 -14.918 -15.951  1.00 43.22           C
ATOM     95  CG1 ILE D 334      23.753 -15.043 -16.707  1.00 39.78           C
ATOM     96  CD1 ILE D 334      23.954 -16.331 -17.461  1.00 41.83           C
ATOM     97  CG2 ILE D 334      22.536 -15.367 -14.495  1.00 39.59           C
ATOM     98  C   ILE D 334      20.014 -15.571 -15.764  1.00 44.49           C
ATOM     99  O   ILE D 334      19.691 -16.511 -15.052  1.00 41.45           O
ATOM    100  N   THR D 335      19.356 -14.404 -15.783  1.00 47.71           N
ATOM    101  CA  THR D 335      18.174 -14.122 -14.950  1.00 47.01           C
ATOM    102  CB  THR D 335      18.585 -13.724 -13.490  1.00 46.70           C
ATOM    103  OG1 THR D 335      17.500 -13.962 -12.589  1.00 50.66           O
ATOM    104  CG2 THR D 335      18.971 -12.262 -13.390  1.00 47.13           C
ATOM    105  C   THR D 335      17.312 -13.017 -15.613  1.00 48.38           C
ATOM    106  O   THR D 335      17.643 -12.515 -16.694  1.00 47.10           O
ATOM    107  N   THR D 336      16.212 -12.642 -14.973  1.00 45.55           N
ATOM    108  CA  THR D 336      15.429 -11.501 -15.450  1.00 48.89           C
ATOM    109  CB  THR D 336      14.041 -11.921 -15.965  1.00 48.02           C
ATOM    110  OG1 THR D 336      13.214 -12.302 -14.862  1.00 51.32           O
ATOM    111  CG2 THR D 336      14.153 -13.083 -16.943  1.00 50.95           C
ATOM    112  C   THR D 336      15.247 -10.485 -14.337  1.00 48.43           C
ATOM    113  O   THR D 336      15.254 -10.849 -13.156  1.00 47.18           O
ATOM    114  N   LYS D 337      15.077  -9.217 -14.719  1.00 50.86           N
ATOM    115  CA  LYS D 337      14.824  -8.141 -13.771  1.00 51.17           C
ATOM    116  CB  LYS D 337      14.395  -6.868 -14.503  1.00 56.99           C
ATOM    117  CG  LYS D 337      15.464  -6.306 -15.420  1.00 64.36           C
ATOM    118  CD  LYS D 337      15.199  -4.850 -15.768  1.00 70.89           C
ATOM    119  CE  LYS D 337      16.086  -4.422 -16.928  1.00 76.12           C
ATOM    120  NZ  LYS D 337      16.871  -3.210 -16.572  1.00 72.92           N
ATOM    121  C   LYS D 337      13.759  -8.562 -12.769  1.00 48.42           C
ATOM    122  O   LYS D 337      13.821  -8.206 -11.607  1.00 48.74           O
ATOM    123  N   ASN D 338      12.803  -9.355 -13.230  1.00 52.15           N
ATOM    124  CA  ASN D 338      11.773  -9.937 -12.381  1.00 52.19           C
ATOM    125  CB  ASN D 338      10.890 -10.866 -13.217  1.00 62.08           C
ATOM    126  CG  ASN D 338       9.575 -10.238 -13.572  1.00 66.93           C
ATOM    127  OD1 ASN D 338       9.447  -9.014 -13.608  1.00 73.47           O
ATOM    128  ND2 ASN D 338       8.580 -11.072 -13.831  1.00 74.44           N
ATOM    129  C   ASN D 338      12.246 -10.710 -11.148  1.00 49.72           C
ATOM    130  O   ASN D 338      11.534 -10.748 -10.145  1.00 41.89           O
ATOM    131  N   GLU D 339      13.419 -11.349 -11.221  1.00 48.97           N
ATOM    132  CA  GLU D 339      13.862 -12.262 -10.143  1.00 46.62           C
ATOM    133  CB  GLU D 339      14.691 -13.405 -10.714  1.00 48.90           C
ATOM    134  CG  GLU D 339      13.960 -14.220 -11.763  1.00 54.86           C
ATOM    135  CD  GLU D 339      13.057 -15.306 -11.178  1.00 62.15           C
ATOM    136  OE1 GLU D 339      12.878 -15.378  -9.947  1.00 66.09           O
ATOM    137  OE2 GLU D 339      12.519 -16.109 -11.963  1.00 71.69           O
ATOM    138  C   GLU D 339      14.653 -11.568  -9.053  1.00 44.83           C
ATOM    139  O   GLU D 339      15.026 -12.189  -8.053  1.00 46.84           O
ATOM    140  N   ILE D 340      14.922 -10.283  -9.249  1.00 42.40           N
ATOM    141  CA  ILE D 340      15.812  -9.533  -8.361  1.00 40.37           C
ATOM    142  CB  ILE D 340      16.287  -8.216  -9.023  1.00 39.20           C
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ATOM    143  CG1 ILE D 340      17.166  -8.491 -10.245  1.00 40.09           C
ATOM    144  CD1 ILE D 340      17.382  -7.264 -11.101  1.00 43.03           C
ATOM    145  CG2 ILE D 340      17.013  -7.336  -8.021  1.00 37.72           C
ATOM    146  C   ILE D 340      15.083  -9.191  -7.076  1.00 42.58           C
ATOM    147  O   ILE D 340      14.002  -8.592  -7.123  1.00 45.17           O
ATOM    148  N   PHE D 341      15.644  -9.558  -5.926  1.00 41.65           N
ATOM    149  CA  PHE D 341      15.063  -9.077  -4.688  1.00 42.66           C
ATOM    150  CB  PHE D 341      14.412 -10.194  -3.856  1.00 53.18           C
ATOM    151  CG  PHE D 341      15.324 -10.870  -2.885  1.00 57.26           C
ATOM    152  CD1 PHE D 341      16.056 -11.991  -3.267  1.00 62.53           C
ATOM    153  CE1 PHE D 341      16.873 -12.648  -2.354  1.00 69.00           C
ATOM    154  CZ  PHE D 341      16.946 -12.198  -1.039  1.00 70.84           C
ATOM    155  CE2 PHE D 341      16.208 -11.085  -0.645  1.00 72.90           C
ATOM    156  CD2 PHE D 341      15.386 -10.441  -1.562  1.00 64.73           C
ATOM    157  C   PHE D 341      15.926  -8.115  -3.875  1.00 42.76           C
ATOM    158  O   PHE D 341      15.478  -7.609  -2.849  1.00 41.40           O
ATOM    159  N   SER D 342      17.145  -7.848  -4.353  1.00 41.60           N
ATOM    160  CA  SER D 342      17.962  -6.754  -3.823  1.00 36.63           C
ATOM    161  CB  SER D 342      18.645  -7.169  -2.525  1.00 39.13           C
ATOM    162  OG  SER D 342      19.395  -6.088  -1.994  1.00 40.72           O
ATOM    163  C   SER D 342      18.998  -6.353  -4.849  1.00 36.76           C
ATOM    164  O   SER D 342      19.571  -7.213  -5.528  1.00 32.26           O
ATOM    165  N   LEU D 343      19.250  -5.051  -4.950  1.00 34.67           N
ATOM    166  CA  LEU D 343      20.213  -4.510  -5.908  1.00 37.22           C
ATOM    167  CB  LEU D 343      19.724  -3.133  -6.407  1.00 38.61           C
ATOM    168  CG  LEU D 343      18.511  -3.099  -7.359  1.00 40.84           C
ATOM    169  CD1 LEU D 343      18.004  -1.680  -7.529  1.00 41.60           C
ATOM    170  CD2 LEU D 343      18.890  -3.675  -8.716  1.00 41.46           C
ATOM    171  C   LEU D 343      21.645  -4.402  -5.333  1.00 38.12           C
ATOM    172  O   LEU D 343      22.602  -4.175  -6.071  1.00 41.91           O
ATOM    173  N   SER D 344      21.780  -4.585  -4.021  1.00 36.37           N
ATOM    174  CA  SER D 344      22.981  -4.203  -3.292  1.00 37.65           C
ATOM    175  CB  SER D 344      22.841  -2.752  -2.797  1.00 38.80           C
ATOM    176  OG  SER D 344      23.108  -1.853  -3.840  1.00 43.64           O
ATOM    177  C   SER D 344      23.124  -5.057  -2.069  1.00 37.13           C
ATOM    178  O   SER D 344      22.120  -5.490  -1.498  1.00 36.88           O
ATOM    179  N   LEU D 345      24.359  -5.226  -1.606  1.00 34.29           N
ATOM    180  CA  LEU D 345      24.596  -5.918  -0.330  1.00 34.20           C
ATOM    181  CB  LEU D 345      25.628  -7.012  -0.512  1.00 33.97           C
ATOM    182  CG  LEU D 345      25.154  -8.231  -1.299  1.00 37.95           C
ATOM    183  CD1 LEU D 345      26.248  -9.291  -1.308  1.00 37.75           C
ATOM    184  CD2 LEU D 345      23.878  -8.799  -0.700  1.00 38.57           C
ATOM    185  C   LEU D 345      25.098  -4.905   0.661  1.00 36.81           C
ATOM    186  O   LEU D 345      26.272  -4.531   0.581  1.00 34.68           O
ATOM    187  N   CYS D 346      24.217  -4.446   1.576  1.00 33.97           N
ATOM    188  CA  CYS D 346      24.463  -3.261   2.402  1.00 38.44           C
ATOM    189  CB  CYS D 346      23.227  -2.352   2.404  1.00 38.01           C
ATOM    190  SG  CYS D 346      22.911  -1.658   0.778  1.00 34.64           S
ATOM    191  C   CYS D 346      24.901  -3.507   3.856  1.00 43.99           C
ATOM    192  O   CYS D 346      25.138  -2.549   4.607  1.00 39.75           O
ATOM    193  N   GLY D 347      25.025  -4.771   4.253  1.00 44.40           N
ATOM    194  CA  GLY D 347      25.299  -5.092   5.653  1.00 45.93           C
ATOM    195  C   GLY D 347      26.779  -5.199   5.995  1.00 46.79           C
ATOM    196  O   GLY D 347      27.609  -4.435   5.467  1.00 47.07           O
ATOM    197  N   PRO D 348      27.123  -6.156   6.878  1.00 44.92           N
ATOM    198  CA  PRO D 348      28.504  -6.388   7.298  1.00 49.59           C
ATOM    199  CB  PRO D 348      28.418  -7.727   8.032  1.00 49.37           C
ATOM    200  CG  PRO D 348      27.029  -7.764   8.560  1.00 53.70           C
ATOM    201  CD  PRO D 348      26.196  -7.127   7.486  1.00 49.19           C
ATOM    202  C   PRO D 348      29.496  -6.489   6.127  1.00 48.81           C
ATOM    203  O   PRO D 348      30.683  -6.222   6.316  1.00 52.83           O
ATOM    204  N   MET D 349      29.007  -6.853   4.936  1.00 43.15           N
ATOM    205  CA  MET D 349      29.872  -7.139   3.781  1.00 41.18           C
ATOM    206  CB  MET D 349      29.378  -8.417   3.058  1.00 44.97           C
ATOM    207  CG  MET D 349      28.079  -8.286   2.269  1.00 45.26           C
ATOM    208  SD  MET D 349      26.553  -7.939   3.171  1.00 48.44           S
ATOM    209  CE  MET D 349      26.236  -9.477   4.047  1.00 46.69           C
ATOM    210  C   MET D 349      30.022  -5.966   2.802  1.00 41.48           C
ATOM    211  O   MET D 349      30.768  -6.049   1.812  1.00 39.74           O
ATOM    212  N   ALA D 350      29.336  -4.870   3.098  1.00 37.77           N
ATOM    213  CA  ALA D 350      29.321  -3.672   2.256  1.00 38.84           C
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ATOM    214  CB  ALA D 350      28.498  -2.570   2.918  1.00 35.44           C
ATOM    215  C   ALA D 350      30.706  -3.131   1.950  1.00 37.71           C
ATOM    216  O   ALA D 350      30.915  -2.547   0.890  1.00 34.71           O
ATOM    217  N   ALA D 351      31.647  -3.306   2.867  1.00 34.15           N
ATOM    218  CA  ALA D 351      33.004  -2.798   2.633  1.00 35.31           C
ATOM    219  CB  ALA D 351      33.641  -2.362   3.938  1.00 35.21           C
ATOM    220  C   ALA D 351      33.920  -3.773   1.899  1.00 34.97           C
ATOM    221  O   ALA D 351      35.053  -3.419   1.537  1.00 34.00           O
ATOM    222  N   TYR D 352      33.465  -5.001   1.678  1.00 33.17           N
ATOM    223  CA  TYR D 352      34.368  -6.018   1.138  1.00 30.89           C
ATOM    224  CB  TYR D 352      33.808  -7.431   1.323  1.00 33.53           C
ATOM    225  CG  TYR D 352      33.696  -7.859   2.755  1.00 33.55           C
ATOM    226  CD1 TYR D 352      34.237  -7.080   3.779  1.00 37.29           C
ATOM    227  CE1 TYR D 352      34.140  -7.464   5.095  1.00 37.88           C
ATOM    228  CZ  TYR D 352      33.490  -8.641   5.400  1.00 37.64           C
ATOM    229  OH  TYR D 352      33.396  -9.028   6.706  1.00 41.85           O
ATOM    230  CE2 TYR D 352      32.962  -9.438   4.416  1.00 34.39           C
ATOM    231  CD2 TYR D 352      33.072  -9.042   3.092  1.00 36.66           C
ATOM    232  C   TYR D 352      34.701  -5.804  -0.322  1.00 33.74           C
ATOM    233  O   TYR D 352      33.823  -5.413  -1.119  1.00 35.01           O
ATOM    234  N   VAL D 353      35.969  -6.082  -0.657  1.00 29.98           N
ATOM    235  CA  VAL D 353      36.518  -6.037  -2.030  1.00 31.48           C
ATOM    236  CB  VAL D 353      37.477  -4.844  -2.241  1.00 33.99           C
ATOM    237  CG1 VAL D 353      37.852  -4.708  -3.724  1.00 34.44           C
ATOM    238  CG2 VAL D 353      36.869  -3.534  -1.707  1.00 36.35           C
ATOM    239  C   VAL D 353      37.337  -7.298  -2.283  1.00 35.11           C
ATOM    240  O   VAL D 353      38.289  -7.610  -1.548  1.00 34.94           O
ATOM    241  N   ASN D 354      36.958  -8.025  -3.321  1.00 36.34           N
ATOM    242  CA  ASN D 354      37.617  -9.247  -3.681  1.00 33.91           C
ATOM    243  CB  ASN D 354      36.687 -10.417  -3.351  1.00 33.51           C
ATOM    244  CG  ASN D 354      35.402 -10.347  -4.106  1.00 32.02           C
ATOM    245  OD1 ASN D 354      35.335  -9.674  -5.136  1.00 31.31           O
ATOM    246  ND2 ASN D 354      34.387 -11.090  -3.652  1.00 27.89           N
ATOM    247  C   ASN D 354      38.021  -9.173  -5.175  1.00 31.50           C
ATOM    248  O   ASN D 354      37.840  -8.140  -5.791  1.00 30.41           O
ATOM    249  N   PRO D 355      38.607 -10.251  -5.746  1.00 33.55           N
ATOM    250  CA  PRO D 355      39.047 -10.148  -7.134  1.00 33.78           C
ATOM    251  CB  PRO D 355      39.667 -11.538  -7.404  1.00 36.77           C
ATOM    252  CG  PRO D 355      40.162 -12.004  -6.051  1.00 31.10           C
ATOM    253  CD  PRO D 355      39.045 -11.527  -5.131  1.00 35.18           C
ATOM    254  C   PRO D 355      37.906  -9.874  -8.123  1.00 37.04           C
ATOM    255  O   PRO D 355      38.164  -9.586  -9.283  1.00 40.58           O
ATOM    256  N   HIS D 356      36.660  -9.984  -7.676  1.00 35.20           N
ATOM    257  CA  HIS D 356      35.524  -9.695  -8.529  1.00 33.81           C
ATOM    258  CB  HIS D 356      34.427 -10.771  -8.308  1.00 34.41           C
ATOM    259  CG  HIS D 356      34.967 -12.192  -8.302  1.00 32.15           C
ATOM    260  ND1 HIS D 356      35.501 -12.766  -9.402  1.00 33.62           N
ATOM    261  CE1 HIS D 356      35.942 -14.037  -9.096  1.00 33.26           C
ATOM    262  NE2 HIS D 356      35.690 -14.262  -7.781  1.00 32.82           N
ATOM    263  CD2 HIS D 356      35.091 -13.144  -7.256  1.00 33.01           C
ATOM    264  C   HIS D 356      35.015  -8.286  -8.272  1.00 35.75           C
ATOM    265  O   HIS D 356      33.956  -7.931  -8.748  1.00 35.60           O
ATOM    266  N   GLY D 357      35.747  -7.461  -7.502  1.00 34.83           N
ATOM    267  CA  GLY D 357      35.316  -6.054  -7.292  1.00 33.87           C
ATOM    268  C   GLY D 357      34.536  -5.832  -5.997  1.00 37.52           C
ATOM    269  O   GLY D 357      34.703  -6.577  -5.035  1.00 38.70           O
ATOM    270  N   TYR D 358      33.693  -4.808  -5.960  1.00 35.58           N
ATOM    271  CA  TYR D 358      33.031  -4.434  -4.711  1.00 41.06           C
ATOM    272  CB  TYR D 358      32.494  -3.008  -4.787  1.00 45.53           C
ATOM    273  CG  TYR D 358      33.595  -2.005  -4.684  1.00 52.36           C
ATOM    274  CD1 TYR D 358      34.183  -1.721  -3.448  1.00 52.81           C
ATOM    275  CE1 TYR D 358      35.226  -0.819  -3.345  1.00 54.83           C
ATOM    276  CZ  TYR D 358      35.701  -0.201  -4.485  1.00 54.91           C
ATOM    277  OH  TYR D 358      36.723   0.710  -4.371  1.00 69.32           O
ATOM    278  CE2 TYR D 358      35.138  -0.458  -5.727  1.00 58.91           C
ATOM    279  CD2 TYR D 358      34.090  -1.365  -5.821  1.00 56.33           C
ATOM    280  C   TYR D 358      31.905  -5.357  -4.354  1.00 36.98           C
ATOM    281  O   TYR D 358      30.943  -5.438  -5.082  1.00 35.51           O
ATOM    282  N   VAL D 359      32.003  -6.013  -3.206  1.00 34.40           N
ATOM    283  CA  VAL D 359      30.945  -6.934  -2.776  1.00 33.37           C
ATOM    284  CB  VAL D 359      31.317  -7.653  -1.468  1.00 32.59           C
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ATOM    285  CG1 VAL D 359      30.114  -8.484  -0.957  1.00 31.19           C
ATOM    286  CG2 VAL D 359      32.539  -8.539  -1.733  1.00 29.07           C
ATOM    287  C   VAL D 359      29.577  -6.223  -2.663  1.00 35.54           C
ATOM    288  O   VAL D 359      28.518  -6.806  -2.911  1.00 33.18           O
ATOM    289  N   HIS D 360      29.611  -4.946  -2.354  1.00 32.00           N
ATOM    290  CA  HIS D 360      28.389  -4.172  -2.316  1.00 34.31           C
ATOM    291  CB  HIS D 360      28.707  -2.716  -2.009  1.00 33.04           C
ATOM    292  CG  HIS D 360      27.494  -1.841  -1.972  1.00 35.05           C
ATOM    293  ND1 HIS D 360      27.142  -1.054  -3.012  1.00 32.98           N
ATOM    294  CE1 HIS D 360      26.002  -0.402  -2.702  1.00 35.22           C
ATOM    295  NE2 HIS D 360      25.623  -0.784  -1.459  1.00 35.09           N
ATOM    296  CD2 HIS D 360      26.514  -1.671  -0.986  1.00 29.00           C
ATOM    297  C   HIS D 360      27.634  -4.307  -3.617  1.00 34.23           C
ATOM    298  O   HIS D 360      26.429  -4.516  -3.607  1.00 35.51           O
ATOM    299  N   GLU D 361      28.352  -4.296  -4.749  1.00 34.92           N
ATOM    300  CA  GLU D 361      27.716  -4.318  -6.094  1.00 32.30           C
ATOM    301  CB  GLU D 361      28.625  -3.578  -7.098  1.00 36.49           C
ATOM    302  CG  GLU D 361      29.007  -2.159  -6.642  1.00 36.65           C
ATOM    303  CD  GLU D 361      27.779  -1.286  -6.402  1.00 41.90           C
ATOM    304  OE1 GLU D 361      27.742  -0.557  -5.385  1.00 41.98           O
ATOM    305  OE2 GLU D 361      26.835  -1.349  -7.229  1.00 44.98           O
ATOM    306  C   GLU D 361      27.289  -5.727  -6.591  1.00 35.28           C
ATOM    307  O   GLU D 361      27.724  -6.223  -7.666  1.00 33.77           O
ATOM    308  N   THR D 362      26.464  -6.369  -5.773  1.00 35.76           N
ATOM    309  CA  THR D 362      25.969  -7.721  -6.004  1.00 37.70           C
ATOM    310  CB  THR D 362      26.528  -8.682  -4.956  1.00 41.76           C
ATOM    311  OG1 THR D 362      27.932  -8.497  -4.868  1.00 41.20           O
ATOM    312  CG2 THR D 362      26.217 -10.170  -5.291  1.00 37.69           C
ATOM    313  C   THR D 362      24.442  -7.736  -5.872  1.00 39.83           C
ATOM    314  O   THR D 362      23.886  -7.254  -4.857  1.00 36.64           O
ATOM    315  N   LEU D 363      23.791  -8.273  -6.909  1.00 36.29           N
ATOM    316  CA  LEU D 363      22.342  -8.508  -6.964  1.00 36.95           C
ATOM    317  CB  LEU D 363      21.927  -8.748  -8.426  1.00 35.28           C
ATOM    318  CG  LEU D 363      21.385  -7.651  -9.312  1.00 37.37           C
ATOM    319  CD1 LEU D 363      21.771  -6.251  -8.852  1.00 36.72           C
ATOM    320  CD2 LEU D 363      21.821  -7.913 -10.740  1.00 34.13           C
ATOM    321  C   LEU D 363      22.013  -9.783  -6.225  1.00 40.43           C
ATOM    322  O   LEU D 363      22.779 -10.748  -6.305  1.00 44.36           O
ATOM    323  N   THR D 364      20.871  -9.826  -5.541  1.00 37.95           N
ATOM    324  CA  THR D 364      20.370 -11.099  -5.034  1.00 40.03           C
ATOM    325  CB  THR D 364      20.140 -11.092  -3.516  1.00 40.52           C
ATOM    326  OG1 THR D 364      19.181 -10.089  -3.203  1.00 58.15           O
ATOM    327  CG2 THR D 364      21.403 -10.775  -2.803  1.00 43.74           C
ATOM    328  C   THR D 364      19.085 -11.438  -5.782  1.00 39.43           C
ATOM    329  O   THR D 364      18.166 -10.626  -5.848  1.00 37.48           O
ATOM    330  N   VAL D 365      19.065 -12.615  -6.397  1.00 37.36           N
ATOM    331  CA  VAL D 365      17.980 -13.021  -7.257  1.00 37.39           C
ATOM    332  CB  VAL D 365      18.388 -13.006  -8.759  1.00 38.96           C
ATOM    333  CG1 VAL D 365      19.146 -11.729  -9.074  1.00 41.95           C
ATOM    334  CG2 VAL D 365      19.262 -14.187  -9.131  1.00 39.31           C
ATOM    335  C   VAL D 365      17.472 -14.371  -6.812  1.00 37.49           C
ATOM    336  O   VAL D 365      18.209 -15.138  -6.198  1.00 34.12           O
ATOM    337  N   TYR D 366      16.186 -14.633  -7.066  1.00 41.73           N
ATOM    338  CA  TYR D 366      15.564 -15.911  -6.728  1.00 41.31           C
ATOM    339  CB  TYR D 366      14.045 -15.802  -6.795  1.00 48.43           C
ATOM    340  CG  TYR D 366      13.453 -14.932  -5.738  1.00 46.52           C
ATOM    341  CD1 TYR D 366      13.550 -15.277  -4.390  1.00 49.31           C
ATOM    342  CE1 TYR D 366      12.991 -14.477  -3.410  1.00 53.15           C
ATOM    343  CZ  TYR D 366      12.315 -13.326  -3.785  1.00 53.40           C
ATOM    344  OH  TYR D 366      11.768 -12.521  -2.831  1.00 59.53           O
ATOM    345  CE2 TYR D 366      12.202 -12.966  -5.111  1.00 52.37           C
ATOM    346  CD2 TYR D 366      12.778 -13.767  -6.081  1.00 49.58           C
ATOM    347  C   TYR D 366      15.985 -17.071  -7.614  1.00 37.88           C
ATOM    348  O   TYR D 366      16.056 -18.194  -7.152  1.00 37.98           O
ATOM    349  N   LYS D 367      16.227 -16.803  -8.885  1.00 39.35           N
ATOM    350  CA  LYS D 367      16.515 -17.853  -9.850  1.00 42.45           C
ATOM    351  CB  LYS D 367      15.247 -18.249 -10.610  1.00 47.41           C
ATOM    352  CG  LYS D 367      14.501 -19.412 -10.004  1.00 55.96           C
ATOM    353  CD  LYS D 367      13.025 -19.362 -10.355  1.00 59.54           C
ATOM    354  CE  LYS D 367      12.238 -20.254  -9.408  1.00 59.93           C
ATOM    355  NZ  LYS D 367      10.780 -20.050  -9.600  1.00 64.09           N
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ATOM    356  C   LYS D 367      17.488 -17.314 -10.850  1.00 41.59           C
ATOM    357  O   LYS D 367      17.423 -16.142 -11.212  1.00 38.46           O
ATOM    358  N   ALA D 368      18.384 -18.180 -11.297  1.00 39.65           N
ATOM    359  CA  ALA D 368      19.311 -17.870 -12.381  1.00 39.60           C
ATOM    360  CB  ALA D 368      20.649 -17.404 -11.820  1.00 37.21           C
ATOM    361  C   ALA D 368      19.489 -19.174 -13.087  1.00 38.56           C
ATOM    362  O   ALA D 368      19.334 -20.214 -12.480  1.00 43.24           O
ATOM    363  N   SER D 369      19.832 -19.149 -14.356  1.00 40.49           N
ATOM    364  CA  SER D 369      20.224 -20.388 -15.015  1.00 42.25           C
ATOM    365  CB  SER D 369      19.043 -20.939 -15.798  1.00 45.22           C
ATOM    366  OG  SER D 369      18.521 -19.910 -16.598  1.00 48.44           O
ATOM    367  C   SER D 369      21.394 -20.113 -15.938  1.00 40.57           C
ATOM    368  O   SER D 369      21.865 -18.974 -16.021  1.00 41.30           O
ATOM    369  N   ASN D 370      21.838 -21.150 -16.638  1.00 37.10           N
ATOM    370  CA  ASN D 370      22.961 -21.072 -17.585  1.00 38.54           C
ATOM    371  CB  ASN D 370      22.675 -20.083 -18.714  1.00 36.89           C
ATOM    372  CG  ASN D 370      21.498 -20.523 -19.575  1.00 44.46           C
ATOM    373  OD1 ASN D 370      20.618 -19.724 -19.891  1.00 46.79           O
ATOM    374  ND2 ASN D 370      21.458 -21.801 -19.929  1.00 43.86           N
ATOM    375  C   ASN D 370      24.329 -20.828 -16.960  1.00 35.25           C
ATOM    376  O   ASN D 370      25.214 -20.228 -17.583  1.00 36.57           O
ATOM    377  N   LEU D 371      24.484 -21.331 -15.742  1.00 33.74           N
ATOM    378  CA  LEU D 371      25.664 -21.133 -14.908  1.00 34.91           C
ATOM    379  CB  LEU D 371      25.224 -20.452 -13.609  1.00 31.20           C
ATOM    380  CG  LEU D 371      24.705 -19.026 -13.788  1.00 34.14           C
ATOM    381  CD1 LEU D 371      24.271 -18.387 -12.469  1.00 34.93           C
ATOM    382  CD2 LEU D 371      25.763 -18.163 -14.428  1.00 30.61           C
ATOM    383  C   LEU D 371      26.235 -22.489 -14.580  1.00 34.53           C
ATOM    384  O   LEU D 371      25.484 -23.420 -14.366  1.00 39.51           O
ATOM    385  N   ASN D 372      27.550 -22.630 -14.588  1.00 35.09           N
ATOM    386  CA  ASN D 372      28.174 -23.846 -14.082  1.00 34.71           C
ATOM    387  CB  ASN D 372      29.463 -24.170 -14.855  1.00 33.95           C
ATOM    388  CG  ASN D 372      29.204 -24.930 -16.157  1.00 32.71           C
ATOM    389  OD1 ASN D 372      28.227 -25.648 -16.276  1.00 31.70           O
ATOM    390  ND2 ASN D 372      30.078 -24.763 -17.126  1.00 31.04           N
ATOM    391  C   ASN D 372      28.522 -23.594 -12.620  1.00 37.24           C
ATOM    392  O   ASN D 372      28.977 -22.506 -12.269  1.00 33.78           O
ATOM    393  N   LEU D 373      28.315 -24.592 -11.770  1.00 37.90           N
ATOM    394  CA  LEU D 373      28.715 -24.474 -10.353  1.00 36.96           C
ATOM    395  CB  LEU D 373      27.639 -25.039  -9.426  1.00 34.06           C
ATOM    396  CG  LEU D 373      26.225 -24.418  -9.508  1.00 37.03           C
ATOM    397  CD1 LEU D 373      25.176 -25.200  -8.709  1.00 36.31           C
ATOM    398  CD2 LEU D 373      26.225 -22.949  -9.085  1.00 36.31           C
ATOM    399  C   LEU D 373      30.056 -25.149 -10.152  1.00 37.16           C
ATOM    400  O   LEU D 373      30.275 -26.259 -10.640  1.00 39.83           O
ATOM    401  N   ILE D 374      30.968 -24.452  -9.488  1.00 35.93           N
ATOM    402  CA  ILE D 374      32.318 -24.956  -9.239  1.00 36.73           C
ATOM    403  CB  ILE D 374      33.392 -23.933  -9.672  1.00 39.27           C
ATOM    404  CG1 ILE D 374      33.048 -23.222 -11.004  1.00 40.22           C
ATOM    405  CD1 ILE D 374      32.856 -24.144 -12.184  1.00 40.74           C
ATOM    406  CG2 ILE D 374      34.771 -24.558  -9.670  1.00 42.35           C
ATOM    407  C   ILE D 374      32.523 -25.202  -7.748  1.00 38.26           C
ATOM    408  O   ILE D 374      32.465 -24.262  -6.950  1.00 39.25           O
ATOM    409  N   GLY D 375      32.771 -26.453  -7.378  1.00 36.61           N
ATOM    410  CA  GLY D 375      33.059 -26.827  -5.991  1.00 39.66           C
ATOM    411  C   GLY D 375      31.859 -27.338  -5.205  1.00 42.80           C
ATOM    412  O   GLY D 375      30.754 -27.469  -5.738  1.00 40.54           O
ATOM    413  N   ARG D 376      32.095 -27.649  -3.935  1.00 43.08           N
ATOM    414  CA  ARG D 376      31.050 -28.018  -2.992  1.00 44.29           C
ATOM    415  CB  ARG D 376      31.598 -29.073  -2.006  1.00 50.84           C
ATOM    416  CG  ARG D 376      31.730 -30.485  -2.569  1.00 59.41           C
ATOM    417  CD  ARG D 376      30.389 -31.236  -2.555  1.00 69.31           C
ATOM    418  NE  ARG D 376      30.362 -32.513  -3.304  1.00 78.56           N
ATOM    419  CZ  ARG D 376      31.369 -33.390  -3.405  1.00 79.37           C
ATOM    420  NH1 ARG D 376      32.529 -33.167  -2.796  1.00 73.26           N
ATOM    421  NH2 ARG D 376      31.210 -34.506  -4.118  1.00 78.15           N
ATOM    422  C   ARG D 376      30.643 -26.750  -2.228  1.00 39.46           C
ATOM    423  O   ARG D 376      31.475 -25.872  -2.012  1.00 43.83           O
ATOM    424  N   PRO D 377      29.376 -26.644  -1.799  1.00 39.18           N
ATOM    425  CA  PRO D 377      28.999 -25.446  -1.012  1.00 36.85           C
ATOM    426  CB  PRO D 377      27.574 -25.777  -0.539  1.00 36.38           C
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ATOM    427  CG  PRO D 377      27.068 -26.825  -1.491  1.00 37.82           C
ATOM    428  CD  PRO D 377      28.291 -27.650  -1.809  1.00 39.22           C
ATOM    429  C   PRO D 377      29.921 -25.243   0.199  1.00 34.83           C
ATOM    430  O   PRO D 377      30.331 -26.213   0.803  1.00 38.01           O
ATOM    431  N   SER D 378      30.261 -24.000   0.533  1.00 33.49           N
ATOM    432  CA  SER D 378      31.112 -23.726   1.695  1.00 32.07           C
ATOM    433  CB  SER D 378      32.481 -23.222   1.209  1.00 33.70           C
ATOM    434  OG  SER D 378      33.272 -22.803   2.310  1.00 38.53           O
ATOM    435  C   SER D 378      30.451 -22.699   2.608  1.00 33.15           C
ATOM    436  O   SER D 378      29.805 -21.758   2.124  1.00 34.08           O
ATOM    437  N   THR D 379      30.551 -22.891   3.921  1.00 32.45           N
ATOM    438  CA  THR D 379      30.063 -21.883   4.859  1.00 35.64           C
ATOM    439  CB  THR D 379      29.446 -22.493   6.132  1.00 38.35           C
ATOM    440  OG1 THR D 379      30.425 -23.336   6.748  1.00 39.57           O
ATOM    441  CG2 THR D 379      28.163 -23.311   5.812  1.00 35.73           C
ATOM    442  C   THR D 379      31.160 -20.921   5.321  1.00 36.20           C
ATOM    443  O   THR D 379      30.853 -19.907   5.942  1.00 35.85           O
ATOM    444  N   VAL D 380      32.429 -21.217   5.038  1.00 36.69           N
ATOM    445  CA  VAL D 380      33.520 -20.286   5.452  1.00 35.32           C
ATOM    446  CB  VAL D 380      34.907 -20.834   5.066  1.00 35.62           C
ATOM    447  CG1 VAL D 380      36.019 -19.926   5.595  1.00 35.88           C
ATOM    448  CG2 VAL D 380      35.062 -22.214   5.659  1.00 33.88           C
ATOM    449  C   VAL D 380      33.303 -18.841   4.952  1.00 32.73           C
ATOM    450  O   VAL D 380      33.172 -18.594   3.763  1.00 35.46           O
ATOM    451  N   HIS D 381      33.190 -17.902   5.891  1.00 31.84           N
ATOM    452  CA  HIS D 381      32.978 -16.487   5.582  1.00 32.06           C
ATOM    453  CB  HIS D 381      34.218 -15.871   4.903  1.00 32.91           C
ATOM    454  CG  HIS D 381      35.481 -15.854   5.770  1.00 32.96           C
ATOM    455  ND1 HIS D 381      35.479 -15.452   7.066  1.00 35.59           N
ATOM    456  CE1 HIS D 381      36.756 -15.510   7.565  1.00 35.85           C
ATOM    457  NE2 HIS D 381      37.590 -15.919   6.558  1.00 31.51           N
ATOM    458  CD2 HIS D 381      36.841 -16.141   5.445  1.00 37.26           C
ATOM    459  C   HIS D 381      31.749 -16.233   4.746  1.00 34.61           C
ATOM    460  O   HIS D 381      31.709 -15.280   3.954  1.00 31.70           O
ATOM    461  N   SER D 382      30.711 -17.064   4.899  1.00 34.29           N
ATOM    462  CA  SER D 382      29.481 -16.835   4.144  1.00 32.01           C
ATOM    463  CB  SER D 382      28.421 -17.878   4.476  1.00 31.79           C
ATOM    464  OG  SER D 382      27.241 -17.553   3.755  1.00 33.80           O
ATOM    465  C   SER D 382      28.928 -15.426   4.408  1.00 33.44           C
ATOM    466  O   SER D 382      28.932 -14.971   5.544  1.00 32.57           O
ATOM    467  N   TRP D 383      28.456 -14.728   3.374  1.00 34.23           N
ATOM    468  CA  TRP D 383      27.835 -13.422   3.631  1.00 35.12           C
ATOM    469  CB  TRP D 383      27.711 -12.616   2.362  1.00 31.98           C
ATOM    470  CG  TRP D 383      29.009 -12.338   1.666  1.00 34.15           C
ATOM    471  CD1 TRP D 383      30.259 -12.059   2.236  1.00 33.46           C
ATOM    472  NE1 TRP D 383      31.206 -11.853   1.247  1.00 31.44           N
ATOM    473  CE2 TRP D 383      30.632 -11.955   0.022  1.00 33.83           C
ATOM    474  CD2 TRP D 383      29.211 -12.261   0.230  1.00 31.29           C
ATOM    475  CE3 TRP D 383      28.392 -12.427  -0.864  1.00 34.28           C
ATOM    476  CZ3 TRP D 383      28.957 -12.287  -2.140  1.00 35.89           C
ATOM    477  CH2 TRP D 383      30.307 -12.007  -2.316  1.00 33.47           C
ATOM    478  CZ2 TRP D 383      31.177 -11.839  -1.242  1.00 33.32           C
ATOM    479  C   TRP D 383      26.469 -13.526   4.267  1.00 38.94           C
ATOM    480  O   TRP D 383      25.943 -12.538   4.781  1.00 34.44           O
ATOM    481  N   PHE D 384      25.850 -14.698   4.195  1.00 38.99           N
ATOM    482  CA  PHE D 384      24.489 -14.849   4.722  1.00 38.88           C
ATOM    483  CB  PHE D 384      23.496 -15.090   3.576  1.00 37.96           C
ATOM    484  CG  PHE D 384      23.478 -13.994   2.546  1.00 42.43           C
ATOM    485  CD1 PHE D 384      22.687 -12.858   2.728  1.00 44.37           C
ATOM    486  CE1 PHE D 384      22.669 -11.844   1.775  1.00 43.34           C
ATOM    487  CZ  PHE D 384      23.451 -11.957   0.634  1.00 45.17           C
ATOM    488  CE2 PHE D 384      24.242 -13.083   0.447  1.00 41.11           C
ATOM    489  CD2 PHE D 384      24.240 -14.095   1.387  1.00 39.47           C
ATOM    490  C   PHE D 384      24.502 -16.032   5.666  1.00 39.96           C
ATOM    491  O   PHE D 384      24.377 -17.166   5.213  1.00 40.65           O
ATOM    492  N   PRO D 385      24.709 -15.782   6.974  1.00 43.72           N
ATOM    493  CA  PRO D 385      24.856 -16.883   7.926  1.00 45.44           C
ATOM    494  CB  PRO D 385      24.890 -16.169   9.282  1.00 48.76           C
ATOM    495  CG  PRO D 385      25.502 -14.838   8.960  1.00 48.53           C
ATOM    496  CD  PRO D 385      24.856 -14.473   7.642  1.00 46.37           C
ATOM    497  C   PRO D 385      23.684 -17.865   7.838  1.00 45.59           C
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ATOM    498  O   PRO D 385      22.535 -17.450   7.676  1.00 41.55           O
ATOM    499  N   GLY D 386      24.011 -19.157   7.882  1.00 43.27           N
ATOM    500  CA  GLY D 386      23.053 -20.233   7.683  1.00 40.86           C
ATOM    501  C   GLY D 386      22.961 -20.714   6.250  1.00 39.65           C
ATOM    502  O   GLY D 386      22.235 -21.676   5.961  1.00 35.59           O
ATOM    503  N   TYR D 387      23.625 -19.995   5.343  1.00 36.22           N
ATOM    504  CA  TYR D 387      23.713 -20.396   3.930  1.00 35.77           C
ATOM    505  CB  TYR D 387      23.211 -19.270   2.994  1.00 34.92           C
ATOM    506  CG  TYR D 387      21.746 -19.073   3.038  1.00 37.77           C
ATOM    507  CD1 TYR D 387      20.911 -19.807   2.202  1.00 37.84           C
ATOM    508  CE1 TYR D 387      19.555 -19.655   2.245  1.00 41.24           C
ATOM    509  CZ  TYR D 387      18.994 -18.762   3.152  1.00 43.55           C
ATOM    510  OH  TYR D 387      17.615 -18.617   3.183  1.00 42.93           O
ATOM    511  CE2 TYR D 387      19.799 -18.011   3.997  1.00 40.40           C
ATOM    512  CD2 TYR D 387      21.176 -18.173   3.934  1.00 38.33           C
ATOM    513  C   TYR D 387      25.141 -20.713   3.570  1.00 34.68           C
ATOM    514  O   TYR D 387      26.075 -20.042   4.051  1.00 37.38           O
ATOM    515  N   ALA D 388      25.313 -21.691   2.685  1.00 33.11           N
ATOM    516  CA  ALA D 388      26.621 -21.984   2.084  1.00 36.22           C
ATOM    517  CB  ALA D 388      26.884 -23.495   2.092  1.00 36.42           C
ATOM    518  C   ALA D 388      26.654 -21.438   0.660  1.00 32.65           C
ATOM    519  O   ALA D 388      25.597 -21.287   0.036  1.00 35.53           O
ATOM    520  N   TRP D 389      27.848 -21.151   0.146  1.00 32.91           N
ATOM    521  CA  TRP D 389      28.015 -20.560  -1.191  1.00 32.32           C
ATOM    522  CB  TRP D 389      28.688 -19.181  -1.085  1.00 30.82           C
ATOM    523  CG  TRP D 389      29.981 -19.160  -0.290  1.00 30.29           C
ATOM    524  CD1 TRP D 389      30.148 -18.845   1.055  1.00 30.87           C
ATOM    525  NE1 TRP D 389      31.470 -18.925   1.411  1.00 29.58           N
ATOM    526  CE2 TRP D 389      32.226 -19.269   0.352  1.00 31.08           C
ATOM    527  CD2 TRP D 389      31.329 -19.419  -0.789  1.00 28.42           C
ATOM    528  CE3 TRP D 389      31.858 -19.785  -2.027  1.00 30.50           C
ATOM    529  CZ3 TRP D 389      33.247 -19.972  -2.135  1.00 32.88           C
ATOM    530  CH2 TRP D 389      34.100 -19.794  -1.023  1.00 31.66           C
ATOM    531  CZ2 TRP D 389      33.610 -19.458   0.242  1.00 31.85           C
ATOM    532  C   TRP D 389      28.796 -21.427  -2.135  1.00 33.16           C
ATOM    533  O   TRP D 389      29.711 -22.144  -1.735  1.00 32.77           O
ATOM    534  N   THR D 390      28.463 -21.355  -3.413  1.00 34.00           N
ATOM    535  CA  THR D 390      29.249 -22.053  -4.436  1.00 34.64           C
ATOM    536  CB  THR D 390      28.508 -23.307  -4.949  1.00 33.33           C
ATOM    537  OG1 THR D 390      28.116 -24.103  -3.832  1.00 33.41           O
ATOM    538  CG2 THR D 390      29.412 -24.133  -5.861  1.00 32.88           C
ATOM    539  C   THR D 390      29.493 -21.120  -5.602  1.00 33.95           C
ATOM    540  O   THR D 390      28.561 -20.464  -6.062  1.00 32.10           O
ATOM    541  N   ILE D 391      30.737 -21.043  -6.071  1.00 33.47           N
ATOM    542  CA  ILE D 391      31.087 -20.121  -7.135  1.00 33.01           C
ATOM    543  CB  ILE D 391      32.606 -20.144  -7.432  1.00 34.39           C
ATOM    544  CG1 ILE D 391      33.361 -19.302  -6.389  1.00 36.06           C
ATOM    545  CD1 ILE D 391      34.776 -19.786  -6.120  1.00 34.24           C
ATOM    546  CG2 ILE D 391      32.902 -19.578  -8.825  1.00 33.97           C
ATOM    547  C   ILE D 391      30.278 -20.501  -8.380  1.00 37.87           C
ATOM    548  O   ILE D 391      30.084 -21.699  -8.654  1.00 35.49           O
ATOM    549  N   ALA D 392      29.803 -19.498  -9.126  1.00 32.41           N
ATOM    550  CA  ALA D 392      29.001 -19.767 -10.334  1.00 34.27           C
ATOM    551  CB  ALA D 392      27.520 -19.451 -10.098  1.00 31.15           C
ATOM    552  C   ALA D 392      29.545 -18.999 -11.537  1.00 34.93           C
ATOM    553  O   ALA D 392      29.826 -17.796 -11.447  1.00 35.86           O
ATOM    554  N   GLN D 393      29.750 -19.717 -12.645  1.00 35.74           N
ATOM    555  CA  GLN D 393      30.371 -19.151 -13.841  1.00 34.38           C
ATOM    556  CB  GLN D 393      31.771 -19.753 -14.018  1.00 35.51           C
ATOM    557  CG  GLN D 393      32.717 -19.230 -12.959  1.00 37.26           C
ATOM    558  CD  GLN D 393      34.109 -19.856 -12.981  1.00 41.66           C
ATOM    559  OE1 GLN D 393      34.992 -19.391 -12.256  1.00 42.29           O
ATOM    560  NE2 GLN D 393      34.312 -20.903 -13.789  1.00 35.80           N
ATOM    561  C   GLN D 393      29.522 -19.408 -15.077  1.00 35.24           C
ATOM    562  O   GLN D 393      28.816 -20.416 -15.131  1.00 35.93           O
ATOM    563  N   CYS D 394      29.602 -18.496 -16.062  1.00 34.04           N
ATOM    564  CA  CYS D 394      28.857 -18.599 -17.314  1.00 31.09           C
ATOM    565  CB  CYS D 394      29.263 -17.465 -18.264  1.00 32.23           C
ATOM    566  SG  CYS D 394      28.391 -17.420 -19.869  1.00 39.18           S
ATOM    567  C   CYS D 394      29.189 -19.922 -17.959  1.00 33.67           C
ATOM    568  O   CYS D 394      30.372 -20.245 -18.113  1.00 29.95           O
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ATOM    569  N   LYS D 395      28.163 -20.691 -18.338  1.00 34.37           N
ATOM    570  CA  LYS D 395      28.411 -22.011 -18.933  1.00 41.50           C
ATOM    571  CB  LYS D 395      27.182 -22.952 -18.839  1.00 45.54           C
ATOM    572  CG  LYS D 395      26.122 -22.791 -19.905  1.00 47.12           C
ATOM    573  CD  LYS D 395      24.937 -23.739 -19.661  1.00 49.98           C
ATOM    574  CE  LYS D 395      23.863 -23.555 -20.749  1.00 53.69           C
ATOM    575  NZ  LYS D 395      22.586 -24.319 -20.540  1.00 50.24           N
ATOM    576  C   LYS D 395      28.966 -21.894 -20.349  1.00 42.42           C
ATOM    577  O   LYS D 395      29.616 -22.814 -20.837  1.00 44.12           O
ATOM    578  N   ILE D 396      28.764 -20.735 -20.974  1.00 42.06           N
ATOM    579  CA  ILE D 396      29.261 -20.491 -22.331  1.00 42.15           C
ATOM    580  CB  ILE D 396      28.384 -19.482 -23.109  1.00 43.00           C
ATOM    581  CG1 ILE D 396      26.926 -19.984 -23.235  1.00 41.49           C
ATOM    582  CD1 ILE D 396      26.759 -21.455 -23.591  1.00 43.33           C
ATOM    583  CG2 ILE D 396      28.999 -19.182 -24.467  1.00 43.69           C
ATOM    584  C   ILE D 396      30.731 -20.059 -22.374  1.00 42.04           C
ATOM    585  O   ILE D 396      31.530 -20.640 -23.119  1.00 38.64           O
ATOM    586  N   CYS D 397      31.084 -19.040 -21.589  1.00 39.02           N
ATOM    587  CA  CYS D 397      32.433 -18.471 -21.642  1.00 37.29           C
ATOM    588  CB  CYS D 397      32.367 -16.984 -22.041  1.00 38.27           C
ATOM    589  SG  CYS D 397      31.705 -15.879 -20.761  1.00 37.94           S
ATOM    590  C   CYS D 397      33.272 -18.628 -20.361  1.00 38.44           C
ATOM    591  O   CYS D 397      34.394 -18.116 -20.304  1.00 37.89           O
ATOM    592  N   ALA D 398      32.740 -19.323 -19.346  1.00 32.84           N
ATOM    593  CA  ALA D 398      33.430 -19.503 -18.036  1.00 33.52           C
ATOM    594  CB  ALA D 398      34.680 -20.374 -18.178  1.00 30.64           C
ATOM    595  C   ALA D 398      33.778 -18.191 -17.294  1.00 33.76           C
ATOM    596  O   ALA D 398      34.530 -18.198 -16.327  1.00 36.76           O
ATOM    597  N   SER D 399      33.233 -17.062 -17.706  1.00 34.22           N
ATOM    598  CA  SER D 399      33.563 -15.878 -16.961  1.00 38.18           C
ATOM    599  CB  SER D 399      33.417 -14.599 -17.809  1.00 42.95           C
ATOM    600  OG  SER D 399      32.099 -14.121 -17.775  1.00 50.88           O
ATOM    601  C   SER D 399      32.796 -15.858 -15.609  1.00 39.23           C
ATOM    602  O   SER D 399      31.726 -16.507 -15.449  1.00 38.31           O
ATOM    603  N   HIS D 400      33.393 -15.191 -14.620  1.00 36.83           N
ATOM    604  CA  HIS D 400      32.762 -15.067 -13.323  1.00 35.18           C
ATOM    605  CB  HIS D 400      33.591 -14.214 -12.413  1.00 34.42           C
ATOM    606  CG  HIS D 400      32.891 -13.910 -11.129  1.00 33.73           C
ATOM    607  ND1 HIS D 400      32.704 -14.838 -10.188  1.00 34.26           N
ATOM    608  CE1 HIS D 400      32.003 -14.312  -9.167  1.00 31.11           C
ATOM    609  NE2 HIS D 400      31.767 -13.035  -9.447  1.00 33.25           N
ATOM    610  CD2 HIS D 400      32.276 -12.755 -10.673  1.00 34.61           C
ATOM    611  C   HIS D 400      31.392 -14.462 -13.420  1.00 34.30           C
ATOM    612  O   HIS D 400      31.220 -13.426 -14.040  1.00 31.33           O
ATOM    613  N   ILE D 401      30.403 -15.095 -12.796  1.00 31.58           N
ATOM    614  CA  ILE D 401      29.085 -14.479 -12.702  1.00 31.70           C
ATOM    615  CB  ILE D 401      28.001 -15.369 -13.367  1.00 34.13           C
ATOM    616  CG1 ILE D 401      28.245 -15.536 -14.887  1.00 31.21           C
ATOM    617  CD1 ILE D 401      28.050 -14.243 -15.677  1.00 34.84           C
ATOM    618  CG2 ILE D 401      26.602 -14.823 -13.073  1.00 34.61           C
ATOM    619  C   ILE D 401      28.679 -14.165 -11.235  1.00 31.39           C
ATOM    620  O   ILE D 401      28.111 -13.103 -10.950  1.00 31.52           O
ATOM    621  N   GLY D 402      28.954 -15.080 -10.313  1.00 29.37           N
ATOM    622  CA  GLY D 402      28.449 -14.910  -8.945  1.00 31.30           C
ATOM    623  C   GLY D 402      28.556 -16.148  -8.114  1.00 32.12           C
ATOM    624  O   GLY D 402      29.518 -16.885  -8.261  1.00 34.75           O
ATOM    625  N   TRP D 403      27.600 -16.340  -7.198  1.00 31.94           N
ATOM    626  CA  TRP D 403      27.563 -17.476  -6.280  1.00 31.38           C
ATOM    627  CB  TRP D 403      28.156 -17.120  -4.896  1.00 30.77           C
ATOM    628  CG  TRP D 403      29.554 -16.505  -4.998  1.00 29.59           C
ATOM    629  CD1 TRP D 403      30.758 -17.140  -4.867  1.00 29.27           C
ATOM    630  NE1 TRP D 403      31.818 -16.247  -5.068  1.00 26.94           N
ATOM    631  CE2 TRP D 403      31.336 -15.008  -5.356  1.00 30.23           C
ATOM    632  CD2 TRP D 403      29.883 -15.097  -5.318  1.00 28.99           C
ATOM    633  CE3 TRP D 403      29.132 -13.950  -5.564  1.00 30.63           C
ATOM    634  CZ3 TRP D 403      29.812 -12.731  -5.856  1.00 30.71           C
ATOM    635  CH2 TRP D 403      31.209 -12.666  -5.882  1.00 28.58           C
ATOM    636  CZ2 TRP D 403      32.002 -13.800  -5.636  1.00 32.44           C
ATOM    637  C   TRP D 403      26.143 -17.955  -6.098  1.00 36.21           C
ATOM    638  O   TRP D 403      25.220 -17.147  -6.071  1.00 39.69           O
ATOM    639  N   LYS D 404      25.965 -19.269  -5.948  1.00 32.03           N
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ATOM    640  CA  LYS D 404      24.699 -19.832  -5.492  1.00 32.64           C
ATOM    641  CB  LYS D 404      24.404 -21.136  -6.212  1.00 34.16           C
ATOM    642  CG  LYS D 404      23.037 -21.734  -5.920  1.00 34.90           C
ATOM    643  CD  LYS D 404      22.876 -23.068  -6.624  1.00 33.57           C
ATOM    644  CE  LYS D 404      21.507 -23.678  -6.343  1.00 38.06           C
ATOM    645  NZ  LYS D 404      21.367 -24.924  -7.135  1.00 36.03           N
ATOM    646  C   LYS D 404      24.812 -20.100  -4.014  1.00 32.19           C
ATOM    647  O   LYS D 404      25.830 -20.654  -3.543  1.00 31.34           O
ATOM    648  N   PHE D 405      23.760 -19.693  -3.304  1.00 29.65           N
ATOM    649  CA  PHE D 405      23.622 -19.876  -1.879  1.00 30.63           C
ATOM    650  CB  PHE D 405      23.218 -18.562  -1.232  1.00 31.42           C
ATOM    651  CG  PHE D 405      24.288 -17.527  -1.286  1.00 31.75           C
ATOM    652  CD1 PHE D 405      25.274 -17.487  -0.307  1.00 35.92           C
ATOM    653  CE1 PHE D 405      26.311 -16.539  -0.370  1.00 32.85           C
ATOM    654  CZ  PHE D 405      26.370 -15.663  -1.445  1.00 33.62           C
ATOM    655  CE2 PHE D 405      25.400 -15.706  -2.437  1.00 32.72           C
ATOM    656  CD2 PHE D 405      24.365 -16.641  -2.358  1.00 32.11           C
ATOM    657  C   PHE D 405      22.566 -20.932  -1.590  1.00 33.31           C
ATOM    658  O   PHE D 405      21.451 -20.855  -2.111  1.00 36.54           O
ATOM    659  N   THR D 406      22.926 -21.902  -0.760  1.00 33.36           N
ATOM    660  CA  THR D 406      22.062 -23.021  -0.436  1.00 38.06           C
ATOM    661  CB  THR D 406      22.601 -24.342  -1.053  1.00 38.53           C
ATOM    662  OG1 THR D 406      23.974 -24.507  -0.704  1.00 35.56           O
ATOM    663  CG2 THR D 406      22.501 -24.312  -2.588  1.00 37.55           C
ATOM    664  C   THR D 406      21.935 -23.134   1.091  1.00 40.79           C
ATOM    665  O   THR D 406      22.954 -23.092   1.812  1.00 37.09           O
ATOM    666  N   ALA D 407      20.691 -23.263   1.585  1.00 40.64           N
ATOM    667  CA  ALA D 407      20.417 -23.362   3.038  1.00 41.09           C
ATOM    668  CB  ALA D 407      18.912 -23.505   3.283  1.00 45.14           C
ATOM    669  C   ALA D 407      21.180 -24.530   3.653  1.00 37.86           C
ATOM    670  O   ALA D 407      21.373 -25.540   2.995  1.00 43.09           O
ATOM    671  N   THR D 408      21.657 -24.385   4.888  1.00 40.60           N
ATOM    672  CA  THR D 408      22.302 -25.517   5.596  1.00 42.26           C
ATOM    673  CB  THR D 408      23.536 -25.097   6.437  1.00 44.72           C
ATOM    674  OG1 THR D 408      23.170 -24.066   7.366  1.00 46.70           O
ATOM    675  CG2 THR D 408      24.660 -24.580   5.539  1.00 40.92           C
ATOM    676  C   THR D 408      21.309 -26.316   6.462  1.00 46.74           C
ATOM    677  O   THR D 408      21.604 -27.452   6.836  1.00 49.03           O
ATOM    678  N   LYS D 409      20.136 -25.726   6.746  1.00 47.36           N
ATOM    679  CA  LYS D 409      19.074 -26.346   7.577  1.00 48.62           C
ATOM    680  CB  LYS D 409      18.809 -25.522   8.824  1.00 45.69           C
ATOM    681  CG  LYS D 409      19.944 -25.541   9.835  1.00 51.26           C
ATOM    682  CD  LYS D 409      19.983 -24.258  10.648  1.00 53.24           C
ATOM    683  CE  LYS D 409      18.628 -23.967  11.290  1.00 61.47           C
ATOM    684  NZ  LYS D 409      18.340 -22.508  11.425  1.00 63.72           N
ATOM    685  C   LYS D 409      17.764 -26.517   6.795  1.00 51.47           C
ATOM    686  O   LYS D 409      17.393 -25.659   5.970  1.00 49.06           O
ATOM    687  N   LYS D 410      17.060 -27.615   7.065  1.00 53.93           N
ATOM    688  CA  LYS D 410      15.940 -28.027   6.209  1.00 58.44           C
ATOM    689  CB  LYS D 410      15.453 -29.488   6.497  1.00 64.54           C
ATOM    690  CG  LYS D 410      15.784 -30.075   7.887  1.00 65.93           C
ATOM    691  CD  LYS D 410      16.639 -31.354   7.834  1.00 65.85           C
ATOM    692  CE  LYS D 410      18.146 -31.054   8.138  1.00 65.05           C
ATOM    693  NZ  LYS D 410      18.359 -30.001   9.191  1.00 60.95           N
ATOM    694  C   LYS D 410      14.785 -27.011   6.212  1.00 56.91           C
ATOM    695  O   LYS D 410      13.947 -27.013   5.313  1.00 57.57           O
ATOM    696  N   ASP D 411      14.783 -26.111   7.186  1.00 59.08           N
ATOM    697  CA  ASP D 411      13.618 -25.258   7.430  1.00 65.72           C
ATOM    698  CB  ASP D 411      13.082 -25.535   8.833  1.00 73.37           C
ATOM    699  CG  ASP D 411      14.147 -25.367   9.897  1.00 81.80           C
ATOM    700  OD1 ASP D 411      15.291 -25.851   9.685  1.00 88.21           O
ATOM    701  OD2 ASP D 411      13.846 -24.740  10.937  1.00 80.86           O
ATOM    702  C   ASP D 411      13.850 -23.743   7.248  1.00 64.74           C
ATOM    703  O   ASP D 411      13.125 -22.921   7.827  1.00 63.98           O
ATOM    704  N   MET D 412      14.845 -23.374   6.449  1.00 55.03           N
ATOM    705  CA  MET D 412      15.019 -21.981   6.059  1.00 52.58           C
ATOM    706  CB  MET D 412      16.496 -21.687   5.786  1.00 47.34           C
ATOM    707  CG  MET D 412      17.346 -21.684   7.039  1.00 53.29           C
ATOM    708  SD  MET D 412      19.096 -21.889   6.646  1.00 53.58           S
ATOM    709  CE  MET D 412      19.824 -22.015   8.279  1.00 54.84           C
ATOM    710  C   MET D 412      14.212 -21.743   4.807  1.00 46.92           C
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ATOM    711  O   MET D 412      14.058 -22.640   3.996  1.00 48.77           O
ATOM    712  N   SER D 413      13.685 -20.544   4.644  1.00 48.92           N
ATOM    713  CA  SER D 413      13.066 -20.189   3.369  1.00 53.36           C
ATOM    714  CB  SER D 413      11.565 -19.872   3.502  1.00 52.93           C
ATOM    715  OG  SER D 413      11.341 -18.485   3.667  1.00 60.47           O
ATOM    716  C   SER D 413      13.900 -19.048   2.788  1.00 56.70           C
ATOM    717  O   SER D 413      14.492 -18.287   3.556  1.00 60.21           O
ATOM    718  N   PRO D 414      13.797 -18.821   1.459  1.00 56.00           N
ATOM    719  CA  PRO D 414      14.803 -19.185   0.495  1.00 49.97           C
ATOM    720  CB  PRO D 414      15.658 -17.905   0.397  1.00 52.55           C
ATOM    721  CG  PRO D 414      14.699 -16.793   0.729  1.00 52.15           C
ATOM    722  CD  PRO D 414      13.390 -17.432   1.186  1.00 58.26           C
ATOM    723  C   PRO D 414      15.585 -20.440   0.924  1.00 47.31           C
ATOM    724  O   PRO D 414      16.342 -20.389   1.886  1.00 53.96           O
ATOM    725  N   GLN D 415      15.336 -21.575   0.267  1.00 44.49           N
ATOM    726  CA  GLN D 415      16.218 -22.720   0.396  1.00 44.36           C
ATOM    727  CB  GLN D 415      15.508 -24.040   0.075  1.00 46.40           C
ATOM    728  CG  GLN D 415      14.827 -24.681   1.295  1.00 50.25           C
ATOM    729  CD  GLN D 415      15.794 -25.347   2.298  1.00 49.90           C
ATOM    730  OE1 GLN D 415      15.825 -24.993   3.493  1.00 45.63           O
ATOM    731  NE2 GLN D 415      16.560 -26.341   1.822  1.00 47.81           N
ATOM    732  C   GLN D 415      17.435 -22.527  -0.501  1.00 43.40           C
ATOM    733  O   GLN D 415      18.494 -23.077  -0.246  1.00 43.07           O
ATOM    734  N   LYS D 416      17.268 -21.758  -1.566  1.00 45.58           N
ATOM    735  CA  LYS D 416      18.397 -21.281  -2.356  1.00 45.59           C
ATOM    736  CB  LYS D 416      18.837 -22.293  -3.436  1.00 49.29           C
ATOM    737  CG  LYS D 416      17.801 -22.692  -4.471  1.00 52.09           C
ATOM    738  CD  LYS D 416      17.878 -24.199  -4.679  1.00 61.35           C
ATOM    739  CE  LYS D 416      17.847 -24.606  -6.150  1.00 68.77           C
ATOM    740  NZ  LYS D 416      16.579 -24.219  -6.834  1.00 73.29           N
ATOM    741  C   LYS D 416      18.074 -19.938  -2.963  1.00 44.98           C
ATOM    742  O   LYS D 416      16.912 -19.546  -3.040  1.00 40.71           O
ATOM    743  N   PHE D 417      19.127 -19.233  -3.352  1.00 40.53           N
ATOM    744  CA  PHE D 417      19.041 -17.970  -4.067  1.00 38.14           C
ATOM    745  CB  PHE D 417      18.583 -16.823  -3.146  1.00 36.09           C
ATOM    746  CG  PHE D 417      19.581 -16.433  -2.078  1.00 34.05           C
ATOM    747  CD1 PHE D 417      20.497 -15.407  -2.296  1.00 32.39           C
ATOM    748  CE1 PHE D 417      21.386 -15.040  -1.312  1.00 29.72           C
ATOM    749  CZ  PHE D 417      21.354 -15.673  -0.085  1.00 30.91           C
ATOM    750  CE2 PHE D 417      20.441 -16.688   0.154  1.00 32.01           C
ATOM    751  CD2 PHE D 417      19.552 -17.045  -0.831  1.00 32.25           C
ATOM    752  C   PHE D 417      20.426 -17.676  -4.634  1.00 36.13           C
ATOM    753  O   PHE D 417      21.382 -18.394  -4.322  1.00 38.34           O
ATOM    754  N   TRP D 418      20.547 -16.623  -5.449  1.00 34.85           N
ATOM    755  CA  TRP D 418      21.834 -16.301  -6.086  1.00 34.57           C
ATOM    756  CB  TRP D 418      21.774 -16.533  -7.590  1.00 35.19           C
ATOM    757  CG  TRP D 418      21.245 -17.888  -8.005  1.00 42.13           C
ATOM    758  CD1 TRP D 418      19.926 -18.363  -7.906  1.00 44.36           C
ATOM    759  NE1 TRP D 418      19.826 -19.627  -8.414  1.00 48.62           N
ATOM    760  CE2 TRP D 418      21.034 -20.045  -8.876  1.00 46.98           C
ATOM    761  CD2 TRP D 418      21.990 -18.960  -8.643  1.00 44.41           C
ATOM    762  CE3 TRP D 418      23.307 -19.126  -9.036  1.00 47.59           C
ATOM    763  CZ3 TRP D 418      23.679 -20.342  -9.637  1.00 50.85           C
ATOM    764  CH2 TRP D 418      22.753 -21.369  -9.850  1.00 48.68           C
ATOM    765  CZ2 TRP D 418      21.410 -21.240  -9.465  1.00 49.90           C
ATOM    766  C   TRP D 418      22.271 -14.900  -5.817  1.00 35.46           C
ATOM    767  O   TRP D 418      21.443 -13.975  -5.710  1.00 30.00           O
ATOM    768  N   GLY D 419      23.582 -14.734  -5.683  1.00 33.82           N
ATOM    769  CA  GLY D 419      24.192 -13.419  -5.663  1.00 33.01           C
ATOM    770  C   GLY D 419      24.971 -13.284  -6.963  1.00 36.02           C
ATOM    771  O   GLY D 419      25.888 -14.092  -7.241  1.00 35.80           O
ATOM    772  N   LEU D 420      24.592 -12.290  -7.765  1.00 36.03           N
ATOM    773  CA  LEU D 420      25.197 -12.041  -9.054  1.00 34.91           C
ATOM    774  CB  LEU D 420      24.132 -11.980 -10.127  1.00 35.27           C
ATOM    775  CG  LEU D 420      23.136 -13.140 -10.175  1.00 38.07           C
ATOM    776  CD1 LEU D 420      22.183 -12.964 -11.347  1.00 38.18           C
ATOM    777  CD2 LEU D 420      23.871 -14.465 -10.279  1.00 39.20           C
ATOM    778  C   LEU D 420      25.973 -10.741  -9.037  1.00 34.88           C
ATOM    779  O   LEU D 420      25.449  -9.728  -8.633  1.00 33.14           O
ATOM    780  N   THR D 421      27.223 -10.789  -9.500  1.00 33.61           N
ATOM    781  CA  THR D 421      28.070  -9.614  -9.646  1.00 33.48           C
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ATOM    782  CB  THR D 421      29.501 -10.031 -10.021  1.00 35.48           C
ATOM    783  OG1 THR D 421      30.020 -10.861  -8.988  1.00 35.63           O
ATOM    784  CG2 THR D 421      30.429  -8.792 -10.220  1.00 31.94           C
ATOM    785  C   THR D 421      27.541  -8.673 -10.745  1.00 34.91           C
ATOM    786  O   THR D 421      27.532  -9.028 -11.912  1.00 32.45           O
ATOM    787  N   ARG D 422      27.150  -7.462 -10.356  1.00 32.57           N
ATOM    788  CA  ARG D 422      26.544  -6.500 -11.265  1.00 35.67           C
ATOM    789  CB  ARG D 422      26.186  -5.188 -10.545  1.00 32.53           C
ATOM    790  CG  ARG D 422      24.976  -5.395  -9.664  1.00 34.37           C
ATOM    791  CD  ARG D 422      24.599  -4.133  -8.920  1.00 39.73           C
ATOM    792  NE  ARG D 422      23.741  -3.255  -9.707  1.00 41.31           N
ATOM    793  CZ  ARG D 422      23.105  -2.214  -9.186  1.00 45.47           C
ATOM    794  NH1 ARG D 422      22.344  -1.437  -9.941  1.00 52.28           N
ATOM    795  NH2 ARG D 422      23.231  -1.955  -7.894  1.00 44.48           N
ATOM    796  C   ARG D 422      27.377  -6.217 -12.480  1.00 37.00           C
ATOM    797  O   ARG D 422      26.841  -6.177 -13.599  1.00 35.54           O
ATOM    798  N   SER D 423      28.673  -6.010 -12.276  1.00 35.16           N
ATOM    799  CA  SER D 423      29.548  -5.649 -13.384  1.00 37.50           C
ATOM    800  CB  SER D 423      30.908  -5.159 -12.869  1.00 37.61           C
ATOM    801  OG  SER D 423      31.581  -6.218 -12.213  1.00 40.96           O
ATOM    802  C   SER D 423      29.743  -6.811 -14.366  1.00 36.57           C
ATOM    803  O   SER D 423      30.273  -6.603 -15.457  1.00 37.90           O
ATOM    804  N   ALA D 424      29.285  -8.010 -13.992  1.00 35.52           N
ATOM    805  CA  ALA D 424      29.423  -9.214 -14.839  1.00 39.23           C
ATOM    806  CB  ALA D 424      29.606 -10.459 -13.971  1.00 34.36           C
ATOM    807  C   ALA D 424      28.236  -9.415 -15.785  1.00 40.37           C
ATOM    808  O   ALA D 424      28.254 -10.297 -16.646  1.00 40.75           O
ATOM    809  N   LEU D 425      27.203  -8.605 -15.608  1.00 40.47           N
ATOM    810  CA  LEU D 425      25.929  -8.783 -16.310  1.00 42.94           C
ATOM    811  CB  LEU D 425      24.818  -8.943 -15.278  1.00 40.50           C
ATOM    812  CG  LEU D 425      24.869 -10.120 -14.338  1.00 37.11           C
ATOM    813  CD1 LEU D 425      23.696 -10.009 -13.385  1.00 41.00           C
ATOM    814  CD2 LEU D 425      24.796 -11.419 -15.117  1.00 40.09           C
ATOM    815  C   LEU D 425      25.603  -7.574 -17.187  1.00 45.36           C
ATOM    816  O   LEU D 425      25.896  -6.444 -16.799  1.00 48.02           O
ATOM    817  N   LEU D 426      24.983  -7.797 -18.353  1.00 48.44           N
ATOM    818  CA  LEU D 426      24.461  -6.669 -19.159  1.00 49.08           C
ATOM    819  CB  LEU D 426      24.909  -6.721 -20.623  1.00 47.43           C
ATOM    820  CG  LEU D 426      26.233  -5.972 -20.861  1.00 47.17           C
ATOM    821  CD1 LEU D 426      26.625  -5.950 -22.337  1.00 43.13           C
ATOM    822  CD2 LEU D 426      26.189  -4.555 -20.304  1.00 45.78           C
ATOM    823  C   LEU D 426      22.956  -6.470 -18.997  1.00 55.73           C
ATOM    824  O   LEU D 426      22.272  -7.377 -18.544  1.00 60.24           O
ATOM    825  N   PRO D 427      22.420  -5.365 -19.550  1.00 59.65           N
ATOM    826  CA  PRO D 427      21.879  -4.240 -18.826  1.00 54.11           C
ATOM    827  CB  PRO D 427      20.416  -4.640 -18.617  1.00 58.08           C
ATOM    828  CG  PRO D 427      20.119  -5.550 -19.797  1.00 59.27           C
ATOM    829  CD  PRO D 427      21.423  -5.779 -20.550  1.00 61.29           C
ATOM    830  C   PRO D 427      22.635  -3.929 -17.524  1.00 54.24           C
ATOM    831  O   PRO D 427      22.547  -4.670 -16.543  1.00 49.51           O
ATOM    832  N   THR D 428      23.438  -2.866 -17.559  1.00 56.51           N
ATOM    833  CA  THR D 428      23.823  -2.148 -16.345  1.00 59.23           C
ATOM    834  CB  THR D 428      24.746  -0.977 -16.688  1.00 60.62           C
ATOM    835  OG1 THR D 428      26.050  -1.479 -16.979  1.00 57.71           O
ATOM    836  CG2 THR D 428      24.809   0.056 -15.529  1.00 56.02           C
ATOM    837  C   THR D 428      22.569  -1.555 -15.695  1.00 61.51           C
ATOM    838  O   THR D 428      21.866  -0.773 -16.330  1.00 64.20           O
ATOM    839  N   ILE D 429      22.293  -1.925 -14.446  1.00 60.26           N
ATOM    840  CA  ILE D 429      21.167  -1.351 -13.698  1.00 60.74           C
ATOM    841  CB  ILE D 429      20.656  -2.333 -12.611  1.00 58.14           C
ATOM    842  CG1 ILE D 429      19.943  -3.507 -13.301  1.00 56.28           C
ATOM    843  CD1 ILE D 429      19.804  -4.765 -12.474  1.00 49.01           C
ATOM    844  CG2 ILE D 429      19.715  -1.634 -11.630  1.00 57.91           C
ATOM    845  C   ILE D 429      21.527   0.051 -13.147  1.00 66.55           C
ATOM    846  O   ILE D 429      22.592   0.224 -12.553  1.00 64.35           O
ATOM    847  N   PRO D 430      20.655   1.067 -13.385  1.00 69.25           N
ATOM    848  CA  PRO D 430      20.988   2.438 -12.986  1.00 71.23           C
ATOM    849  CB  PRO D 430      20.248   3.294 -14.025  1.00 69.05           C
ATOM    850  CG  PRO D 430      19.161   2.414 -14.583  1.00 69.00           C
ATOM    851  CD  PRO D 430      19.339   1.012 -14.051  1.00 68.13           C
ATOM    852  C   PRO D 430      20.489   2.769 -11.586  1.00 74.22           C
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ATOM    853  O   PRO D 430      21.271   2.765 -10.639  1.00 79.89           O
ATOM    854 ZN    ZN A   1      29.497 -15.700 -20.832  1.00 47.26          ZN
ATOM    855 ZN    ZN A   2      24.275   0.066  -0.106  0.50 42.90          ZN
ATOM    856 ZN    ZN A   3      36.150 -15.869  -6.982  1.00 41.44          ZN
ATOM    857  C20 MOL E   1      35.312 -25.069  -2.357  1.00 69.98           C
ATOM    858  C21 MOL E   1      34.783 -26.389  -1.776  1.00 73.54           C
ATOM    859  O5  MOL E   1      34.913 -27.449  -2.740  1.00 67.11           O
ATOM    860  C22 MOL E   1      36.311 -27.662  -2.954  1.00 72.97           C
ATOM    861  C23 MOL E   1      36.924 -26.420  -3.618  1.00 70.46           C
ATOM    862  N3  MOL E   1      36.713 -25.195  -2.812  1.00 67.80           N
ATOM    863  C19 MOL E   1      36.946 -24.107  -3.762  1.00 57.15           C
ATOM    864  C18 MOL E   1      37.379 -22.768  -3.139  1.00 50.27           C
ATOM    865  C24 MOL E   1      38.406 -22.665  -2.199  1.00 43.80           C
ATOM    866  C25 MOL E   1      38.773 -21.408  -1.702  1.00 43.53           C
ATOM    867  C17 MOL E   1      36.744 -21.619  -3.592  1.00 46.35           C
ATOM    868  C16 MOL E   1      37.108 -20.374  -3.101  1.00 45.03           C
ATOM    869  C15 MOL E   1      38.126 -20.260  -2.163  1.00 39.75           C
ATOM    870  C14 MOL E   1      38.438 -18.981  -1.709  1.00 38.24           C
ATOM    871  O4  MOL E   1      37.335 -18.072  -1.694  1.00 40.16           O
ATOM    872  C3  MOL E   1      37.533 -16.727  -1.732  1.00 38.85           C
ATOM    873  C2  MOL E   1      38.780 -16.122  -1.874  1.00 39.41           C
ATOM    874  C1  MOL E   1      38.862 -14.727  -1.898  1.00 34.38           C
ATOM    875  C7  MOL E   1      37.709 -13.937  -1.777  1.00 39.90           C
ATOM    876  C6  MOL E   1      36.460 -14.550  -1.652  1.00 39.47           C
ATOM    877  C8  MOL E   1      35.150 -14.077  -1.475  1.00 41.09           C
ATOM    878  O1  MOL E   1      34.839 -12.888  -1.348  1.00 39.84           O
ATOM    879  C4  MOL E   1      36.407 -15.934  -1.618  1.00 38.12           C
ATOM    880  C5  MOL E   1      34.969 -16.373  -1.448  1.00 38.27           C
ATOM    881  N1  MOL E   1      34.288 -15.085  -1.307  1.00 40.64           N
ATOM    882  C9  MOL E   1      32.864 -14.914  -0.964  1.00 38.72           C
ATOM    883  C13 MOL E   1      31.932 -15.946  -1.616  1.00 36.16           C
ATOM    884  C12 MOL E   1      30.485 -15.586  -1.237  1.00 36.41           C
ATOM    885  C11 MOL E   1      30.336 -15.577   0.299  1.00 39.73           C
ATOM    886  O2  MOL E   1      29.256 -15.858   0.824  1.00 42.02           O
ATOM    887  N2  MOL E   1      31.447 -15.316   1.116  1.00 35.12           N
ATOM    888  C10 MOL E   1      32.695 -14.981   0.560  1.00 40.61           C
ATOM    889  O3  MOL E   1      33.643 -14.726   1.309  1.00 35.82           O
ATOM    890  O   HOH C   1      32.948 -22.507 -16.031  1.00 66.61           O
ATOM    891  O   HOH C   2      30.369 -11.514 -17.508  1.00 36.77           O
ATOM    892  O   HOH C   3      24.026  -5.425 -14.082  1.00 47.87           O
ATOM    893  O   HOH C   4      31.867  -3.597  -1.435  1.00 41.94           O
ATOM    894  O   HOH C   5      32.172 -23.320  -2.350  1.00 40.01           O
ATOM    895  O   HOH C   6      29.775  -5.487  -9.681  1.00 44.79           O
ATOM    896  O   HOH C   7      32.901 -22.606  -4.847  1.00 34.25           O
ATOM    897  O   HOH C   8      34.512 -16.875 -10.391  1.00 38.11           O
ATOM    898  O   HOH C   9      35.680 -11.173 -11.710  1.00 44.70           O
ATOM    899  O   HOH C  10      37.220 -13.035 -12.607  1.00 58.31           O
ATOM    900  O   HOH C  11      33.259 -14.936   8.906  1.00 68.37           O
ATOM    901  O   HOH C  12      33.552 -18.239   8.752  1.00 52.97           O
ATOM    902  O   HOH C  13      33.576 -12.668   3.223  1.00 43.35           O
END
```

TABLE 8. Atomic coordinates for unbound CRBN—CRBN (TBD) (Apo) (Murine protein)

```
HEADER    ----                                      XX-XXX-9-   xxxx
COMPND    ---
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM     : REFMAC 5.6.0117
REMARK   3   AUTHORS     : MURSHUDOV,VAGIN,DODSON
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   2.30
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  50.00
REMARK   3   DATA CUTOFF            (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  99.87
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REMARK   3   NUMBER OF REFLECTIONS             :   12075
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD          : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION  : RANDOM
REMARK   3   R VALUE     (WORKING + TEST SET) : 0.22851
REMARK   3   R VALUE            (WORKING SET) :  0.22458
REMARK   3   FREE R VALUE                     :  0.30679
REMARK   3   FREE R VALUE TEST SET SIZE   (%) :  4.9
REMARK   3   FREE R VALUE TEST SET COUNT      :   620
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED           :      20
REMARK   3   BIN RESOLUTION RANGE HIGH           :    2.300
REMARK   3   BIN RESOLUTION RANGE LOW            :    2.360
REMARK   3   REFLECTION IN BIN     (WORKING SET) :      803
REMARK   3   BIN COMPLETENESS (WORKING+TEST) (%) :    99.88
REMARK   3   BIN R VALUE           (WORKING SET) :    0.259
REMARK   3   BIN FREE R VALUE SET COUNT          :       38
REMARK   3   BIN FREE R VALUE                    :    0.368
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   ALL ATOMS                :     1610
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT           (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  52.954
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) : NULL
REMARK   3    B22 (A**2) : NULL
REMARK   3    B33 (A**2) : NULL
REMARK   3    B12 (A**2) : NULL
REMARK   3    B13 (A**2) : NULL
REMARK   3    B23 (A**2) : NULL
REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                            (A):   0.281
REMARK   3   ESU BASED ON FREE R VALUE                       (A):   0.262
REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                 (A):   0.203
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):   8.210
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.943
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.913
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES        COUNT    RMS    WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS        (A):  1642 ; 0.015 ; 0.020
REMARK   3   BOND ANGLES REFINED ATOMS   (DEGREES):  2234 ; 1.899 ; 1.954
REMARK   3   TORSION ANGLES, PERIOD 1    (DEGREES):   198 ; 8.790 ; 5.000
REMARK   3   TORSION ANGLES, PERIOD 2    (DEGREES):    56 ;43.316 ;23.750
REMARK   3   TORSION ANGLES, PERIOD 3    (DEGREES):   273 ;18.925 ;15.000
REMARK   3   TORSION ANGLES, PERIOD 4    (DEGREES):     4 ;17.860 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS       (A**3):   256 ; 0.122 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS      (A):  1170 ; 0.014 ; 0.021
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.     COUNT   RMS    WEIGHT
REMARK   3
REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NCS TYPE: LOCAL
REMARK   3   NUMBER OF DIFFERENT NCS PAIRS  :   1
REMARK   3  GROUP  CHAIN1    RANGE     CHAIN2     RANGE    COUNT RMS  WEIGHT
REMARK   3    1     D   322    427       A   322    427     118  0.19  0.05
REMARK   3
REMARK   3  TWIN DETAILS
REMARK   3   NUMBER OF TWIN DOMAINS  : NULL
REMARK   3
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  : NULL
REMARK   3
REMARK   3
```

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REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED :  MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.20
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS:
REMARK   3  HYDROGENS HAVE BEEN USED IF PRESENT IN THE INPUT
REMARK   3  U VALUES      : REFINED INDIVIDUALLY
REMARK   3
CISPEP   1 SER D  413    PRO D  414                    0.00
CISPEP   2 SER A  413    PRO A  414                    0.00
SSBOND   1 CYS A  329    CYS A  326
LINKR           PRO D 355                    GLU D 361                gap
LINKR           ALA A 351                    TYR A 358                gap
LINKR           SER D 344                    GLU D 361                gap
LINKR           SER A 344                    GLU A 361                gap
CRYST1  119.260  119.260  119.260  90.00  90.00  90.00 I 21 3
SCALE1      0.008385  0.000000  0.000000        0.00000
SCALE2      0.000000  0.008385  0.000000        0.00000
SCALE3      0.000000  0.000000  0.008385        0.00000
ATOM      1  N   THR D 322       3.272  14.657  13.569  1.00 64.62           N
ATOM      2  CA  THR D 322       3.270  14.354  12.096  1.00 56.77           C
ATOM      3  CB  THR D 322       4.075  13.067  11.736  1.00 59.13           C
ATOM      4  OG1 THR D 322       3.399  11.904  12.224  1.00 62.54           O
ATOM      5  CG2 THR D 322       5.549  13.085  12.213  1.00 69.21           C
ATOM      6  C   THR D 322       1.878  14.263  11.376  1.00 53.27           C
ATOM      7  O   THR D 322       1.814  14.024  10.159  1.00 46.87           O
ATOM      8  N   SER D 323       0.777  14.411  12.102  1.00 49.61           N
ATOM      9  CA  SER D 323      -0.552  14.200  11.499  1.00 48.06           C
ATOM     10  CB  SER D 323      -1.613  14.020  12.582  1.00 47.31           C
ATOM     11  OG  SER D 323      -1.239  12.953  13.380  1.00 50.21           O
ATOM     12  C   SER D 323      -1.008  15.334  10.653  1.00 48.09           C
ATOM     13  O   SER D 323      -0.835  16.497  11.019  1.00 54.45           O
ATOM     14  N   LEU D 324      -1.641  14.999   9.537  1.00 46.35           N
ATOM     15  CA  LEU D 324      -2.317  16.012   8.747  1.00 46.17           C
ATOM     16  CB  LEU D 324      -1.777  16.028   7.326  1.00 44.87           C
ATOM     17  CG  LEU D 324      -0.272  16.315   7.262  1.00 52.31           C
ATOM     18  CD1 LEU D 324       0.296  15.937   5.905  1.00 46.65           C
ATOM     19  CD2 LEU D 324       0.068  17.770   7.615  1.00 50.32           C
ATOM     20  C   LEU D 324      -3.825  15.725   8.795  1.00 49.15           C
ATOM     21  O   LEU D 324      -4.305  14.664   8.342  1.00 47.14           O
ATOM     22  N   CYS D 325      -4.548  16.675   9.383  1.00 43.84           N
ATOM     23  CA  CYS D 325      -5.932  16.496   9.817  1.00 44.84           C
ATOM     24  CB  CYS D 325      -6.077  16.857  11.309  1.00 42.45           C
ATOM     25  SG  CYS D 325      -5.337  15.652  12.480  1.00 58.67           S
ATOM     26  C   CYS D 325      -6.837  17.393   8.971  1.00 45.43           C
ATOM     27  O   CYS D 325      -6.404  18.460   8.525  1.00 40.81           O
ATOM     28  N   CYS D 326      -8.073  16.955   8.745  1.00 45.40           N
ATOM     29  CA  CYS D 326      -9.097  17.797   8.109  1.00 47.57           C
ATOM     30  CB  CYS D 326     -10.438  17.038   8.128  1.00 42.62           C
ATOM     31  SG  CYS D 326     -11.946  17.943   7.666  1.00 46.51           S
ATOM     32  C   CYS D 326      -9.225  19.113   8.897  1.00 50.01           C
ATOM     33  O   CYS D 326      -9.475  19.062  10.111  1.00 49.04           O
ATOM     34  N   LYS D 327      -9.020  20.252   8.213  1.00 47.57           N
ATOM     35  CA  LYS D 327      -9.212  21.628   8.751  1.00 55.56           C
ATOM     36  CB  LYS D 327      -8.862  22.705   7.689  1.00 55.05           C
ATOM     37  CG  LYS D 327      -8.733  24.143   8.220  1.00 64.17           C
ATOM     38  CD  LYS D 327      -8.407  25.203   7.146  1.00 67.49           C
ATOM     39  CE  LYS D 327      -9.487  25.335   6.061  1.00 76.07           C
ATOM     40  NZ  LYS D 327      -9.698  26.728   5.544  1.00 78.00           N
ATOM     41  C   LYS D 327     -10.614  21.901   9.328  1.00 52.50           C
ATOM     42  O   LYS D 327     -10.728  22.565  10.359  1.00 55.95           O
ATOM     43  N   GLN D 328     -11.659  21.387   8.678  1.00 50.49           N
ATOM     44  CA  GLN D 328     -13.044  21.577   9.143  1.00 51.61           C
ATOM     45  CB  GLN D 328     -14.044  21.073   8.103  1.00 56.84           C
ATOM     46  CG  GLN D 328     -15.532  21.278   8.463  1.00 54.76           C
ATOM     47  CD  GLN D 328     -15.879  22.743   8.801  1.00 61.69           C
ATOM     48  OE1 GLN D 328     -15.462  23.677   8.112  1.00 57.77           O
ATOM     49  NE2 GLN D 328     -16.643  22.937   9.885  1.00 54.96           N
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ATOM     50  C   GLN D 328     -13.364  20.966  10.523  1.00 52.52           C
ATOM     51  O   GLN D 328     -13.807  21.664  11.429  1.00 51.02           O
ATOM     52  N   CYS D 329     -13.140  19.666  10.693  1.00 51.16           N
ATOM     53  CA  CYS D 329     -13.587  18.987  11.901  1.00 44.18           C
ATOM     54  CB  CYS D 329     -14.281  17.682  11.497  1.00 47.66           C
ATOM     55  SG  CYS D 329     -13.146  16.391  10.863  1.00 48.39           S
ATOM     56  C   CYS D 329     -12.432  18.710  12.878  1.00 45.42           C
ATOM     57  O   CYS D 329     -12.658  18.281  14.001  1.00 58.56           O
ATOM     58  N   GLN D 330     -11.204  18.864  12.399  1.00 47.51           N
ATOM     59  CA  GLN D 330      -9.956  18.803  13.195  1.00 55.76           C
ATOM     60  CB  GLN D 330      -9.780  20.049  14.095  1.00 62.32           C
ATOM     61  CG  GLN D 330      -9.205  21.205  13.280  1.00 67.86           C
ATOM     62  CD  GLN D 330      -9.431  22.609  13.850  1.00 74.43           C
ATOM     63  OE1 GLN D 330      -9.254  22.847  15.058  1.00 74.35           O
ATOM     64  NE2 GLN D 330      -9.783  23.568  12.954  1.00 59.71           N
ATOM     65  C   GLN D 330      -9.548  17.498  13.872  1.00 52.39           C
ATOM     66  O   GLN D 330      -8.399  17.127  13.784  1.00 58.40           O
ATOM     67  N   GLU D 331     -10.470  16.814  14.535  1.00 55.50           N
ATOM     68  CA  GLU D 331     -10.276  15.436  15.021  1.00 62.68           C
ATOM     69  CB  GLU D 331     -11.655  14.822  15.216  1.00 67.97           C
ATOM     70  CG  GLU D 331     -12.291  15.037  16.545  1.00 81.75           C
ATOM     71  CD  GLU D 331     -13.408  14.064  16.755  1.00 75.98           C
ATOM     72  OE1 GLU D 331     -14.019  14.134  17.841  1.00 80.04           O
ATOM     73  OE2 GLU D 331     -13.648  13.228  15.849  1.00 68.70           O
ATOM     74  C   GLU D 331      -9.661  14.451  14.020  1.00 55.88           C
ATOM     75  O   GLU D 331      -8.964  13.516  14.370  1.00 48.88           O
ATOM     76  N   THR D 332     -10.060  14.585  12.777  1.00 49.03           N
ATOM     77  CA  THR D 332      -9.875  13.475  11.862  1.00 48.41           C
ATOM     78  CB  THR D 332     -11.034  13.358  10.870  1.00 42.25           C
ATOM     79  OG1 THR D 332     -12.289  13.595  11.562  1.00 41.02           O
ATOM     80  CG2 THR D 332     -11.031  11.971  10.349  1.00 42.26           C
ATOM     81  C   THR D 332      -8.559  13.549  11.109  1.00 44.70           C
ATOM     82  O   THR D 332      -8.333  14.480  10.320  1.00 47.53           O
ATOM     83  N   GLU D 333      -7.714  12.539  11.331  1.00 47.04           N
ATOM     84  CA  GLU D 333      -6.434  12.454  10.605  1.00 49.38           C
ATOM     85  CB  GLU D 333      -5.421  11.595  11.367  1.00 41.74           C
ATOM     86  CG  GLU D 333      -4.051  11.576  10.707  1.00 41.19           C
ATOM     87  CD  GLU D 333      -3.153  10.525  11.310  1.00 41.58           C
ATOM     88  OE1 GLU D 333      -2.560  10.821  12.360  1.00 39.87           O
ATOM     89  OE2 GLU D 333      -3.052   9.398  10.746  1.00 40.49           O
ATOM     90  C   GLU D 333      -6.659  11.933   9.203  1.00 40.60           C
ATOM     91  O   GLU D 333      -7.309  10.913   9.003  1.00 44.41           O
ATOM     92  N   ILE D 334      -6.145  12.648   8.221  1.00 39.13           N
ATOM     93  CA  ILE D 334      -6.305  12.230   6.832  1.00 40.13           C
ATOM     94  CB  ILE D 334      -6.720  13.432   5.933  1.00 45.63           C
ATOM     95  CG1 ILE D 334      -8.014  14.067   6.481  1.00 44.93           C
ATOM     96  CD1 ILE D 334      -9.218  13.139   6.374  1.00 40.94           C
ATOM     97  CG2 ILE D 334      -6.996  12.987   4.493  1.00 42.26           C
ATOM     98  C   ILE D 334      -5.044  11.496   6.295  1.00 40.76           C
ATOM     99  O   ILE D 334      -5.145  10.589   5.489  1.00 41.96           O
ATOM    100  N   THR D 335      -3.865  11.918   6.731  1.00 41.54           N
ATOM    101  CA  THR D 335      -2.600  11.324   6.320  1.00 39.19           C
ATOM    102  CB  THR D 335      -2.206  11.633   4.850  1.00 41.57           C
ATOM    103  OG1 THR D 335      -1.105  10.796   4.440  1.00 37.99           O
ATOM    104  CG2 THR D 335      -1.809  13.099   4.663  1.00 45.26           C
ATOM    105  C   THR D 335      -1.534  11.778   7.312  1.00 43.17           C
ATOM    106  O   THR D 335      -1.810  12.524   8.299  1.00 44.12           O
ATOM    107  N   THR D 336      -0.314  11.316   7.105  1.00 42.30           N
ATOM    108  CA  THR D 336       0.775  11.774   7.968  1.00 35.78           C
ATOM    109  CB  THR D 336       1.281  10.659   8.921  1.00 36.27           C
ATOM    110  OG1 THR D 336       2.135   9.755   8.234  1.00 37.81           O
ATOM    111  CG2 THR D 336       0.169   9.921   9.657  1.00 35.90           C
ATOM    112  C   THR D 336       1.882  12.247   7.092  1.00 36.85           C
ATOM    113  O   THR D 336       1.907  11.962   5.864  1.00 41.31           O
ATOM    114  N   LYS D 337       2.840  12.931   7.686  1.00 40.98           N
ATOM    115  CA  LYS D 337       3.978  13.453   6.909  1.00 39.49           C
ATOM    116  CB  LYS D 337       4.846  14.377   7.789  1.00 44.44           C
ATOM    117  CG  LYS D 337       4.342  15.837   7.937  1.00 54.47           C
ATOM    118  CD  LYS D 337       5.148  16.721   8.956  1.00 54.95           C
ATOM    119  CE  LYS D 337       4.562  16.604  10.380  1.00 62.13           C
ATOM    120  NZ  LYS D 337       5.006  17.542  11.471  1.00 54.68           N
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ATOM    121  C   LYS D 337       4.831  12.309   6.376  1.00 38.83           C
ATOM    122  O   LYS D 337       5.518  12.471   5.382  1.00 36.42           O
ATOM    123  N   ASN D 338       4.802  11.155   7.033  1.00 39.65           N
ATOM    124  CA  ASN D 338       5.576   9.971   6.599  1.00 37.97           C
ATOM    125  CB  ASN D 338       5.376   8.861   7.605  1.00 42.07           C
ATOM    126  CG  ASN D 338       6.010   9.186   8.956  1.00 48.60           C
ATOM    127  OD1 ASN D 338       5.328   9.296   9.958  1.00 51.36           O
ATOM    128  ND2 ASN D 338       7.311   9.327   8.976  1.00 41.86           N
ATOM    129  C   ASN D 338       5.165   9.433   5.214  1.00 40.36           C
ATOM    130  O   ASN D 338       5.935   8.741   4.543  1.00 36.07           O
ATOM    131  N   GLU D 339       3.939   9.737   4.802  1.00 35.85           N
ATOM    132  CA  GLU D 339       3.418   9.219   3.527  1.00 35.86           C
ATOM    133  CB  GLU D 339       1.939   8.920   3.628  1.00 33.23           C
ATOM    134  CG  GLU D 339       1.613   8.095   4.871  1.00 38.12           C
ATOM    135  CD  GLU D 339       2.348   6.765   4.843  1.00 41.29           C
ATOM    136  OE1 GLU D 339       2.328   6.076   3.766  1.00 36.54           O
ATOM    137  OE2 GLU D 339       2.993   6.435   5.864  1.00 42.89           O
ATOM    138  C   GLU D 339       3.681  10.101   2.308  1.00 35.63           C
ATOM    139  O   GLU D 339       3.378   9.686   1.212  1.00 39.41           O
ATOM    140  N   ILE D 340       4.229  11.299   2.519  1.00 38.49           N
ATOM    141  CA  ILE D 340       4.489  12.247   1.448  1.00 37.67           C
ATOM    142  CB  ILE D 340       4.963  13.601   2.002  1.00 39.26           C
ATOM    143  CG1 ILE D 340       3.784  14.299   2.689  1.00 40.96           C
ATOM    144  CD1 ILE D 340       4.163  15.546   3.489  1.00 42.37           C
ATOM    145  CG2 ILE D 340       5.452  14.503   0.849  1.00 42.48           C
ATOM    146  C   ILE D 340       5.549  11.738   0.505  1.00 39.51           C
ATOM    147  O   ILE D 340       6.581  11.198   0.924  1.00 35.48           O
ATOM    148  N   PHE D 341       5.290  11.921  -0.787  1.00 41.90           N
ATOM    149  CA  PHE D 341       6.286  11.635  -1.785  1.00 40.38           C
ATOM    150  CB  PHE D 341       6.175  10.184  -2.294  1.00 38.00           C
ATOM    151  CG  PHE D 341       5.026   9.945  -3.207  1.00 36.08           C
ATOM    152  CD1 PHE D 341       5.235   9.719  -4.552  1.00 32.92           C
ATOM    153  CE1 PHE D 341       4.165   9.524  -5.391  1.00 32.01           C
ATOM    154  CZ  PHE D 341       2.871   9.484  -4.878  1.00 37.44           C
ATOM    155  CE2 PHE D 341       2.648   9.672  -3.541  1.00 33.23           C
ATOM    156  CD2 PHE D 341       3.719   9.919  -2.704  1.00 36.33           C
ATOM    157  C   PHE D 341       6.230  12.645  -2.911  1.00 44.71           C
ATOM    158  O   PHE D 341       5.365  13.506  -2.927  1.00 42.80           O
ATOM    159  N   SER D 342       7.139  12.497  -3.877  1.00 46.63           N
ATOM    160  CA  SER D 342       7.237  13.424  -4.989  1.00 44.33           C
ATOM    161  CB  SER D 342       8.622  14.091  -4.979  1.00 48.28           C
ATOM    162  OG  SER D 342       8.759  14.915  -6.117  1.00 52.70           O
ATOM    163  C   SER D 342       7.011  12.708  -6.301  1.00 43.33           C
ATOM    164  O   SER D 342       7.859  11.973  -6.759  1.00 42.07           O
ATOM    165  N   LEU D 343       5.842  12.908  -6.885  1.00 47.09           N
ATOM    166  CA  LEU D 343       5.453  12.273  -8.133  1.00 46.30           C
ATOM    167  CB  LEU D 343       3.934  12.213  -8.227  1.00 43.43           C
ATOM    168  CG  LEU D 343       3.118  11.373  -9.221  1.00 48.56           C
ATOM    169  CD1 LEU D 343       2.726  12.187 -10.436  1.00 60.72           C
ATOM    170  CD2 LEU D 343       3.761  10.053  -9.627  1.00 46.02           C
ATOM    171  C   LEU D 343       5.996  13.147  -9.265  1.00 48.21           C
ATOM    172  O   LEU D 343       5.705  14.346  -9.347  1.00 40.71           O
ATOM    173  N   SER D 344       6.791  12.548 -10.138  1.00 40.44           N
ATOM    174  CA  SER D 344       7.365  13.341 -11.194  1.00 50.50           C
ATOM    175  CB  SER D 344       8.653  12.670 -11.683  1.00 53.39           C
ATOM    176  OG  SER D 344       8.725  12.771 -13.086  1.00 58.30           O
ATOM    177  C   SER D 344       6.319  13.528 -12.307  1.00 51.02           C
ATOM    178  O   SER D 344       5.720  12.547 -12.750  1.00 45.55           O
ATOM    179  N   LEU D 345       6.084  14.791 -12.708  1.00 54.39           N
ATOM    180  CA  LEU D 345       5.132  15.159 -13.762  1.00 57.02           C
ATOM    181  CB  LEU D 345       4.702  16.607 -13.568  1.00 56.01           C
ATOM    182  CG  LEU D 345       3.586  16.832 -12.526  1.00 68.64           C
ATOM    183  CD1 LEU D 345       2.686  15.601 -12.349  1.00 50.71           C
ATOM    184  CD2 LEU D 345       4.129  17.319 -11.179  1.00 63.77           C
ATOM    185  C   LEU D 345       5.633  14.956 -15.199  1.00 59.80           C
ATOM    186  O   LEU D 345       4.883  14.603 -16.119  1.00 59.84           O
ATOM    187  N   CYS D 346       6.908  15.196 -15.418  1.00 60.63           N
ATOM    188  CA  CYS D 346       7.452  15.068 -16.769  1.00 58.10           C
ATOM    189  CB  CYS D 346       8.806  15.738 -16.763  1.00 59.30           C
ATOM    190  SG  CYS D 346       9.932  14.849 -15.676  1.00 62.23           S
ATOM    191  C   CYS D 346       7.536  13.570 -17.152  1.00 56.66           C
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ATOM    192  O   CYS D 346       7.422  12.698 -16.273  1.00 52.17           O
ATOM    193  N   GLY D 347       7.715  13.259 -18.439  1.00 59.35           N
ATOM    194  CA  GLY D 347       7.877  11.847 -18.869  1.00 58.45           C
ATOM    195  C   GLY D 347       9.314  11.454 -19.283  1.00 59.10           C
ATOM    196  O   GLY D 347      10.289  11.997 -18.749  1.00 52.27           O
ATOM    197  N   PRO D 348       9.468  10.510 -20.243  1.00 58.55           N
ATOM    198  CA  PRO D 348      10.842  10.133 -20.666  1.00 52.91           C
ATOM    199  CB  PRO D 348      10.610   9.237 -21.887  1.00 57.72           C
ATOM    200  CG  PRO D 348       9.221   8.681 -21.690  1.00 59.26           C
ATOM    201  CD  PRO D 348       8.434   9.771 -21.004  1.00 57.37           C
ATOM    202  C   PRO D 348      11.683  11.367 -21.030  1.00 47.28           C
ATOM    203  O   PRO D 348      11.170  12.312 -21.652  1.00 53.63           O
ATOM    204  N   MET D 349      12.933  11.348 -20.560  1.00 45.09           N
ATOM    205  CA  MET D 349      13.940  12.391 -20.717  1.00 51.67           C
ATOM    206  CB  MET D 349      14.184  12.691 -22.195  1.00 56.76           C
ATOM    207  CG  MET D 349      15.321  11.882 -22.768  1.00 67.16           C
ATOM    208  SD  MET D 349      14.804  10.194 -23.122  1.00 82.62           S
ATOM    209  CE  MET D 349      16.093   9.809 -24.307  1.00 76.12           C
ATOM    210  C   MET D 349      13.655  13.680 -19.954  1.00 56.01           C
ATOM    211  O   MET D 349      14.421  14.659 -20.060  1.00 51.99           O
ATOM    212  N   ALA D 350      12.570  13.672 -19.179  1.00 45.92           N
ATOM    213  CA  ALA D 350      12.125  14.837 -18.435  1.00 48.64           C
ATOM    214  CB  ALA D 350      13.080  15.192 -17.305  1.00 43.75           C
ATOM    215  C   ALA D 350      11.941  15.984 -19.396  1.00 54.11           C
ATOM    216  O   ALA D 350      12.371  17.111 -19.133  1.00 55.10           O
ATOM    217  N   ALA D 351      11.304  15.678 -20.527  1.00 55.10           N
ATOM    218  CA  ALA D 351      10.814  16.715 -21.412  1.00 54.65           C
ATOM    219  CB  ALA D 351      10.135  16.080 -22.623  1.00 58.21           C
ATOM    220  C   ALA D 351       9.851  17.672 -20.710  1.00 60.94           C
ATOM    221  O   ALA D 351       9.202  17.335 -19.704  1.00 63.45           O
ATOM    222  N   TYR D 352       9.783  18.874 -21.269  1.00 59.73           N
ATOM    223  CA  TYR D 352       8.778  19.850 -20.962  1.00 61.26           C
ATOM    224  CB  TYR D 352       8.935  21.000 -21.934  1.00 53.79           C
ATOM    225  CG  TYR D 352       7.957  22.130 -21.737  1.00 64.11           C
ATOM    226  CD1 TYR D 352       8.116  23.025 -20.679  1.00 61.81           C
ATOM    227  CE1 TYR D 352       7.244  24.070 -20.485  1.00 56.93           C
ATOM    228  CZ  TYR D 352       6.170  24.245 -21.347  1.00 62.45           C
ATOM    229  OH  TYR D 352       5.306  25.291 -21.109  1.00 54.95           O
ATOM    230  CE2 TYR D 352       5.976  23.377 -22.410  1.00 66.12           C
ATOM    231  CD2 TYR D 352       6.875  22.320 -22.608  1.00 64.41           C
ATOM    232  C   TYR D 352       7.345  19.298 -21.107  1.00 67.24           C
ATOM    233  O   TYR D 352       7.085  18.389 -21.930  1.00 56.50           O
ATOM    234  N   VAL D 353       6.441  19.864 -20.295  1.00 58.64           N
ATOM    235  CA  VAL D 353       4.986  19.817 -20.536  1.00 72.92           C
ATOM    236  CB  VAL D 353       4.369  18.431 -20.280  1.00 72.72           C
ATOM    237  CG1 VAL D 353       4.159  17.726 -21.611  1.00 67.44           C
ATOM    238  CG2 VAL D 353       5.218  17.604 -19.314  1.00 69.43           C
ATOM    239  C   VAL D 353       4.221  20.909 -19.787  1.00 74.75           C
ATOM    240  O   VAL D 353       4.808  21.584 -18.927  1.00 75.27           O
ATOM    241  N   ASN D 354       2.943  21.112 -20.146  1.00 91.62           N
ATOM    242  CA  ASN D 354       2.011  21.982 -19.378  1.00 95.01           C
ATOM    243  CB  ASN D 354       2.582  23.392 -19.156  1.00 93.07           C
ATOM    244  CG  ASN D 354       2.112  24.036 -17.849  1.00 87.99           C
ATOM    245  OD1 ASN D 354       2.590  25.109 -17.480  1.00 83.95           O
ATOM    246  ND2 ASN D 354       1.190  23.385 -17.141  1.00 91.44           N
ATOM    247  C   ASN D 354       0.650  22.141 -20.029  1.00108.66           C
ATOM    248  O   ASN D 354       0.515  22.994 -20.917  1.00 95.74           O
ATOM    256  N   GLU D 361       0.649  23.536  -4.858  1.00 73.70           N
ATOM    257  CA  GLU D 361      -0.666  23.174  -5.386  1.00 78.86           C
ATOM    258  CB  GLU D 361      -0.494  22.797  -6.882  1.00 94.81           C
ATOM    259  CG  GLU D 361      -1.725  22.293  -7.657  1.00101.97           C
ATOM    260  CD  GLU D 361      -2.660  23.403  -8.126  1.00103.74           C
ATOM    261  OE1 GLU D 361      -3.437  23.920  -7.292  1.00110.47           O
ATOM    262  OE2 GLU D 361      -2.639  23.749  -9.328  1.00 94.85           O
ATOM    263  C   GLU D 361      -1.306  22.021  -4.557  1.00 81.00           C
ATOM    264  O   GLU D 361      -2.135  22.230  -3.647  1.00 76.96           O
ATOM    265  N   THR D 362      -0.883  20.802  -4.865  1.00 67.78           N
ATOM    266  CA  THR D 362      -1.449  19.598  -4.271  1.00 65.60           C
ATOM    267  CB  THR D 362      -2.137  18.781  -5.366  1.00 58.43           C
ATOM    268  OG1 THR D 362      -3.241  19.541  -5.857  1.00 61.92           O
ATOM    269  CG2 THR D 362      -2.654  17.508  -4.836  1.00 62.36           C
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ATOM    270  C   THR D 362      -0.363  18.772  -3.591  1.00 56.83           C
ATOM    271  O   THR D 362       0.740  18.661  -4.108  1.00 56.12           O
ATOM    272  N   LEU D 363      -0.669  18.256  -2.411  1.00 47.66           N
ATOM    273  CA  LEU D 363       0.222  17.332  -1.693  1.00 47.65           C
ATOM    274  CB  LEU D 363      -0.058  17.445  -0.214  1.00 40.60           C
ATOM    275  CG  LEU D 363       0.709  16.582   0.759  1.00 47.08           C
ATOM    276  CD1 LEU D 363       2.125  17.170   0.863  1.00 47.86           C
ATOM    277  CD2 LEU D 363       0.006  16.680   2.113  1.00 47.04           C
ATOM    278  C   LEU D 363      -0.097  15.883  -2.076  1.00 47.68           C
ATOM    279  O   LEU D 363      -1.232  15.464  -1.920  1.00 47.43           O
ATOM    280  N   THR D 364       0.905  15.125  -2.511  1.00 37.30           N
ATOM    281  CA  THR D 364       0.759  13.717  -2.939  1.00 38.68           C
ATOM    282  CB  THR D 364       1.527  13.428  -4.270  1.00 39.48           C
ATOM    283  OG1 THR D 364       2.922  13.730  -4.087  1.00 39.46           O
ATOM    284  CG2 THR D 364       0.991  14.328  -5.444  1.00 37.70           C
ATOM    285  C   THR D 364       1.275  12.763  -1.874  1.00 38.47           C
ATOM    286  O   THR D 364       2.427  12.858  -1.452  1.00 35.55           O
ATOM    287  N   VAL D 365       0.430  11.843  -1.418  1.00 39.09           N
ATOM    288  CA  VAL D 365       0.832  10.889  -0.363  1.00 38.75           C
ATOM    289  CB  VAL D 365       0.120  11.180   0.978  1.00 39.39           C
ATOM    290  CG1 VAL D 365       0.534  12.535   1.550  1.00 32.92           C
ATOM    291  CG2 VAL D 365      -1.392  11.170   0.774  1.00 36.96           C
ATOM    292  C   VAL D 365       0.501   9.452  -0.788  1.00 42.90           C
ATOM    293  O   VAL D 365      -0.470   9.218  -1.523  1.00 42.04           O
ATOM    294  N   TYR D 366       1.300   8.486  -0.327  1.00 39.07           N
ATOM    295  CA  TYR D 366       1.034   7.080  -0.654  1.00 36.94           C
ATOM    296  CB  TYR D 366       2.202   6.194  -0.251  1.00 35.53           C
ATOM    297  CG  TYR D 366       3.417   6.305  -1.144  1.00 38.31           C
ATOM    298  CD1 TYR D 366       3.355   5.936  -2.461  1.00 35.27           C
ATOM    299  CE1 TYR D 366       4.485   5.986  -3.266  1.00 41.62           C
ATOM    300  CZ  TYR D 366       5.708   6.440  -2.738  1.00 39.52           C
ATOM    301  OH  TYR D 366       6.828   6.512  -3.537  1.00 43.05           O
ATOM    302  CE2 TYR D 366       5.780   6.825  -1.433  1.00 38.78           C
ATOM    303  CD2 TYR D 366       4.633   6.749  -0.635  1.00 40.22           C
ATOM    304  C   TYR D 366      -0.236   6.485  -0.040  1.00 36.53           C
ATOM    305  O   TYR D 366      -0.811   5.546  -0.607  1.00 36.31           O
ATOM    306  N   LYS D 367      -0.661   7.019   1.101  1.00 37.66           N
ATOM    307  CA  LYS D 367      -1.670   6.372   1.966  1.00 35.38           C
ATOM    308  CB  LYS D 367      -0.965   5.543   3.026  1.00 38.11           C
ATOM    309  CG  LYS D 367      -0.436   4.217   2.493  1.00 41.05           C
ATOM    310  CD  LYS D 367      -1.614   3.256   2.343  1.00 36.63           C
ATOM    311  CE  LYS D 367      -1.182   1.988   1.668  1.00 40.20           C
ATOM    312  NZ  LYS D 367      -2.253   0.942   1.671  1.00 31.91           N
ATOM    313  C   LYS D 367      -2.459   7.463   2.678  1.00 38.13           C
ATOM    314  O   LYS D 367      -1.894   8.493   3.058  1.00 35.35           O
ATOM    315  N   ALA D 368      -3.762   7.239   2.852  1.00 37.55           N
ATOM    316  CA  ALA D 368      -4.611   8.184   3.545  1.00 36.54           C
ATOM    317  CB  ALA D 368      -5.122   9.273   2.599  1.00 33.79           C
ATOM    318  C   ALA D 368      -5.755   7.443   4.206  1.00 40.87           C
ATOM    319  O   ALA D 368      -6.066   6.270   3.855  1.00 43.72           O
ATOM    320  N   SER D 369      -6.341   8.093   5.206  1.00 37.45           N
ATOM    321  CA  SER D 369      -7.318   7.408   6.046  1.00 41.38           C
ATOM    322  CB  SER D 369      -6.699   7.157   7.407  1.00 39.35           C
ATOM    323  OG  SER D 369      -6.208   8.382   7.910  1.00 39.78           O
ATOM    324  C   SER D 369      -8.576   8.261   6.232  1.00 40.88           C
ATOM    325  O   SER D 369      -8.511   9.483   6.118  1.00 40.71           O
ATOM    326  N   ASN D 370      -9.704   7.610   6.527  1.00 39.09           N
ATOM    327  CA  ASN D 370     -10.904   8.288   6.977  1.00 40.01           C
ATOM    328  CB  ASN D 370     -10.580   9.133   8.230  1.00 37.02           C
ATOM    329  CG  ASN D 370     -10.023   8.298   9.379  1.00 41.00           C
ATOM    330  OD1 ASN D 370      -9.061   8.703  10.045  1.00 46.22           O
ATOM    331  ND2 ASN D 370     -10.642   7.156   9.653  1.00 34.91           N
ATOM    332  C   ASN D 370     -11.526   9.176   5.902  1.00 39.22           C
ATOM    333  O   ASN D 370     -12.187  10.154   6.233  1.00 41.94           O
ATOM    334  N   LEU D 371     -11.277   8.844   4.633  1.00 39.96           N
ATOM    335  CA  LEU D 371     -11.895   9.514   3.478  1.00 39.72           C
ATOM    336  CB  LEU D 371     -10.846   9.841   2.411  1.00 39.71           C
ATOM    337  CG  LEU D 371      -9.838  10.887   2.862  1.00 46.23           C
ATOM    338  CD1 LEU D 371      -8.630  10.941   1.912  1.00 46.82           C
ATOM    339  CD2 LEU D 371     -10.554  12.248   2.980  1.00 40.38           C
ATOM    340  C   LEU D 371     -12.993   8.626   2.875  1.00 42.32           C
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ATOM    341  O   LEU D 371     -12.897   7.403   2.907  1.00 43.33           O
ATOM    342  N   ASN D 372     -14.052   9.254   2.353  1.00 43.09           N
ATOM    343  CA  ASN D 372     -15.061   8.551   1.613  1.00 41.55           C
ATOM    344  CB  ASN D 372     -16.425   8.994   2.092  1.00 60.96           C
ATOM    345  CG  ASN D 372     -17.477   7.948   1.854  1.00 83.91           C
ATOM    346  OD1 ASN D 372     -17.369   7.139   0.903  1.00 97.06           O
ATOM    347  ND2 ASN D 372     -18.514   7.943   2.726  1.00100.60           N
ATOM    348  C   ASN D 372     -14.865   8.887   0.141  1.00 41.59           C
ATOM    349  O   ASN D 372     -14.626  10.039  -0.218  1.00 35.99           O
ATOM    350  N   LEU D 373     -14.926   7.874  -0.696  1.00 39.15           N
ATOM    351  CA  LEU D 373     -14.715   8.019  -2.132  1.00 45.44           C
ATOM    352  CB  LEU D 373     -14.082   6.750  -2.696  1.00 41.00           C
ATOM    353  CG  LEU D 373     -12.629   6.605  -2.294  1.00 43.32           C
ATOM    354  CD1 LEU D 373     -12.054   5.283  -2.839  1.00 43.67           C
ATOM    355  CD2 LEU D 373     -11.930   7.826  -2.876  1.00 39.94           C
ATOM    356  C   LEU D 373     -16.059   8.158  -2.756  1.00 42.30           C
ATOM    357  O   LEU D 373     -16.950   7.403  -2.402  1.00 44.24           O
ATOM    358  N   ILE D 374     -16.193   9.140  -3.646  1.00 43.01           N
ATOM    359  CA  ILE D 374     -17.456   9.519  -4.303  1.00 48.13           C
ATOM    360  CB  ILE D 374     -17.662  11.062  -4.241  1.00 49.81           C
ATOM    361  CG1 ILE D 374     -17.615  11.564  -2.798  1.00 52.05           C
ATOM    362  CD1 ILE D 374     -18.683  10.926  -1.906  1.00 55.93           C
ATOM    363  CG2 ILE D 374     -18.985  11.484  -4.864  1.00 51.81           C
ATOM    364  C   ILE D 374     -17.444   9.080  -5.769  1.00 51.44           C
ATOM    365  O   ILE D 374     -16.584   9.510  -6.553  1.00 48.09           O
ATOM    366  N   GLY D 375     -18.393   8.225  -6.140  1.00 53.31           N
ATOM    367  CA  GLY D 375     -18.530   7.774  -7.525  1.00 51.35           C
ATOM    368  C   GLY D 375     -17.399   6.856  -7.948  1.00 60.66           C
ATOM    369  O   GLY D 375     -16.756   6.261  -7.095  1.00 53.98           O
ATOM    370  N   ARG D 376     -17.165   6.727  -9.263  1.00 63.05           N
ATOM    371  CA  ARG D 376     -16.105   5.852  -9.794  1.00 63.00           C
ATOM    372  CB  ARG D 376     -16.702   4.795 -10.726  1.00 77.33           C
ATOM    373  CG  ARG D 376     -16.828   3.412 -10.077  1.00 95.98           C
ATOM    374  CD  ARG D 376     -17.982   2.607 -10.659  1.00106.73           C
ATOM    375  NE  ARG D 376     -19.238   3.371 -10.650  1.00113.18           N
ATOM    376  CZ  ARG D 376     -20.104   3.408  -9.636  1.00116.94           C
ATOM    377  NH1 ARG D 376     -19.875   2.720  -8.523  1.00117.62           N
ATOM    378  NH2 ARG D 376     -21.209   4.136  -9.736  1.00118.46           N
ATOM    379  C   ARG D 376     -14.940   6.591 -10.488  1.00 57.87           C
ATOM    380  O   ARG D 376     -15.070   7.754 -10.918  1.00 55.41           O
ATOM    381  N   PRO D 377     -13.786   5.926 -10.613  1.00 54.88           N
ATOM    382  CA  PRO D 377     -12.634   6.681 -11.146  1.00 49.44           C
ATOM    383  CB  PRO D 377     -11.522   5.619 -11.266  1.00 52.32           C
ATOM    384  CG  PRO D 377     -12.137   4.293 -10.854  1.00 49.53           C
ATOM    385  CD  PRO D 377     -13.447   4.558 -10.179  1.00 47.67           C
ATOM    386  C   PRO D 377     -12.957   7.337 -12.519  1.00 55.60           C
ATOM    387  O   PRO D 377     -13.724   6.777 -13.313  1.00 53.18           O
ATOM    388  N   SER D 378     -12.398   8.518 -12.787  1.00 48.60           N
ATOM    389  CA  SER D 378     -12.622   9.211 -14.072  1.00 45.64           C
ATOM    390  CB  SER D 378     -13.476  10.463 -13.846  1.00 41.40           C
ATOM    391  OG  SER D 378     -13.537  11.269 -15.016  1.00 48.26           O
ATOM    392  C   SER D 378     -11.304   9.636 -14.673  1.00 45.17           C
ATOM    393  O   SER D 378     -10.420  10.051 -13.933  1.00 46.90           O
ATOM    394  N   THR D 379     -11.155   9.553 -16.001  1.00 45.76           N
ATOM    395  CA  THR D 379      -9.981  10.138 -16.657  1.00 50.65           C
ATOM    396  CB  THR D 379      -9.368   9.217 -17.731  1.00 52.80           C
ATOM    397  OG1 THR D 379     -10.421   8.681 -18.531  1.00 59.91           O
ATOM    398  CG2 THR D 379      -8.549   8.062 -17.106  1.00 55.70           C
ATOM    399  C   THR D 379     -10.229  11.515 -17.305  1.00 54.20           C
ATOM    400  O   THR D 379      -9.394  11.971 -18.089  1.00 57.96           O
ATOM    401  N   VAL D 380     -11.342  12.176 -17.001  1.00 52.30           N
ATOM    402  CA  VAL D 380     -11.613  13.514 -17.586  1.00 49.06           C
ATOM    403  CB  VAL D 380     -13.090  13.921 -17.452  1.00 48.92           C
ATOM    404  CG1 VAL D 380     -13.295  15.250 -18.165  1.00 52.92           C
ATOM    405  CG2 VAL D 380     -14.018  12.826 -18.024  1.00 43.39           C
ATOM    406  C   VAL D 380     -10.732  14.632 -17.010  1.00 49.46           C
ATOM    407  O   VAL D 380     -10.798  14.906 -15.840  1.00 45.09           O
ATOM    408  N   HIS D 381      -9.910  15.275 -17.847  1.00 53.26           N
ATOM    409  CA  HIS D 381      -8.976  16.354 -17.425  1.00 53.95           C
ATOM    410  CB  HIS D 381      -9.716  17.676 -17.250  1.00 65.96           C
ATOM    411  CG  HIS D 381     -10.171  18.287 -18.546  1.00 84.42           C
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ATOM    412  ND1 HIS D 381      -9.477  19.255 -19.170  1.00 93.36           N
ATOM    413  CE1 HIS D 381     -10.115  19.596 -20.308  1.00 91.59           C
ATOM    414  NE2 HIS D 381     -11.219  18.832 -20.414  1.00 90.03           N
ATOM    415  CD2 HIS D 381     -11.283  18.013 -19.350  1.00 88.54           C
ATOM    416  C   HIS D 381      -8.162  16.078 -16.187  1.00 51.81           C
ATOM    417  O   HIS D 381      -8.008  16.952 -15.333  1.00 44.62           O
ATOM    418  N   SER D 382      -7.653  14.853 -16.056  1.00 50.47           N
ATOM    419  CA  SER D 382      -6.966  14.459 -14.848  1.00 46.86           C
ATOM    420  CB  SER D 382      -6.538  13.009 -14.963  1.00 48.71           C
ATOM    421  OG  SER D 382      -5.752  12.678 -13.831  1.00 43.96           O
ATOM    422  C   SER D 382      -5.734  15.331 -14.635  1.00 50.18           C
ATOM    423  O   SER D 382      -4.974  15.626 -15.571  1.00 48.42           O
ATOM    424  N   TRP D 383      -5.530  15.740 -13.400  1.00 52.27           N
ATOM    425  CA  TRP D 383      -4.386  16.566 -13.062  1.00 54.54           C
ATOM    426  CB  TRP D 383      -4.544  17.206 -11.697  1.00 50.70           C
ATOM    427  CG  TRP D 383      -5.514  18.336 -11.624  1.00 53.73           C
ATOM    428  CD1 TRP D 383      -6.380  18.798 -12.620  1.00 54.90           C
ATOM    429  NE1 TRP D 383      -7.163  19.826 -12.147  1.00 51.82           N
ATOM    430  CE2 TRP D 383      -6.890  20.075 -10.840  1.00 52.80           C
ATOM    431  CD2 TRP D 383      -5.823  19.148 -10.438  1.00 54.50           C
ATOM    432  CE3 TRP D 383      -5.358  19.180  -9.120  1.00 59.36           C
ATOM    433  CZ3 TRP D 383      -5.905  20.120  -8.233  1.00 59.86           C
ATOM    434  CH2 TRP D 383      -6.907  21.021  -8.646  1.00 59.60           C
ATOM    435  CZ2 TRP D 383      -7.415  21.015  -9.960  1.00 55.96           C
ATOM    436  C   TRP D 383      -3.105  15.795 -13.030  1.00 57.94           C
ATOM    437  O   TRP D 383      -2.072  16.416 -12.884  1.00 59.08           O
ATOM    438  N   PHE D 384      -3.164  14.457 -13.086  1.00 50.79           N
ATOM    439  CA  PHE D 384      -1.970  13.623 -13.224  1.00 42.57           C
ATOM    440  CB  PHE D 384      -1.587  12.887 -11.910  1.00 44.85           C
ATOM    441  CG  PHE D 384      -1.349  13.807 -10.713  1.00 42.92           C
ATOM    442  CD1 PHE D 384      -0.057  14.251 -10.385  1.00 49.71           C
ATOM    443  CE1 PHE D 384       0.178  15.082  -9.276  1.00 44.42           C
ATOM    444  CZ  PHE D 384      -0.887  15.481  -8.476  1.00 39.31           C
ATOM    445  CE2 PHE D 384      -2.163  15.032  -8.772  1.00 36.25           C
ATOM    446  CD2 PHE D 384      -2.399  14.197  -9.882  1.00 40.18           C
ATOM    447  C   PHE D 384      -2.220  12.629 -14.344  1.00 41.35           C
ATOM    448  O   PHE D 384      -2.713  11.521 -14.105  1.00 42.65           O
ATOM    449  N   PRO D 385      -1.863  13.013 -15.589  1.00 44.97           N
ATOM    450  CA  PRO D 385      -2.053  12.210 -16.802  1.00 42.45           C
ATOM    451  CB  PRO D 385      -1.156  12.920 -17.843  1.00 44.36           C
ATOM    452  CG  PRO D 385      -1.071  14.337 -17.353  1.00 50.89           C
ATOM    453  CD  PRO D 385      -1.091  14.255 -15.853  1.00 48.53           C
ATOM    454  C   PRO D 385      -1.536  10.801 -16.604  1.00 42.33           C
ATOM    455  O   PRO D 385      -0.432  10.636 -16.099  1.00 50.35           O
ATOM    456  N   GLY D 386      -2.274   9.795 -17.038  1.00 38.27           N
ATOM    457  CA  GLY D 386      -1.931   8.404 -16.702  1.00 42.50           C
ATOM    458  C   GLY D 386      -2.665   7.859 -15.475  1.00 43.67           C
ATOM    459  O   GLY D 386      -2.632   6.637 -15.242  1.00 53.89           O
ATOM    460  N   TYR D 387      -3.316   8.747 -14.707  1.00 40.11           N
ATOM    461  CA  TYR D 387      -4.195   8.374 -13.557  1.00 43.85           C
ATOM    462  CB  TYR D 387      -3.653   8.934 -12.250  1.00 41.31           C
ATOM    463  CG  TYR D 387      -2.323   8.374 -11.869  1.00 39.68           C
ATOM    464  CD1 TYR D 387      -2.243   7.258 -11.020  1.00 38.46           C
ATOM    465  CE1 TYR D 387      -1.012   6.738 -10.633  1.00 36.60           C
ATOM    466  CZ  TYR D 387       0.161   7.295 -11.112  1.00 38.29           C
ATOM    467  OH  TYR D 387       1.355   6.741 -10.698  1.00 36.98           O
ATOM    468  CE2 TYR D 387       0.123   8.422 -11.968  1.00 36.77           C
ATOM    469  CD2 TYR D 387      -1.138   8.955 -12.332  1.00 35.98           C
ATOM    470  C   TYR D 387      -5.618   8.908 -13.664  1.00 45.38           C
ATOM    471  O   TYR D 387      -5.859  10.031 -14.149  1.00 43.20           O
ATOM    472  N   ALA D 388      -6.542   8.105 -13.164  1.00 42.87           N
ATOM    473  CA  ALA D 388      -7.945   8.457 -13.058  1.00 42.04           C
ATOM    474  CB  ALA D 388      -8.803   7.219 -13.258  1.00 43.84           C
ATOM    475  C   ALA D 388      -8.105   8.982 -11.638  1.00 42.38           C
ATOM    476  O   ALA D 388      -7.279   8.688 -10.765  1.00 41.27           O
ATOM    477  N   TRP D 389      -9.141   9.780 -11.397  1.00 36.99           N
ATOM    478  CA  TRP D 389      -9.271  10.391 -10.125  1.00 38.00           C
ATOM    479  CB  TRP D 389      -9.011  11.904 -10.260  1.00 41.25           C
ATOM    480  CG  TRP D 389      -9.824  12.546 -11.350  1.00 41.91           C
ATOM    481  CD1 TRP D 389      -9.432  12.777 -12.682  1.00 46.68           C
ATOM    482  NE1 TRP D 389     -10.436  13.380 -13.394  1.00 40.83           N
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ATOM    483  CE2 TRP D 389     -11.525  13.582 -12.611  1.00 43.61           C
ATOM    484  CD2 TRP D 389     -11.196  13.053 -11.262  1.00 38.53           C
ATOM    485  CE3 TRP D 389     -12.162  13.123 -10.249  1.00 42.34           C
ATOM    486  CZ3 TRP D 389     -13.425  13.708 -10.563  1.00 44.28           C
ATOM    487  CH2 TRP D 389     -13.711  14.200 -11.861  1.00 42.67           C
ATOM    488  CZ2 TRP D 389     -12.771  14.131 -12.911  1.00 40.00           C
ATOM    489  C   TRP D 389     -10.629  10.049  -9.583  1.00 40.55           C
ATOM    490  O   TRP D 389     -11.539   9.689 -10.331  1.00 43.50           O
ATOM    491  N   THR D 390     -10.780  10.105  -8.272  1.00 42.62           N
ATOM    492  CA  THR D 390     -12.090   9.887  -7.642  1.00 40.01           C
ATOM    493  CB  THR D 390     -12.226   8.452  -7.030  1.00 46.04           C
ATOM    494  OG1 THR D 390     -11.890   7.460  -8.012  1.00 48.23           O
ATOM    495  CG2 THR D 390     -13.677   8.182  -6.494  1.00 38.86           C
ATOM    496  C   THR D 390     -12.091  10.876  -6.500  1.00 39.38           C
ATOM    497  O   THR D 390     -11.141  10.920  -5.695  1.00 40.56           O
ATOM    498  N   ILE D 391     -13.130  11.684  -6.440  1.00 41.62           N
ATOM    499  CA  ILE D 391     -13.316  12.674  -5.359  1.00 40.76           C
ATOM    500  CB  ILE D 391     -14.666  13.482  -5.525  1.00 41.33           C
ATOM    501  CG1 ILE D 391     -14.584  14.425  -6.743  1.00 45.36           C
ATOM    502  CD1 ILE D 391     -15.924  14.737  -7.389  1.00 49.09           C
ATOM    503  CG2 ILE D 391     -14.974  14.394  -4.326  1.00 37.13           C
ATOM    504  C   ILE D 391     -13.260  11.973  -4.015  1.00 42.74           C
ATOM    505  O   ILE D 391     -13.914  10.940  -3.808  1.00 39.42           O
ATOM    506  N   ALA D 392     -12.534  12.587  -3.082  1.00 38.01           N
ATOM    507  CA  ALA D 392     -12.400  12.019  -1.758  1.00 39.29           C
ATOM    508  CB  ALA D 392     -10.935  11.681  -1.500  1.00 29.28           C
ATOM    509  C   ALA D 392     -12.852  13.110  -0.789  1.00 42.75           C
ATOM    510  O   ALA D 392     -12.394  14.239  -0.890  1.00 37.28           O
ATOM    511  N   GLN D 393     -13.702  12.769   0.171  1.00 41.74           N
ATOM    512  CA  GLN D 393     -14.149  13.770   1.122  1.00 42.74           C
ATOM    513  CB  GLN D 393     -15.574  14.200   0.742  1.00 47.76           C
ATOM    514  CG  GLN D 393     -16.642  13.237   1.256  1.00 48.89           C
ATOM    515  CD  GLN D 393     -18.051  13.497   0.718  1.00 51.53           C
ATOM    516  OE1 GLN D 393     -18.270  14.303  -0.212  1.00 50.62           O
ATOM    517  NE2 GLN D 393     -19.016  12.787   1.300  1.00 45.92           N
ATOM    518  C   GLN D 393     -14.059  13.221   2.559  1.00 39.76           C
ATOM    519  O   GLN D 393     -14.148  12.031   2.780  1.00 41.47           O
ATOM    520  N   CYS D 394     -13.879  14.086   3.551  1.00 44.74           N
ATOM    521  CA  CYS D 394     -13.650  13.608   4.915  1.00 42.99           C
ATOM    522  CB  CYS D 394     -13.417  14.783   5.850  1.00 47.08           C
ATOM    523  SG  CYS D 394     -13.518  14.299   7.582  1.00 43.84           S
ATOM    524  C   CYS D 394     -14.844  12.817   5.385  1.00 44.07           C
ATOM    525  O   CYS D 394     -15.977  13.233   5.150  1.00 40.98           O
ATOM    526  N   LYS D 395     -14.628  11.668   6.031  1.00 42.19           N
ATOM    527  CA  LYS D 395     -15.783  10.888   6.476  1.00 43.20           C
ATOM    528  CB  LYS D 395     -15.439   9.413   6.727  1.00 47.27           C
ATOM    529  CG  LYS D 395     -15.180   8.968   8.162  1.00 59.07           C
ATOM    530  CD  LYS D 395     -15.579   7.496   8.372  1.00 60.30           C
ATOM    531  CE  LYS D 395     -14.678   6.802   9.406  1.00 64.42           C
ATOM    532  NZ  LYS D 395     -13.411   6.224   8.811  1.00 55.03           N
ATOM    533  C   LYS D 395     -16.595  11.499   7.637  1.00 46.36           C
ATOM    534  O   LYS D 395     -17.764  11.176   7.822  1.00 41.91           O
ATOM    535  N   ILE D 396     -15.978  12.348   8.447  1.00 47.11           N
ATOM    536  CA  ILE D 396     -16.734  12.978   9.550  1.00 48.08           C
ATOM    537  CB  ILE D 396     -15.826  13.524  10.668  1.00 42.20           C
ATOM    538  CG1 ILE D 396     -15.330  12.401  11.564  1.00 41.23           C
ATOM    539  CD1 ILE D 396     -14.976  11.064  10.920  1.00 42.65           C
ATOM    540  CG2 ILE D 396     -16.590  14.544  11.535  1.00 43.94           C
ATOM    541  C   ILE D 396     -17.636  14.106   9.060  1.00 47.33           C
ATOM    542  O   ILE D 396     -18.845  14.116   9.348  1.00 51.46           O
ATOM    543  N   CYS D 397     -17.051  15.039   8.320  1.00 46.61           N
ATOM    544  CA  CYS D 397     -17.767  16.287   7.972  1.00 47.51           C
ATOM    545  CB  CYS D 397     -16.956  17.468   8.475  1.00 41.13           C
ATOM    546  SG  CYS D 397     -15.425  17.685   7.558  1.00 49.86           S
ATOM    547  C   CYS D 397     -18.057  16.477   6.477  1.00 49.04           C
ATOM    548  O   CYS D 397     -18.652  17.493   6.104  1.00 44.62           O
ATOM    549  N   ALA D 398     -17.619  15.522   5.636  1.00 40.01           N
ATOM    550  CA  ALA D 398     -17.849  15.531   4.175  1.00 42.02           C
ATOM    551  CB  ALA D 398     -19.337  15.407   3.824  1.00 44.31           C
ATOM    552  C   ALA D 398     -17.196  16.678   3.429  1.00 41.97           C
ATOM    553  O   ALA D 398     -17.464  16.912   2.231  1.00 48.25           O
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ATOM    554  N   SER D 399     -16.300  17.377   4.115  1.00 43.92           N
ATOM    555  CA  SER D 399     -15.410  18.318   3.428  1.00 45.15           C
ATOM    556  CB  SER D 399     -14.559  19.044   4.469  1.00 52.47           C
ATOM    557  OG  SER D 399     -13.484  19.731   3.870  1.00 60.55           O
ATOM    558  C   SER D 399     -14.552  17.652   2.298  1.00 51.34           C
ATOM    559  O   SER D 399     -14.106  16.486   2.414  1.00 45.92           O
ATOM    560  N   HIS D 400     -14.379  18.384   1.191  1.00 50.86           N
ATOM    561  CA  HIS D 400     -13.648  17.918   0.022  1.00 54.81           C
ATOM    562  CB  HIS D 400     -14.102  18.690  -1.220  1.00 61.57           C
ATOM    563  CG  HIS D 400     -15.394  18.180  -1.803  1.00 78.23           C
ATOM    564  ND1 HIS D 400     -16.556  18.195  -1.116  1.00 84.09           N
ATOM    565  CE1 HIS D 400     -17.534  17.672  -1.885  1.00 90.14           C
ATOM    566  NE2 HIS D 400     -16.993  17.320  -3.070  1.00 86.52           N
ATOM    567  CD2 HIS D 400     -15.679  17.616  -3.052  1.00 82.95           C
ATOM    568  C   HIS D 400     -12.150  18.031   0.175  1.00 53.59           C
ATOM    569  O   HIS D 400     -11.571  19.105  -0.026  1.00 53.51           O
ATOM    570  N   ILE D 401     -11.499  16.913   0.481  1.00 47.50           N
ATOM    571  CA  ILE D 401     -10.083  16.951   0.822  1.00 45.10           C
ATOM    572  CB  ILE D 401      -9.728  15.921   1.911  1.00 42.94           C
ATOM    573  CG1 ILE D 401     -10.757  15.997   3.045  1.00 45.50           C
ATOM    574  CD1 ILE D 401     -10.668  17.273   3.885  1.00 39.69           C
ATOM    575  CG2 ILE D 401      -8.354  16.203   2.466  1.00 37.75           C
ATOM    576  C   ILE D 401      -9.223  16.857  -0.435  1.00 44.49           C
ATOM    577  O   ILE D 401      -8.246  17.590  -0.563  1.00 42.61           O
ATOM    578  N   GLY D 402      -9.617  16.012  -1.392  1.00 42.46           N
ATOM    579  CA  GLY D 402      -8.882  15.932  -2.657  1.00 39.09           C
ATOM    580  C   GLY D 402      -9.381  14.750  -3.451  1.00 41.48           C
ATOM    581  O   GLY D 402     -10.584  14.539  -3.537  1.00 41.87           O
ATOM    582  N   TRP D 403      -8.457  13.957  -3.988  1.00 36.54           N
ATOM    583  CA  TRP D 403      -8.792  12.842  -4.873  1.00 40.48           C
ATOM    584  CB  TRP D 403      -8.616  13.271  -6.336  1.00 37.91           C
ATOM    585  CG  TRP D 403      -9.384  14.512  -6.666  1.00 42.10           C
ATOM    586  CD1 TRP D 403     -10.648  14.605  -7.249  1.00 41.93           C
ATOM    587  NE1 TRP D 403     -11.035  15.908  -7.371  1.00 41.26           N
ATOM    588  CE2 TRP D 403     -10.083  16.744  -6.891  1.00 43.17           C
ATOM    589  CD2 TRP D 403      -8.983  15.900  -6.399  1.00 44.10           C
ATOM    590  CE3 TRP D 403      -7.852  16.513  -5.824  1.00 46.41           C
ATOM    591  CZ3 TRP D 403      -7.833  17.926  -5.742  1.00 50.37           C
ATOM    592  CH2 TRP D 403      -8.923  18.707  -6.191  1.00 45.40           C
ATOM    593  CZ2 TRP D 403     -10.060  18.132  -6.775  1.00 41.77           C
ATOM    594  C   TRP D 403      -7.891  11.625  -4.628  1.00 40.57           C
ATOM    595  O   TRP D 403      -6.745  11.748  -4.208  1.00 38.29           O
ATOM    596  N   LYS D 404      -8.434  10.453  -4.885  1.00 38.50           N
ATOM    597  CA  LYS D 404      -7.677   9.229  -5.005  1.00 42.00           C
ATOM    598  CB  LYS D 404      -8.509   8.029  -4.551  1.00 42.95           C
ATOM    599  CG  LYS D 404      -7.693   6.731  -4.510  1.00 44.50           C
ATOM    600  CD  LYS D 404      -8.558   5.507  -4.293  1.00 39.95           C
ATOM    601  CE  LYS D 404      -7.774   4.405  -3.602  1.00 44.57           C
ATOM    602  NZ  LYS D 404      -8.598   3.165  -3.496  1.00 53.29           N
ATOM    603  C   LYS D 404      -7.378   9.036  -6.472  1.00 37.59           C
ATOM    604  O   LYS D 404      -8.281   9.143  -7.282  1.00 42.46           O
ATOM    605  N   PHE D 405      -6.112   8.780  -6.794  1.00 36.10           N
ATOM    606  CA  PHE D 405      -5.652   8.599  -8.167  1.00 34.19           C
ATOM    607  CB  PHE D 405      -4.438   9.502  -8.424  1.00 29.96           C
ATOM    608  CG  PHE D 405      -4.804  10.945  -8.531  1.00 32.29           C
ATOM    609  CD1 PHE D 405      -5.256  11.469  -9.748  1.00 33.11           C
ATOM    610  CE1 PHE D 405      -5.649  12.815  -9.852  1.00 35.15           C
ATOM    611  CZ  PHE D 405      -5.585  13.654  -8.734  1.00 31.06           C
ATOM    612  CE2 PHE D 405      -5.110  13.140  -7.516  1.00 33.07           C
ATOM    613  CD2 PHE D 405      -4.766  11.785  -7.400  1.00 27.95           C
ATOM    614  C   PHE D 405      -5.263   7.147  -8.372  1.00 39.42           C
ATOM    615  O   PHE D 405      -4.500   6.567  -7.550  1.00 39.39           O
ATOM    616  N   THR D 406      -5.772   6.580  -9.461  1.00 37.16           N
ATOM    617  CA  THR D 406      -5.612   5.159  -9.759  1.00 46.82           C
ATOM    618  CB  THR D 406      -6.958   4.428  -9.571  1.00 48.00           C
ATOM    619  OG1 THR D 406      -7.994   5.162 -10.241  1.00 42.68           O
ATOM    620  CG2 THR D 406      -7.315   4.392  -8.060  1.00 45.15           C
ATOM    621  C   THR D 406      -5.025   4.986 -11.174  1.00 47.06           C
ATOM    622  O   THR D 406      -5.504   5.589 -12.125  1.00 47.37           O
ATOM    623  N   ALA D 407      -3.934   4.232 -11.286  1.00 50.53           N
ATOM    624  CA  ALA D 407      -3.209   4.107 -12.559  1.00 47.98           C
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ATOM    625  CB  ALA D 407      -1.893   3.360 -12.359  1.00 43.70           C
ATOM    626  C   ALA D 407      -4.046   3.455 -13.660  1.00 47.47           C
ATOM    627  O   ALA D 407      -4.741   2.490 -13.417  1.00 47.99           O
ATOM    628  N   THR D 408      -3.995   4.004 -14.867  1.00 50.73           N
ATOM    629  CA  THR D 408      -4.638   3.368 -16.019  1.00 48.90           C
ATOM    630  CB  THR D 408      -4.865   4.390 -17.148  1.00 52.90           C
ATOM    631  OG1 THR D 408      -3.604   4.736 -17.718  1.00 65.03           O
ATOM    632  CG2 THR D 408      -5.528   5.665 -16.633  1.00 48.66           C
ATOM    633  C   THR D 408      -3.818   2.180 -16.588  1.00 55.73           C
ATOM    634  O   THR D 408      -4.393   1.297 -17.220  1.00 65.03           O
ATOM    635  N   LYS D 409      -2.495   2.164 -16.370  1.00 43.84           N
ATOM    636  CA  LYS D 409      -1.614   1.121 -16.904  1.00 48.40           C
ATOM    637  CB  LYS D 409      -0.568   1.703 -17.872  1.00 51.56           C
ATOM    638  CG  LYS D 409      -1.173   2.110 -19.221  1.00 59.85           C
ATOM    639  CD  LYS D 409      -0.410   3.235 -19.904  1.00 61.89           C
ATOM    640  CE  LYS D 409       0.731   2.718 -20.772  1.00 68.88           C
ATOM    641  NZ  LYS D 409       2.036   2.799 -20.050  1.00 75.28           N
ATOM    642  C   LYS D 409      -0.919   0.421 -15.753  1.00 51.14           C
ATOM    643  O   LYS D 409      -0.483   1.075 -14.788  1.00 44.23           O
ATOM    644  N   LYS D 410      -0.824  -0.900 -15.868  1.00 46.98           N
ATOM    645  CA  LYS D 410      -0.291  -1.747 -14.805  1.00 55.57           C
ATOM    646  CB  LYS D 410      -0.725  -3.220 -14.948  1.00 59.07           C
ATOM    647  CG  LYS D 410      -2.012  -3.489 -14.171  1.00 71.02           C
ATOM    648  CD  LYS D 410      -2.625  -4.838 -14.509  1.00 84.77           C
ATOM    649  CE  LYS D 410      -4.135  -4.829 -14.275  1.00 84.74           C
ATOM    650  NZ  LYS D 410      -4.805  -5.993 -14.930  1.00 73.33           N
ATOM    651  C   LYS D 410       1.201  -1.639 -14.656  1.00 48.11           C
ATOM    652  O   LYS D 410       1.733  -2.047 -13.626  1.00 50.91           O
ATOM    653  N   ASP D 411       1.867  -1.040 -15.634  1.00 44.66           N
ATOM    654  CA  ASP D 411       3.312  -0.918 -15.543  1.00 51.79           C
ATOM    655  CB  ASP D 411       3.940  -0.997 -16.936  1.00 54.31           C
ATOM    656  CG  ASP D 411       3.753   0.282 -17.724  1.00 66.92           C
ATOM    657  OD1 ASP D 411       2.809   1.046 -17.407  1.00 66.28           O
ATOM    658  OD2 ASP D 411       4.560   0.538 -18.648  1.00 66.53           O
ATOM    659  C   ASP D 411       3.827   0.332 -14.774  1.00 52.63           C
ATOM    660  O   ASP D 411       5.030   0.484 -14.659  1.00 50.01           O
ATOM    661  N   MET D 412       2.922   1.203 -14.285  1.00 52.18           N
ATOM    662  CA  MET D 412       3.228   2.462 -13.535  1.00 51.12           C
ATOM    663  CB  MET D 412       2.043   3.462 -13.622  1.00 43.95           C
ATOM    664  CG  MET D 412       1.655   3.867 -15.059  1.00 53.82           C
ATOM    665  SD  MET D 412       0.110   4.811 -15.230  1.00 54.87           S
ATOM    666  CE  MET D 412       0.258   5.437 -16.910  1.00 72.85           C
ATOM    667  C   MET D 412       3.498   2.163 -12.050  1.00 52.53           C
ATOM    668  O   MET D 412       3.096   1.121 -11.566  1.00 45.87           O
ATOM    669  N   SER D 413       4.173   3.083 -11.350  1.00 42.79           N
ATOM    670  CA  SER D 413       4.338   3.032  -9.890  1.00 44.77           C
ATOM    671  CB  SER D 413       5.660   2.390  -9.467  1.00 38.64           C
ATOM    672  OG  SER D 413       6.756   3.225  -9.841  1.00 43.86           O
ATOM    673  C   SER D 413       4.330   4.482  -9.409  1.00 43.78           C
ATOM    674  O   SER D 413       4.971   5.343 -10.033  1.00 41.02           O
ATOM    675  N   PRO D 414       3.599   4.760  -8.316  1.00 41.67           N
ATOM    676  CA  PRO D 414       2.765   3.778  -7.629  1.00 38.99           C
ATOM    677  CB  PRO D 414       2.460   4.468  -6.282  1.00 36.69           C
ATOM    678  CG  PRO D 414       2.520   5.926  -6.576  1.00 37.60           C
ATOM    679  CD  PRO D 414       3.585   6.081  -7.640  1.00 40.40           C
ATOM    680  C   PRO D 414       1.485   3.560  -8.437  1.00 41.67           C
ATOM    681  O   PRO D 414       1.142   4.428  -9.245  1.00 37.86           O
ATOM    682  N   GLN D 415       0.812   2.413  -8.258  1.00 41.52           N
ATOM    683  CA  GLN D 415      -0.457   2.115  -8.923  1.00 39.90           C
ATOM    684  CB  GLN D 415      -0.856   0.642  -8.743  1.00 40.25           C
ATOM    685  CG  GLN D 415      -0.038  -0.315  -9.645  1.00 46.99           C
ATOM    686  CD  GLN D 415      -0.534  -0.221 -11.088  1.00 45.75           C
ATOM    687  OE1 GLN D 415       0.074   0.443 -11.919  1.00 47.06           O
ATOM    688  NE2 GLN D 415      -1.680  -0.781 -11.346  1.00 44.81           N
ATOM    689  C   GLN D 415      -1.575   2.997  -8.380  1.00 45.16           C
ATOM    690  O   GLN D 415      -2.599   3.211  -9.052  1.00 40.41           O
ATOM    691  N   LYS D 416      -1.383   3.497  -7.157  1.00 40.90           N
ATOM    692  CA  LYS D 416      -2.377   4.357  -6.547  1.00 38.81           C
ATOM    693  CB  LYS D 416      -3.413   3.545  -5.788  1.00 40.96           C
ATOM    694  CG  LYS D 416      -3.221   3.550  -4.291  1.00 46.93           C
ATOM    695  CD  LYS D 416      -4.224   2.645  -3.604  1.00 58.00           C
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ATOM    696  CE  LYS D 416      -3.684   1.249  -3.310  1.00 61.52           C
ATOM    697  NZ  LYS D 416      -4.170   0.286  -4.344  1.00 61.46           N
ATOM    698  C   LYS D 416      -1.716   5.371  -5.643  1.00 36.91           C
ATOM    699  O   LYS D 416      -0.654   5.125  -5.069  1.00 39.65           O
ATOM    700  N   PHE D 417      -2.320   6.546  -5.547  1.00 39.07           N
ATOM    701  CA  PHE D 417      -1.925   7.523  -4.536  1.00 37.64           C
ATOM    702  CB  PHE D 417      -0.646   8.263  -4.918  1.00 34.93           C
ATOM    703  CG  PHE D 417      -0.787   9.161  -6.127  1.00 36.63           C
ATOM    704  CD1 PHE D 417      -0.990  10.526  -5.972  1.00 36.94           C
ATOM    705  CE1 PHE D 417      -1.108  11.353  -7.059  1.00 38.17           C
ATOM    706  CZ  PHE D 417      -0.980  10.826  -8.339  1.00 38.78           C
ATOM    707  CE2 PHE D 417      -0.722   9.475  -8.499  1.00 40.57           C
ATOM    708  CD2 PHE D 417      -0.629   8.654  -7.392  1.00 32.68           C
ATOM    709  C   PHE D 417      -3.054   8.489  -4.272  1.00 37.38           C
ATOM    710  O   PHE D 417      -4.091   8.425  -4.945  1.00 39.45           O
ATOM    711  N   TRP D 418      -2.853   9.369  -3.284  1.00 36.23           N
ATOM    712  CA  TRP D 418      -3.817  10.438  -3.005  1.00 35.46           C
ATOM    713  CB  TRP D 418      -4.232  10.374  -1.542  1.00 37.90           C
ATOM    714  CG  TRP D 418      -4.797   9.022  -1.149  1.00 36.92           C
ATOM    715  CD1 TRP D 418      -4.085   7.871  -0.809  1.00 34.34           C
ATOM    716  NE1 TRP D 418      -4.953   6.830  -0.528  1.00 40.86           N
ATOM    717  CE2 TRP D 418      -6.259   7.225  -0.645  1.00 37.10           C
ATOM    718  CD2 TRP D 418      -6.239   8.637  -1.057  1.00 36.55           C
ATOM    719  CE3 TRP D 418      -7.449   9.294  -1.290  1.00 34.99           C
ATOM    720  CZ3 TRP D 418      -8.647   8.600  -1.068  1.00 36.53           C
ATOM    721  CH2 TRP D 418      -8.647   7.244  -0.664  1.00 36.09           C
ATOM    722  CZ2 TRP D 418      -7.447   6.538  -0.436  1.00 32.77           C
ATOM    723  C   TRP D 418      -3.236  11.796  -3.301  1.00 39.49           C
ATOM    724  O   TRP D 418      -2.076  12.102  -2.926  1.00 34.44           O
ATOM    725  N   GLY D 419      -4.033  12.645  -3.941  1.00 39.81           N
ATOM    726  CA  GLY D 419      -3.646  14.044  -4.118  1.00 35.88           C
ATOM    727  C   GLY D 419      -4.574  14.972  -3.357  1.00 38.09           C
ATOM    728  O   GLY D 419      -5.763  15.079  -3.691  1.00 36.01           O
ATOM    729  N   LEU D 420      -4.027  15.631  -2.333  1.00 35.20           N
ATOM    730  CA  LEU D 420      -4.813  16.284  -1.311  1.00 39.17           C
ATOM    731  CB  LEU D 420      -4.465  15.779   0.113  1.00 33.44           C
ATOM    732  CG  LEU D 420      -4.481  14.282   0.351  1.00 36.32           C
ATOM    733  CD1 LEU D 420      -4.012  13.963   1.766  1.00 33.31           C
ATOM    734  CD2 LEU D 420      -5.872  13.716   0.068  1.00 30.06           C
ATOM    735  C   LEU D 420      -4.583  17.765  -1.331  1.00 41.11           C
ATOM    736  O   LEU D 420      -3.459  18.224  -1.469  1.00 47.66           O
ATOM    737  N   THR D 421      -5.650  18.504  -1.077  1.00 41.59           N
ATOM    738  CA  THR D 421      -5.626  19.948  -1.255  1.00 42.61           C
ATOM    739  CB  THR D 421      -7.098  20.389  -1.469  1.00 39.99           C
ATOM    740  OG1 THR D 421      -7.473  19.935  -2.779  1.00 36.52           O
ATOM    741  CG2 THR D 421      -7.267  21.937  -1.387  1.00 37.00           C
ATOM    742  C   THR D 421      -4.992  20.516  -0.002  1.00 40.83           C
ATOM    743  O   THR D 421      -5.558  20.333   1.067  1.00 40.91           O
ATOM    744  N   ARG D 422      -3.810  21.130  -0.086  1.00 43.97           N
ATOM    745  CA  ARG D 422      -3.107  21.522   1.181  1.00 47.70           C
ATOM    746  CB  ARG D 422      -1.784  22.256   0.936  1.00 53.26           C
ATOM    747  CG  ARG D 422      -0.851  21.590  -0.061  1.00 58.13           C
ATOM    748  CD  ARG D 422       0.301  22.512  -0.467  1.00 62.45           C
ATOM    749  NE  ARG D 422       1.233  21.765  -1.317  1.00 66.62           N
ATOM    750  CZ  ARG D 422       2.222  21.012  -0.839  1.00 69.30           C
ATOM    751  NH1 ARG D 422       2.422  20.932   0.479  1.00 69.64           N
ATOM    752  NH2 ARG D 422       3.004  20.338  -1.671  1.00 68.91           N
ATOM    753  C   ARG D 422      -3.953  22.400   2.089  1.00 45.82           C
ATOM    754  O   ARG D 422      -3.925  22.254   3.293  1.00 44.86           O
ATOM    755  N   SER D 423      -4.706  23.327   1.511  1.00 54.61           N
ATOM    756  CA  SER D 423      -5.417  24.313   2.334  1.00 59.28           C
ATOM    757  CB  SER D 423      -5.905  25.452   1.455  1.00 56.59           C
ATOM    758  OG  SER D 423      -6.555  24.911   0.320  1.00 57.41           O
ATOM    759  C   SER D 423      -6.579  23.682   3.126  1.00 60.54           C
ATOM    760  O   SER D 423      -7.067  24.276   4.099  1.00 64.65           O
ATOM    761  N   ALA D 424      -7.007  22.481   2.706  1.00 57.18           N
ATOM    762  CA  ALA D 424      -7.994  21.682   3.443  1.00 49.63           C
ATOM    763  CB  ALA D 424      -8.744  20.770   2.483  1.00 47.70           C
ATOM    764  C   ALA D 424      -7.418  20.887   4.666  1.00 51.41           C
ATOM    765  O   ALA D 424      -8.166  20.287   5.428  1.00 41.35           O
ATOM    766  N   LEU D 425      -6.103  20.903   4.872  1.00 47.84           N
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ATOM    767  CA  LEU D 425      -5.516  20.205   6.043  1.00 55.50           C
ATOM    768  CB  LEU D 425      -4.444  19.194   5.586  1.00 50.02           C
ATOM    769  CG  LEU D 425      -4.880  18.369   4.380  1.00 54.22           C
ATOM    770  CD1 LEU D 425      -3.714  17.651   3.699  1.00 50.36           C
ATOM    771  CD2 LEU D 425      -5.975  17.421   4.844  1.00 50.91           C
ATOM    772  C   LEU D 425      -4.907  21.114   7.126  1.00 58.16           C
ATOM    773  O   LEU D 425      -4.373  22.179   6.816  1.00 57.38           O
ATOM    774  N   LEU D 426      -4.967  20.668   8.384  1.00 60.87           N
ATOM    775  CA  LEU D 426      -4.254  21.328   9.480  1.00 67.03           C
ATOM    776  CB  LEU D 426      -5.098  21.377  10.743  1.00 69.83           C
ATOM    777  CG  LEU D 426      -5.629  22.764  11.119  1.00 82.14           C
ATOM    778  CD1 LEU D 426      -5.743  22.807  12.643  1.00 83.61           C
ATOM    779  CD2 LEU D 426      -4.747  23.905  10.596  1.00 75.32           C
ATOM    780  C   LEU D 426      -2.898  20.687   9.772  1.00 67.50           C
ATOM    781  O   LEU D 426      -2.844  19.470   9.937  1.00 60.80           O
ATOM    782  N   PRO D 427      -1.888  21.535  10.084  1.00 74.12           N
ATOM    783  CA  PRO D 427      -0.568  21.863   9.570  1.00 83.22           C
ATOM    784  CB  PRO D 427       0.311  20.759  10.203  1.00 72.67           C
ATOM    785  CG  PRO D 427      -0.415  20.397  11.488  1.00 66.90           C
ATOM    786  CD  PRO D 427      -1.690  21.235  11.518  1.00 77.02           C
ATOM    787  C   PRO D 427      -0.405  22.046   8.016  1.00100.76           C
ATOM    788  O   PRO D 427      -1.283  21.653   7.231  1.00 98.35           O
ATOM    789  N   THR D 428       0.690  22.696   7.596  1.00115.94           N
ATOM    790  CA  THR D 428       1.160  22.653   6.193  1.00109.64           C
ATOM    791  CB  THR D 428       1.679  24.016   5.680  1.00107.37           C
ATOM    792  OG1 THR D 428       0.839  25.079   6.154  1.00104.87           O
ATOM    793  CG2 THR D 428       1.742  24.020   4.130  1.00 99.22           C
ATOM    794  C   THR D 428       2.312  21.651   6.085  1.00105.13           C
ATOM    795  O   THR D 428       2.346  20.805   5.193  1.00 82.97           O
ATOM    796  N   THR A 322     -31.414  15.182  38.883  1.00 64.74           N
ATOM    797  CA  THR A 322     -31.507  15.948  37.592  1.00 65.13           C
ATOM    798  CB  THR A 322     -32.053  17.388  37.762  1.00 63.14           C
ATOM    799  OG1 THR A 322     -30.973  18.299  38.049  1.00 63.52           O
ATOM    800  CG2 THR A 322     -33.157  17.474  38.815  1.00 75.66           C
ATOM    801  C   THR A 322     -30.200  16.078  36.763  1.00 63.22           C
ATOM    802  O   THR A 322     -30.272  16.554  35.618  1.00 55.31           O
ATOM    803  N   SER A 323     -29.035  15.703  37.321  1.00 56.23           N
ATOM    804  CA  SER A 323     -27.752  15.798  36.575  1.00 52.49           C
ATOM    805  CB  SER A 323     -26.487  15.611  37.422  1.00 45.96           C
ATOM    806  OG  SER A 323     -26.608  16.384  38.563  1.00 50.41           O
ATOM    807  C   SER A 323     -27.694  14.728  35.578  1.00 53.59           C
ATOM    808  O   SER A 323     -28.065  13.573  35.850  1.00 56.66           O
ATOM    809  N   LEU A 324     -27.160  15.115  34.433  1.00 51.12           N
ATOM    810  CA  LEU A 324     -26.909  14.197  33.353  1.00 50.45           C
ATOM    811  CB  LEU A 324     -27.661  14.631  32.096  1.00 42.68           C
ATOM    812  CG  LEU A 324     -29.186  14.555  32.201  1.00 57.69           C
ATOM    813  CD1 LEU A 324     -29.809  14.881  30.853  1.00 57.87           C
ATOM    814  CD2 LEU A 324     -29.685  13.178  32.656  1.00 63.57           C
ATOM    815  C   LEU A 324     -25.424  14.265  33.143  1.00 50.07           C
ATOM    816  O   LEU A 324     -24.888  15.335  32.857  1.00 47.17           O
ATOM    817  N   CYS A 325     -24.774  13.113  33.282  1.00 46.51           N
ATOM    818  CA  CYS A 325     -23.331  13.020  33.311  1.00 46.36           C
ATOM    819  CB  CYS A 325     -22.900  12.349  34.615  1.00 52.16           C
ATOM    820  SG  CYS A 325     -23.474  13.245  36.063  1.00 64.13           S
ATOM    821  C   CYS A 325     -22.794  12.234  32.133  1.00 43.72           C
ATOM    822  O   CYS A 325     -23.529  11.484  31.509  1.00 45.76           O
ATOM    823  N   CYS A 326     -21.496  12.393  31.866  1.00 40.87           N
ATOM    824  CA  CYS A 326     -20.781  11.694  30.820  1.00 47.88           C
ATOM    825  CB  CYS A 326     -19.357  12.248  30.796  1.00 49.28           C
ATOM    826  SG  CYS A 326     -17.955  11.249  30.203  1.00 50.74           S
ATOM    827  C   CYS A 326     -20.835  10.217  31.176  1.00 48.89           C
ATOM    828  O   CYS A 326     -20.460   9.853  32.275  1.00 56.30           O
ATOM    829  N   LYS A 327     -21.386   9.392  30.296  1.00 56.90           N
ATOM    830  CA  LYS A 327     -21.465   7.952  30.562  1.00 60.17           C
ATOM    831  CB  LYS A 327     -22.308   7.194  29.534  1.00 61.38           C
ATOM    832  CG  LYS A 327     -22.346   5.683  29.804  1.00 67.09           C
ATOM    833  CD  LYS A 327     -23.713   5.090  29.553  1.00 60.22           C
ATOM    834  CE  LYS A 327     -23.893   4.768  28.091  1.00 68.01           C
ATOM    835  NZ  LYS A 327     -25.351   4.786  27.794  1.00 67.37           N
ATOM    836  C   LYS A 327     -20.073   7.337  30.645  1.00 63.57           C
ATOM    837  O   LYS A 327     -19.748   6.715  31.670  1.00 63.43           O
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ATOM    838  N   GLN A 328     -19.246   7.533  29.610  1.00 60.66           N
ATOM    839  CA  GLN A 328     -17.916   6.925  29.629  1.00 72.61           C
ATOM    840  CB  GLN A 328     -17.072   7.320  28.419  1.00 72.02           C
ATOM    841  CG  GLN A 328     -15.917   6.342  28.214  1.00 82.06           C
ATOM    842  CD  GLN A 328     -14.676   6.945  27.569  1.00 84.95           C
ATOM    843  OE1 GLN A 328     -14.714   7.448  26.442  1.00 94.25           O
ATOM    844  NE2 GLN A 328     -13.553   6.862  28.274  1.00 86.62           N
ATOM    845  C   GLN A 328     -17.151   7.187  30.948  1.00 74.82           C
ATOM    846  O   GLN A 328     -16.449   6.308  31.437  1.00 78.05           O
ATOM    847  N   CYS A 329     -17.308   8.373  31.536  1.00 69.12           N
ATOM    848  CA  CYS A 329     -16.484   8.764  32.691  1.00 62.17           C
ATOM    849  CB  CYS A 329     -15.686  10.045  32.373  1.00 67.93           C
ATOM    850  SG  CYS A 329     -16.526  11.591  31.831  1.00 56.12           S
ATOM    851  C   CYS A 329     -17.206   8.903  34.026  1.00 61.90           C
ATOM    852  O   CYS A 329     -16.589   8.781  35.073  1.00 54.67           O
ATOM    853  N   GLN A 330     -18.506   9.185  33.996  1.00 64.20           N
ATOM    854  CA  GLN A 330     -19.273   9.522  35.209  1.00 59.62           C
ATOM    855  CB  GLN A 330     -19.587   8.275  36.037  1.00 70.87           C
ATOM    856  CG  GLN A 330     -20.882   7.568  35.633  1.00 80.09           C
ATOM    857  CD  GLN A 330     -21.102   6.259  36.389  1.00 87.88           C
ATOM    858  OE1 GLN A 330     -21.255   6.248  37.619  1.00 90.17           O
ATOM    859  NE2 GLN A 330     -21.128   5.148  35.655  1.00 86.39           N
ATOM    860  C   GLN A 330     -18.643  10.589  36.087  1.00 54.02           C
ATOM    861  O   GLN A 330     -19.181  10.905  37.135  1.00 60.58           O
ATOM    862  N   GLU A 331     -17.525  11.170  35.680  1.00 54.07           N
ATOM    863  CA  GLU A 331     -16.919  12.212  36.536  1.00 73.03           C
ATOM    864  CB  GLU A 331     -15.414  12.367  36.265  1.00 72.64           C
ATOM    865  CG  GLU A 331     -14.531  11.323  36.943  1.00 79.25           C
ATOM    866  CD  GLU A 331     -14.334  11.514  38.459  1.00 80.32           C
ATOM    867  OE1 GLU A 331     -14.517  10.511  39.196  1.00 80.47           O
ATOM    868  OE2 GLU A 331     -13.967  12.636  38.912  1.00 73.65           O
ATOM    869  C   GLU A 331     -17.635  13.571  36.405  1.00 72.63           C
ATOM    870  O   GLU A 331     -17.721  14.335  37.361  1.00 79.20           O
ATOM    871  N   THR A 332     -18.205  13.809  35.229  1.00 62.77           N
ATOM    872  CA  THR A 332     -18.537  15.143  34.770  1.00 62.82           C
ATOM    873  CB  THR A 332     -17.703  15.424  33.518  1.00 66.12           C
ATOM    874  OG1 THR A 332     -16.445  14.752  33.667  1.00 68.14           O
ATOM    875  CG2 THR A 332     -17.442  16.871  33.408  1.00 60.32           C
ATOM    876  C   THR A 332     -20.024  15.345  34.453  1.00 54.02           C
ATOM    877  O   THR A 332     -20.628  14.551  33.709  1.00 49.63           O
ATOM    878  N   GLU A 333     -20.613  16.381  35.043  1.00 44.93           N
ATOM    879  CA  GLU A 333     -21.970  16.796  34.662  1.00 45.79           C
ATOM    880  CB  GLU A 333     -22.646  17.659  35.710  1.00 41.88           C
ATOM    881  CG  GLU A 333     -24.107  18.037  35.307  1.00 41.57           C
ATOM    882  CD  GLU A 333     -24.785  18.918  36.342  1.00 44.48           C
ATOM    883  OE1 GLU A 333     -25.213  18.381  37.397  1.00 49.79           O
ATOM    884  OE2 GLU A 333     -24.863  20.159  36.132  1.00 43.44           O
ATOM    885  C   GLU A 333     -21.901  17.556  33.344  1.00 44.03           C
ATOM    886  O   GLU A 333     -21.093  18.454  33.231  1.00 47.11           O
ATOM    887  N   ILE A 334     -22.744  17.169  32.373  1.00 39.63           N
ATOM    888  CA  ILE A 334     -22.823  17.787  31.043  1.00 42.29           C
ATOM    889  CB  ILE A 334     -22.929  16.704  29.933  1.00 42.43           C
ATOM    890  CG1 ILE A 334     -21.714  15.715  29.954  1.00 46.99           C
ATOM    891  CD1 ILE A 334     -20.329  16.329  29.651  1.00 43.86           C
ATOM    892  CG2 ILE A 334     -23.054  17.334  28.587  1.00 42.58           C
ATOM    893  C   ILE A 334     -23.988  18.785  30.910  1.00 41.09           C
ATOM    894  O   ILE A 334     -23.860  19.810  30.235  1.00 41.01           O
ATOM    895  N   THR A 335     -25.134  18.472  31.517  1.00 40.66           N
ATOM    896  CA  THR A 335     -26.299  19.366  31.489  1.00 37.57           C
ATOM    897  CB  THR A 335     -27.016  19.396  30.127  1.00 38.85           C
ATOM    898  OG1 THR A 335     -28.079  20.346  30.218  1.00 42.46           O
ATOM    899  CG2 THR A 335     -27.640  18.028  29.760  1.00 41.75           C
ATOM    900  C   THR A 335     -27.239  18.935  32.601  1.00 43.86           C
ATOM    901  O   THR A 335     -26.916  17.975  33.317  1.00 44.98           O
ATOM    902  N   THR A 336     -28.383  19.613  32.763  1.00 45.29           N
ATOM    903  CA  THR A 336     -29.393  19.185  33.748  1.00 45.65           C
ATOM    904  CB  THR A 336     -29.512  20.143  34.967  1.00 47.73           C
ATOM    905  OG1 THR A 336     -30.147  21.349  34.565  1.00 45.83           O
ATOM    906  CG2 THR A 336     -28.161  20.478  35.589  1.00 51.69           C
ATOM    907  C   THR A 336     -30.774  19.040  33.071  1.00 47.57           C
ATOM    908  O   THR A 336     -30.995  19.556  31.984  1.00 44.30           O
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ATOM    909  N   LYS A 337     -31.704  18.355  33.732  1.00 47.45           N
ATOM    910  CA  LYS A 337     -33.047  18.167  33.189  1.00 50.85           C
ATOM    911  CB  LYS A 337     -33.876  17.226  34.077  1.00 55.34           C
ATOM    912  CG  LYS A 337     -33.520  15.757  33.878  1.00 65.18           C
ATOM    913  CD  LYS A 337     -34.263  14.859  34.850  1.00 73.47           C
ATOM    914  CE  LYS A 337     -34.269  13.447  34.309  1.00 81.28           C
ATOM    915  NZ  LYS A 337     -34.549  12.492  35.413  1.00 88.29           N
ATOM    916  C   LYS A 337     -33.772  19.490  33.005  1.00 47.39           C
ATOM    917  O   LYS A 337     -34.641  19.597  32.142  1.00 46.09           O
ATOM    918  N   ASN A 338     -33.400  20.491  33.804  1.00 44.39           N
ATOM    919  CA  ASN A 338     -33.970  21.838  33.722  1.00 41.29           C
ATOM    920  CB  ASN A 338     -33.481  22.681  34.896  1.00 44.93           C
ATOM    921  CG  ASN A 338     -33.830  22.059  36.224  1.00 52.51           C
ATOM    922  OD1 ASN A 338     -33.006  21.427  36.867  1.00 57.16           O
ATOM    923  ND2 ASN A 338     -35.053  22.209  36.621  1.00 51.44           N
ATOM    924  C   ASN A 338     -33.678  22.560  32.401  1.00 41.09           C
ATOM    925  O   ASN A 338     -34.430  23.457  31.997  1.00 40.58           O
ATOM    926  N   GLU A 339     -32.627  22.141  31.703  1.00 38.41           N
ATOM    927  CA  GLU A 339     -32.253  22.798  30.431  1.00 38.84           C
ATOM    928  CB  GLU A 339     -30.716  22.853  30.297  1.00 34.72           C
ATOM    929  CG  GLU A 339     -30.014  23.462  31.522  1.00 34.35           C
ATOM    930  CD  GLU A 339     -30.507  24.918  31.772  1.00 43.96           C
ATOM    931  OE1 GLU A 339     -30.537  25.730  30.817  1.00 39.26           O
ATOM    932  OE2 GLU A 339     -30.971  25.257  32.888  1.00 46.21           O
ATOM    933  C   GLU A 339     -32.892  22.172  29.186  1.00 40.42           C
ATOM    934  O   GLU A 339     -32.756  22.707  28.084  1.00 47.50           O
ATOM    935  N   ILE A 340     -33.596  21.047  29.353  1.00 44.38           N
ATOM    936  CA  ILE A 340     -34.286  20.369  28.220  1.00 39.11           C
ATOM    937  CB  ILE A 340     -34.846  18.973  28.612  1.00 40.87           C
ATOM    938  CG1 ILE A 340     -33.715  18.109  29.195  1.00 43.08           C
ATOM    939  CD1 ILE A 340     -34.170  16.809  29.853  1.00 47.03           C
ATOM    940  CG2 ILE A 340     -35.482  18.281  27.387  1.00 44.41           C
ATOM    941  C   ILE A 340     -35.413  21.246  27.644  1.00 41.35           C
ATOM    942  O   ILE A 340     -36.215  21.795  28.374  1.00 39.08           O
ATOM    943  N   PHE A 341     -35.428  21.424  26.327  1.00 37.10           N
ATOM    944  CA  PHE A 341     -36.558  22.049  25.690  1.00 37.83           C
ATOM    945  CB  PHE A 341     -36.284  23.502  25.351  1.00 33.12           C
ATOM    946  CG  PHE A 341     -35.296  23.704  24.227  1.00 37.76           C
ATOM    947  CD1 PHE A 341     -35.732  24.118  22.959  1.00 38.80           C
ATOM    948  CE1 PHE A 341     -34.824  24.334  21.940  1.00 32.41           C
ATOM    949  CZ  PHE A 341     -33.457  24.152  22.179  1.00 30.75           C
ATOM    950  CE2 PHE A 341     -33.009  23.733  23.415  1.00 30.54           C
ATOM    951  CD2 PHE A 341     -33.922  23.534  24.436  1.00 35.39           C
ATOM    952  C   PHE A 341     -36.839  21.260  24.435  1.00 38.22           C
ATOM    953  O   PHE A 341     -36.107  20.355  24.067  1.00 42.66           O
ATOM    954  N   SER A 342     -37.862  21.634  23.704  1.00 46.41           N
ATOM    955  CA  SER A 342     -38.199  20.918  22.485  1.00 51.38           C
ATOM    956  CB  SER A 342     -39.610  20.386  22.556  1.00 57.79           C
ATOM    957  OG  SER A 342     -39.659  19.279  23.409  1.00 75.28           O
ATOM    958  C   SER A 342     -38.084  21.742  21.241  1.00 48.74           C
ATOM    959  O   SER A 342     -38.958  22.464  20.908  1.00 48.80           O
ATOM    960  N   LEU A 343     -37.003  21.610  20.528  1.00 47.75           N
ATOM    961  CA  LEU A 343     -36.826  22.435  19.322  1.00 50.19           C
ATOM    962  CB  LEU A 343     -35.459  22.162  18.661  1.00 45.08           C
ATOM    963  CG  LEU A 343     -34.648  23.130  17.750  1.00 49.41           C
ATOM    964  CD1 LEU A 343     -34.709  22.910  16.236  1.00 49.16           C
ATOM    965  CD2 LEU A 343     -34.833  24.614  18.066  1.00 45.09           C
ATOM    966  C   LEU A 343     -37.944  22.195  18.315  1.00 52.22           C
ATOM    967  O   LEU A 343     -38.415  23.113  17.637  1.00 56.71           O
ATOM    968  N   SER A 344     -38.345  20.948  18.185  1.00 58.08           N
ATOM    969  CA  SER A 344     -39.508  20.641  17.365  1.00 69.47           C
ATOM    970  CB  SER A 344     -39.114  20.197  15.945  1.00 67.92           C
ATOM    971  OG  SER A 344     -39.927  19.108  15.518  1.00 69.32           O
ATOM    972  C   SER A 344     -40.374  19.604  18.055  1.00 66.17           C
ATOM    973  O   SER A 344     -39.871  18.571  18.537  1.00 70.56           O
ATOM    974  N   ALA A 345     -41.674  19.896  18.082  1.00 62.07           N
ATOM    975  CA  ALA A 345     -42.677  18.988  18.619  1.00 63.73           C
ATOM    976  CB  ALA A 345     -43.948  19.773  18.968  1.00 63.20           C
ATOM    977  C   ALA A 345     -42.964  17.792  17.656  1.00 67.80           C
ATOM    978  O   ALA A 345     -43.657  16.856  18.045  1.00 62.78           O
ATOM    979  N   CYS A 346     -42.400  17.824  16.432  1.00 62.89           N
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ATOM    980  CA  CYS A 346     -42.583  16.769  15.392  1.00 69.62           C
ATOM    981  CB  CYS A 346     -41.932  15.434  15.800  1.00 68.65           C
ATOM    982  SG  CYS A 346     -40.189  15.554  16.252  1.00 84.42           S
ATOM    983  C   CYS A 346     -44.061  16.515  15.085  1.00 60.24           C
ATOM    984  O   CYS A 346     -44.485  15.370  14.971  1.00 50.99           O
ATOM    985  N   GLY A 347     -44.832  17.590  15.009  1.00 49.48           N
ATOM    986  CA  GLY A 347     -46.210  17.515  14.650  1.00 52.95           C
ATOM    987  C   GLY A 347     -46.246  17.478  13.151  1.00 53.01           C
ATOM    988  O   GLY A 347     -45.200  17.467  12.518  1.00 61.62           O
ATOM    989  N   PRO A 348     -47.454  17.476  12.578  1.00 52.91           N
ATOM    990  CA  PRO A 348     -47.645  17.442  11.124  1.00 54.65           C
ATOM    991  CB  PRO A 348     -49.172  17.268  10.945  1.00 52.63           C
ATOM    992  CG  PRO A 348     -49.778  17.349  12.304  1.00 47.70           C
ATOM    993  CD  PRO A 348     -48.699  17.266  13.339  1.00 50.70           C
ATOM    994  C   PRO A 348     -47.151  18.697  10.431  1.00 54.83           C
ATOM    995  O   PRO A 348     -46.631  18.632   9.308  1.00 54.59           O
ATOM    996  N   MET A 349     -47.310  19.842  11.079  1.00 61.26           N
ATOM    997  CA  MET A 349     -46.863  21.093  10.456  1.00 68.28           C
ATOM    998  CB  MET A 349     -47.793  22.275  10.819  1.00 74.12           C
ATOM    999  CG  MET A 349     -48.982  22.495   9.859  1.00 79.45           C
ATOM   1000  SD  MET A 349     -48.717  21.930   8.144  1.00 87.13           S
ATOM   1001  CE  MET A 349     -49.873  22.932   7.193  1.00 90.16           C
ATOM   1002  C   MET A 349     -45.364  21.388  10.737  1.00 72.94           C
ATOM   1003  O   MET A 349     -44.918  22.530  10.658  1.00 73.72           O
ATOM   1004  N   ALA A 350     -44.589  20.353  11.056  1.00 73.90           N
ATOM   1005  CA  ALA A 350     -43.156  20.535  11.320  1.00 84.99           C
ATOM   1006  CB  ALA A 350     -42.747  19.851  12.626  1.00 76.62           C
ATOM   1007  C   ALA A 350     -42.316  20.037  10.137  1.00 80.23           C
ATOM   1008  O   ALA A 350     -42.188  18.832   9.918  1.00 79.05           O
ATOM   1009  N   ALA A 351     -41.784  20.968   9.346  1.00 88.56           N
ATOM   1010  CA  ALA A 351     -40.859  20.603   8.256  1.00101.15           C
ATOM   1011  CB  ALA A 351     -41.061  21.481   7.017  1.00 94.52           C
ATOM   1012  C   ALA A 351     -39.430  20.701   8.778  1.00 91.22           C
ATOM   1013  O   ALA A 351     -39.234  21.038   9.946  1.00 86.64           O
ATOM   1014  N   TYR A 358     -32.217  14.583  14.906  1.00 76.26           N
ATOM   1015  CA  TYR A 358     -32.697  13.381  15.570  1.00 87.03           C
ATOM   1016  CB  TYR A 358     -31.523  12.517  16.024  1.00 87.26           C
ATOM   1017  CG  TYR A 358     -30.790  11.826  14.900  1.00 90.83           C
ATOM   1018  CD1 TYR A 358     -29.710  10.976  15.177  1.00 96.91           C
ATOM   1019  CE1 TYR A 358     -29.016  10.334  14.158  1.00 94.54           C
ATOM   1020  CZ  TYR A 358     -29.406  10.527  12.840  1.00 96.88           C
ATOM   1021  OH  TYR A 358     -28.712   9.878  11.838  1.00 93.98           O
ATOM   1022  CE2 TYR A 358     -30.485  11.356  12.535  1.00 98.54           C
ATOM   1023  CD2 TYR A 358     -31.175  11.994  13.561  1.00 94.83           C
ATOM   1024  C   TYR A 358     -33.577  13.740  16.749  1.00 83.80           C
ATOM   1025  O   TYR A 358     -33.576  14.892  17.206  1.00 74.42           O
ATOM   1026  N   VAL A 359     -34.294  12.742  17.264  1.00 90.76           N
ATOM   1027  CA  VAL A 359     -35.467  13.014  18.097  1.00 94.80           C
ATOM   1028  CB  VAL A 359     -36.788  12.745  17.316  1.00 99.96           C
ATOM   1029  CG1 VAL A 359     -37.433  14.069  16.928  1.00 98.31           C
ATOM   1030  CG2 VAL A 359     -36.571  11.853  16.085  1.00 85.58           C
ATOM   1031  C   VAL A 359     -35.489  12.407  19.516  1.00102.77           C
ATOM   1032  O   VAL A 359     -35.563  13.146  20.515  1.00 86.81           O
ATOM   1033  N   HIS A 360     -35.462  11.072  19.592  1.00112.12           N
ATOM   1034  CA  HIS A 360     -35.299  10.328  20.854  1.00104.65           C
ATOM   1035  CB  HIS A 360     -36.416   9.307  21.072  1.00116.16           C
ATOM   1036  CG  HIS A 360     -36.922   8.681  19.796  1.00133.85           C
ATOM   1037  ND1 HIS A 360     -38.083   9.056  19.216  1.00138.07           N
ATOM   1038  CE1 HIS A 360     -38.270   8.343  18.088  1.00139.22           C
ATOM   1039  NE2 HIS A 360     -37.220   7.513  17.939  1.00138.53           N
ATOM   1040  CD2 HIS A 360     -36.369   7.698  18.974  1.00136.91           C
ATOM   1041  C   HIS A 360     -33.943   9.671  20.861  1.00104.71           C
ATOM   1042  O   HIS A 360     -33.644   8.788  21.686  1.00 87.11           O
ATOM   1043  N   GLU A 361     -33.112  10.102  19.915  1.00 90.48           N
ATOM   1044  CA  GLU A 361     -31.701   9.778  19.922  1.00 83.91           C
ATOM   1045  CB  GLU A 361     -31.206   9.488  18.506  1.00 84.72           C
ATOM   1046  CG  GLU A 361     -31.883   8.313  17.817  1.00102.02           C
ATOM   1047  CD  GLU A 361     -31.828   8.436  16.304  1.00103.03           C
ATOM   1048  OE1 GLU A 361     -30.769   8.103  15.730  1.00 99.43           O
ATOM   1049  OE2 GLU A 361     -32.839   8.872  15.698  1.00100.80           O
ATOM   1050  C   GLU A 361     -30.948  10.977  20.503  1.00 76.97           C
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ATOM   1051  O   GLU A 361     -29.887  10.806  21.106  1.00 65.34           O
ATOM   1052  N   THR A 362     -31.529  12.171  20.320  1.00 72.35           N
ATOM   1053  CA  THR A 362     -30.872  13.462  20.588  1.00 67.50           C
ATOM   1054  CB  THR A 362     -30.474  14.191  19.289  1.00 71.14           C
ATOM   1055  OG1 THR A 362     -29.448  13.445  18.643  1.00 66.76           O
ATOM   1056  CG2 THR A 362     -29.921  15.590  19.567  1.00 64.02           C
ATOM   1057  C   THR A 362     -31.719  14.380  21.465  1.00 62.30           C
ATOM   1058  O   THR A 362     -32.871  14.711  21.151  1.00 62.12           O
ATOM   1059  N   LEU A 363     -31.121  14.761  22.580  1.00 52.70           N
ATOM   1060  CA  LEU A 363     -31.707  15.666  23.529  1.00 48.22           C
ATOM   1061  CB  LEU A 363     -31.118  15.272  24.855  1.00 52.62           C
ATOM   1062  CG  LEU A 363     -31.753  15.524  26.190  1.00 51.68           C
ATOM   1063  CD1 LEU A 363     -33.179  15.013  26.229  1.00 54.33           C
ATOM   1064  CD2 LEU A 363     -30.892  14.724  27.139  1.00 55.72           C
ATOM   1065  C   LEU A 363     -31.230  17.063  23.138  1.00 47.89           C
ATOM   1066  O   LEU A 363     -30.056  17.221  22.792  1.00 52.97           O
ATOM   1067  N   THR A 364     -32.132  18.044  23.087  1.00 45.95           N
ATOM   1068  CA  THR A 364     -31.773  19.454  22.795  1.00 40.45           C
ATOM   1069  CB  THR A 364     -32.771  20.135  21.816  1.00 40.59           C
ATOM   1070  OG1 THR A 364     -34.119  19.925  22.285  1.00 40.37           O
ATOM   1071  CG2 THR A 364     -32.577  19.587  20.362  1.00 37.83           C
ATOM   1072  C   THR A 364     -31.816  20.214  24.136  1.00 40.76           C
ATOM   1073  O   THR A 364     -32.822  20.139  24.829  1.00 33.60           O
ATOM   1074  N   VAL A 365     -30.717  20.877  24.536  1.00 36.90           N
ATOM   1075  CA  VAL A 365     -30.706  21.622  25.821  1.00 33.17           C
ATOM   1076  CB  VAL A 365     -29.881  20.935  26.949  1.00 34.05           C
ATOM   1077  CG1 VAL A 365     -30.501  19.597  27.359  1.00 34.55           C
ATOM   1078  CG2 VAL A 365     -28.383  20.790  26.590  1.00 30.19           C
ATOM   1079  C   VAL A 365     -30.188  23.022  25.566  1.00 33.35           C
ATOM   1080  O   VAL A 365     -29.449  23.241  24.621  1.00 37.80           O
ATOM   1081  N   TYR A 366     -30.642  23.985  26.354  1.00 35.60           N
ATOM   1082  CA  TYR A 366     -30.252  25.373  26.171  1.00 33.19           C
ATOM   1083  CB  TYR A 366     -31.205  26.240  27.000  1.00 37.48           C
ATOM   1084  CG  TYR A 366     -32.550  26.504  26.367  1.00 33.76           C
ATOM   1085  CD1 TYR A 366     -32.624  27.001  25.079  1.00 37.46           C
ATOM   1086  CE1 TYR A 366     -33.846  27.271  24.482  1.00 40.20           C
ATOM   1087  CZ  TYR A 366     -35.029  27.039  25.197  1.00 40.18           C
ATOM   1088  OH  TYR A 366     -36.237  27.315  24.589  1.00 38.19           O
ATOM   1089  CE2 TYR A 366     -34.980  26.532  26.490  1.00 37.59           C
ATOM   1090  CD2 TYR A 366     -33.735  26.270  27.069  1.00 34.30           C
ATOM   1091  C   TYR A 366     -28.844  25.602  26.665  1.00 30.48           C
ATOM   1092  O   TYR A 366     -28.112  26.451  26.168  1.00 34.80           O
ATOM   1093  N   LYS A 367     -28.450  24.857  27.693  1.00 34.30           N
ATOM   1094  CA  LYS A 367     -27.126  25.031  28.291  1.00 34.09           C
ATOM   1095  CB  LYS A 367     -27.236  25.866  29.590  1.00 35.39           C
ATOM   1096  CG  LYS A 367     -27.661  27.326  29.403  1.00 42.37           C
ATOM   1097  CD  LYS A 367     -26.500  28.160  28.829  1.00 37.61           C
ATOM   1098  CE  LYS A 367     -26.588  29.642  29.109  1.00 40.08           C
ATOM   1099  NZ  LYS A 367     -25.262  30.243  28.743  1.00 44.44           N
ATOM   1100  C   LYS A 367     -26.484  23.667  28.621  1.00 33.71           C
ATOM   1101  O   LYS A 367     -27.164  22.678  28.991  1.00 29.89           O
ATOM   1102  N   ALA A 368     -25.169  23.671  28.629  1.00 32.16           N
ATOM   1103  CA  ALA A 368     -24.383  22.504  28.875  1.00 36.79           C
ATOM   1104  CB  ALA A 368     -24.205  21.746  27.569  1.00 38.81           C
ATOM   1105  C   ALA A 368     -23.013  22.918  29.469  1.00 39.58           C
ATOM   1106  O   ALA A 368     -22.578  24.053  29.340  1.00 35.20           O
ATOM   1107  N   SER A 369     -22.341  21.994  30.139  1.00 37.78           N
ATOM   1108  CA  SER A 369     -21.075  22.333  30.775  1.00 39.32           C
ATOM   1109  CB  SER A 369     -21.323  22.454  32.265  1.00 38.18           C
ATOM   1110  OG  SER A 369     -21.894  21.240  32.747  1.00 42.15           O
ATOM   1111  C   SER A 369     -20.047  21.239  30.531  1.00 40.37           C
ATOM   1112  O   SER A 369     -20.408  20.075  30.272  1.00 37.13           O
ATOM   1113  N   ASN A 370     -18.768  21.610  30.574  1.00 42.00           N
ATOM   1114  CA  ASN A 370     -17.668  20.630  30.562  1.00 44.71           C
ATOM   1115  CB  ASN A 370     -17.804  19.634  31.727  1.00 42.34           C
ATOM   1116  CG  ASN A 370     -17.826  20.336  33.063  1.00 46.61           C
ATOM   1117  OD1 ASN A 370     -18.656  20.068  33.937  1.00 48.41           O
ATOM   1118  ND2 ASN A 370     -16.939  21.285  33.207  1.00 45.13           N
ATOM   1119  C   ASN A 370     -17.469  19.878  29.251  1.00 47.30           C
ATOM   1120  O   ASN A 370     -17.003  18.723  29.250  1.00 46.85           O
ATOM   1121  N   LEU A 371     -17.797  20.557  28.159  1.00 44.74           N
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ATOM   1122  CA  LEU A 371     -17.615  20.060  26.789  1.00 42.12           C
ATOM   1123  CB  LEU A 371     -18.932  20.189  25.977  1.00 33.71           C
ATOM   1124  CG  LEU A 371     -20.047  19.206  26.391  1.00 38.67           C
ATOM   1125  CD1 LEU A 371     -21.387  19.519  25.736  1.00 39.53           C
ATOM   1126  CD2 LEU A 371     -19.676  17.722  26.139  1.00 32.94           C
ATOM   1127  C   LEU A 371     -16.556  20.924  26.165  1.00 44.99           C
ATOM   1128  O   LEU A 371     -16.569  22.141  26.359  1.00 49.20           O
ATOM   1129  N   ASN A 372     -15.631  20.297  25.438  1.00 45.74           N
ATOM   1130  CA  ASN A 372     -14.690  21.003  24.575  1.00 49.09           C
ATOM   1131  CB  ASN A 372     -13.292  20.364  24.625  1.00 50.76           C
ATOM   1132  CG  ASN A 372     -12.584  20.640  25.923  1.00 52.77           C
ATOM   1133  OD1 ASN A 372     -12.783  21.694  26.522  1.00 57.63           O
ATOM   1134  ND2 ASN A 372     -11.768  19.695  26.379  1.00 51.24           N
ATOM   1135  C   ASN A 372     -15.203  20.995  23.150  1.00 45.87           C
ATOM   1136  O   ASN A 372     -15.686  19.971  22.692  1.00 38.93           O
ATOM   1137  N   LEU A 373     -15.089  22.135  22.466  1.00 44.12           N
ATOM   1138  CA  LEU A 373     -15.444  22.237  21.055  1.00 43.92           C
ATOM   1139  CB  LEU A 373     -15.850  23.673  20.678  1.00 38.68           C
ATOM   1140  CG  LEU A 373     -16.992  24.295  21.473  1.00 45.58           C
ATOM   1141  CD1 LEU A 373     -17.197  25.765  21.041  1.00 44.85           C
ATOM   1142  CD2 LEU A 373     -18.262  23.466  21.277  1.00 39.83           C
ATOM   1143  C   LEU A 373     -14.284  21.798  20.194  1.00 49.50           C
ATOM   1144  O   LEU A 373     -13.115  22.191  20.420  1.00 52.34           O
ATOM   1145  N   ILE A 374     -14.623  21.025  19.170  1.00 44.70           N
ATOM   1146  CA  ILE A 374     -13.621  20.370  18.335  1.00 41.52           C
ATOM   1147  CB  ILE A 374     -13.760  18.825  18.416  1.00 43.27           C
ATOM   1148  CG1 ILE A 374     -13.568  18.317  19.859  1.00 44.55           C
ATOM   1149  CD1 ILE A 374     -12.189  18.570  20.449  1.00 43.82           C
ATOM   1150  CG2 ILE A 374     -12.768  18.145  17.483  1.00 43.53           C
ATOM   1151  C   ILE A 374     -13.922  20.799  16.923  1.00 43.89           C
ATOM   1152  O   ILE A 374     -15.040  20.573  16.427  1.00 48.03           O
ATOM   1153  N   GLY A 375     -12.935  21.405  16.272  1.00 40.77           N
ATOM   1154  CA  GLY A 375     -13.061  21.842  14.868  1.00 45.94           C
ATOM   1155  C   GLY A 375     -13.937  23.097  14.732  1.00 54.11           C
ATOM   1156  O   GLY A 375     -14.292  23.684  15.730  1.00 45.38           O
ATOM   1157  N   ARG A 376     -14.255  23.512  13.501  1.00 58.28           N
ATOM   1158  CA  ARG A 376     -15.126  24.671  13.250  1.00 57.12           C
ATOM   1159  CB  ARG A 376     -14.607  25.598  12.130  1.00 53.14           C
ATOM   1160  CG  ARG A 376     -13.791  25.030  10.991  1.00 59.61           C
ATOM   1161  CD  ARG A 376     -12.290  25.201  11.188  1.00 61.21           C
ATOM   1162  NE  ARG A 376     -11.825  26.542  11.512  1.00 66.84           N
ATOM   1163  CZ  ARG A 376     -11.049  27.315  10.744  1.00 74.19           C
ATOM   1164  NH1 ARG A 376     -10.641  26.926   9.531  1.00 54.90           N
ATOM   1165  NH2 ARG A 376     -10.694  28.522  11.202  1.00 75.02           N
ATOM   1166  C   ARG A 376     -16.594  24.274  12.981  1.00 55.95           C
ATOM   1167  O   ARG A 376     -16.894  23.073  12.804  1.00 49.02           O
ATOM   1168  N   PRO A 377     -17.515  25.273  12.989  1.00 48.67           N
ATOM   1169  CA  PRO A 377     -18.934  24.983  12.714  1.00 45.57           C
ATOM   1170  CB  PRO A 377     -19.653  26.311  13.043  1.00 50.52           C
ATOM   1171  CG  PRO A 377     -18.563  27.366  13.026  1.00 52.89           C
ATOM   1172  CD  PRO A 377     -17.327  26.649  13.517  1.00 54.19           C
ATOM   1173  C   PRO A 377     -19.187  24.564  11.270  1.00 44.11           C
ATOM   1174  O   PRO A 377     -18.568  25.073  10.357  1.00 46.74           O
ATOM   1175  N   SER A 378     -20.097  23.628  11.072  1.00 44.73           N
ATOM   1176  CA  SER A 378     -20.440  23.246   9.740  1.00 52.10           C
ATOM   1177  CB  SER A 378     -19.958  21.818   9.473  1.00 49.37           C
ATOM   1178  OG  SER A 378     -20.572  21.366   8.284  1.00 54.59           O
ATOM   1179  C   SER A 378     -21.939  23.360   9.449  1.00 53.64           C
ATOM   1180  O   SER A 378     -22.773  22.952  10.251  1.00 62.33           O
ATOM   1181  N   THR A 379     -22.226  23.886   8.262  1.00 61.19           N
ATOM   1182  CA  THR A 379     -23.557  24.110   7.730  1.00 64.57           C
ATOM   1183  CB  THR A 379     -23.642  25.511   7.088  1.00 67.63           C
ATOM   1184  OG1 THR A 379     -22.486  25.734   6.262  1.00 69.24           O
ATOM   1185  CG2 THR A 379     -23.707  26.625   8.156  1.00 65.63           C
ATOM   1186  C   THR A 379     -23.858  23.078   6.650  1.00 69.89           C
ATOM   1187  O   THR A 379     -24.837  23.225   5.930  1.00 70.61           O
ATOM   1188  N   VAL A 380     -23.014  22.036   6.546  1.00 71.89           N
ATOM   1189  CA  VAL A 380     -23.190  20.907   5.594  1.00 60.25           C
ATOM   1190  CB  VAL A 380     -21.819  20.342   5.070  1.00 66.55           C
ATOM   1191  CG1 VAL A 380     -22.045  19.135   4.150  1.00 65.20           C
ATOM   1192  CG2 VAL A 380     -20.952  21.416   4.385  1.00 55.05           C
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ATOM   1193  C   VAL A 380     -23.925  19.744   6.278  1.00 58.18           C
ATOM   1194  O   VAL A 380     -23.459  19.211   7.268  1.00 55.18           O
ATOM   1195  N   HIS A 381     -25.072  19.343   5.755  1.00 56.88           N
ATOM   1196  CA  HIS A 381     -25.825  18.250   6.358  1.00 66.60           C
ATOM   1197  CB  HIS A 381     -25.111  16.902   6.145  1.00 76.83           C
ATOM   1198  CG  HIS A 381     -25.088  16.450   4.695  1.00 94.88           C
ATOM   1199  ND1 HIS A 381     -26.201  16.461   3.905  1.00102.32           N
ATOM   1200  CE1 HIS A 381     -25.877  16.019   2.672  1.00103.55           C
ATOM   1201  NE2 HIS A 381     -24.556  15.724   2.668  1.00102.79           N
ATOM   1202  CD2 HIS A 381     -24.044  15.974   3.899  1.00 91.39           C
ATOM   1203  C   HIS A 381     -26.169  18.436   7.811  1.00 66.26           C
ATOM   1204  O   HIS A 381     -26.255  17.474   8.557  1.00 73.24           O
ATOM   1205  N   SER A 382     -26.420  19.665   8.236  1.00 59.39           N
ATOM   1206  CA  SER A 382     -26.861  19.880   9.604  1.00 56.18           C
ATOM   1207  CB  SER A 382     -26.969  21.374   9.925  1.00 53.01           C
ATOM   1208  OG  SER A 382     -27.450  21.511  11.270  1.00 52.72           O
ATOM   1209  C   SER A 382     -28.199  19.187   9.902  1.00 52.61           C
ATOM   1210  O   SER A 382     -29.104  19.225   9.108  1.00 50.12           O
ATOM   1211  N   TRP A 383     -28.326  18.588  11.074  1.00 54.29           N
ATOM   1212  CA  TRP A 383     -29.575  17.934  11.469  1.00 54.64           C
ATOM   1213  CB  TRP A 383     -29.327  17.010  12.665  1.00 62.52           C
ATOM   1214  CG  TRP A 383     -28.406  15.848  12.350  1.00 68.50           C
ATOM   1215  CD1 TRP A 383     -28.012  15.398  11.091  1.00 65.80           C
ATOM   1216  NE1 TRP A 383     -27.197  14.309  11.200  1.00 71.15           N
ATOM   1217  CE2 TRP A 383     -27.018  13.962  12.487  1.00 67.46           C
ATOM   1218  CD2 TRP A 383     -27.783  14.912  13.296  1.00 66.88           C
ATOM   1219  CE3 TRP A 383     -27.781  14.772  14.670  1.00 69.07           C
ATOM   1220  CZ3 TRP A 383     -27.042  13.726  15.231  1.00 65.27           C
ATOM   1221  CH2 TRP A 383     -26.311  12.829  14.441  1.00 66.51           C
ATOM   1222  CZ2 TRP A 383     -26.284  12.929  13.055  1.00 66.29           C
ATOM   1223  C   TRP A 383     -30.709  18.846  11.810  1.00 56.65           C
ATOM   1224  O   TRP A 383     -31.830  18.381  12.035  1.00 53.65           O
ATOM   1225  N   PHE A 384     -30.433  20.149  11.865  1.00 55.34           N
ATOM   1226  CA  PHE A 384     -31.373  21.135  12.380  1.00 49.78           C
ATOM   1227  CB  PHE A 384     -31.026  21.526  13.828  1.00 46.49           C
ATOM   1228  CG  PHE A 384     -31.443  20.499  14.861  1.00 42.91           C
ATOM   1229  CD1 PHE A 384     -32.785  20.294  15.145  1.00 50.84           C
ATOM   1230  CE1 PHE A 384     -33.191  19.359  16.077  1.00 48.30           C
ATOM   1231  CZ  PHE A 384     -32.245  18.596  16.740  1.00 41.55           C
ATOM   1232  CE2 PHE A 384     -30.905  18.798  16.475  1.00 44.68           C
ATOM   1233  CD2 PHE A 384     -30.511  19.755  15.546  1.00 46.48           C
ATOM   1234  C   PHE A 384     -31.190  22.321  11.465  1.00 55.27           C
ATOM   1235  O   PHE A 384     -30.302  23.158  11.712  1.00 50.89           O
ATOM   1236  N   PRO A 385     -32.015  22.393  10.395  1.00 56.35           N
ATOM   1237  CA  PRO A 385     -31.851  23.393   9.336  1.00 59.39           C
ATOM   1238  CB  PRO A 385     -33.073  23.172   8.433  1.00 60.57           C
ATOM   1239  CG  PRO A 385     -33.552  21.803   8.753  1.00 62.49           C
ATOM   1240  CD  PRO A 385     -33.212  21.556  10.188  1.00 57.37           C
ATOM   1241  C   PRO A 385     -31.888  24.773   9.942  1.00 58.77           C
ATOM   1242  O   PRO A 385     -32.671  25.014  10.856  1.00 55.86           O
ATOM   1243  N   GLY A 386     -31.026  25.658   9.465  1.00 52.17           N
ATOM   1244  CA  GLY A 386     -30.873  26.933  10.104  1.00 54.56           C
ATOM   1245  C   GLY A 386     -29.711  27.039  11.067  1.00 54.18           C
ATOM   1246  O   GLY A 386     -29.319  28.151  11.452  1.00 56.11           O
ATOM   1247  N   TYR A 387     -29.150  25.902  11.456  1.00 50.58           N
ATOM   1248  CA  TYR A 387     -28.034  25.885  12.440  1.00 51.00           C
ATOM   1249  CB  TYR A 387     -28.468  25.226  13.754  1.00 44.20           C
ATOM   1250  CG  TYR A 387     -29.576  25.940  14.524  1.00 42.14           C
ATOM   1251  CD1 TYR A 387     -29.261  26.824  15.539  1.00 44.50           C
ATOM   1252  CE1 TYR A 387     -30.236  27.480  16.268  1.00 41.88           C
ATOM   1253  CZ  TYR A 387     -31.547  27.262  15.992  1.00 39.72           C
ATOM   1254  OH  TYR A 387     -32.450  27.944  16.743  1.00 42.41           O
ATOM   1255  CE2 TYR A 387     -31.931  26.381  14.987  1.00 45.31           C
ATOM   1256  CD2 TYR A 387     -30.933  25.707  14.255  1.00 46.96           C
ATOM   1257  C   TYR A 387     -26.820  25.129  11.908  1.00 54.53           C
ATOM   1258  O   TYR A 387     -26.974  24.108  11.236  1.00 45.49           O
ATOM   1259  N   ALA A 388     -25.632  25.651  12.211  1.00 51.55           N
ATOM   1260  CA  ALA A 388     -24.368  24.975  11.971  1.00 51.75           C
ATOM   1261  CB  ALA A 388     -23.258  25.994  11.797  1.00 55.46           C
ATOM   1262  C   ALA A 388     -24.044  24.076  13.159  1.00 51.24           C
ATOM   1263  O   ALA A 388     -24.496  24.339  14.271  1.00 50.10           O
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ATOM   1264  N   TRP A 389     -23.268  23.016  12.939  1.00 45.80           N
ATOM   1265  CA  TRP A 389     -22.907  22.127  14.055  1.00 47.94           C
ATOM   1266  CB  TRP A 389     -23.379  20.694  13.811  1.00 55.02           C
ATOM   1267  CG  TRP A 389     -22.997  20.096  12.466  1.00 61.96           C
ATOM   1268  CD1 TRP A 389     -23.733  20.121  11.284  1.00 60.81           C
ATOM   1269  NE1 TRP A 389     -23.066  19.479  10.278  1.00 58.40           N
ATOM   1270  CE2 TRP A 389     -21.886  19.000  10.707  1.00 63.93           C
ATOM   1271  CD2 TRP A 389     -21.761  19.370  12.121  1.00 61.33           C
ATOM   1272  CE3 TRP A 389     -20.607  19.004  12.814  1.00 62.97           C
ATOM   1273  CZ3 TRP A 389     -19.612  18.275  12.128  1.00 55.66           C
ATOM   1274  CH2 TRP A 389     -19.759  17.933  10.776  1.00 59.86           C
ATOM   1275  CZ2 TRP A 389     -20.889  18.295  10.037  1.00 60.84           C
ATOM   1276  C   TRP A 389     -21.452  22.176  14.331  1.00 48.46           C
ATOM   1277  O   TRP A 389     -20.665  22.430  13.417  1.00 53.89           O
ATOM   1278  N   THR A 390     -21.097  22.023  15.604  1.00 46.43           N
ATOM   1279  CA  THR A 390     -19.718  21.863  16.040  1.00 42.72           C
ATOM   1280  CB  THR A 390     -19.174  23.145  16.683  1.00 47.53           C
ATOM   1281  OG1 THR A 390     -19.311  24.231  15.755  1.00 47.46           O
ATOM   1282  CG2 THR A 390     -17.677  22.992  17.028  1.00 40.46           C
ATOM   1283  C   THR A 390     -19.628  20.716  17.061  1.00 46.44           C
ATOM   1284  O   THR A 390     -20.387  20.670  18.048  1.00 42.76           O
ATOM   1285  N   ILE A 391     -18.688  19.802  16.826  1.00 42.41           N
ATOM   1286  CA  ILE A 391     -18.476  18.637  17.667  1.00 40.33           C
ATOM   1287  CB  ILE A 391     -17.309  17.791  17.119  1.00 41.51           C
ATOM   1288  CG1 ILE A 391     -17.683  17.254  15.766  1.00 44.96           C
ATOM   1289  CD1 ILE A 391     -16.497  17.049  14.849  1.00 45.22           C
ATOM   1290  CG2 ILE A 391     -16.964  16.644  18.082  1.00 45.22           C
ATOM   1291  C   ILE A 391     -18.132  19.028  19.095  1.00 38.44           C
ATOM   1292  O   ILE A 391     -17.345  19.924  19.318  1.00 43.16           O
ATOM   1293  N   ALA A 392     -18.671  18.299  20.061  1.00 41.48           N
ATOM   1294  CA  ALA A 392     -18.401  18.602  21.469  1.00 40.50           C
ATOM   1295  CB  ALA A 392     -19.625  19.267  22.086  1.00 36.53           C
ATOM   1296  C   ALA A 392     -18.113  17.310  22.204  1.00 44.24           C
ATOM   1297  O   ALA A 392     -18.925  16.368  22.130  1.00 41.57           O
ATOM   1298  N   GLN A 393     -17.013  17.290  22.966  1.00 45.37           N
ATOM   1299  CA  GLN A 393     -16.682  16.151  23.808  1.00 41.94           C
ATOM   1300  CB  GLN A 393     -15.485  15.394  23.195  1.00 46.38           C
ATOM   1301  CG  GLN A 393     -14.158  16.130  23.317  1.00 40.87           C
ATOM   1302  CD  GLN A 393     -13.092  15.637  22.333  1.00 49.74           C
ATOM   1303  OE1 GLN A 393     -13.381  15.120  21.240  1.00 60.53           O
ATOM   1304  NE2 GLN A 393     -11.850  15.854  22.697  1.00 50.95           N
ATOM   1305  C   GLN A 393     -16.380  16.469  25.274  1.00 44.97           C
ATOM   1306  O   GLN A 393     -16.041  17.580  25.608  1.00 46.77           O
ATOM   1307  N   CYS A 394     -16.482  15.453  26.132  1.00 41.89           N
ATOM   1308  CA  CYS A 394     -16.067  15.520  27.524  1.00 48.15           C
ATOM   1309  CB  CYS A 394     -16.088  14.136  28.139  1.00 47.98           C
ATOM   1310  SG  CYS A 394     -15.985  14.274  29.902  1.00 53.56           S
ATOM   1311  C   CYS A 394     -14.684  16.083  27.676  1.00 50.29           C
ATOM   1312  O   CYS A 394     -13.783  15.758  26.911  1.00 51.40           O
ATOM   1313  N   LYS A 395     -14.514  16.967  28.645  1.00 58.80           N
ATOM   1314  CA  LYS A 395     -13.245  17.654  28.768  1.00 58.39           C
ATOM   1315  CB  LYS A 395     -13.382  19.031  29.439  1.00 61.48           C
ATOM   1316  CG  LYS A 395     -14.058  18.984  30.782  1.00 67.98           C
ATOM   1317  CD  LYS A 395     -13.663  20.151  31.672  1.00 70.73           C
ATOM   1318  CE  LYS A 395     -14.036  19.816  33.116  1.00 68.12           C
ATOM   1319  NZ  LYS A 395     -14.124  21.001  34.013  1.00 64.24           N
ATOM   1320  C   LYS A 395     -12.324  16.755  29.540  1.00 58.11           C
ATOM   1321  O   LYS A 395     -11.128  16.883  29.410  1.00 54.52           O
ATOM   1322  N   ILE A 396     -12.904  15.838  30.325  1.00 59.76           N
ATOM   1323  CA  ILE A 396     -12.151  14.868  31.135  1.00 55.20           C
ATOM   1324  CB  ILE A 396     -13.024  14.298  32.281  1.00 62.35           C
ATOM   1325  CG1 ILE A 396     -13.529  15.414  33.203  1.00 56.32           C
ATOM   1326  CD1 ILE A 396     -12.470  16.338  33.739  1.00 62.62           C
ATOM   1327  CG2 ILE A 396     -12.328  13.166  33.058  1.00 60.23           C
ATOM   1328  C   ILE A 396     -11.617  13.733  30.267  1.00 58.86           C
ATOM   1329  O   ILE A 396     -10.382  13.614  30.071  1.00 60.14           O
ATOM   1330  N   CYS A 397     -12.546  12.951  29.701  1.00 53.47           N
ATOM   1331  CA  CYS A 397     -12.247  11.654  29.081  1.00 56.06           C
ATOM   1332  CB  CYS A 397     -13.257  10.614  29.574  1.00 53.39           C
ATOM   1333  SG  CYS A 397     -14.852  10.712  28.712  1.00 53.83           S
ATOM   1334  C   CYS A 397     -12.307  11.670  27.561  1.00 60.07           C
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ATOM   1335  O   CYS A 397     -11.992  10.684  26.896  1.00 65.82           O
ATOM   1336  N   ALA A 398     -12.765  12.776  26.998  1.00 60.44           N
ATOM   1337  CA  ALA A 398     -12.826  12.901  25.555  1.00 47.74           C
ATOM   1338  CB  ALA A 398     -11.496  12.460  24.944  1.00 52.19           C
ATOM   1339  C   ALA A 398     -13.999  12.170  24.901  1.00 47.71           C
ATOM   1340  O   ALA A 398     -14.087  12.149  23.678  1.00 44.78           O
ATOM   1341  N   SER A 399     -14.914  11.577  25.673  1.00 45.53           N
ATOM   1342  CA  SER A 399     -16.079  10.944  25.030  1.00 48.46           C
ATOM   1343  CB  SER A 399     -16.906  10.242  26.079  1.00 44.55           C
ATOM   1344  OG  SER A 399     -18.127   9.798  25.546  1.00 53.65           O
ATOM   1345  C   SER A 399     -16.958  11.936  24.203  1.00 57.68           C
ATOM   1346  O   SER A 399     -17.172  13.074  24.632  1.00 57.72           O
ATOM   1347  N   HIS A 400     -17.450  11.514  23.030  1.00 52.97           N
ATOM   1348  CA  HIS A 400     -18.225  12.385  22.147  1.00 56.67           C
ATOM   1349  CB  HIS A 400     -18.264  11.865  20.713  1.00 48.92           C
ATOM   1350  CG  HIS A 400     -16.969  12.035  19.998  1.00 59.48           C
ATOM   1351  ND1 HIS A 400     -15.794  12.106  20.655  1.00 61.72           N
ATOM   1352  CE1 HIS A 400     -14.806  12.237  19.763  1.00 62.17           C
ATOM   1353  NE2 HIS A 400     -15.346  12.235  18.543  1.00 56.58           N
ATOM   1354  CD2 HIS A 400     -16.675  12.121  18.653  1.00 58.53           C
ATOM   1355  C   HIS A 400     -19.603  12.492  22.632  1.00 59.47           C
ATOM   1356  O   HIS A 400     -20.384  11.560  22.470  1.00 65.12           O
ATOM   1357  N   ILE A 401     -19.956  13.623  23.230  1.00 52.92           N
ATOM   1358  CA  ILE A 401     -21.286  13.667  23.788  1.00 45.82           C
ATOM   1359  CB  ILE A 401     -21.300  14.482  25.078  1.00 47.51           C
ATOM   1360  CG1 ILE A 401     -20.154  14.006  25.984  1.00 48.01           C
ATOM   1361  CD1 ILE A 401     -20.429  12.742  26.777  1.00 47.02           C
ATOM   1362  CG2 ILE A 401     -22.651  14.436  25.804  1.00 43.21           C
ATOM   1363  C   ILE A 401     -22.250  14.160  22.702  1.00 45.88           C
ATOM   1364  O   ILE A 401     -23.383  13.715  22.623  1.00 47.58           O
ATOM   1365  N   GLY A 402     -21.807  15.094  21.874  1.00 45.44           N
ATOM   1366  CA  GLY A 402     -22.694  15.608  20.855  1.00 41.84           C
ATOM   1367  C   GLY A 402     -22.195  16.864  20.201  1.00 42.30           C
ATOM   1368  O   GLY A 402     -21.032  16.922  19.773  1.00 44.96           O
ATOM   1369  N   TRP A 403     -23.068  17.882  20.128  1.00 36.73           N
ATOM   1370  CA  TRP A 403     -22.796  19.046  19.289  1.00 37.78           C
ATOM   1371  CB  TRP A 403     -23.451  18.859  17.900  1.00 38.58           C
ATOM   1372  CG  TRP A 403     -22.985  17.628  17.160  1.00 44.12           C
ATOM   1373  CD1 TRP A 403     -21.931  17.532  16.244  1.00 42.52           C
ATOM   1374  NE1 TRP A 403     -21.763  16.251  15.829  1.00 39.15           N
ATOM   1375  CE2 TRP A 403     -22.650  15.416  16.432  1.00 47.67           C
ATOM   1376  CD2 TRP A 403     -23.495  16.248  17.300  1.00 45.43           C
ATOM   1377  CE3 TRP A 403     -24.536  15.647  18.020  1.00 46.26           C
ATOM   1378  CZ3 TRP A 403     -24.725  14.257  17.904  1.00 49.94           C
ATOM   1379  CH2 TRP A 403     -23.921  13.476  17.043  1.00 53.93           C
ATOM   1380  CZ2 TRP A 403     -22.869  14.041  16.284  1.00 46.89           C
ATOM   1381  C   TRP A 403     -23.342  20.327  19.891  1.00 41.61           C
ATOM   1382  O   TRP A 403     -24.407  20.327  20.522  1.00 38.88           O
ATOM   1383  N   LYS A 404     -22.642  21.424  19.625  1.00 36.36           N
ATOM   1384  CA  LYS A 404     -23.180  22.743  19.755  1.00 42.82           C
ATOM   1385  CB  LYS A 404     -22.069  23.742  20.078  1.00 44.40           C
ATOM   1386  CG  LYS A 404     -22.567  25.124  20.549  1.00 47.41           C
ATOM   1387  CD  LYS A 404     -21.430  26.149  20.621  1.00 52.01           C
ATOM   1388  CE  LYS A 404     -21.605  27.125  21.786  1.00 59.97           C
ATOM   1389  NZ  LYS A 404     -20.430  28.027  22.061  1.00 57.40           N
ATOM   1390  C   LYS A 404     -23.819  23.117  18.431  1.00 45.19           C
ATOM   1391  O   LYS A 404     -23.175  22.983  17.388  1.00 48.81           O
ATOM   1392  N   PHE A 405     -25.072  23.569  18.469  1.00 38.31           N
ATOM   1393  CA  PHE A 405     -25.705  24.123  17.271  1.00 40.90           C
ATOM   1394  CB  PHE A 405     -27.094  23.496  17.069  1.00 39.47           C
ATOM   1395  CG  PHE A 405     -27.037  22.035  16.641  1.00 39.51           C
ATOM   1396  CD1 PHE A 405     -26.885  21.693  15.275  1.00 39.99           C
ATOM   1397  CE1 PHE A 405     -26.786  20.362  14.873  1.00 41.24           C
ATOM   1398  CZ  PHE A 405     -26.877  19.356  15.833  1.00 43.05           C
ATOM   1399  CE2 PHE A 405     -27.015  19.690  17.184  1.00 43.92           C
ATOM   1400  CD2 PHE A 405     -27.097  21.014  17.582  1.00 38.87           C
ATOM   1401  C   PHE A 405     -25.769  25.655  17.324  1.00 42.45           C
ATOM   1402  O   PHE A 405     -26.161  26.221  18.341  1.00 42.52           O
ATOM   1403  N   THR A 406     -25.339  26.328  16.257  1.00 43.08           N
ATOM   1404  CA  THR A 406     -25.296  27.802  16.239  1.00 46.58           C
ATOM   1405  CB  THR A 406     -23.841  28.323  16.135  1.00 48.64           C
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ATOM   1406  OG1 THR A 406     -23.115  27.450  15.281  1.00 47.40           O
ATOM   1407  CG2 THR A 406     -23.144  28.325  17.488  1.00 41.25           C
ATOM   1408  C   THR A 406     -26.125  28.352  15.065  1.00 45.32           C
ATOM   1409  O   THR A 406     -25.953  27.902  13.938  1.00 46.96           O
ATOM   1410  N   ALA A 407     -27.044  29.290  15.326  1.00 42.01           N
ATOM   1411  CA  ALA A 407     -27.908  29.851  14.253  1.00 43.20           C
ATOM   1412  CB  ALA A 407     -28.890  30.890  14.827  1.00 36.73           C
ATOM   1413  C   ALA A 407     -27.110  30.499  13.120  1.00 40.45           C
ATOM   1414  O   ALA A 407     -26.270  31.319  13.385  1.00 40.73           O
ATOM   1415  N   THR A 408     -27.410  30.161  11.866  1.00 47.02           N
ATOM   1416  CA  THR A 408     -26.847  30.869  10.707  1.00 48.85           C
ATOM   1417  CB  THR A 408     -26.990  30.053   9.413  1.00 48.14           C
ATOM   1418  OG1 THR A 408     -28.344  30.097   8.977  1.00 61.55           O
ATOM   1419  CG2 THR A 408     -26.602  28.623   9.604  1.00 45.87           C
ATOM   1420  C   THR A 408     -27.465  32.283  10.468  1.00 57.62           C
ATOM   1421  O   THR A 408     -26.811  33.126   9.864  1.00 62.00           O
ATOM   1422  N   LYS A 409     -28.690  32.533  10.961  1.00 52.67           N
ATOM   1423  CA  LYS A 409     -29.369  33.872  10.887  1.00 56.68           C
ATOM   1424  CB  LYS A 409     -30.601  33.855   9.974  1.00 53.63           C
ATOM   1425  CG  LYS A 409     -30.261  33.596   8.524  1.00 68.12           C
ATOM   1426  CD  LYS A 409     -31.478  33.137   7.734  1.00 83.27           C
ATOM   1427  CE  LYS A 409     -32.061  34.259   6.878  1.00 84.67           C
ATOM   1428  NZ  LYS A 409     -33.306  34.824   7.466  1.00 87.15           N
ATOM   1429  C   LYS A 409     -29.748  34.481  12.235  1.00 46.56           C
ATOM   1430  O   LYS A 409     -30.131  33.795  13.170  1.00 45.30           O
ATOM   1431  N   LYS A 410     -29.606  35.791  12.316  1.00 48.26           N
ATOM   1432  CA  LYS A 410     -29.712  36.532  13.563  1.00 52.99           C
ATOM   1433  CB  LYS A 410     -29.044  37.886  13.396  1.00 56.59           C
ATOM   1434  CG  LYS A 410     -27.544  37.867  13.637  1.00 67.81           C
ATOM   1435  CD  LYS A 410     -27.196  38.721  14.851  1.00 70.64           C
ATOM   1436  CE  LYS A 410     -25.851  39.419  14.664  1.00 71.13           C
ATOM   1437  NZ  LYS A 410     -25.809  40.799  15.245  1.00 72.83           N
ATOM   1438  C   LYS A 410     -31.138  36.709  14.086  1.00 54.59           C
ATOM   1439  O   LYS A 410     -31.338  37.003  15.272  1.00 47.67           O
ATOM   1440  N   ASP A 411     -32.126  36.494  13.222  1.00 50.60           N
ATOM   1441  CA  ASP A 411     -33.499  36.594  13.669  1.00 55.97           C
ATOM   1442  CB  ASP A 411     -34.382  37.161  12.549  1.00 60.11           C
ATOM   1443  CG  ASP A 411     -34.525  36.224  11.359  1.00 62.81           C
ATOM   1444  OD1 ASP A 411     -34.074  35.067  11.370  1.00 62.81           O
ATOM   1445  OD2 ASP A 411     -35.119  36.663  10.375  1.00 64.67           O
ATOM   1446  C   ASP A 411     -34.088  35.300  14.281  1.00 56.90           C
ATOM   1447  O   ASP A 411     -35.233  35.307  14.706  1.00 63.74           O
ATOM   1448  N   MET A 412     -33.303  34.210  14.305  1.00 49.60           N
ATOM   1449  CA  MET A 412     -33.696  32.907  14.903  1.00 51.10           C
ATOM   1450  CB  MET A 412     -32.748  31.787  14.436  1.00 40.68           C
ATOM   1451  CG  MET A 412     -32.989  31.408  12.982  1.00 58.61           C
ATOM   1452  SD  MET A 412     -32.027  30.014  12.337  1.00 63.69           S
ATOM   1453  CE  MET A 412     -30.594  30.851  11.709  1.00 58.46           C
ATOM   1454  C   MET A 412     -33.676  32.894  16.425  1.00 48.39           C
ATOM   1455  O   MET A 412     -32.952  33.678  17.053  1.00 42.71           O
ATOM   1456  N   SER A 413     -34.414  31.957  17.026  1.00 44.90           N
ATOM   1457  CA  SER A 413     -34.235  31.744  18.446  1.00 42.44           C
ATOM   1458  CB  SER A 413     -35.302  32.474  19.227  1.00 42.13           C
ATOM   1459  OG  SER A 413     -36.572  31.990  18.812  1.00 46.24           O
ATOM   1460  C   SER A 413     -34.360  30.257  18.679  1.00 37.75           C
ATOM   1461  O   SER A 413     -35.225  29.640  18.086  1.00 38.47           O
ATOM   1462  N   PRO A 414     -33.515  29.678  19.560  1.00 33.40           N
ATOM   1463  CA  PRO A 414     -32.410  30.358  20.180  1.00 35.27           C
ATOM   1464  CB  PRO A 414     -32.070  29.457  21.356  1.00 37.15           C
ATOM   1465  CG  PRO A 414     -32.436  28.091  20.911  1.00 37.45           C
ATOM   1466  CD  PRO A 414     -33.674  28.301  20.075  1.00 36.86           C
ATOM   1467  C   PRO A 414     -31.225  30.528  19.228  1.00 37.68           C
ATOM   1468  O   PRO A 414     -31.229  29.925  18.146  1.00 34.36           O
ATOM   1469  N   GLN A 415     -30.268  31.404  19.573  1.00 37.06           N
ATOM   1470  CA  GLN A 415     -29.066  31.587  18.696  1.00 35.80           C
ATOM   1471  CB  GLN A 415     -28.296  32.908  18.990  1.00 38.30           C
ATOM   1472  CG  GLN A 415     -28.996  34.164  18.389  1.00 43.27           C
ATOM   1473  CD  GLN A 415     -28.987  34.180  16.846  1.00 41.84           C
ATOM   1474  OE1 GLN A 415     -29.992  33.869  16.200  1.00 43.35           O
ATOM   1475  NE2 GLN A 415     -27.865  34.531  16.262  1.00 39.58           N
ATOM   1476  C   GLN A 415     -28.119  30.401  18.756  1.00 33.60           C
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ATOM   1477  O   GLN A 415     -27.382  30.139  17.823  1.00 34.13           O
ATOM   1478  N   LYS A 416     -28.200  29.674  19.856  1.00 39.79           N
ATOM   1479  CA  LYS A 416     -27.375  28.527  20.097  1.00 43.58           C
ATOM   1480  CB  LYS A 416     -26.003  28.954  20.686  1.00 50.16           C
ATOM   1481  CG  LYS A 416     -26.000  29.133  22.187  1.00 54.46           C
ATOM   1482  CD  LYS A 416     -24.815  29.949  22.676  1.00 54.77           C
ATOM   1483  CE  LYS A 416     -25.247  30.768  23.869  1.00 50.07           C
ATOM   1484  NZ  LYS A 416     -25.911  32.082  23.480  1.00 39.14           N
ATOM   1485  C   LYS A 416     -28.118  27.553  21.025  1.00 41.06           C
ATOM   1486  O   LYS A 416     -28.958  27.944  21.853  1.00 39.51           O
ATOM   1487  N   PHE A 417     -27.823  26.275  20.839  1.00 41.90           N
ATOM   1488  CA  PHE A 417     -28.221  25.224  21.750  1.00 39.41           C
ATOM   1489  CB  PHE A 417     -29.697  24.827  21.523  1.00 34.05           C
ATOM   1490  CG  PHE A 417     -29.963  24.160  20.207  1.00 35.43           C
ATOM   1491  CD1 PHE A 417     -29.968  22.735  20.091  1.00 34.81           C
ATOM   1492  CE1 PHE A 417     -30.216  22.142  18.839  1.00 35.79           C
ATOM   1493  CZ  PHE A 417     -30.509  22.944  17.720  1.00 33.80           C
ATOM   1494  CE2 PHE A 417     -30.567  24.345  17.852  1.00 32.41           C
ATOM   1495  CD2 PHE A 417     -30.296  24.929  19.085  1.00 32.34           C
ATOM   1496  C   PHE A 417     -27.265  24.011  21.566  1.00 38.54           C
ATOM   1497  O   PHE A 417     -26.400  24.036  20.678  1.00 42.55           O
ATOM   1498  N   TRP A 418     -27.472  22.951  22.368  1.00 33.60           N
ATOM   1499  CA  TRP A 418     -26.664  21.745  22.329  1.00 37.44           C
ATOM   1500  CB  TRP A 418     -25.983  21.492  23.668  1.00 37.59           C
ATOM   1501  CG  TRP A 418     -25.132  22.628  24.130  1.00 38.53           C
ATOM   1502  CD1 TRP A 418     -25.553  23.753  24.847  1.00 40.93           C
ATOM   1503  NE1 TRP A 418     -24.492  24.599  25.095  1.00 39.89           N
ATOM   1504  CE2 TRP A 418     -23.332  24.092  24.557  1.00 45.82           C
ATOM   1505  CD2 TRP A 418     -23.681  22.819  23.907  1.00 42.89           C
ATOM   1506  CE3 TRP A 418     -22.662  22.069  23.287  1.00 42.54           C
ATOM   1507  CZ3 TRP A 418     -21.371  22.569  23.294  1.00 44.20           C
ATOM   1508  CH2 TRP A 418     -21.055  23.807  23.930  1.00 45.59           C
ATOM   1509  CZ2 TRP A 418     -22.018  24.573  24.575  1.00 38.75           C
ATOM   1510  C   TRP A 418     -27.532  20.560  21.999  1.00 39.78           C
ATOM   1511  O   TRP A 418     -28.676  20.460  22.473  1.00 36.22           O
ATOM   1512  N   GLY A 419     -26.977  19.648  21.197  1.00 43.31           N
ATOM   1513  CA  GLY A 419     -27.676  18.410  20.786  1.00 40.79           C
ATOM   1514  C   GLY A 419     -26.857  17.291  21.372  1.00 38.98           C
ATOM   1515  O   GLY A 419     -25.721  17.096  20.980  1.00 41.76           O
ATOM   1516  N   LEU A 420     -27.447  16.564  22.310  1.00 42.02           N
ATOM   1517  CA  LEU A 420     -26.730  15.576  23.083  1.00 43.66           C
ATOM   1518  CB  LEU A 420     -26.794  15.907  24.569  1.00 41.30           C
ATOM   1519  CG  LEU A 420     -26.281  17.276  25.020  1.00 43.93           C
ATOM   1520  CD1 LEU A 420     -26.274  17.287  26.545  1.00 45.97           C
ATOM   1521  CD2 LEU A 420     -24.904  17.620  24.432  1.00 44.93           C
ATOM   1522  C   LEU A 420     -27.300  14.196  22.843  1.00 45.63           C
ATOM   1523  O   LEU A 420     -28.523  13.983  22.988  1.00 47.89           O
ATOM   1524  N   THR A 421     -26.403  13.275  22.475  1.00 47.19           N
ATOM   1525  CA  THR A 421     -26.755  11.873  22.179  1.00 50.41           C
ATOM   1526  CB  THR A 421     -25.580  11.141  21.497  1.00 57.95           C
ATOM   1527  OG1 THR A 421     -25.099  11.920  20.399  1.00 53.64           O
ATOM   1528  CG2 THR A 421     -26.023   9.735  20.980  1.00 59.01           C
ATOM   1529  C   THR A 421     -27.133  11.185  23.483  1.00 47.41           C
ATOM   1530  O   THR A 421     -26.315  11.072  24.382  1.00 42.69           O
ATOM   1531  N   ARG A 422     -28.403  10.830  23.627  1.00 50.09           N
ATOM   1532  CA  ARG A 422     -28.910  10.249  24.875  1.00 53.93           C
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ATOM   1535  CD  ARG A 422     -32.758   9.888  25.504  1.00 76.14           C
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ATOM   1537  CZ  ARG A 422     -34.200  11.409  24.159  1.00 89.80           C
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ATOM   1545  OG  SER A 423     -25.971   6.168  22.859  1.00 62.93           O
ATOM   1546  C   SER A 423     -25.496   7.389  25.497  1.00 67.39           C
ATOM   1547  O   SER A 423     -24.847   6.539  26.110  1.00 64.90           O
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ATOM   1558  CD2 LEU A 425     -24.651  13.316  28.687  1.00 56.42           C
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ATOM   1566  CD2 LEU A 426     -26.234   5.629  32.719  1.00 65.84           C
ATOM   1567  C   LEU A 426     -27.290   9.495  33.366  1.00 63.28           C
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ATOM   1579  O2  SO4 B   1      -6.458   2.438  -1.462  0.50 49.67           O
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ATOM   1591  O4  SO4 B   4     -28.980  34.035  22.827  0.50 50.39           O
ATOM   1592  S   SO4 B   4     -30.024  32.990  22.735  0.50 50.79           S
ATOM   1593  O1  SO4 B   4     -29.392  31.765  22.156  0.50 49.15           O
ATOM   1594  O2  SO4 B   4     -31.178  33.475  21.919  0.50 44.58           O
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ATOM   1607 ZN    ZN C   2     -13.578  16.559   8.567  1.00 48.31          ZN
ATOM   1608  O   HOH E   1     -35.314  17.552  23.944  1.00 47.35           O
ATOM   1609  O   HOH E   2       0.054   4.032  -2.779  1.00 36.31           O
ATOM   1610  O   HOH E   3       4.531   2.010  -4.613  1.00 38.13           O
END
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[00516] A search for structural homologs to the TBD reveals that despite very low sequence identity (<14%), the same fold is found in other proteins including methionine sulfoxide reductase (MSR), an enzyme involved in the repair of oxidized proteins, dsRNA

binding proteins RIG-I, MDA5 and LGP2 which are involved in sensing viral RNAs as part of the innate immune response (Lu *et al.* Structure, 2010. 18(8):1032-43; Li *et al.* J Biol Chem, 2009. 284(20): 13881-91). Despite sharing the same fold, the tri-Trp pocket residues are not conserved in any of these structurally similar proteins, indicating that these cannot bind immunomodulatory agent drugs in the same manner as CRBN. However, CRBN orthologues can be identified across animal and plant kingdoms, and these proteins exhibit 100% sequence conservation in the immunomodulatory agent drug binding pocket (FIG. 19). This level of sequence conservation is indicative of strong functional constraint(s), which suggests there may be an endogenous ligand with which immunomodulatory agent drugs compete. Tryptophan residues 380 (W380), 386 (W386) and 400 (W400) are fully conserved across CRBN orthologues (FIG. 19). The glutarimide binding pocket formed by these three tryptophan residues is reminiscent of the aromatic pockets used for binding methylated lysine and/or arginine found in royal family proteins containing chromodomains, tudor domains, plant homeo domain (PHD) fingers and malignant brain tumor (MBT) repeats, as well as bromodomains for binding to acetylated lysines and the tryptophan box of betaine-binding proteins such as ProX31 and BetP32. However, our isothermal titration calorimetry (ITC) analysis showed no significant binding affinity to modified lysines, arginines or betaines (data not shown).

[00517] A combination of mutations at both Tyrosine 384 (Y384) and W386 has been reported to cause a loss of the immunomodulatory agent drug effects. As shown in FIG. 15, W386 is part of the lenalidomide binding site and mutation of that residue would be expected to have consequences for immunomodulatory agent drug binding. Y384 however does not make any direct interactions with lenalidomide, and might be expected to have a more general effect on the stability of the domain.

6.9.3.2 Mutational analysis of residues proximal to the immunomodulatory agent binding site

[00518] To better understand the role of the residues involved in the CRBN-immunomodulatory agent interactions in a cellular context, we performed mutagenesis of residues W386 or W400 to alanine and used lentiviral expression vectors to re-express full length *wild type* ($CRBN^{WT}$), W386A ($CRBN^{W386A}$) or W400A ($CRBN^{W400A}$) mutant versions of CRBN in a CRBN deficient myeloma cell line (DF15R) (Lopez-Girona *et al.*, Leukemia. 26(11):2326-35). Transduction of the lentiviral constructs into DF15R cells and selection with puromycin generated cell lines that stably expressed *wild type* or mutant forms of CRBN at levels similar to the matched immunomodulatory agent-sensitive DF15 cell line (Lopez-Girona *et al.*, Leukemia. 26(11):2326-35) (FIGS. 24A-24B). Immunoprecipitation-Western blotting analysis confirmed that similar to recombinant, *wild type CRBN,* mutants $CRBN^{W386A}$ and

$CRBN^{W400A}$ interacted with DDB1 indicating that these proteins were properly folded and competent to form $CRL4^{CRBN}$ complexes in cells (FIG. 24C) (Ito *et al.,* Science, 2010. 327(5971):1345-50). Cell extracts from these lines were then used to assay the ability of CRBN to bind immunomodulatory agent compound. We used the thalidomide analog-coupled affinity bead assay (Ito *et al.,* Science, 2010. 327(5971):1345-50; Lopez-Girona *et al.*, Leukemia. 26(11):2326-35) (FIG. 24D) to demonstrate binding of recombinant CRBN to immunomodulatory agent compounds in cell extracts. Similar to the endogenous protein in DF15 cell extracts, the recombinant $CRBN^{WT}$ expressed in DF15R was able to bind thalidomide analog-beads (FIG. 22A), and preincubation of cell extracts with free thalidomide or pomalidomide competed for binding to the beads. In contrast, the tryptophan mutants $CRBN^{W386A}$ and $CRBN^{W400A}$ were unable to bind thalidomide analog-beads (FIG. 22A), consistent with the structural information that both tryptophan residues in CRBN are needed for the interaction with immunomodulatory agent compounds.

[00519] The antiproliferative effect of immunomodulatory agent compounds on myeloma cells is mediated through CRBN protein. Thus, engineered cells (FIG. 25) (Lopez-Girona *et al.*, Leukemia. 26(11):2326-35; Zhu *et al.*, Blood. 2011. 118(18):4771-9) or cells made resistant to immunomodulatory agent drugs (Lopez-Girona *et al.*, Leukemia. 26(11):2326-35) that lack detectable levels of CRBN, *e.g.,* DF15R, become insensitive to the antiproliferative effects of the immunomodulatory agent compounds (FIG, 22B; FIG. 25). Significantly, the re-expression of a single recombinant protein, $CRBN^{WT}$, is sufficient to restore the sensitivity to immunomodulatory agent compounds in the resistant line DF15R (FIG. 22B) as well as in other cell lines (data not shown). In these cells, re-expression of $CRBN^{WT}$ also restores immunomodulatory agent-induced degradation of aiolos, and, as expected, restores the inhibition of c-Myc, IRF4, and phophorylated pRB expression (FIG. 22C). All of these downstream effects are consistent with the regained antiproliferative effect of pomalidomide (Gandhi *et al.,* Br J Haematol.; Lu *et al.,* Science; Kronke, *et al.,* Science, 2014. 343(6168):301-5; Lopez-Girona *et al.* Br J Haematol, 2011. 154(3):325-36). In contrast, expression of the immunomodulatory agent-binding defective mutants, $CRBN^{W386A}$ or $CRBN^{W400A}$, does not re-sensitize DF15R cells to the antiproliferative effects of immunomodulatory agent drugs (FIGS. 22B and 22C). These cellular data are consistent with the structural data indicating that both W386 and W400 residues mediate CRBN binding to immunomodulatory agents, and CRBN mediates the antiproliferative effects characteristic of immunomodulatory agent compounds in myeloma cells.

6.9.3.3 Mutation of variable residues in the immunomodulatory agent binding site of CRBN

[00520] Since we hypothesized that immunomodulatory agents are essential for altering the interaction between CRBN and substrate, we also investigated the role of other proximal residues. It is known that rodents do not respond to immunomodulatory agent drugs in the same way that humans do. Rodents appear to be resistant to the IL-2 induction (FIG. 26), antiproliferative effects and also immunomodulatory agent compound induced teratogenicity (Newman *et al.,* Reprod Toxicol, 1993. 7(4):359-90). A key step in understanding immunomodulatory agent biology and ultimately engineering immunomodulatory agent analogs without teratogenicity may indeed come from pin-pointing the key features which underlie the biological differences seen between rodents and humans. Within the immunomodulatory agent binding domain there are four differences between mouse and human proteins. Two of the variable residues are proximal to the immunomodulatory agent binding site (FIG. 19). One of these residues features a substantial change in properties from an acidic residue (glutamate 377) in human to a hydrophobic residue (valine) in mouse and rat.

[00521] To probe the function of the residues proximal to the bound immunomodulatory agent drug, we performed mutagenesis of residue E377 to valine in the human CRBN sequence and re-expressed the protein using a lentiviral system in DF15R cells. Cell extracts from this line were used to assay the ability of $CRBN^{E377V}$ to bind Immunomodulatory agent compound. Similar to the recombinant $CRBN^{WT}$, but in contrast to the $CRBN^{W386A}$ or $CRBN^{W400A}$ mutants, the $CRBN^{E377V}$ mutant was able to bind thalidomide analog-beads, and this binding was competed by preincubation of cell extracts with free thalidomide or pomalidomide comparable to $CRBN^{WT}$ (FIG. 23A). This is consistent with the structure that shows E377V is proximal to but does not directly interact with bound lenalidomide. $CRBN^{E377V}$ re-expression in DF15R was unable to rescue sensitivity to pomalidomide or to rescue the degradation of Aiolos (FIG. 23B and FIG. 23B insert). Immunomodulatory agent binding to CRBN has been shown to enhance both the recruitment to $CRL4^{CRBN}$ and the degradation of Ikaros and Aiolos Gandhi *et al.,* Br J Haematol.; Lu *et al.,* Science; Kronke, *et al.,* Science, 2014. 343(6168):301-5). To determine whether Aiolos binding had been altered, we performed pull-down assays to compare the ability of $CRBN^{WT}$ or $CRBN^{E377V}$ to interact with Aiolos in the presence or absence of immunomodulatory agent compounds.

[00522] The function of the residues proximal to the bound immunomodulatory agent drug in degradation of CRBN substrates induced by immunomodulatory agent drug was studied. 293FT CRBN-/- cells were transiently transfected with plasmids expressing V5-tagged IKZF1, FLAG-tagged IKZF3, Myc-tagged Substrate X, GFP, human CRNB (hCRBN) or variants thereof, or mouse CRBN (mCRBN) or variants thereof. Thirty-six hours after transfection, cells were treated with DMSO, 10 μM lenalidomide or 1 μM Compound C for additional 12 hours.

Cells were then wished with ice-cold 1 X PBS twice, lysed in buffer A [50 mM Tris. CL, 150 mM NaCL, 1% triton-x 100, complete protease inhibitor tablet (roche), phosphatase inhibitor tablet (roche)]. Whole cell extracts were then harvested and subjected to immunoblot analysis. The results are shown in FIG. 27. As shown, V388 is essential for the destruction of Ikaros (IKZF1) or Aiolos (IKZF3) by lenalidomide. This result indicates that residue 388 of CRBN plays an important role in degradation of CRBN substrates, *e.g.*, Ikaros or Aiolos, induced by immunomodulatory agent drug.

6.9.4. Discussion

[00523] Ito *et al.* first reported CRBN as the primary molecular target of thalidomide, and through mutagenesis demonstrated that the C-terminal domain encompassed the thalidomide binding domain (Ito *et al.,* Science, 2010. 327(5971):1345-50).

[00524] Herein, we have presented the crystal structure of CRBN in complex with DDB1 and lenalidomide, thus providing the first structural description of immunomodulatory agent drug binding. The immunomodulatory agent-binding site is a shallow hydrophobic pocket on the surface of CRBN: three tryptophan residues form the binding site for the glutarimide ring of the immunomodulatory agent drug, with 3 hydrogen bonds observed between CRBN and the glutarimide ring. The glutarimide ring is a defining feature of the immunomodulatory agent class of molecules and all immunomodulatory agent-CRBN structures solved to date replicate the CRBN-immunomodulatory agent binding interaction described herein.

[00525] We have demonstrated that immunomodulatory agent binding and cellular function is dependent upon these key tryptophan interactions by comparing mutant knock-ins to wild type CRBN in a CRBN-deficient myeloma cell line, DF15R. We further used the knock-in system to study a glutamate residue, E377, which although proximal to bound lenalidomide, does not directly interact with the ligand. E377 is of keen interest as this residue is a valine in rodent species, which are resistant to teratogenic and other cellular immunomodulatory agent drug effects. We observe that knock-in of a human E377V mutant CRBN behaves in an identical manner to the knock-in of murine CRBN into our human myeloma cell line: neither mouse CRBN, nor human E377V mutant CRBN are able to rescue the immunomodulatory agent response although immunomodulatory agent binding is clearly evident (FIG. 23). In addition, we found that residue 388 of CRBN is essential for the destruction of Aiolos and Ikaros by lenalidomide. Of note is that we have not detected an E377V mutation in the setting of clinical resistance but our work here implies that a single amino acid change could mediate resistance to immunomodulatory agent drugs. CRBN down-regulation is certainly a mode of immunomodulatory agent resistance as evidenced by our *in vitro* experiments and has been

suggested by a number of reports as a mechanism for innate or acquired resistance to immunomodulatory agent drugs in the clinical setting.

[00526] We establish that immunomodulatory agent drug binding alone, although necessary for inducing the E3 ligase mediated degradation of Aiolos and Ikaros, may not be sufficient as demonstrated here with the E377V mutant. Interestingly, the lenalidomide isoindolinone group is presented on the surface of the CRBN protein. This binding mode generates a surface with a number of available hydrogen bonds from both the protein and lenalidomide in the proximity of an exposed hydrophobic group. Immunomodulatory agent drug binding to CRBN has been demonstrated to increase the recruitment of substrates (*e.g.,* Ikaros and Aiolos) to the ubiquitin ligase complex and enhance their degradation Gandhi *et al.,* Br J Haematol.; Lu *et al.,* Science; Kronke, *et al.,* Science, 2014. 343(6168):301-5.). It is an interesting finding by us that V388 of CRBN is essential for immunomodulatory agent drug (*e.g.*, lenalidomide) induced degradation of Ikaros and Aiolos. The unsatisfied bonding potential around the bound immunomodulatory agent drug could therefore form the basis of an artificially introduced interaction hotspot, thereby conferring a pharmacologically induced 'neomorphic' function to this E3 ligase.

[00527] However, in the case of CRBN, we have shown that the immunomodulatory agent binding pocket is extremely conserved across the known orthologues, which indicates that immunomodulatory agent drugs may be binding in place of an endogenous ligand, which has yet to be identified. There are several examples of endogenous ligands that have been demonstrated to regulate substrate recruitment to ubiquitin ligase complexes in plant systems. For example, auxin and jasmonate are small molecule regulators of ligases in plants (Tan *et al.* Nature, 2007. 446(7136):640-5; Chini *et al.,* Nature, 2007. 448(7154):666-71). Similarly, a number of natural products exhibit pharmacological activity by scaffolding macromolecular interactions (Thiel *et al.*. Angew Chem Int Ed Engl, 2012. 51(9):2012-8).

[00528] The ability for a small molecule to scaffold a specific macromolecular interaction to an E3 ubiquitin ligase has particularly exciting implications for drug discovery. We have observed several categories of variation proximal to the immunomodulatory agent drug binding site: variations in the presentation and substitution pattern of the solvent exposed ligand groups, protein conformational differences, and species sequence differences. To fully rationalize the role of these in immunomodulatory agent drug biology, several further advancements are anticipated, such as identification of the endogenous ligand(s) and the binding mode of the substrate proteins, such as Aiolos, when recruited to the Cul4:Rbx1:DDB1:CRBN complex upon immunomodulatory agent drug treatment. By describing the crystal structure of

an immunomodulatory agent bound to CRBN, a substrate adapter for an E3 ubiquitin ligase, progress towards the rational design of ubiquitin ligase modulators is made.

6.10 Compound C-induced Recruitment of GSPT1 to CRBN and the Crystal Structure of CRBN-DDB1-GSPT1- Compound C Complex

6.10.1 Summary

[00529] CRBN is the biological receptor for immunomodulatory drugs, which alter the specificity of the CRBN E3 ubiquitin ligase to confer differential patterns of substrate ubiquitylation and degradation. Here we report the structure of CRBN in complex with a novel small molecule CRBN modulator, Compound C, and a novel substrate, the translation termination factor GSPT1. GSPT1 binding is mediated by a surface turn which interacts with both Compound C and a "hotspot" on the CRBN surface. Substrate interactions with CRBN are predominantly backbone mediated with a Glycine (G) residue at a key position. We provide a molecular/mechanistic understanding of Compound C-directed GSPT1 recruitment, and define a structural degron that may underlie CRBN substrate selectivity. Finally, despite potent anti-tumor effects in humans, rodents remain resistant to Compound C effects via a CRBN mutation, E377V.

6.10.2 Materials and Methods

6.10.2.1 Protein expression and purification

[00530] Purification of CRBN-DDB1 was performed essentially as previously described (Chamberlain 2014). 6xHis-ZZ-domain-thrombin tagged human CRBN (amino acids 40 – 442) and full length human DDB1 were co-expressed in SF9 insect cells in ESF921 medium in the presence of 50 uM zinc acetate. Cells were resuspended in buffer containing 50 mM Tris-HCl pH 7.5, 500 mM NaCl, 10 mM imidazole, 10% Glycerol, 2 mM TCEP, 1X Protease Inhibitor Cocktail (San Diego Biosciences, San Diego, CA), and 40,000U Benzonase (Novagen, Billerica, MA), and sonicated for 30 s. Lysate was clarified by high speed spin at 30,000 rpm for 30 minutes, and incubated with Ni-NTA affinity resin (Qiagen, Germany) for 1 hour. Complex was eluted with 500 mM imidazole, and the 6xhis-zz-domain tag removed by thrombin (Enzyme Research Laboratories, South Bend, IN) cleavage overnight combined with dialysis into 10 mM imidazole buffer. Cleaved eluate was incubated with Ni-NTA sepharose, and the flow-through diluted to 200 mM NaCl for further purification over an ANX HiTrap ion exchange column (GE Healthcare, Piscataway, NJ). The ANX column was washed with 10 column volumes of 50 mM Tris-HCl pH 7.5, 200 mM NaCl, 3 mM TCEP, followed by 10 column volumes of 50 mM Bis-Tris pH 6.0, 200 mM NaCl, 3 mM TCEP, and the CRBN-DDB1 peak eluted at 210 mM NaCl. The peak was collected and further purified by size exclusion chromatography using a Sephacryl 400 16/60 (GE Healthcare, Piscataway, NJ) in buffer containing 10 mM HEPES pH 7, 240 mM

NaCl, 3.0mM TECP. The CRBN-DDB1 complex was concentrated to 30 mg/mL for crystallization trials.

[00531] GSPT1 domains 2 and 3 (amino acids 437-633) was expressed as an MBP-fusion in E.coli BL21 (DE3) star cells (Life Technologies, Carlsbad, CA) using 2XYT media (Teknova, Hollister, CA). Cells were induced at OD_{600} 0.6 for 18 hours at 16 °C. Cells were pelleted, resuspended in buffer containing 200 mM NaCl, 50 mM Tris pH 7.5, 1 mM TCEP, 10% glycerol, x mg/mL lysozyme, 10,000 U benzonase, and 1X SD Bioscience protease inhibitors. Resuspended cells were frozen, thawed for purification, and sonicated for 30 s before high speed spin at 30,000 rpm for 30 minutes. Clarified lysate was incubated with maltose resin (NEB) at 4 °C for 1 hour before beads were washed. Protein was eluted with buffer containing 10 mM maltose, and the MBP tag was removed by overnight cleavage with thrombin (Enzyme Research Laboratories, South Bend, IN). Cleaved GSPT1 was diluted into buffer containing 90 mM Nacl and further separated over a Heparin HiTrap column (GE healthcare, Piscataway, NJ). The GSPT1 peak eluting at 100 mM NaCl was collected, concentrated, and further separated by size exclusion chromatography over a Sepharose 75 16/60 column (GE Healthcare, Piscataway, NJ) in buffer containing 10 mM HEPES pH7, 240 mM NaCl, 3.0mM TECP. GSPT1 eluted at 75 mL and was concentrated to 16 mg/mL for crystallization trials.

6.10.2.2 Crystallization and structure determination

[00532] Crystallization of the complex was achieved by sitting drop vapor diffusion. CRBN-DDB1 and GSPT1 were mixed together to equimolar stoichiometry at a final concentration of 170 uM. The solution of CRBN-DDB1-GSPT1 in the presence of 500 uM Compound C was mixed 1:1 with, and subsequently equilibrated against a mother liquor solution of 200 mM sodium citrate, Tris-HCl pH 8.4-8.6, 17-20% PEG 3350 and incubated at 9 °C. Crystals were cryoprotected in the reservoir solution supplemented with 20% Ethylene glycol and cooled under liquid nitrogen. Data were collected from a single crystal at the Advanced Light Source, beamline 5.0.2. The structure of human CRBN-DDB1-GSPT1-Compound C was solved by molecular replacement using Phaser, with human CRBN-DDB1 (PDB code 4TZ4) and GSPT1 (pdb code 3E1Y) as search models. Subsequent manual model building using Coot and refinement were performed using Refmac5 with non-crystallographic symmetry and external structure restraints. Crystallographic statistics are summarized in Table 9.

TABLE 9. Crystallographic Statistics

	CRBN-DDB1-Compound C-GSPT1
Data collection	
Space group	*P*2

Cell dimensions	
a, *b*, *c* (Å)	156.8 111.5 175.1
α, β, γ (°)	90 95.8 90
Resolution (Å)	50-3.6 (3.66-3.6)*
R_{merge} (%)	19.8 (79.6)
$I / \sigma I$	10.6 (2.1)
Completeness (%)	94.4 (93.9)
Redundancy	4.8 (4.5)
Refinement	
Resolution (Å)	50.0-3.6
No. reflections	62827
R_{work} / R_{free}	0.223 / 0.279
No. atoms	
Protein	25202
Ligand/ion	62/2
Water	0
B factors	
Protein	117.9
Ligand/ion	99.9/167.6
Water	N/A
r.m.s. deviations	
Bond lengths (Å)	0.015
Bond angles (°)	1.853

*Values in parentheses are for highest-resolution shell.

6.10.2.3 Surface Plasmon resonance binding assay

[00533] Binding kinetics was measured using a Biacore T200. Using the GST-capture kit (GE Healthcare, BR-1002-23), ~2000 RU of anti-GST antibody was immobilized on a CM5 chip (GE Healthcare, Piscataway, NJ). GST-GSTP1-domain 2 and 3 (0.07 ug/mL) or GST (0.15 ug/mL, reference channel) was then flowed over the chip at 10 ul/min for 2 min, resulting in a capture level of approximately 10 RU. A 3-fold dilution series of CRBN-DDB1 (3 uM to 3 nM) was then flown over both channels at a rate of 30 ul/min for 300 s contact time, followed by 900 s dissociation time. After each cycle of binding and dissociation, the surface was regenerated with 10 mM glycine pH 2.1 for 120 s at 30 ul/min, followed by 3M $MgCl_2$ for 60 s at 30 ul/min. All reagents (GST, GST-GSPT1 domain 2 and 3, CRBN-DDB1, and running buffer) were in 10 mM HEPES pH 7.4, 150 mM NaCl, 0.05% v/v Surfactant P20 containing 0.02% DMSO and saturating levels of the relevant compound, glutarimide or Compound C (Compound C at 10 uM, Glutarimide at 100 uM given its significantly lower affinity for CRBN). The apparent on- and off-rate constants were globally fit with a 1:1 kinetic binding model to the sensograms (black lines) using the Bioacore T200 kinetic analysis software package.

6.10.2.4 Co-immunoprecipitation of CRBN-DDB1 with substrates

[00534] Co- immunopreciptation of CRBN-DDB1 with either GSPT1 or IKZF1 was performed using the same protocol. Tagged substrate, either GST-GSPT1-domain 3 (a.a. 526-

633) or MBP-IKZF1 (a.a. 140-168), was expressed in bacteria and purified using affinity and size exclusion chromatography. Substrate was then bound to magnetic beads for 1 hour. Beads were washed 3 times in IP buffer (50 mM Tris pH 7.5, 150 mM NaCl, 10% glycerol, 0.01% NP-40, 1 mM TCEP) to remove excess unbound substrate, before the addition of DMSO or 100 uM compound (Compound C for GSPT1 and pomalidomide for IKZF1) and 50 uM CRBN-DDB1, purified from insect cells using affinity, ion exchange, and size exclusion chromatography. After one hour incubation with occasional gentle mixing at room temperature, unbound CRBN-DDB1 was removed and beads were washed 3 times in IP buffer, for a total of around 30 s. Substrate and co-immunoprecipitated CRBN-DDB1 was eluted using either 20 mM reduced glutathione or 10 mM maltose, separated by SDS-PAGE, and coomassie stained.

6.10.3 Results

6.10.3.1 A truncated form of human GSPT1 maintained the functionality of the full-length protein

[00535] FIG. 28A illustrates a full-length human GSPT1 and a truncated mutant form, which lacks the N-terminal 138 amino acid residues. FIG. 28B shows that, in 293T HEK cells, Compound C induced degradation of the full-length GSPT1 and the truncated form. FIG. 28C shows that Compound C induced interaction of CRBN with the full-length GSPT1 as well as the truncated GSPT1. Thus, the truncated mutant human GSPT1 maintained the functionality of the full-length protein and can be used in studies below.

6.10.3.2 Glycine (G) 575 in human GSPT1 is essential for the functionality of GSPT1

[00536] FIG. 29A shows a high degree of homology between the human GSPT1 and the yeast homologue SUP35. However, FIG. 29B shows that SUP35 did not exhibit Compound C-induced degradation, in contrast to human GSPT1.

[00537] To determine the critical region in the human GSPT1 that contributes to the Compound C-induced degradation, a plethora of chimeric constructs containing various domains of human GSPT1 and yeast SUP35 were generated (FIG. 30A). These recombinant proteins were tested for Compound C-induced degradation by Western blot (FIGS. 30B-30D). As the results shown, a 32-amino acid fragment in the C-terminus of human GSPT1 (residues 562-593) is critical for Compound C-induced degradation.

[00538] To further map the essential amino acid residues in this 32- amino acid fragment of human GSPT1, various point mutations within the fragment were generated and tested for Compound C-induced degradation of GSPT1 and Compound C-induced interaction between CRBN and GSPT1. FIG. 31A shows the sequence comparison among human GSPT1, human GSPT2, human HBS1L, mouse GSPT1, mouse GSPT2, mouse HBS1L, and yeast SUP35.

Among these homologues, only the yeast SUP35 is resistant to Compound C. Sequence alignment suggested that glycine (G) at position 575 of human GSPT1 may contribute to the sensitivity to Compound C. FIG. 31B shows that a G575N mutation in GSPT1 blocked Compound C-induced degradation, but a E576R mutation had no effect. Other mutations, such as I567L, C568H, L569K, R581P. R583A, V585A, and Q589M, exhibited no effect on Compound C-induced degradation of GSPT1 (data not shown). Further, FIG. 31C shows that the G575N mutation in GSPT1 blocked Compound C-induced interaction between CRBN and GSPT1, but the E576R mutation had no effect.

[00539] FIGS.32A-32B demonstrate that the G575N mutation in GSPT1 blocked Compound C–induced growth inhibition and Compound C-induced downstream activation of ATF4 and apoptosis pathways.

6.10.3.3 Crystal structure of GSPT1-CRBN complex in the presence of Compound C

[00540] We determined the crystal structure of full length human DDB1 bound to human CRBN (amino acids 40-442), Compound C, and domains 2 and 3 of human GSPT1 (amino acids 437-633) to 3.6 Angstroms resolution. The interaction between purified GSPT1 domains 2 and 3 and purified CRBN-DDB1 complex was not observable in the absence of Compound C, and had a KD of 400 nM in the presence of Compound C, as determined by surface plasmon resonance (data not shown). GSPT1 domain 3 docks against CRBN at the site of Compound C binding, with direct interactions to both Compound C and to the proximal CRBN surface. GSPT1 domain 2 does not directly contact either Compound C or CRBN. This is consistent with biochemical characterization of the interaction between CRBN and GSPT1 by co-immunoprecipitation, which indicated that domain 3 of GSPT1 mediates CRBN interactions (data not shown). CRBN is in a highly similar conformation to the previously described structures, and is bound to DDB1 in a manner consistent with the previously determined structures of CRBN-DDB1. Chamberlain et al., Nature structural & mole. biol. 2014, 21:803-809; Fischer et al., Nature 2014, 512:49-53. Compound C is bound in the tri-Trp pocket of CRBN through its glutarimide ring, with 3 hydrogen bonds to the backbone of W380, H378, and to the side chain of H378 in CRBN (FIGS. 33E and 35A). The isoindolinone ring of Compound C is presented on the surface of CRBN, interacts with both CRBN and GSPT1, and sets up a "hotspot" on CRBN surface (FIG. 35B). The key Glycine (G) residue at position 575 of GSPT1 is engaged. The chemical structure of Compound C is extended compared to the immunomodulatory drugs lenalidomide or pomalidomide (FIGS. 33A-33C), allowing for further interactions with both CRBN and GSPT1. The urea moiety of Compound C is positioned between E377 and H353, with hydrogen bonds to both side chains (FIG. 35C). The species

resistance to Compound C is conferred by this region of CRBN. The terminal methyl-chloro-phenyl ring is positioned against the beta sheet core of GSPT1 domain 3 with direct Van der Waals interactions (FIG. 35D).

[00541] FIGS. 34A-34C demonstrate excellent agreement between structure and mutational analysis. Point mutations were generated on the surface of CRBN. These mutants were tested in CRBN immunoprecipitation experiment in the presence of vehicle or Compound C. As shown in FIG. 34A, E377V, E377A, and H357A disrupted the binding of GSPT1 to CRBN. H397 partially disrupted the binding. V388I had no effect on the GSPT1-CRBN binding, whereas V388A partially blocked the binding. This indicates that V388 itself is not essential for the interaction between GSPT1 and CRBN, but the substitution (A or I) affects the interaction. Other mutations, such as I371A, R373A, T376A, K406A, and K407A, had no effect on the GSPT1-CRBN binding. FIG. 34B shows the structure of GSPT1-CRBN binding, with mapped SUP35 region in yellow and the key Glycine (G) residue in red. FIG. 34C shows the structure of GSPT1-CRBN binding, with amino acid residues disrupting binding in red, amino acid residues partially disrupting binding in orange, amino acid residues not affecting binding in green, amino acid residues not tested in mutational analysis in blue.

[00542] FIG. 36A shows the non-conserved amino acid residues in red between GSPT1 and GSPT2, and FIG. 36A shows the non-conserved amino acid residues in red between GSPT1 and HBS1L. Compound C is shown in green. CRBN is shown in blue. The disparity between GSPT2 and HBS1L in comparison with GSPT1 suggests that the interaction between GSPT2 and CRBN may be very much like that between GSPT1 and CRBN, but that that the interaction between HBS1L and CRBN may be different from that between GSPT1 and CRBN.

[00543] FIG. 37 shows backbone-mediated interactions between CRBN and GSPT1 in the presence of Compound C. N351, H357, and W400 are amino acid residues in CRBN. D571, K572, and S574 are amino acid residues in GSPT1. Interactions between CRBN and GSPT1 are indicated by yellow dashed lines. Interactions between amino acid residues within GSPT1 are indicated by black dashed lines.

[00544] FIG. 38 shows that the key anchoring motif of GSPT1 is stabilized by internal hydrogen bonds from ASX and ST motifs. The hydrogen bonds between D571 and S574 are indicated by black dashed lines.

[00545] The GSPT1 motif which mediates interactions with CRBN-Compound C is a solvent exposed region composed of residues 569 to 578 including a small anti-parallel β-sheet with an α-turn from residues 571-575 (FIG. 41A). Despite the degree of solvent exposure, the turn is well ordered in both the prior GSPT1 crystal structure and in the complex with CRBN. The conformational stability of the turn is likely due to the intramolecular bonding pattern, with

an ASX-motif and an ST-turn mediated by D571 and S574, respectively (FIG. 38). These intramolecular motifs might be expected to rigidify and stabilize the conformation of the turn, thereby maintaining a competent conformation prior to cereblon binding (FIG. 41A). This is supported by the immunoprecipidation data, which shows that the D571A and S574A mutants lose CRBN binding (FIG. 41C). The key hydrogen bonds to CRBN are all mediated by backbone carbonyl oxygen atoms, which are displayed in an array at the end of the turn. Carbonyl oxygen atoms from GSPT1 K572, K573, and S574 accept hydrogen bonds from cereblon residues N351, H357, and W400, respectively (FIG. 41A). The fact that key bonds are formed from the backbone of the substrate protein, rather than from side chain residues presents the intriguing possibility that there may be considerable sequence tolerance in substrate recruitment, as long as the backbone remains in the appropriate conformation. The GSPT1 turn lies on top of the isoindolinone ring of Compound C, making hydrophobic and Van der Waals interactions. A key interaction occurs from G575 to the isoindolinone moiety of Compound C. This Glycine residue is of particular importance in determining substrate recruitment, as not only does G575 contribute binding interactions, but also the close sterics at this position indicate that no other residue would be tolerated at this position. This is consistent with the site-direct mutagenesis of the GSPT1 turn, which indicates that G575A loses Compound C dependent CRBN binding (FIG. 41C). Therefore, the key motif that enables substrate recruitment, or the "degron," is not the linear peptide sequence, but rather the geometric arrangement of 3 backbone hydrogen bond acceptors at the apex of a turn (positions i, i+1, and i+2), with a glycine residue at a key position (i+3). If such a structural degron is shown to be a common factor in recruitment of substrates to drug-bound cereblon, this could present a powerful tool for the identification of new substrate candidates. Other residues within the motif appear to contribute some binding affinity to the complex. For example, V570 exhibits Van der Waals interactions with the methylene-urea linker, and accordingly the V570A mutant displays reduced CRBN binding (FIG. 41C). However, the side chains of the 2 lysine residues K572 and K573 do not affect GSPT1-Compound C-CRBN binding. The amino acid residue E576 is similarly dispensable.

6.10.3.4 Superposition of IKZF1-CRBN complex model with GSPT1-CRBN complex structure in the presence of Compound C

[00546] FIGS. 39A-39B show the effect of specific amino acid residue mutations on CRBN surface upon substrate binding by immunoprecipitation. FIG. 39A is immunoprecipitation of GSPT1. FIG. 39B is immunoprecipitation of IKZF1. Cereblon and

substrate protein were co-expressed in HEK293T cells and co-immunoprecipitated in the presence or absence of lenalidomide, pomalidomide, Compound B or Compound C.

[00547] FIGS. 40A-40B map the effect of specific amino acid residue mutations on CRBN surface upon substrate binding. Red indicates amino acid residues whose mutations caused strong reduction in substrate binding. Orange indicates amino acid residues whose mutations caused some reduction in substrate binding. Green indicates amino acid residues whose mutations had no effect on substrate binding. Blue indicates amino acid residues that have not been tested in mutational analysis. FIG. 40A shows the effect on GSPT1 binding. FIG. 40B shows the effect on IKZF1 binding. In particular, E377 appeared to be critical for GSPT1 binding but not for IKZF1 binding.

[00548] The similar pattern of sensitivity to mutations on the surface of CRBN between GSPT1 binding and IKZF1 binding (FIGS. 40A-40B) suggests that a similar anchoring motif may be present in IKZF1. A homology model of IKZF1 was constructed based on homologous structures found in the protein data bank. The model of IKZF1 indicates that a zinc finger domain is capable of presenting a turn able to make the 3 key hydrogen bonds with a glycine at the critical position (FIG. 41B). A key glutamine residue on IKZF1, Q146, plays a critical role in cereblon binding. Kronke et al., Science 2014, 343:301-305; Lu et al., Science 2014, 343:305-309. The putative anchoring motif modeled in IKZF1 positions the critical residue, Q146, in a position oriented towards both bound immunomodulatory drug and the CRBN surface. Crucially, there is no sequence homology between IKZF1 and GSPT1 in the anchoring motif regions as modeled, except for the glycine residue at position i+3 (FIG. 41E). The implications of this model were tested by co-immunoprecipitation of CRBN with alanine mutation targeting the putative IKZF1 anchoring motif. A minimal domain of IKZF1 containing only one predicted zinc finger domain is sufficient to pull down CRBN-DDB1 in the presence of pomalidomide (FIG. 41D). However, mutation of the key glycine residue (G151) abrogates this interaction, while mutation of other residues has no effect. Mutation of the putative anchoring motif in IKZF1 reveals that Q146H, as tested by Lu et al. and Kronke et al., is indeed highly deleterious to CRBN binding. In contrast, the Q146A mutation is similar to wild type, suggesting that it is negative consequences of placing a histidine residue at this position, rather than a loss of key interactions from the glutamine that is responsible for the loss of cereblon binding in the Q146H mutants. N148 and Q149 in the proposed anchoring motif do not affect cereblon binding when mutated, in a manner consistent with K572 and K573 in GSPT1, which are predicted to occur at equivalent positions in the complex.

6.10.3.5 Superposition of CK1a-CRBN complex model with GSPT1-CRBN complex structure in the presence of Compound C

[00549] FIG. 42 shows that CK1a-CRBN complex model superposes with the anchoring motif of GSPT1-CRBN complex. CK1a-CRBN complex model was generated from the closest crystal structure (CK1e). The turn in N-lobe of CK1a aligns well with the turn of GSPT1: the key backbone carbonyls are placed for hydrogen bonds, and the Glycine (G) residue is placed at the key position. This model suggests that CK1a could conceivably bind in a manner consistent with GSPT1, thereby revealing all key elements of the degron. The sequence alignment among GSPT1, IKZF1, and CK1a is shown at the bottom of FIG. 42, with the key Glycine in bold.

6.10.3.6 Specific amino acid residues determine compound-induced specific recruitment of different substrates of CRBN

[00550] A key feature of immunomodulatory drug biology is the striking resistance observed in rodent species. This feature was historically a confounding factor in establishing the efficacy and safety risks associated with thalidomide. It was shown that, in contrast to human cereblon, murine cereblon is unable to rescue immunomodulatory drug sensitivity. Chamberlain *et al.*, *Nature structural & mole. biol.* 2014, 21:803-809. It was proposed that the molecular basis for this would lie in two variable residues on the cereblon surface proximal to the tri-Tryp pocket, E377V and V388I. The V388I mutation was subsequently shown to mediate mouse resistance to lenalidomide induced CK1α degradation. Kronke *et al.*, *Nature* 2015, 523:183-188. Despite the potent effect seen on human cells, murine cells are resistant to the antiproliferative and pro-apoptotic effects of Compound C (data not shown). To test the effects of the proximal surface mutations upon substrate degradation, either wild-type (WT) or mutant CRBN were co-transfected with IKZF1 into HEK293T cells, which were treated with Compound C or lenalidomide to examine the effects on substrate degradation. As shown in FIG. 43A, expression of human WT CRBN leads to the degradation of IKZF1 upon treatment with lenalidomide, or to the degradation of both IKZF1 and GSPT1 upon treatment with Compound C. Introduction of the mouse residue E377V blocks the degradation of GSPT1 by Compound C; however, degradation of IKZF1 by either ligand is maintained. In contrast, the mouse mutation V388I blocks the degradation of IKZF1 by both lenalidomide and Compound C, but GSPT1 degradation by Compound C is maintained. FIG. 43B shows that the murine CRBN is unable to mediate degradation of either IKZF1 or GSPT1 regardless of ligand tested. However, substrate degradation can be restored with the human point mutations: V377E restores GSPT1 degradation by Compound C, and I388V restores IKZF1 degradation. The dependence of GSPT1 degradation upon E377 can be rationalized by the crystal structure: the side chain of

E377 mediates hydrogen bond interactions with the urea moiety of Compound C. Furthermore, lenalidomide and other immunomodulatory drugs that do not contain the urea moiety are not affected by mutation of E377. This result also suggests that despite an overall similar pattern of substrate dependence on the CRBN surface (FIG. 40), there remain some key differences in CRBN and ligand binding between substrates which may provide opportunities to engineer substrate selectivity.

6.10.4 Discussion

[00551] Many efforts are underway aiming to modulate E3 ubiquitin ligase specificity and thereby redirect protein degradation towards novel substrates. PROTACS-type approaches are based around modular small molecules, with discrete moieties that interact with the ubiquitin ligase on one side, and potential substrates on the other, with the 2 functionalities separated by a linker. Winter et al., Science 2015, 348:1376-1381; Deshaies, Nature chem.. biol. 2015, 11:634-635. In contrast to PROTACS and related molecules, immunomodulatory drugs are low molecular weight and do not contain discrete, high affinity binders separated by a linker region. It was therefore a question how immunomodulatory molecules are able to scaffold CRBN-substrate interactions with such efficiency. As revealed by the CRBN-DDB1-GSPT1-Compound C structure, Compound C is capable of interacting with both CRBN and GSPT1. However, in contrast to linker based approaches, there is a further effect where Compound C acts by creating an interaction "hotspot" on the CRBN surface for direct interactions with the bound substrate. The contribution from the CRBN surface supports the function of small drug-like molecules without the pharmacokinetic liabilities that might come from ligase modulators incorporating large flexible linkers.

[00552] The surface of CRBN also underlies the historically significant phenomena of species sensitivity. Previous safety, efficacy, and mechanistic studies have been severely hampered by the unexplained and dramatic variations in species sensitivity to thalidomide analogues. Considerable progress has been made towards understanding the underlying molecular causes of the variation. It is now clear that rodent resistance can be mediated by 2 surface mutations. Interestingly, these mutations confer resistance to different substrates, with E377V responsible for GSPT1, and V388I mediating CK1α and IKZF1 resistance. This differential effect provides the exciting possibility that there are both common and unique interactions between CRBN, ligand, and substrate, which may be engineered to provide the desired selectivity range.

[00553] Many ligases recognize substrates based on linear peptide sequence or features such as post-translational modifications. Such "degrons" establish the substrate degradation sensitivity and therefore define the E3 ligase spectrum. In contrast, CRBN-Compound C

recruits GSPT1 through the recognition of a surface turn. Significantly, the interactions are composed of hydrogen bonds from the backbone of GSPT1, which may indicate that the degron in this instance will not be revealed by primary sequence, but instead by the geometry and sterics of a surface turn. A key to the steric compatibility is the presence of a glycine at the precise position within the turn. This glycine residue packs up tightly against the isoindolinone of Compound C, and conformational changes in the protein would be necessary to accommodate any other residue in this complex.

[00554] Our modeling and mutational work on IKZF1 raises the possibility of a common structural degron, and it may become possible to identify candidate substrates by searching for such a CRBN response element across the proteome. Such candidate substrates may then form the targets for exploitation by the next generation of CRBN modulators.

* * * * *

[00555] Throughout this application various publications have been referenced. The disclosures of these publications in their entireties are hereby incorporated by reference in this application in order to more fully describe the state of the art to which this invention pertains. Although the invention has been described with reference to the examples and embodiments provided above, it should be understood that various modifications can be made without departing from the spirit of the invention.

What is claimed is:

1. A degron in a CRBN-associated protein (CAP), wherein the degron is a structural degron.
2. The degron of claim 1, wherein the structural degron comprises an α-turn.
3. The degron of claim 1 or 2, comprising 4 amino acid residues, with positions designated as i, i+1, i+2, and i+3, respectively.
4. The degron of claim 3, further comprising an amino acid residue at position i-1.
5. The degron of claim 3 or 4, wherein the amino acid residues at position i, i+1, or i+2 form hydrogen bonds with amino acid residues on CRBN.
6. The degron of claim 3 or 4, wherein the amino acid residues at position i, i+1, and i+2 form hydrogen bonds with amino acid residues on CRBN.
7. The degron of any one of claims 3-6, wherein the amino acid residue at position i+3 is Glycine (G).
8. The degron of any one of claims 1-7, wherein the degron is stabilized by internal hydrogen bonds from an ASX motif and a ST motif.
9. The degron of any one of claims 1-8, comprising an ASX motif that starts with Aspartic Acid (D).
10. The degron of any one of claims 1-8, comprising an ASX motif that starts with Asparagine (N).
11. The degron of any one of claims 1-8, comprising a ST motif that starts with Serine (S).
12. The degron of any one of claims 1-8, comprising a ST motif that starts with Threonine (T).
13. The degron of any one of claims 1-12, comprising an amino acid sequence of [D/N]XX[S/T]G, wherein X can be any amino acid residue.
14. The degron of claim 13, comprising an amino acid sequence of DXXSG.
15. The degron of any one of claims 1-7, comprising an amino acid sequence of CXXCG, wherein X can be any amino acid residue.
16. The degron of any one of claims 1-7, comprising an amino acid sequence of NXXNG, wherein X can be any amino acid residue.
17. The degron of any one of claims 1-16, wherein the CAP is a substrate of CRBN.
18. The degron of claim 17, wherein the substrate of CRBN is GSPT1.
19. The degron of claim 17, wherein the substrate of CRBN is IKZF1.
20. The degron of claim 17, wherein the substrate of CRBN is CK1a.
21. A method of identifying a CAP comprising:

(a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP;

(b) testing the protein in a CRBN-binding assay; and

(c) identifying the protein as a CAP if the protein specifically binds to CRBN in the CRBN-binding assay.

22. The method of claim 21, wherein the CAP is a substrate of CRBN.

23. The method of claim 21 or 22, wherein the amino acid sequence of the degron is [D/N]XX[S/T]G.

24. The method of claim 21 or 22, wherein the amino acid sequence of the degron is CXXCG.

25. The method of claim 21 or 22, wherein the amino acid sequence of the degron is NXXNG.

26. The method of any one of claims 21-25, wherein the CRBN-binding assay is performed in the presence of a compound.

27. The method of claim 26, wherein the compound is a cereblon modifying agent (CMA).

28. The method of claim 26, wherein the compound is an immunomodulatory compound.

29. The method of claim 26, wherein the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E.

30. The method of claim 29, wherein the compound is thalidomide.

31. The method of claim 29, wherein the compound is lenalidomide.

32. The method of claim 29, wherein the compound is pomalidomide.

33. The method of claim 29, wherein the compound is Compound A.

34. The method of claim 29, wherein the compound is Compound B.

35. The method of claim 29, wherein the compound is Compound C.

36. The method of claim 29, wherein the compound is Compound D.

37. The method of claim 29, wherein the compound is Compound E.

38. A method of identifying a CAP comprising:

(a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP;

(b) testing the protein in a CRBN-mediated degradation assay; and

(c) identifying the protein as a CAP if the protein level decreases in the CRBN-mediated degradation assay.

39. The method of claim 38, wherein the CAP is a substrate of CRBN.

40. The method of claim 38 or 39, wherein the amino acid sequence of the degron is [D/N]XX[S/T]G.
41. The method of claim 38 or 39, wherein the amino acid sequence of the degron is CXXCG.
42. The method of claim 38 or 39, wherein the amino acid sequence of the degron is NXXNG.
43. The method of any one of claims 38-42, wherein the CRBN-binding assay is performed in the presence of a compound.
44. The method of claim 43, wherein the compound is a CMA.
45. The method of claim 43, wherein the compound is an immunomodulatory compound.
46. The method of claim 43, wherein the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E.
47. The method of claim 46, wherein the compound is thalidomide.
48. The method of claim 46, wherein the compound is lenalidomide.
49. The method of claim 46, wherein the compound is pomalidomide.
50. The method of claim 46, wherein the compound is Compound A.
51. The method of claim 46, wherein the compound is Compound B.
52. The method of claim 46, wherein the compound is Compound C.
53. The method of claim 46, wherein the compound is Compound D.
54. The method of claim 46, wherein the compound is Compound E.
55. A method of identifying a target of a compound comprising:

(a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP;

(b) testing the protein in a CRBN-binding assay in the presence of the compound; and

(c) identifying the protein as the target of the compound if the protein specifically binds to CRBN in the CRBN-binding assay.
56. The method of claim 55, wherein the CAP is a substrate of CRBN.
57. The method of claim 55 or 56, wherein the amino acid sequence of the degron is [D/N]XX[S/T]G.
58. The method of claim 55 or 56, wherein the amino acid sequence of the degron is CXXCG.
59. The method of claim 55 or 56, wherein the amino acid sequence of the degron is NXXNG.

60. The method of any one of claims 55-59, wherein the compound is a CMA.

61. The method of any one of claims 55-59, wherein the compound is an immunomodulatory compound.

62. The method of any one of claims 55-59, wherein the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E.

63. The method of claim 62, wherein the compound is thalidomide.

64. The method of claim 62, wherein the compound is lenalidomide.

65. The method of claim 62, wherein the compound is pomalidomide.

66. The method of claim 62, wherein the compound is Compound A.

67. The method of claim 62, wherein the compound is Compound B.

68. The method of claim 62, wherein the compound is Compound C.

69. The method of claim 62, wherein the compound is Compound D.

70. The method of claim 62, wherein the compound is Compound E.

71. A method of identifying a target of a compound comprising:

(a) searching a protein database for a protein comprising an amino acid sequence of a degron in a CAP;

(b) testing the protein in a CRBN-mediated degradation assay in the presence of the compound; and

(c) identifying the protein as the target of the compound if the protein level decreases in the CRBN-mediated degradation assay.

72. The method of claim 71, wherein the CAP is a substrate of CRBN.

73. The method of claim 71 or 72, wherein the amino acid sequence of the degron is [D/N]XX[S/T]G.

74. The method of claim 71 or 72, wherein the amino acid sequence of the degron is CXXCG.

75. The method of claim 71 or 72, wherein the amino acid sequence of the degron is NXXNG.

76. The method of any one of claims 71-75, wherein the compound is a CMA.

77. The method of any one of claims 71-75, wherein the compound is an immunomodulatory compound.

78. The method of any one of claims 71-75, wherein the compound is selected from the group consisting of thalidomide, lenalidomide, pomalidomide, Compound A, Compound B, Compound C, Compound D, and Compound E.

79. The method of claim 78, wherein the compound is thalidomide.

80. The method of claim 78, wherein the compound is lenalidomide.

81. The method of claim 78, wherein the compound is pomalidomide.

82. The method of claim 78, wherein the compound is Compound A.

83. The method of claim 78, wherein the compound is Compound B.

84. The method of claim 78, wherein the compound is Compound C.

85. The method of claim 78, wherein the compound is Compound D.

86. The method of claim 78, wherein the compound is Compound E.

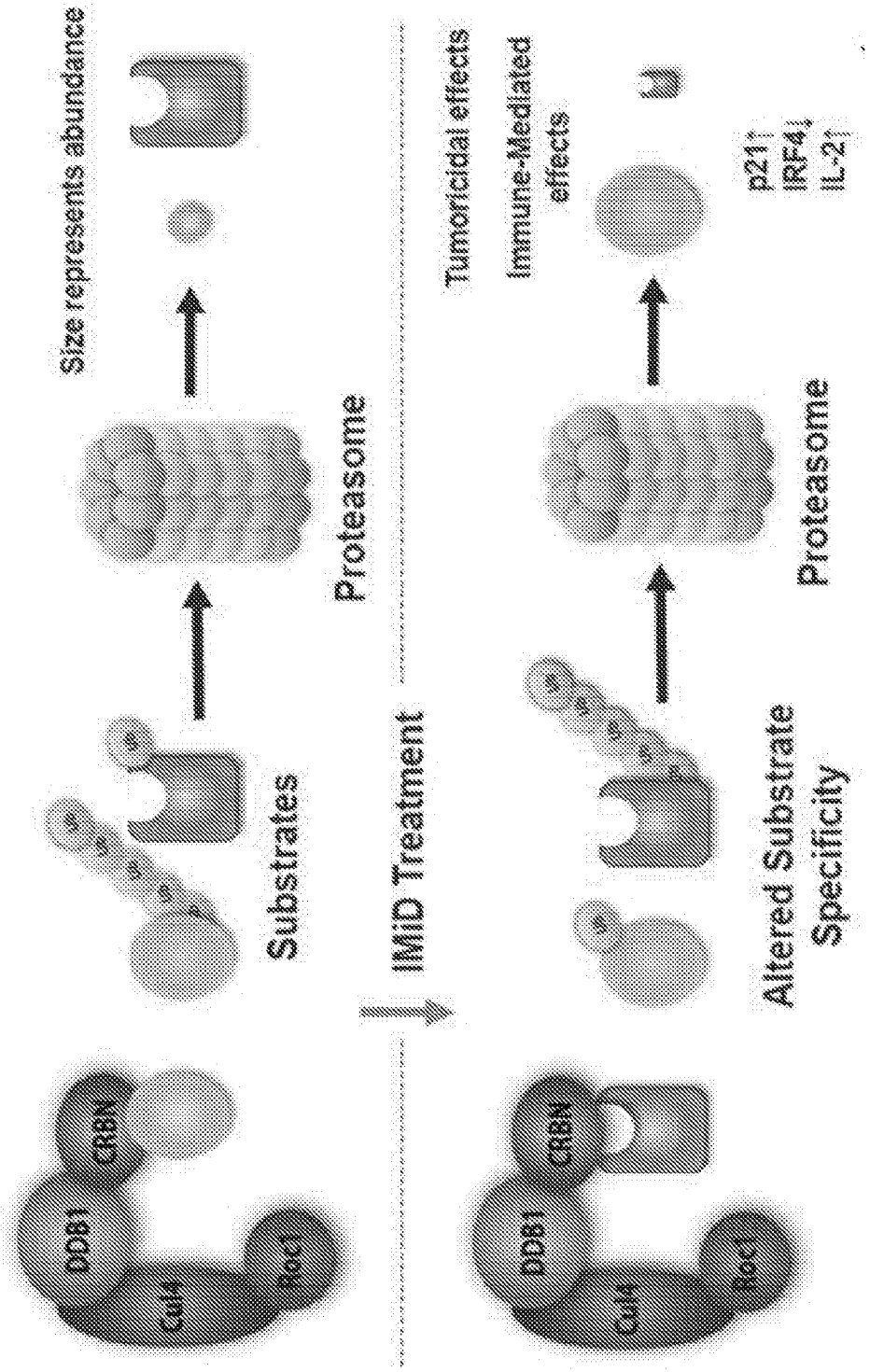
Size represents abundance
Proteasome
Substrates
IMiD Treatment
Tumoricidal effects
Immune-Mediated effects
p21↑
IRF4↓
IL-2↑
Proteasome
Altered Substrate Specificity
DDB1
CRBN
Cul4
Roc1
DDB1
CRBN
Cul4
Roc1

FIG. 1

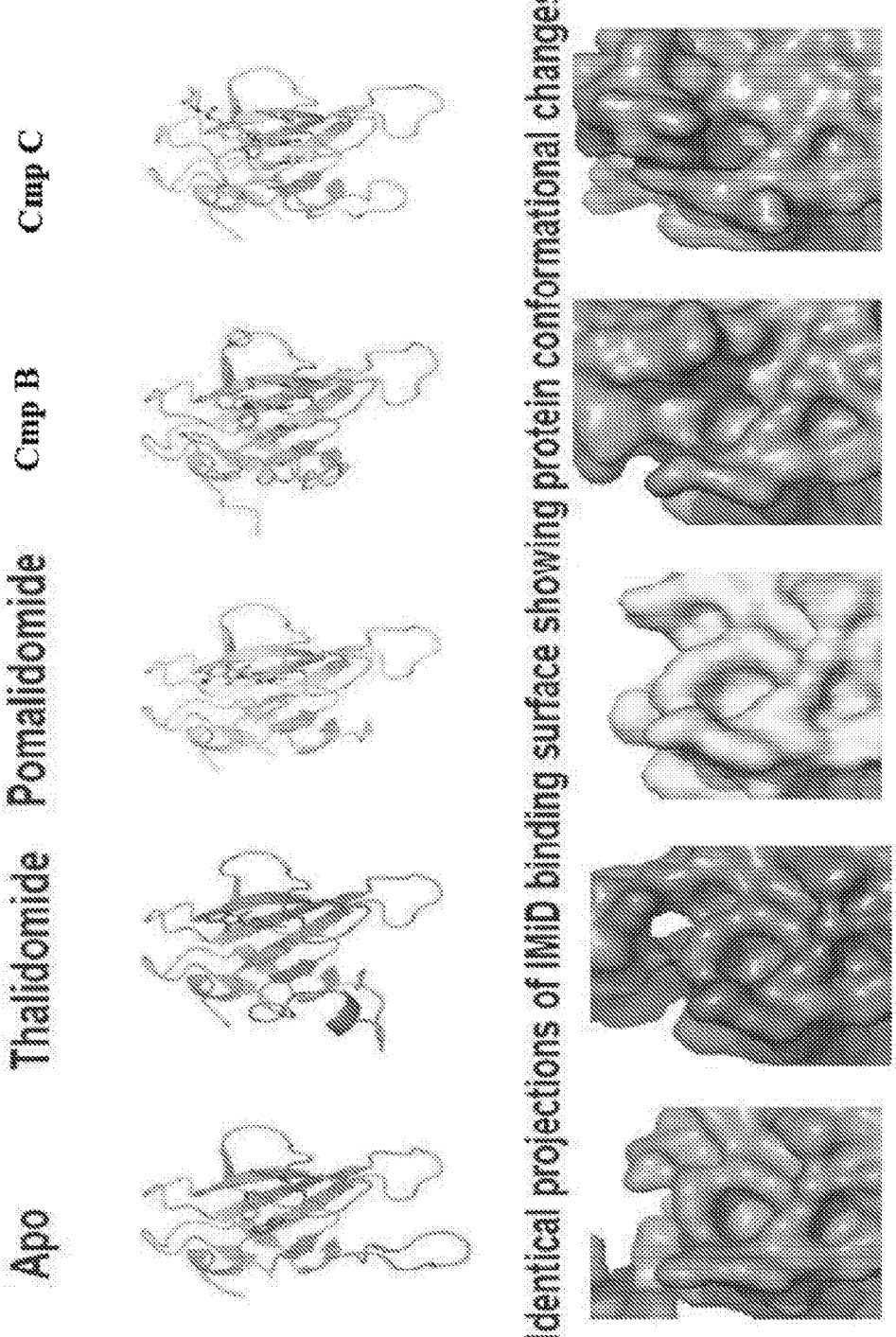
Apo
Thalidomide
Pomalidomide
Cmp B
Cmp C
Identical projections of IMiD binding surface showing protein conformational changes

FIG. 2

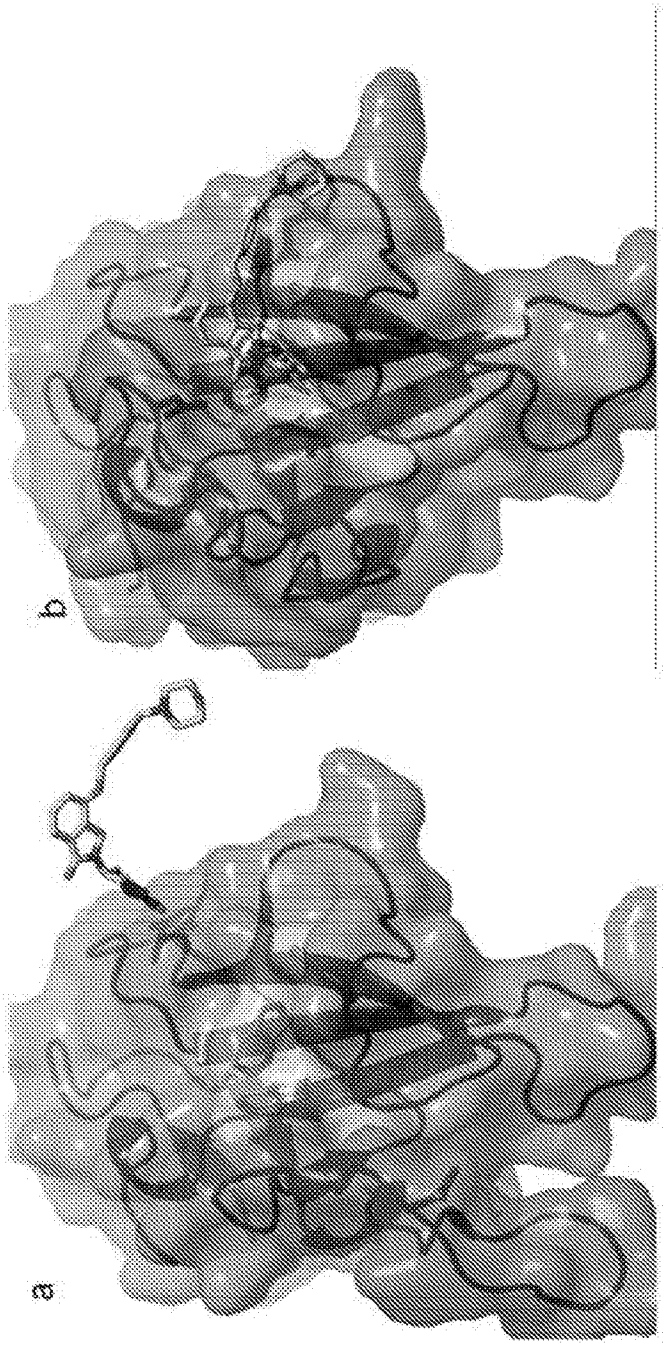

FIG. 3

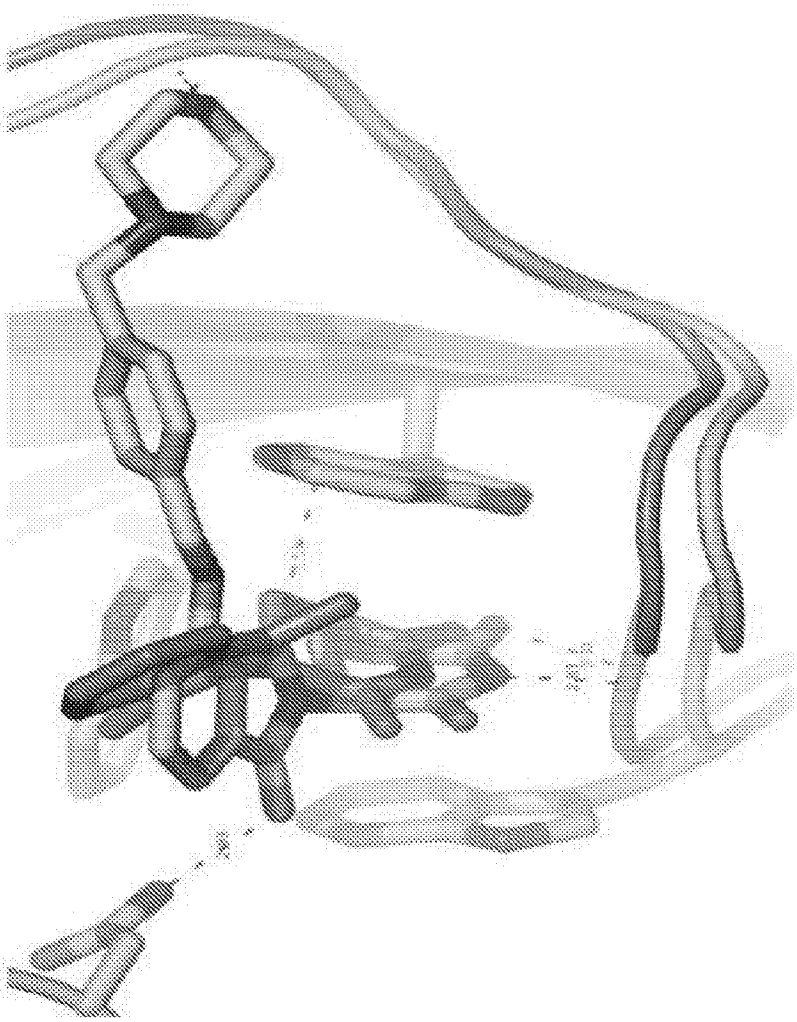

FIG. 4

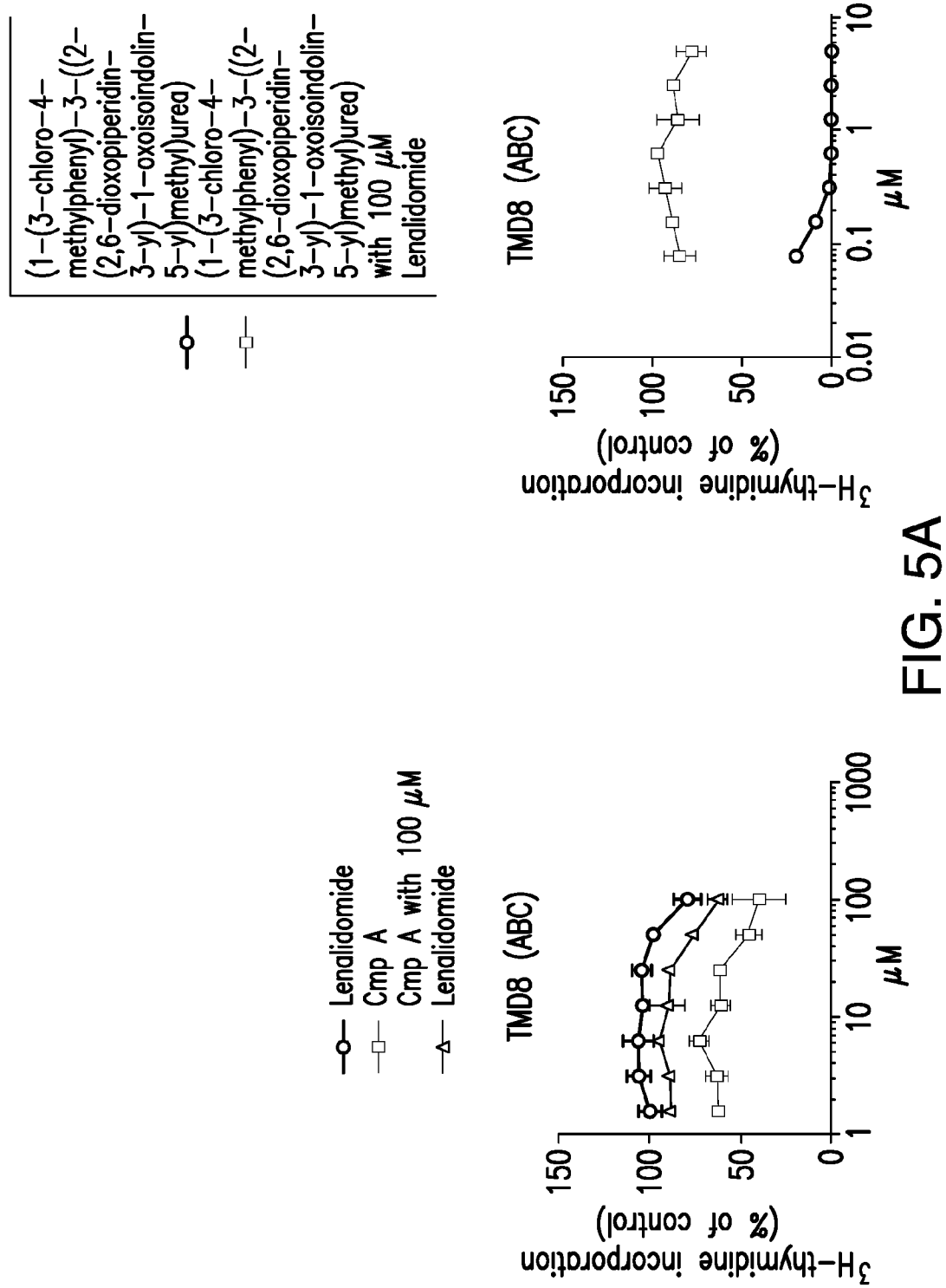
(1-(3-chloro-4-methylphenyl)-3-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)urea)
(1-(3-chloro-4-methylphenyl)-3-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)urea) with 100 μM Lenalidomide
TMD8 (ABC)
^{3}H-thymidine incorporation (% of control)
μM
Lenalidomide
Cmp A
Cmp A with 100 μM Lenalidomide

FIG. 5A

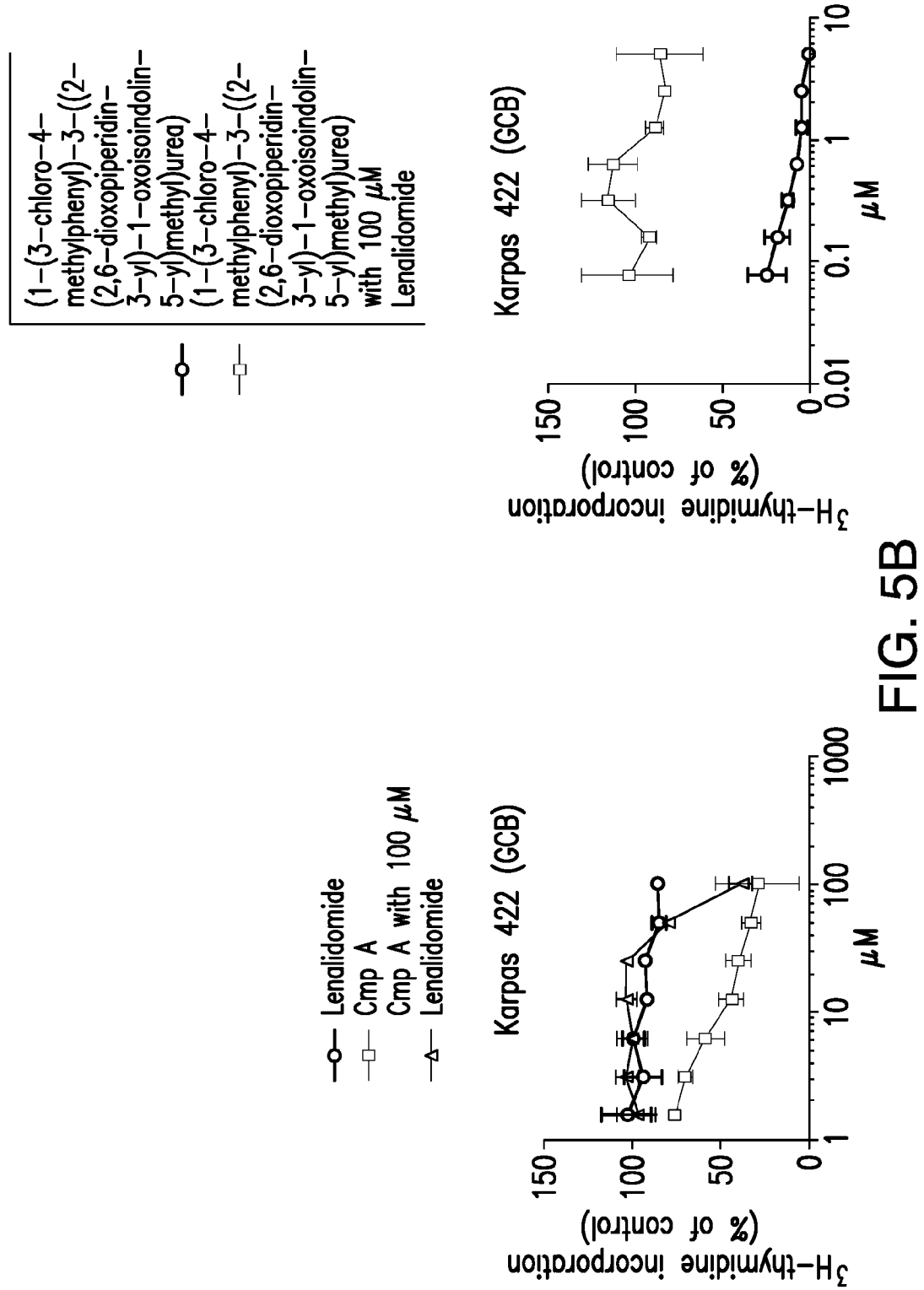
(1-(3-chloro-4-methylphenyl)-3-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)urea)
(1-(3-chloro-4-methylphenyl)-3-((2-(2,6-dioxopiperidin-3-yl)-1-oxoisoindolin-5-yl)methyl)urea) with 100 μM Lenalidomide
Karpas 422 (GCB)
^{3}H-thymidine incorporation (% of control)
μM
Lenalidomide
Cmp A
Cmp A with 100 μM Lenalidomide
Karpas 422 (GCB)
^{3}H-thymidine incorporation (% of control)
μM

FIG. 5B

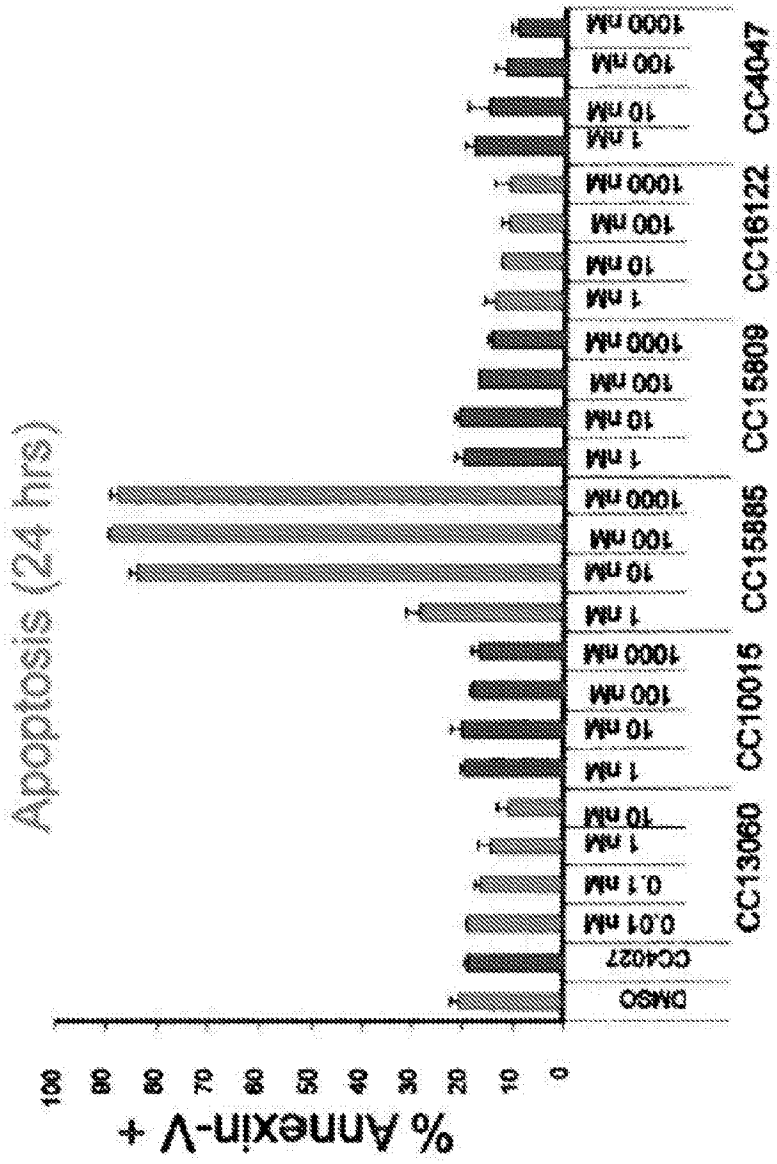
Apoptosis (24 hrs)
% Annexin-V +
0
10
20
30
40
50
60
70
80
90
100
DMSO
CC4027
0.01 nM
0.1 nM
1 nM
10 nM
CC13060
1 nM
10 nM
100 nM
1000 nM
CC10015
1 nM
10 nM
100 nM
1000 nM
CC15885
1 nM
10 nM
100 nM
1000 nM
CC15809
1 nM
10 nM
100 nM
1000 nM
CC16122
1 nM
10 nM
100 nM
1000 nM
CC4047

FIG. 6

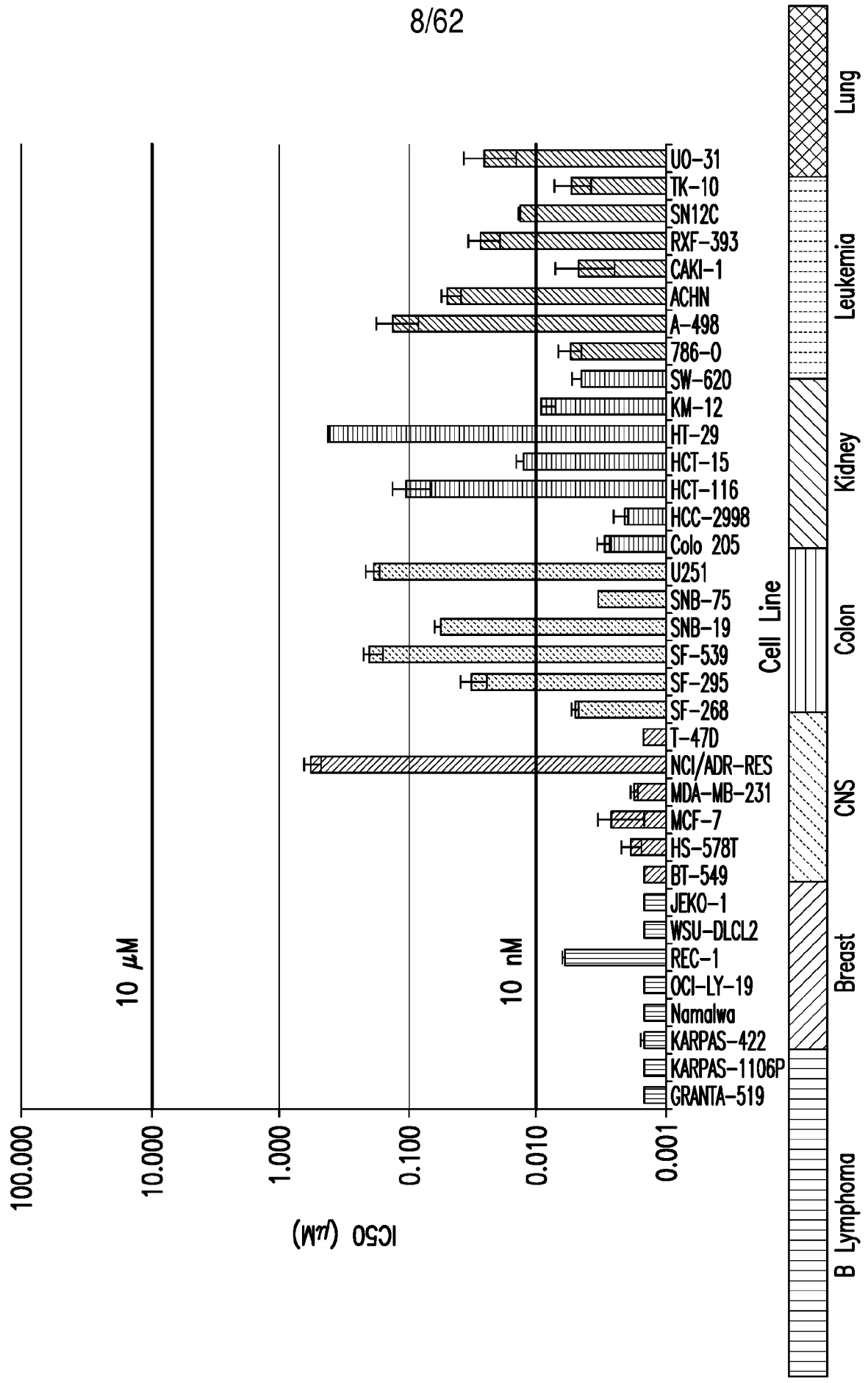
IC50 (μM)
100.000
10.000
1.000
0.100
0.010
0.001
10 μM
10 nM
Cell Line
UO-31
TK-10
SN12C
RXF-393
CAKI-1
ACHN
A-498
786-0
SW-620
KM-12
HT-29
HCT-15
HCT-116
HCC-2998
Colo 205
U251
SNB-75
SNB-19
SF-539
SF-295
SF-268
T-47D
NCI/ADR-RES
MDA-MB-231
MCF-7
HS-578T
BT-549
JEKO-1
WSU-DLCL2
REC-1
OCI-LY-19
Namalwa
KARPAS-422
KARPAS-1106P
GRANTA-519
Lung
Leukemia
Kidney
Colon
CNS
Breast
B Lymphoma

FIG. 7

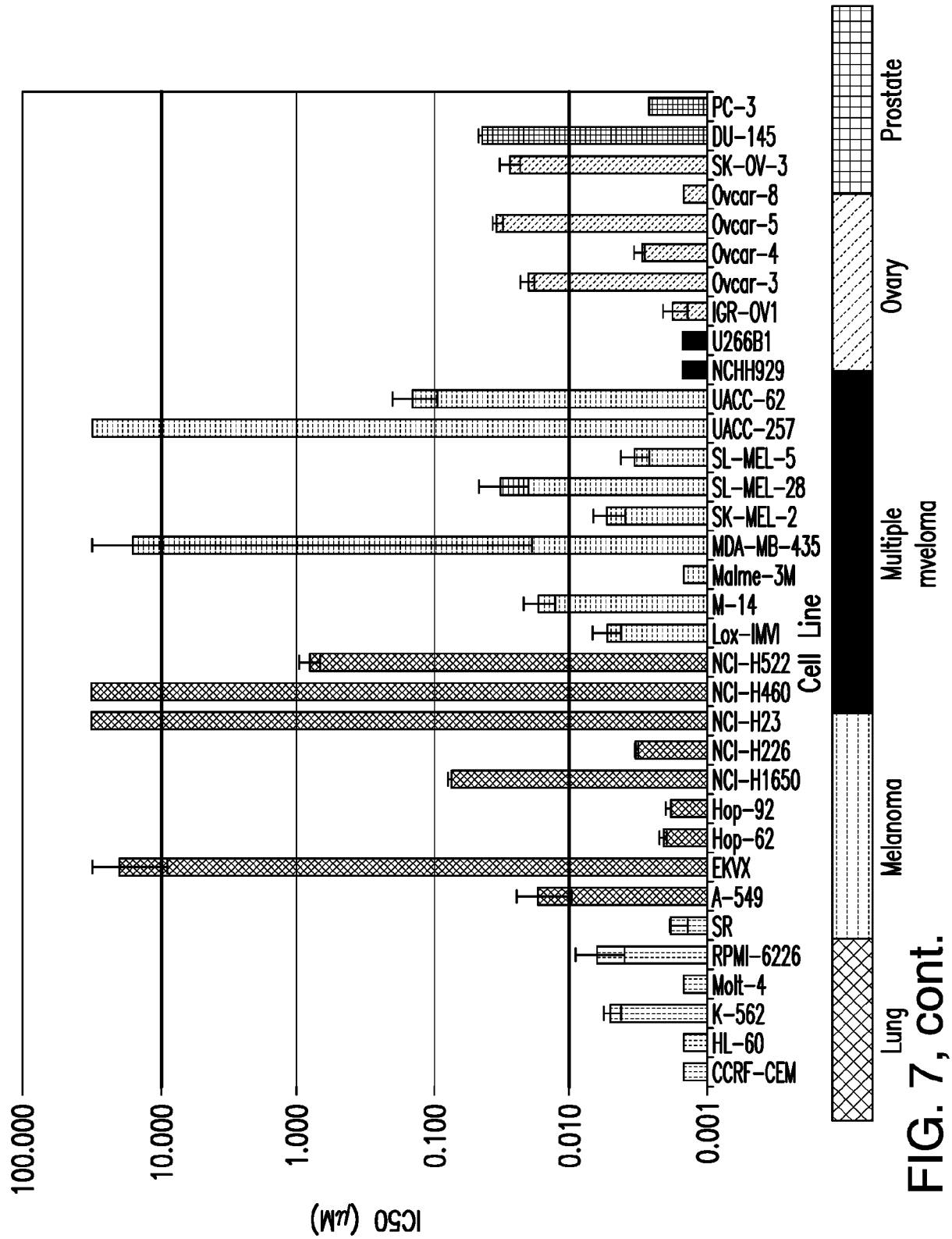
100.000
10.000
1.000
0.100
0.010
0.001
IC50 (μM)
PC-3
DU-145
SK-OV-3
Ovcar-8
Ovcar-5
Ovcar-4
Ovcar-3
IGR-OV1
U266B1
NCHH929
UACC-62
UACC-257
SL-MEL-5
SL-MEL-28
SK-MEL-2
MDA-MB-435
Malme-3M
M-14
Lox-IMVI
NCI-H522
NCI-H460
NCI-H23
NCI-H226
NCI-H1650
Hop-92
Hop-62
EKVX
A-549
SR
RPMI-6226
Molt-4
K-562
HL-60
CCRF-CEM
Cell Line
Prostate
Ovary
Multiple myeloma
Melanoma
Lung

FIG. 7, cont.

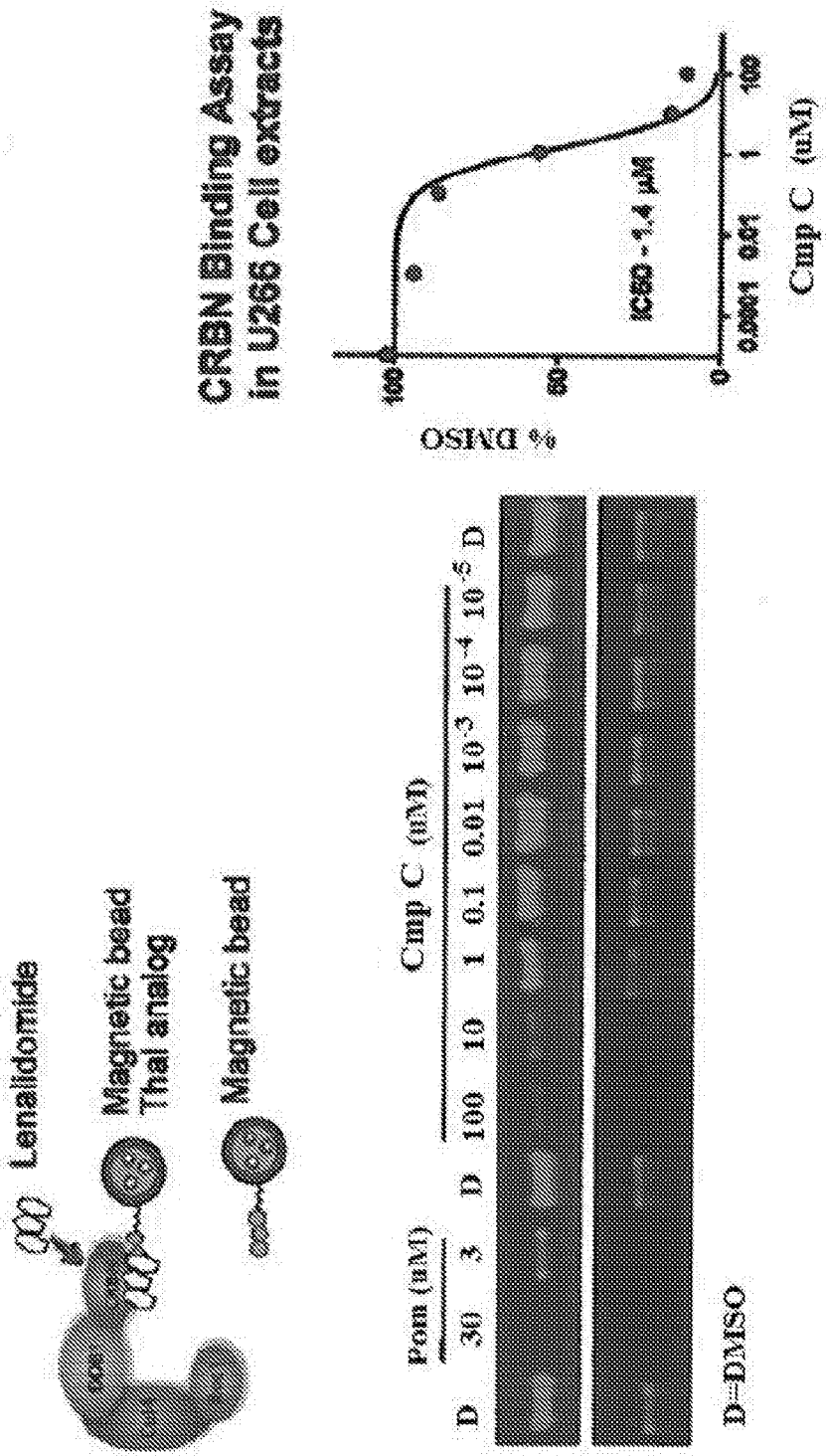
Lenalidomide
Magnetic bead
Thal analog
Magnetic bead
Cmp C (nM)
Pom (nM)
D 30 3 D 100 10 1 0.1 0.01 10^{-3} 10^{-4} 10^{-5} D
D=DMSO
CRBN Binding Assay
in U266 Cell extracts
% DMSO
100
50
0
IC50 - 1.4 μM
0.0001 0.01 1 100
Cmp C (nM)

FIG. 8

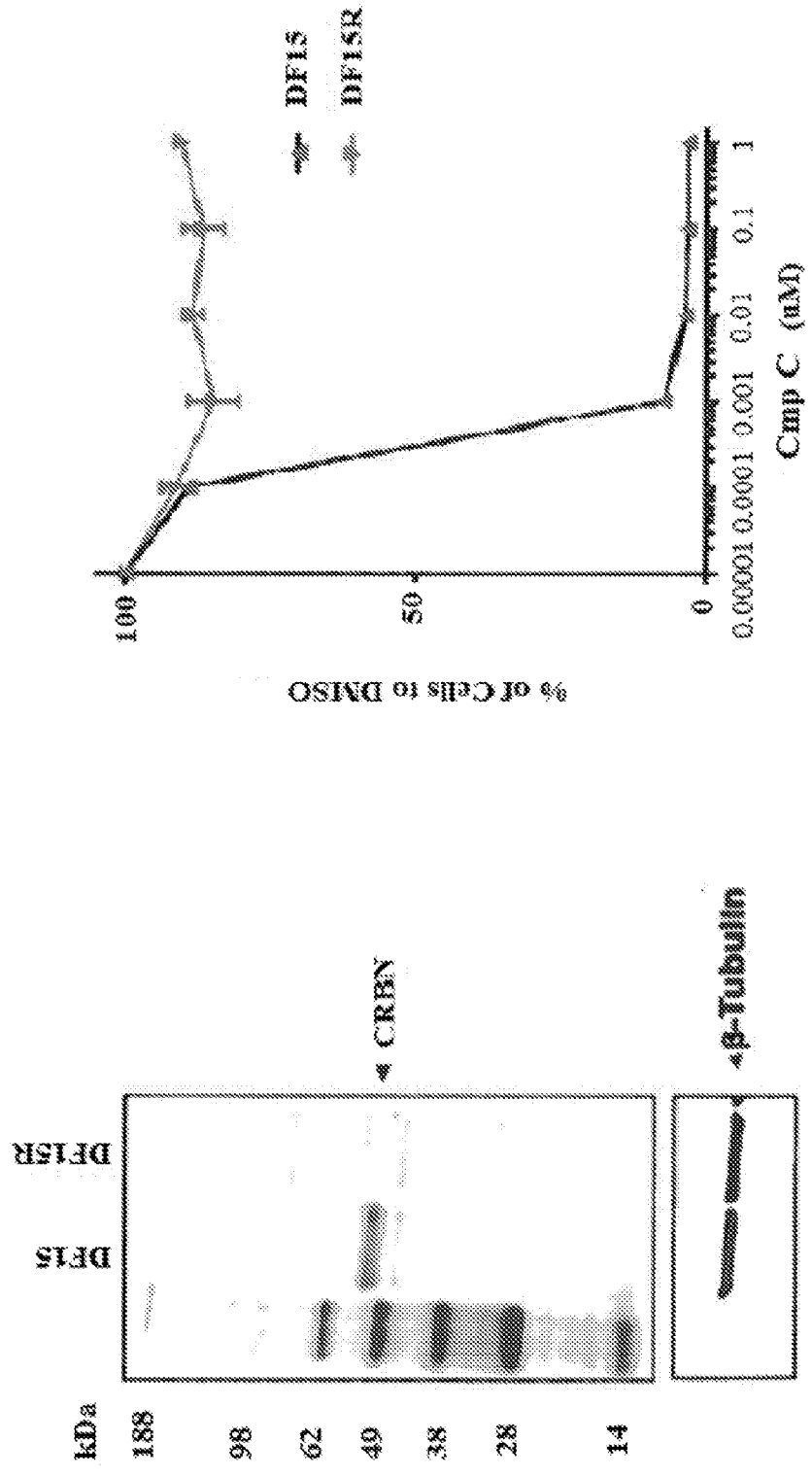
DF15
DF15R
% of Cells to DMSO
100
50
0
0.00001 0.0001 0.001 0.01 0.1 1
Cmp C (nM)
CRBN
β-Tubulin
DF15R
DF15
kDa
188
98
62
49
38
28
14

FIG. 9

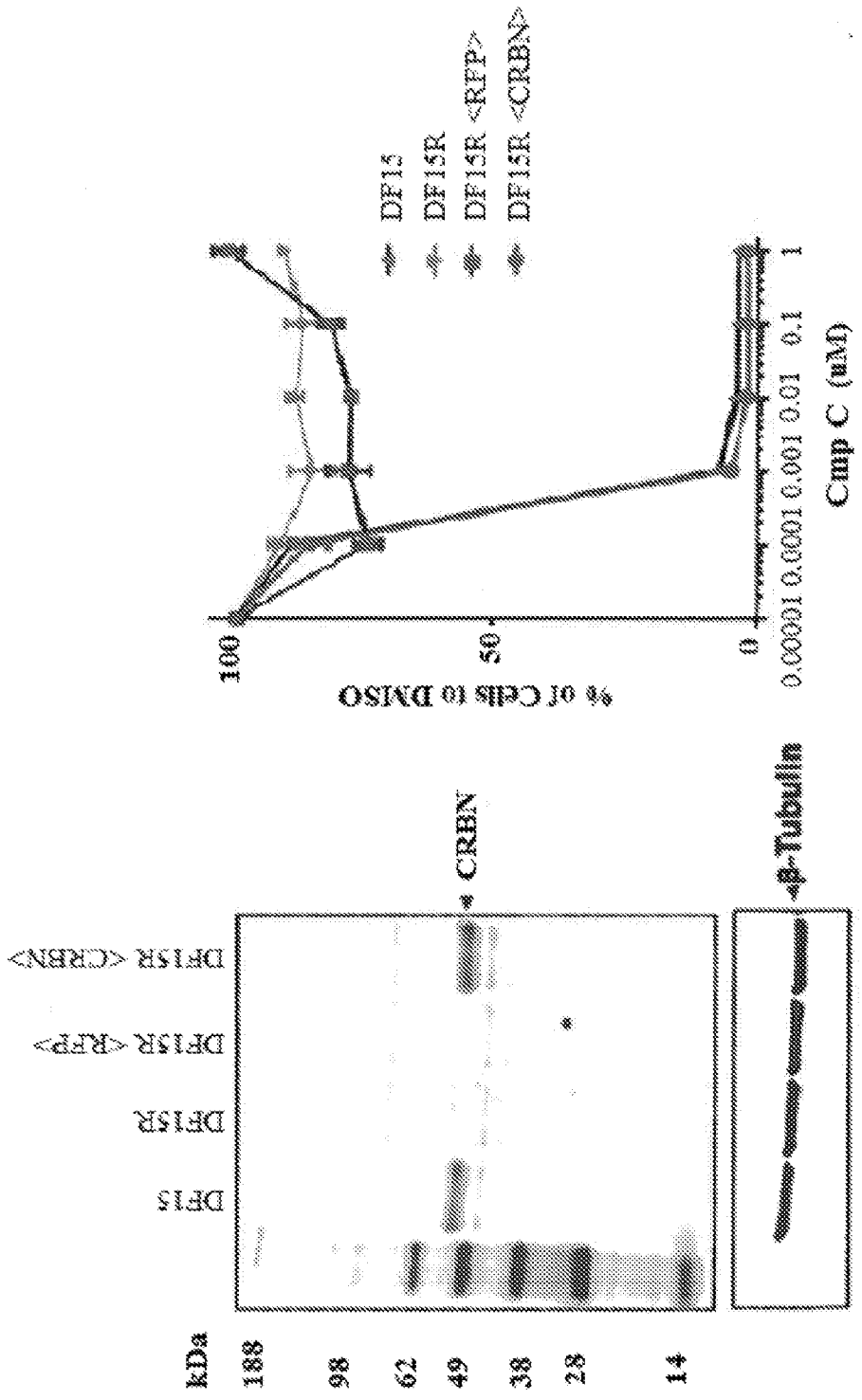
DF15
DF15R
DF15R <RFP>
DF15R <CRBN>
% of Cells to DMSO
100
50
0
0.00001 0.0001 0.001 0.01 0.1 1
Cmp C (uM)
CRBN
β-Tubulin
DF15
DF15R
DF15R <RFP>
DF15R <CRBN>
kDa
188
98
62
49
38
28
14

FIG. 10

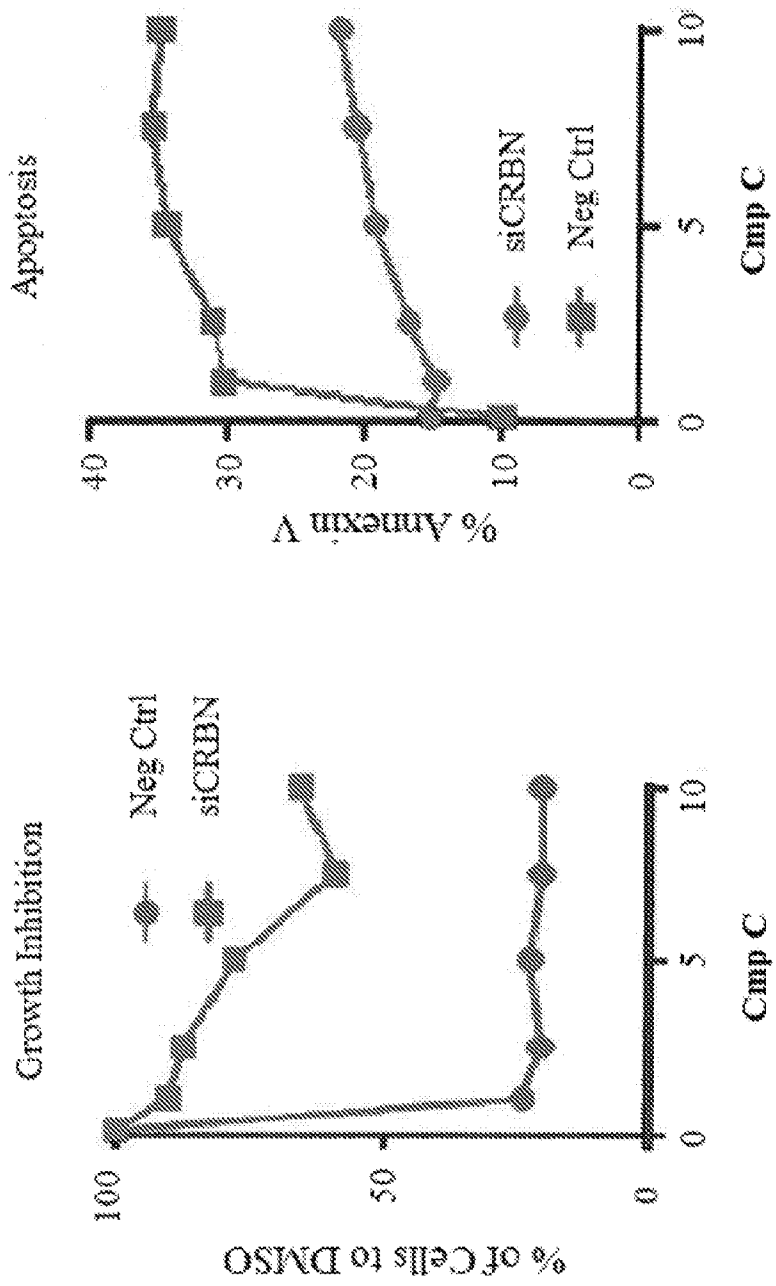
Apoptosis
% Annexin V
40
30
20
10
0
0
5
10
Cmp C
siCRBN
Neg Ctrl
Growth Inhibition
% of Cells to DMSO
100
50
0
0
5
10
Cmp C
Neg Ctrl
siCRBN

FIG. 11

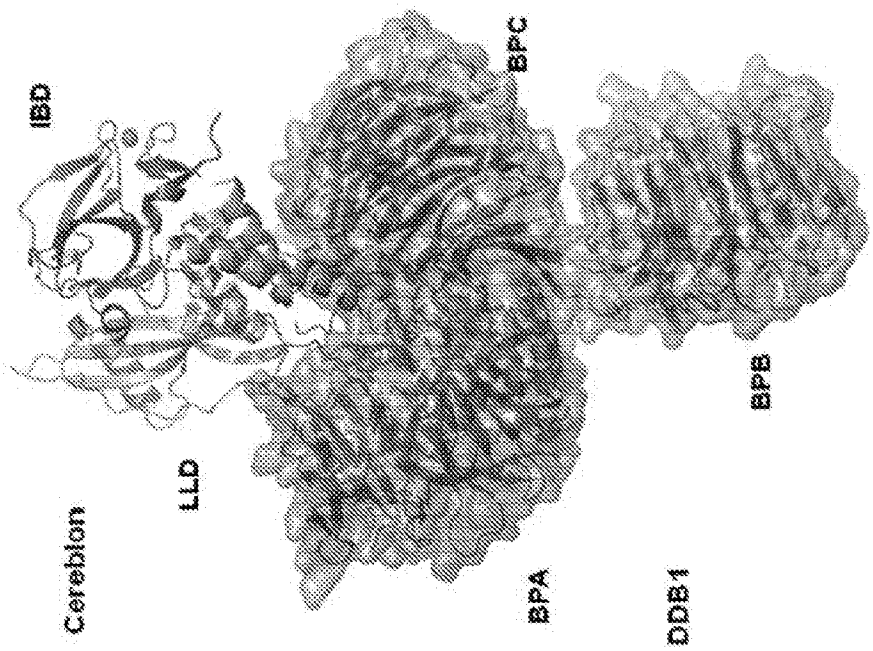

FIG. 12

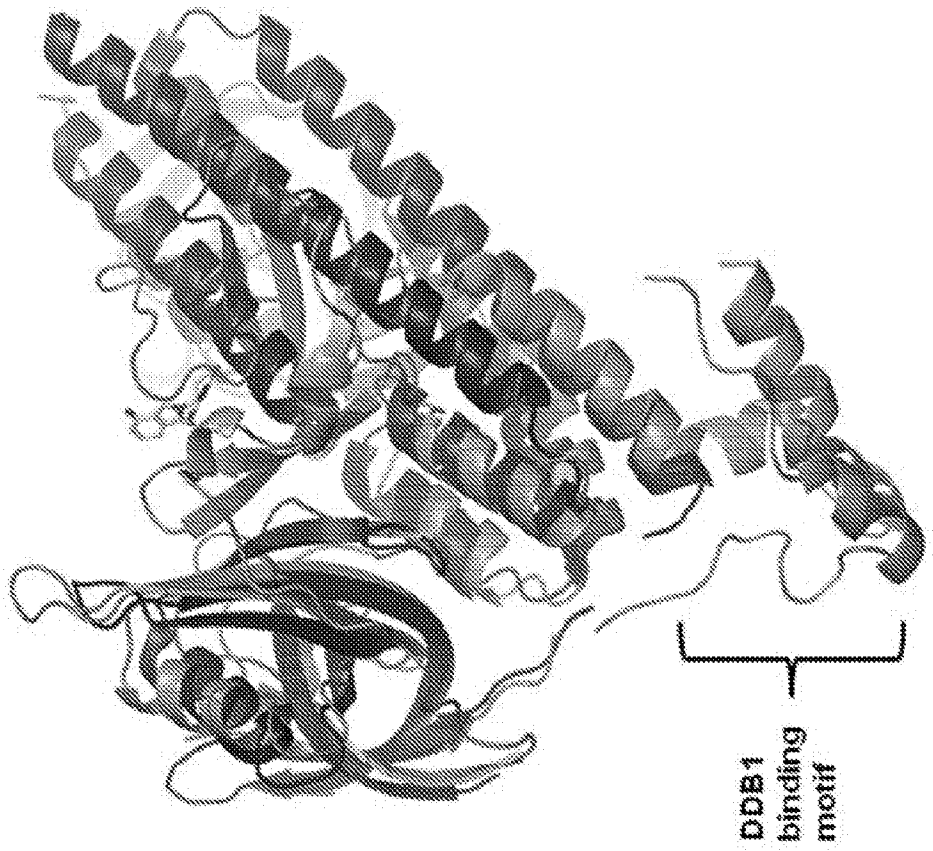

FIG. 13

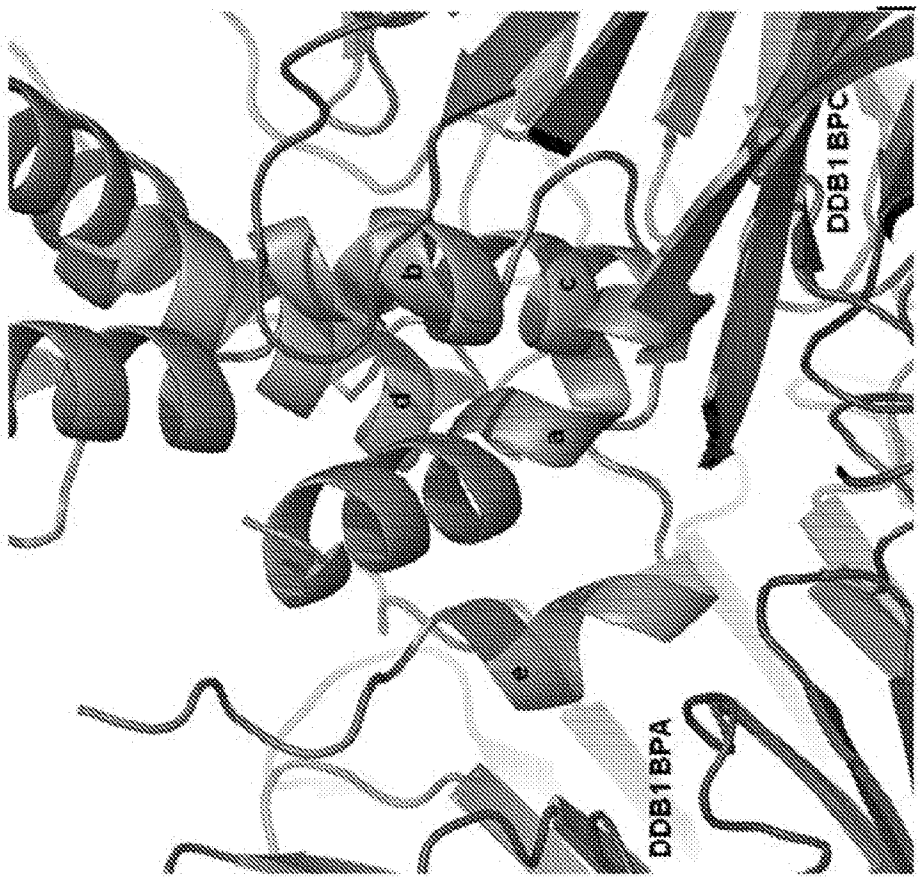

FIG. 14

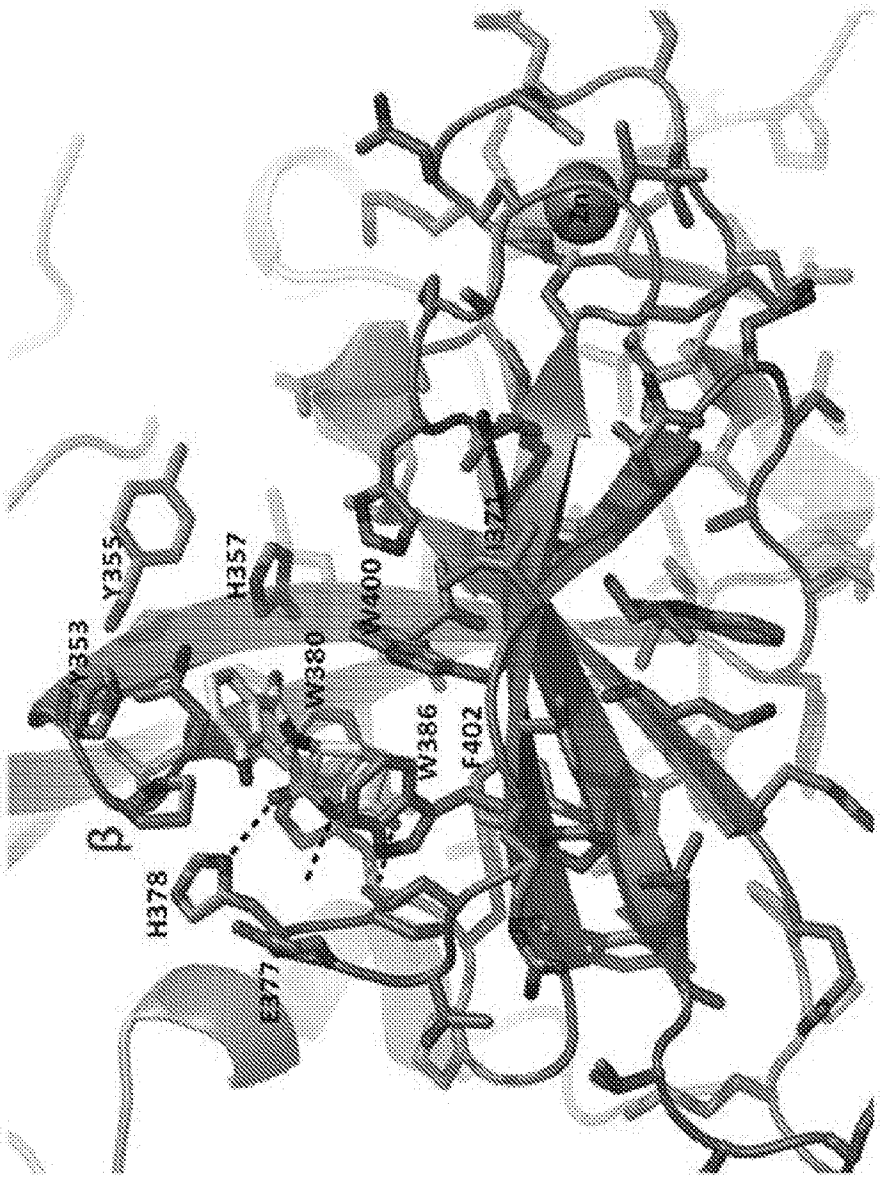

FIG. 15

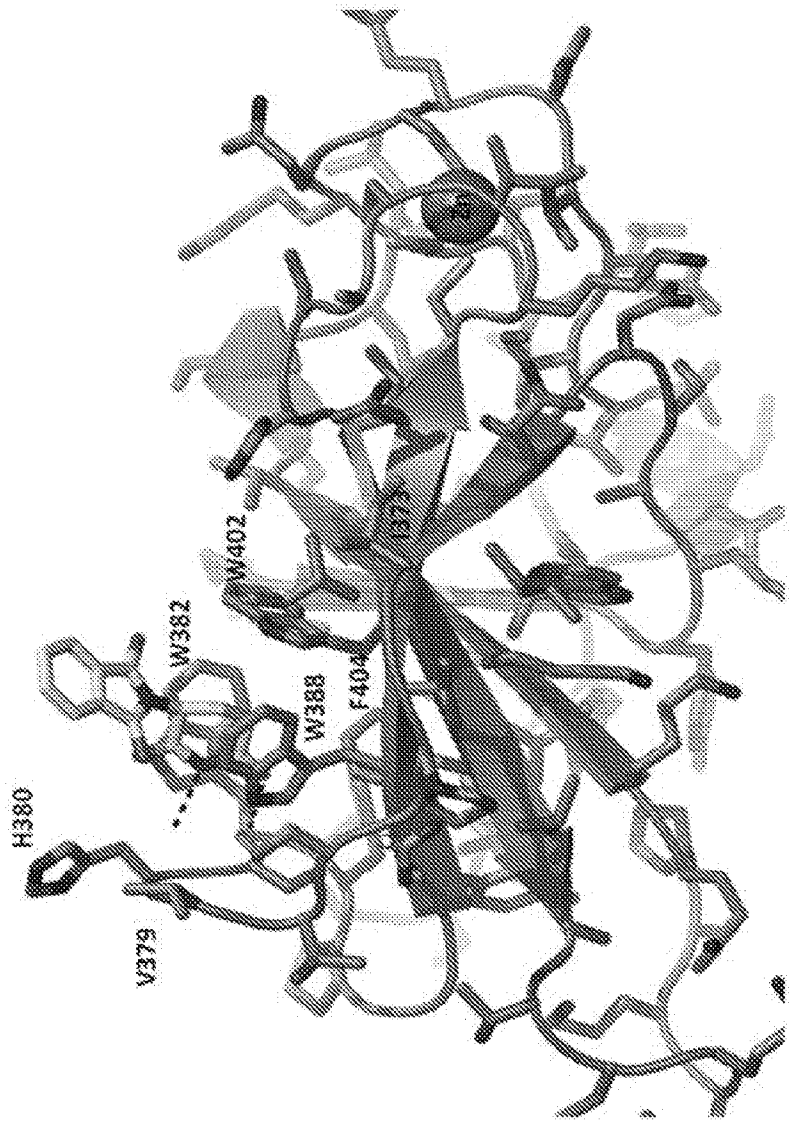

FIG. 16

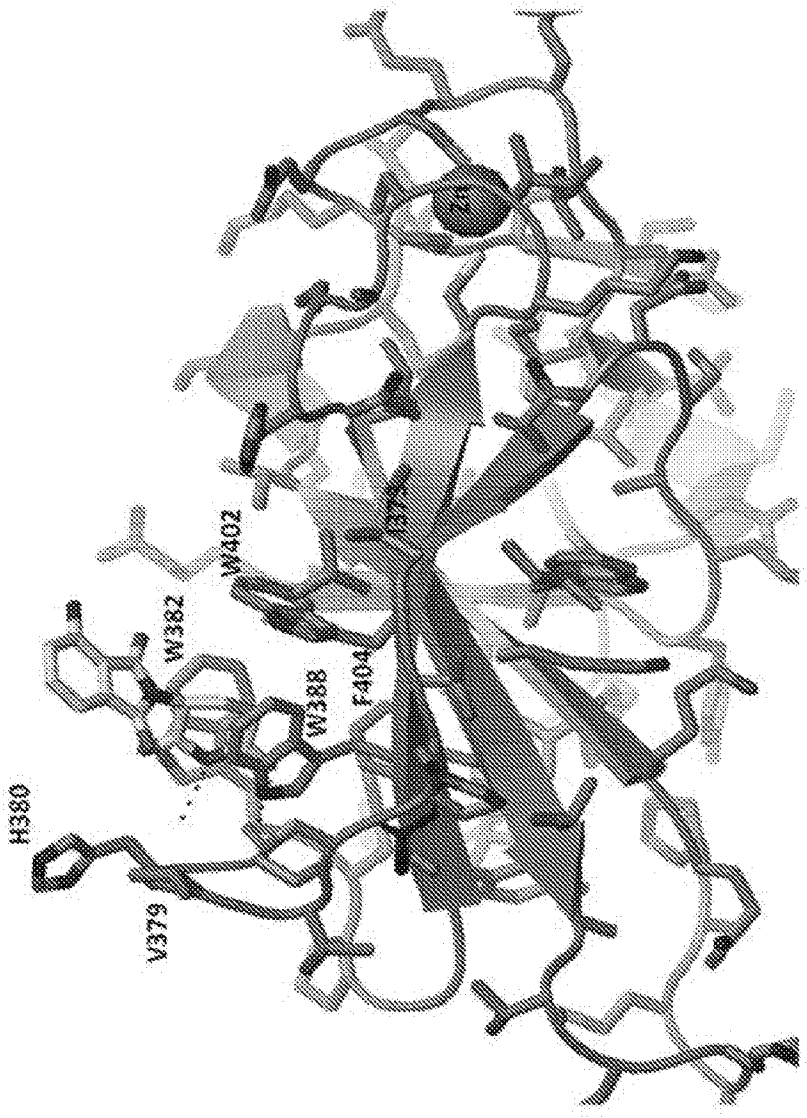

FIG. 17

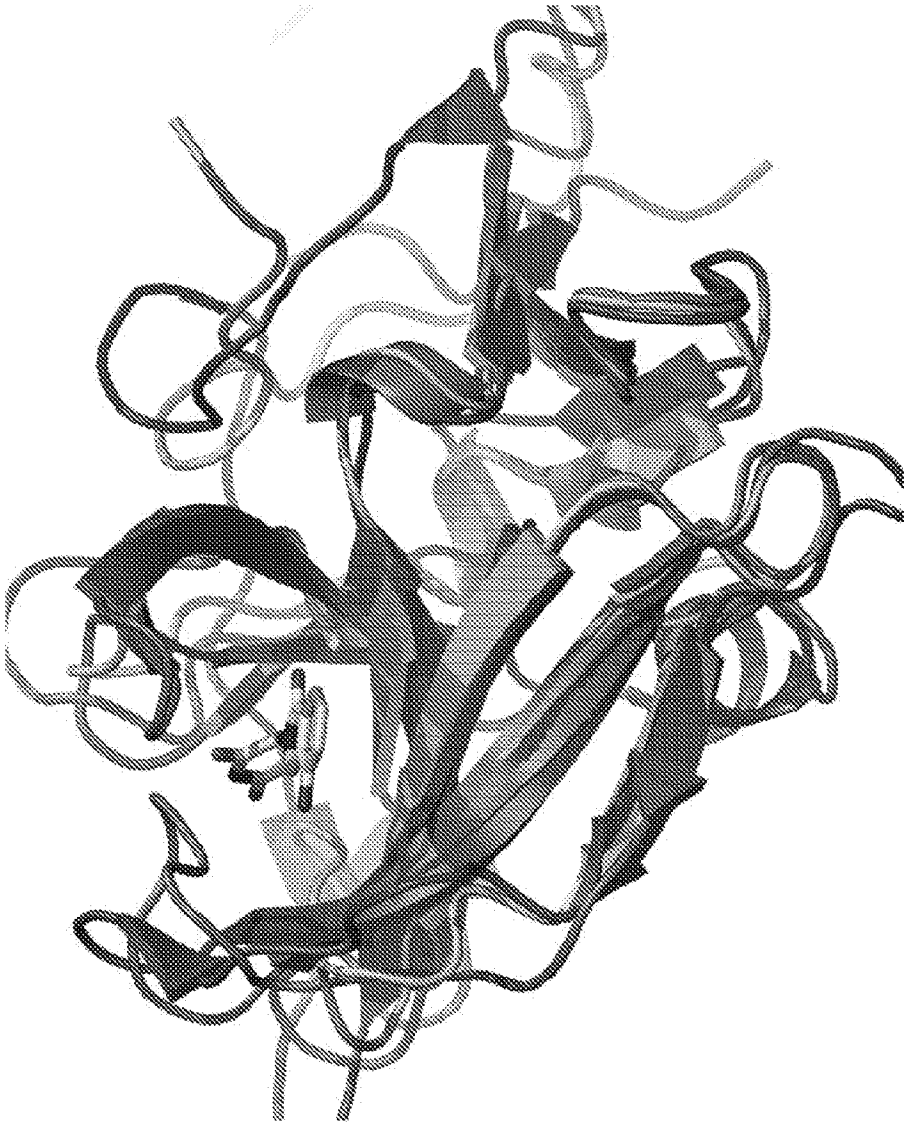

FIG. 18

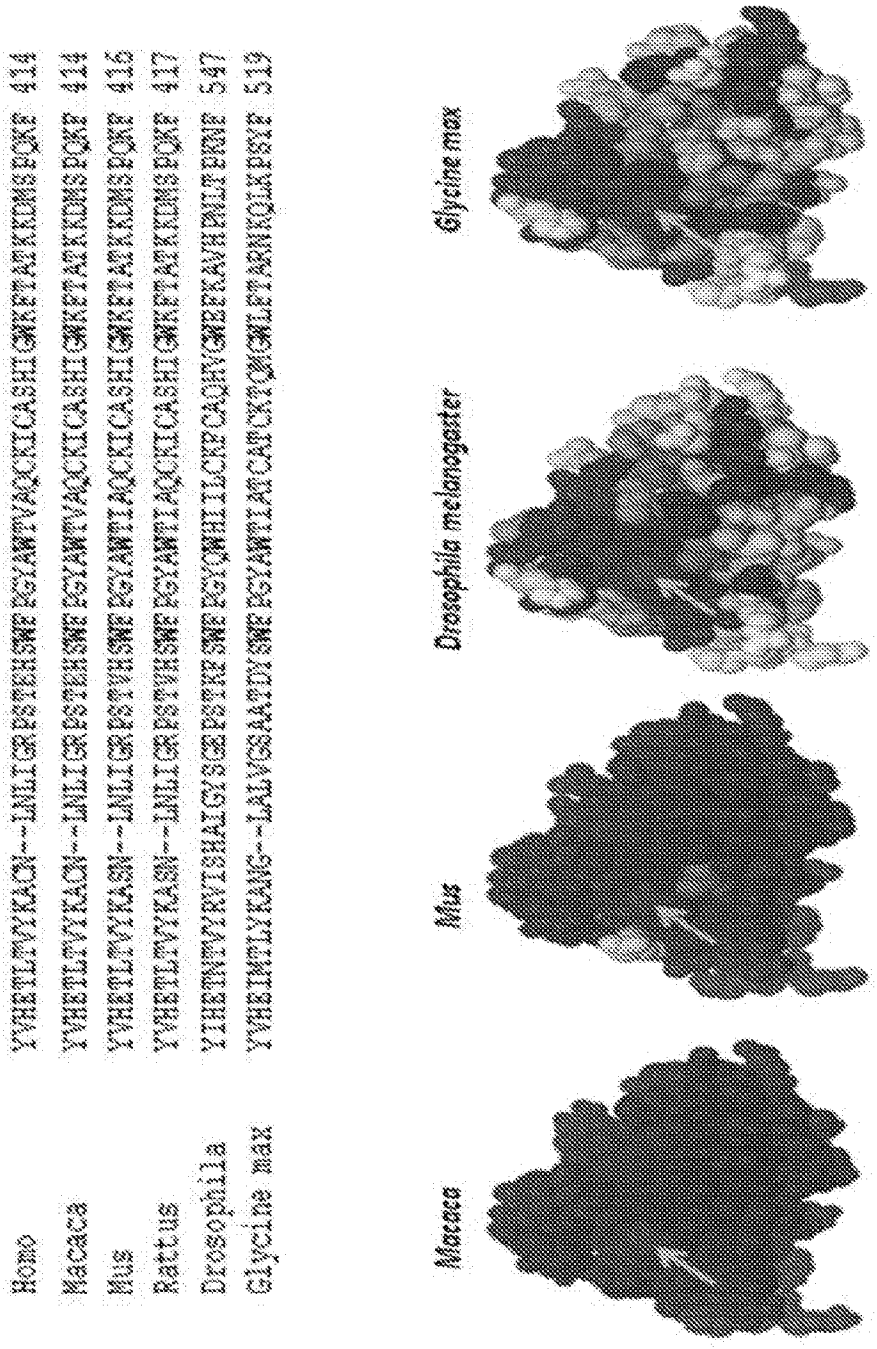
Homo YYHETLTVYKACH--LNLIGRESTEHSWFPGYAWTVAQCKICASHIGWKFTATKKDMSPQKF 414
Macaca YYHETLTVYKACH--LNLIGRESTEHSWFPGYAWTVAQCKICASHIGWKFTATKKDMSPQKF 414
Mus YYHETLTVYKASN--LNLIGRESTVHSWFPGYAWTIAQCKICASHIGWKFTATKKDMSPQKF 416
Rattus YYHETLTVYKASN--LNLIGRESTVHSWFPGYAWTIAQCKICASHIGWKFTATKKDMSPQKF 417
Drosophila YTHENTVYRVTSHAIGYSGEESTKRSWFPGYQWHILLCKPCAQHVGWERKAVHRMLTERNF 547
Glycine max YYHEIWTLYKAWG--LALVGSAAITDYSWFPGYAWTIAFCAFCYTQWGWLFTARNKQLKPSYP 519
Macaca
Mus
Drosophila melanogaster
Glycine max

FIG. 19

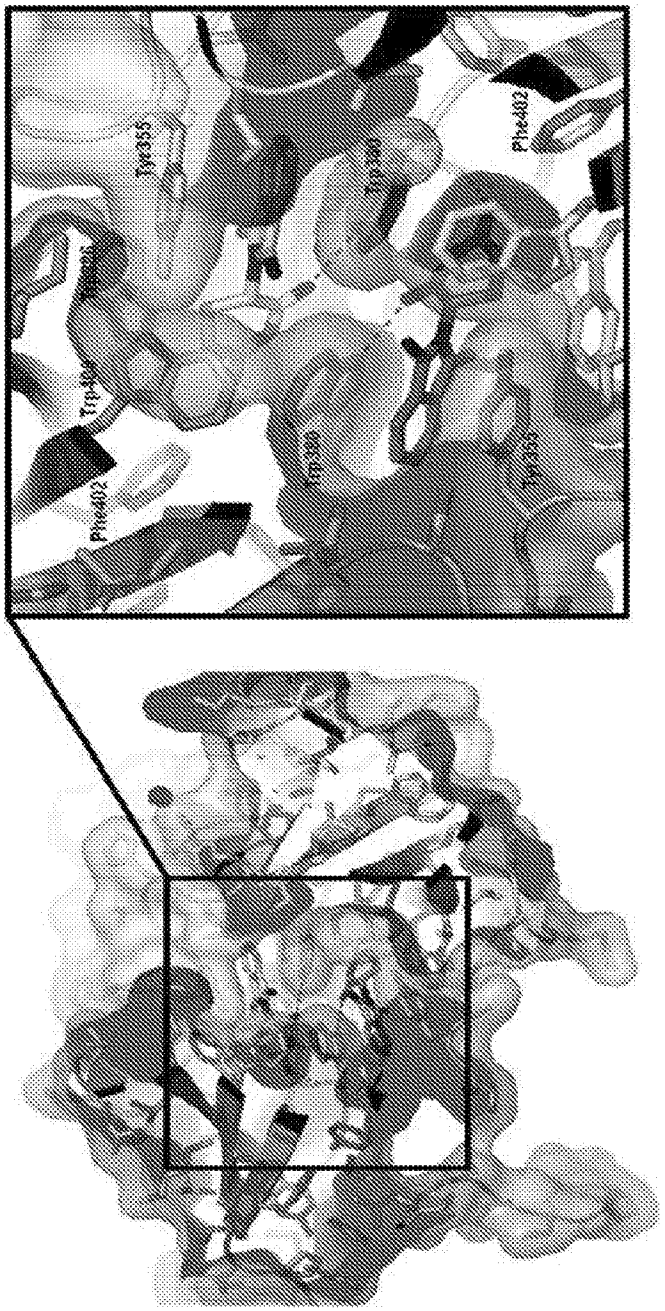

FIG. 20

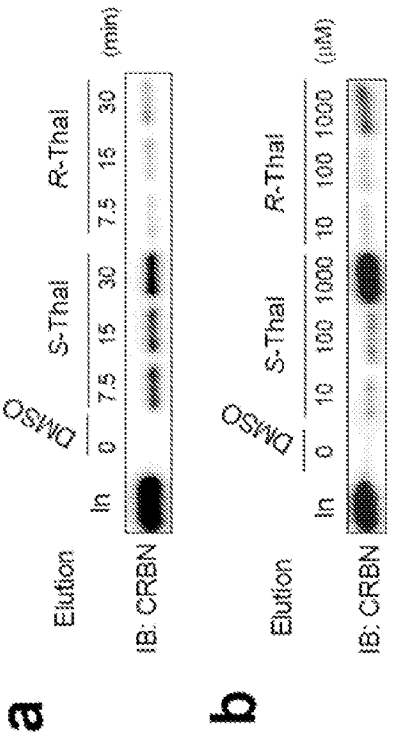
a
Elution
DMSO
S-Thal
R-Thal
In
0
7.5
15
30
7.5
15
30
(min)
IB: CRBN
b
Elution
DMSO
S-Thal
R-Thal
In
0
10
100
1000
10
100
1000
(μM)
IB: CRBN
c
IP:FLAG (CRBN)
DMSO
S-Thal
R-Thal
(μM)
0
0
10
30
100
10
30
100
MG132
-
+
+
+
+
+
+
+
IB: HA (CRBN)
Load: 1.0x
Load: 0.1x

FIG. 21

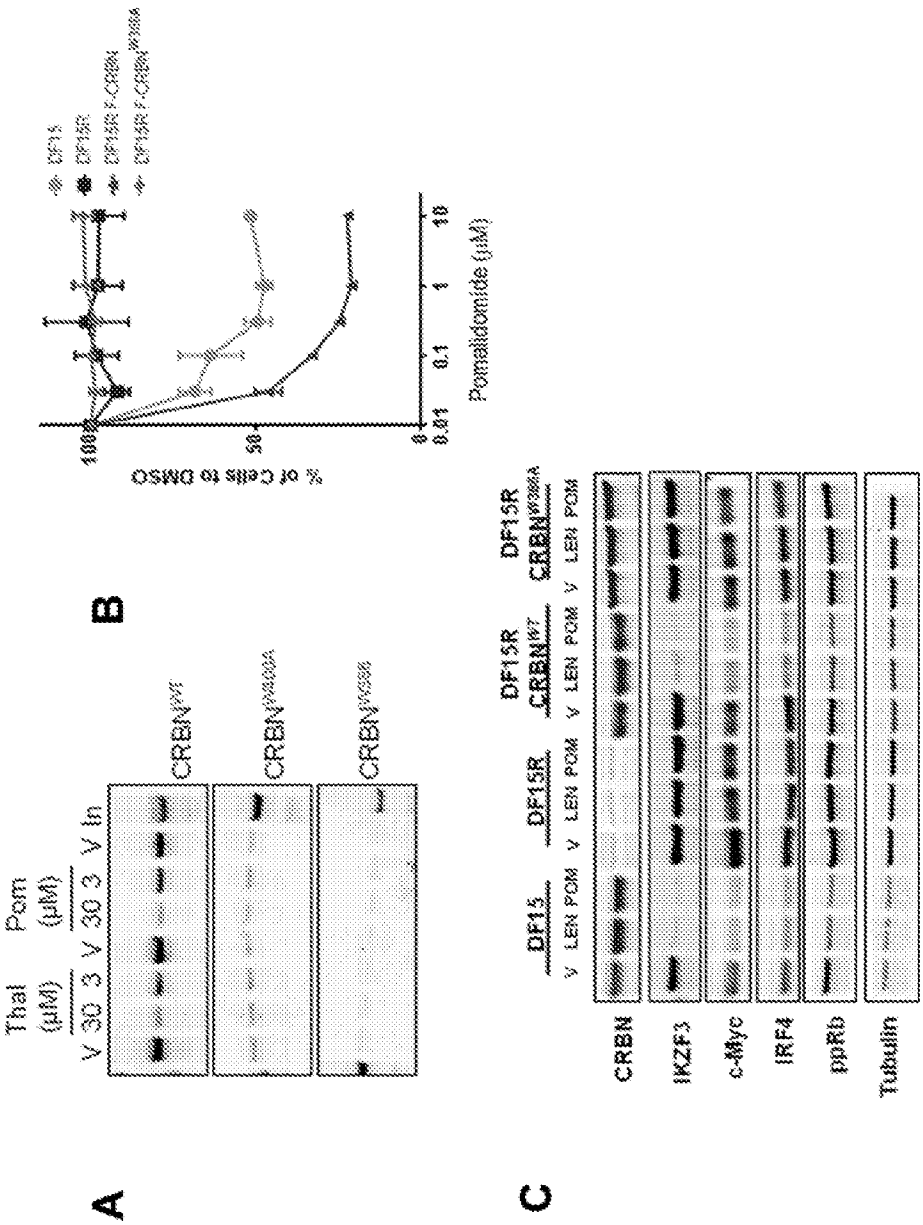
A
Thal (μM)
V 30 3
Pom (μM)
V 30 3 V In
CRBN^WT
CRBN^W400A
CRBN^W380A
B
DF15
DF15R
DF15R F-CRBN
DF15R F-CRBN^W380A
% of cells to DMSO
100
50
0
0.01 0.1 1 10
Pomalidomide (μM)
C
DF15 DF15R DF15R CRBN^WT DF15R CRBN^W380A
V LEN POM V LEN POM V LEN POM
CRBN
IKZF3
c-Myc
IRF4
ppRb
Tubulin

FIG. 22

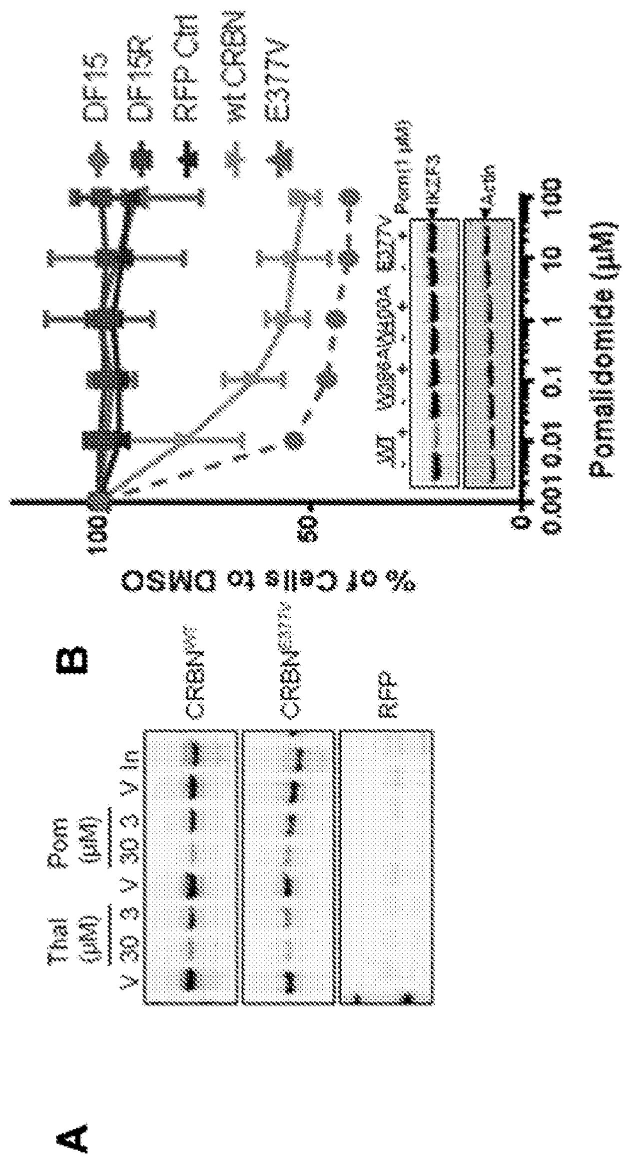
A
B
Thal (µM)
Pom (µM)
V 30 3 V 30 3 V In
CRBN
CRBN
RFP
% of Cells to DMSO
100
50
0
0.001 0.01 0.1 1 10 100
Pomalidomide (µM)
DF15
DF15R
RFP Ctrl
wt CRBN
E377V
WT
E377V
IKZF3
Actin

FIG. 23

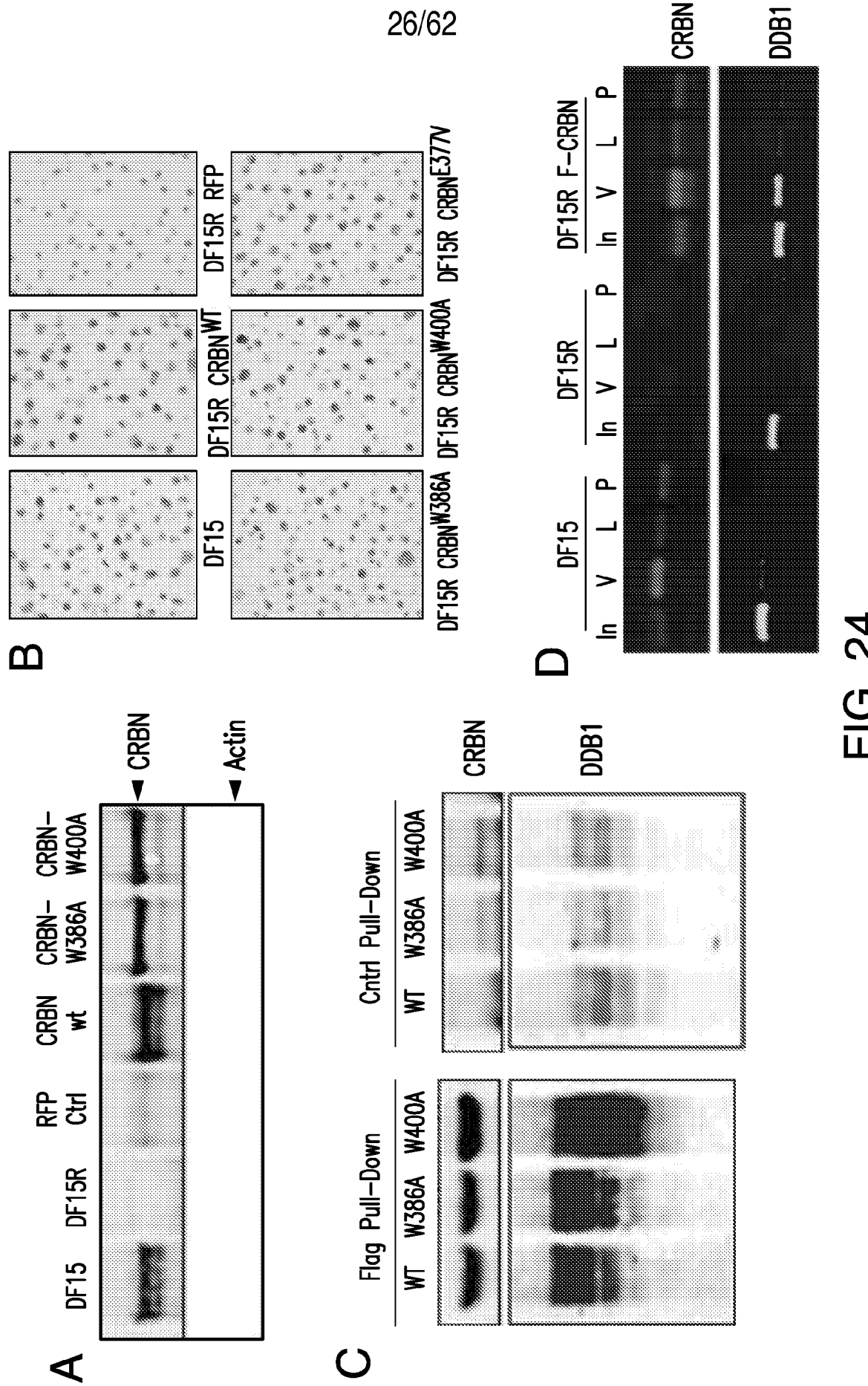
A
DF15
DF15R
RFP Ctrl
CRBN wt
CRBN- W386A
CRBN- W400A
CRBN
Actin
B
DF15
DF15R CRBNW386A
DF15R
DF15R CRBNWT
DF15R CRBNW400A
DF15R RFP
DF15R CRBNE377V
C
Flag Pull-Down
WT
W386A
W400A
Cntrl Pull-Down
WT
W386A
W400A
CRBN
DDB1
D
DF15
In V L P
DF15R
In V L P
DF15R F-CRBN
In V L P
CRBN
DDB1

FIG. 24

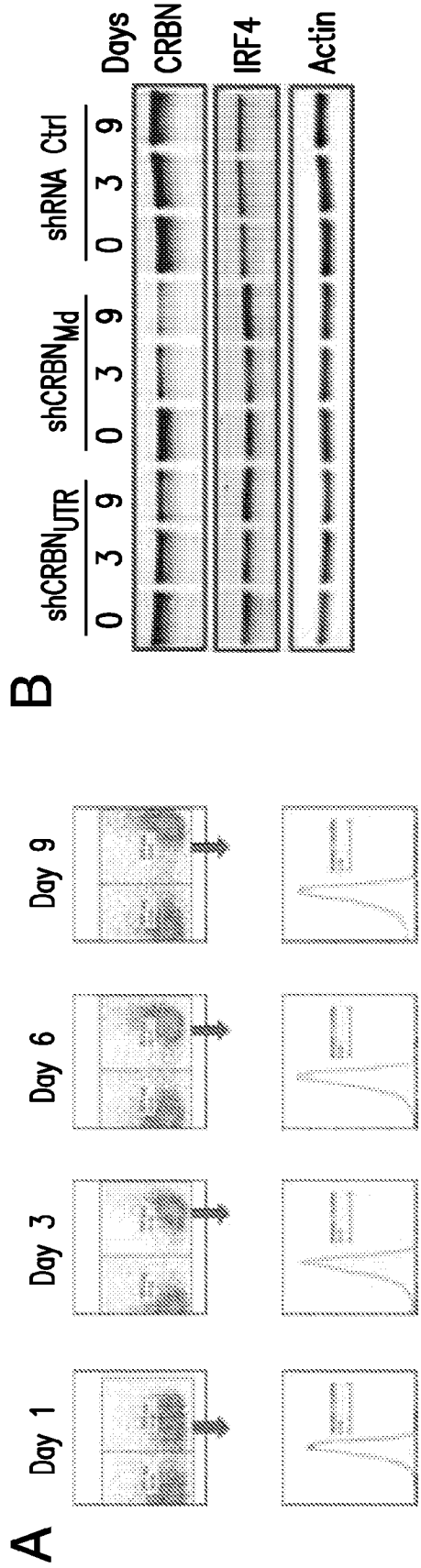
A
Day 1
Day 3
Day 6
Day 9
B
shCRBN$_{UTR}$
shCRBN$_{Md}$
shRNA Ctrl
0 3 9 0 3 9 0 3 9
Days
CRBN
IRF4
Actin

FIG. 25

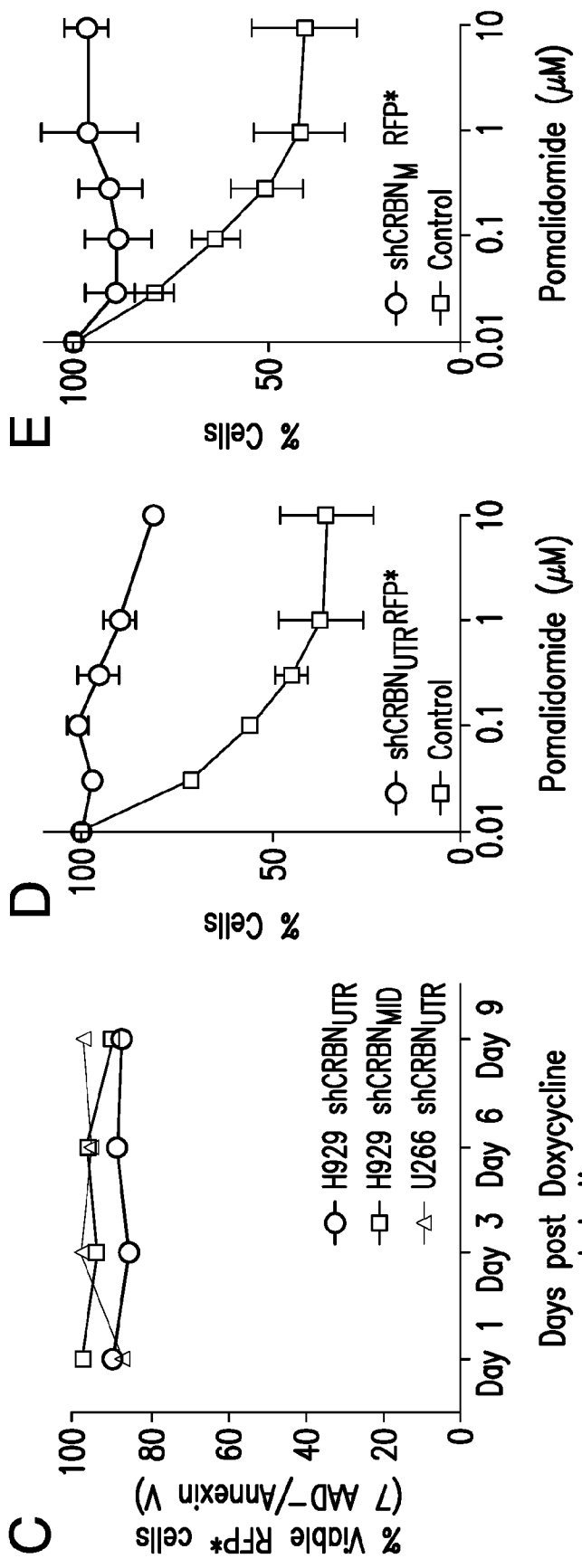
C
% Viable RFP* cells (7 AAD-/Annexin V)
100
80
60
40
20
0
Day 1 Day 3 Day 6 Day 9
Days post Doxycycline Induction
H929 shCRBN$_{UTR}$
H929 shCRBN$_{MID}$
U266 shCRBN$_{UTR}$
D
% Cells
100
50
0
0.01 0.1 1 10
Pomalidomide (μM)
shCRBN$_{UTR}$ RFP*
Control
E
% Cells
100
50
0
0.01 0.1 1 10
Pomalidomide (μM)
shCRBN$_{M}$ RFP*
Control

FIG. 25, cont.

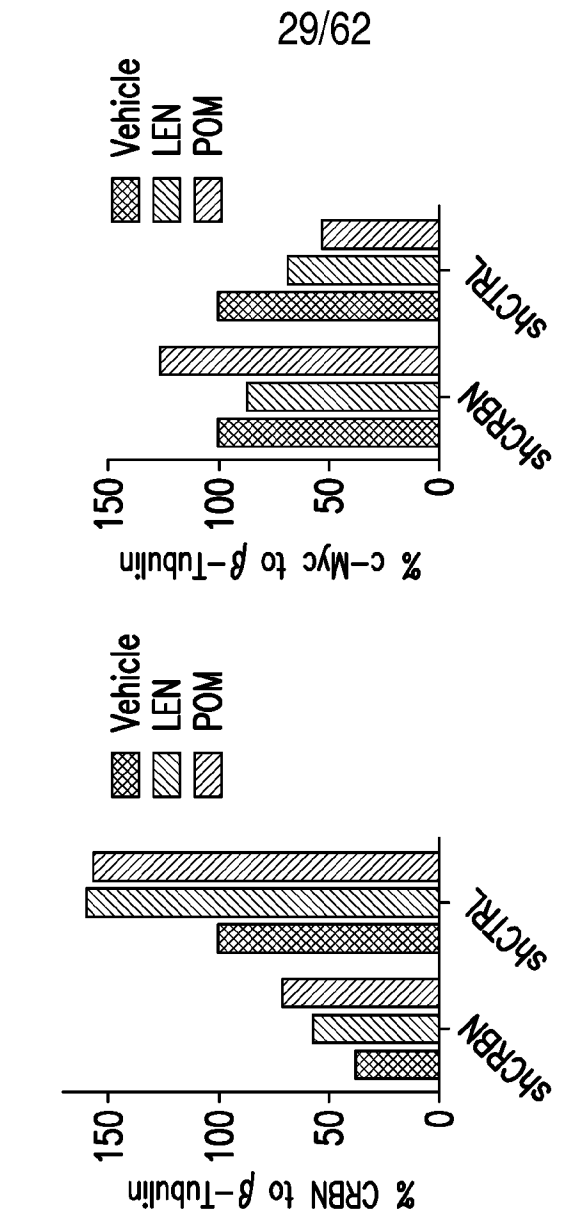
F
shCRBN Md
shCtrl
V LEN POM V LEN POM
CRBN
Aiolos
c-myc
p21
ppRb (Ser-608)
Tubulin
% CRBN to β-Tubulin
150
100
50
0
shCRBN
shCTRL
Vehicle
LEN
POM
% c-Myc to β-Tubulin
150
100
50
0
shCRBN
shCTRL
Vehicle
LEN
POM

FIG. 25, cont.

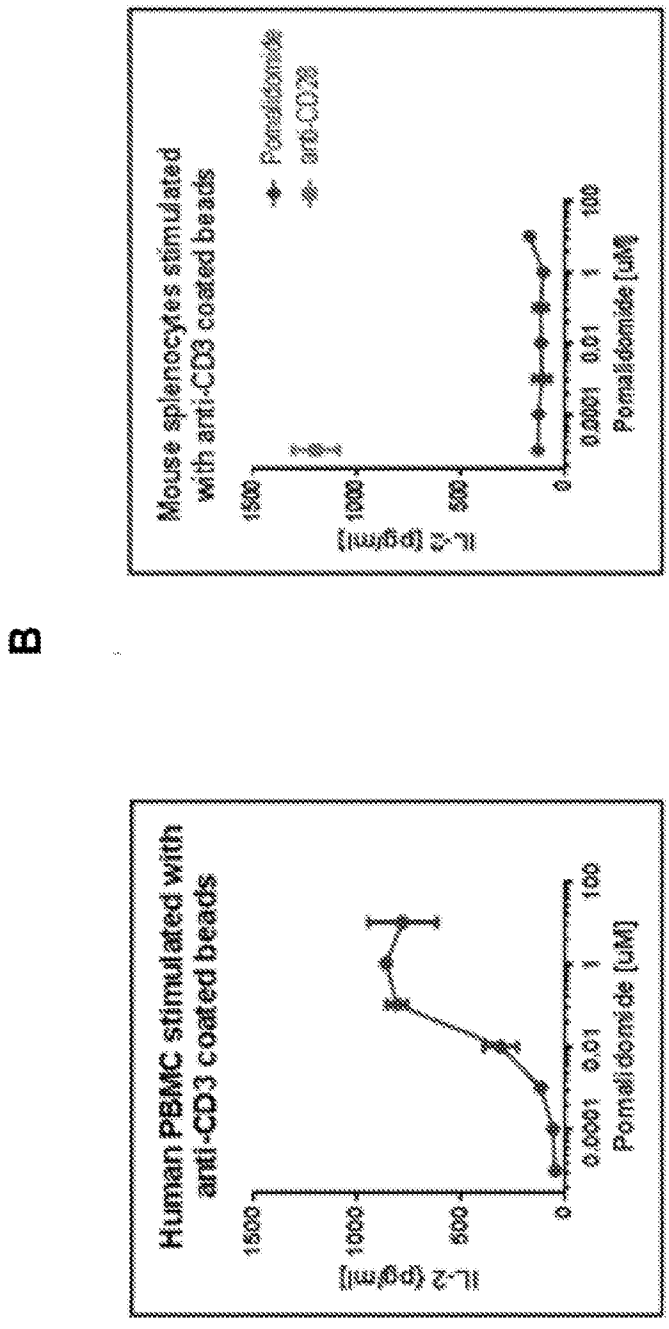
A
Human PBMC stimulated with anti-CD3 coated beads
IL-2 (pg/ml)
1500
1000
500
0
0.0001
0.01
1
100
Pomalidomide [uM]
B
Mouse splenocytes stimulated with anti-CD3 coated beads
Pomalidomide
anti-CD28
IL-2 (pg/ml)
1500
1000
500
0
0.0001
0.01
1
100
Pomalidomide [uM]

FIG. 26

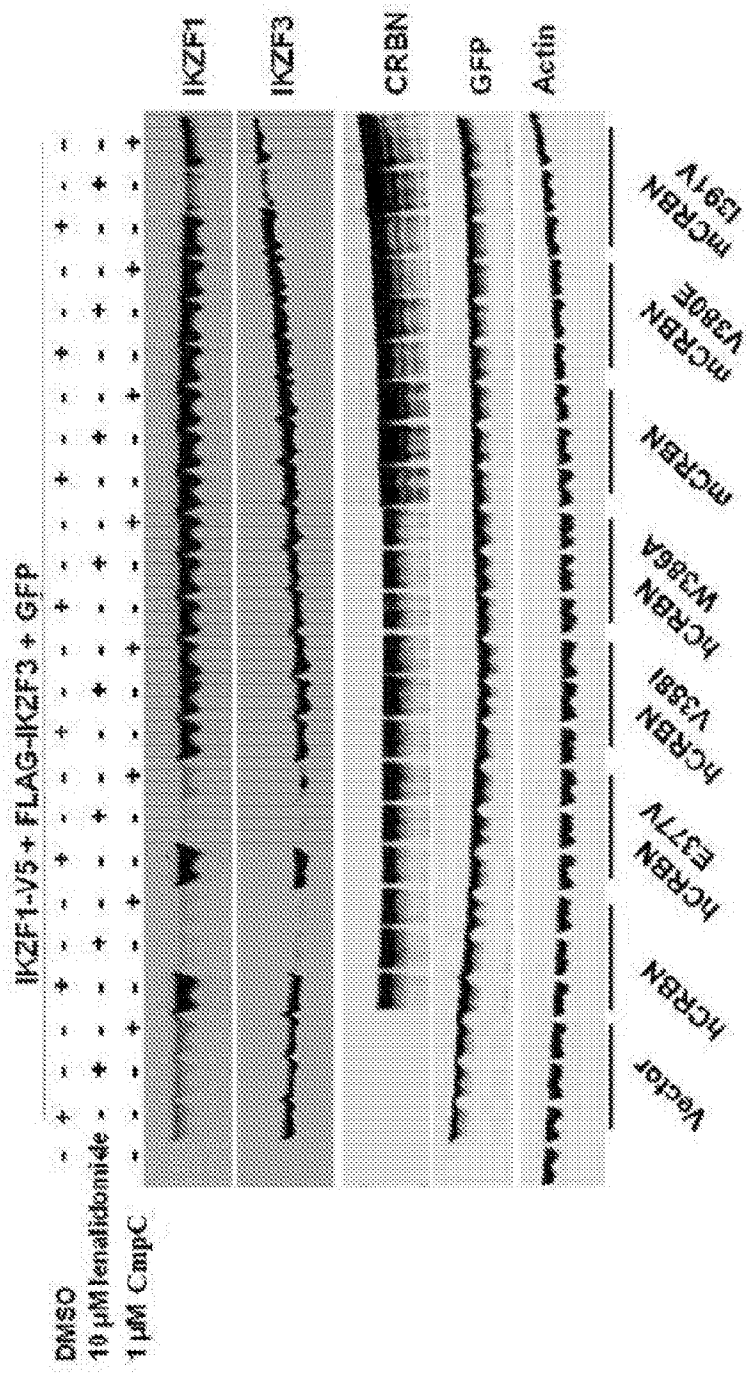
IKZF1
IKZF3
CRBN
GFP
Actin
Vector
hCRBN
hCRBN E377V
hCRBN V388I
hCRBN W386A
mCRBN
mCRBN V380E
mCRBN I391V
IKZF1-V5 + FLAG-IKZF3 + GFP
DMSO
10 μM lenalidomide
1 μM CmpC

FIG. 27

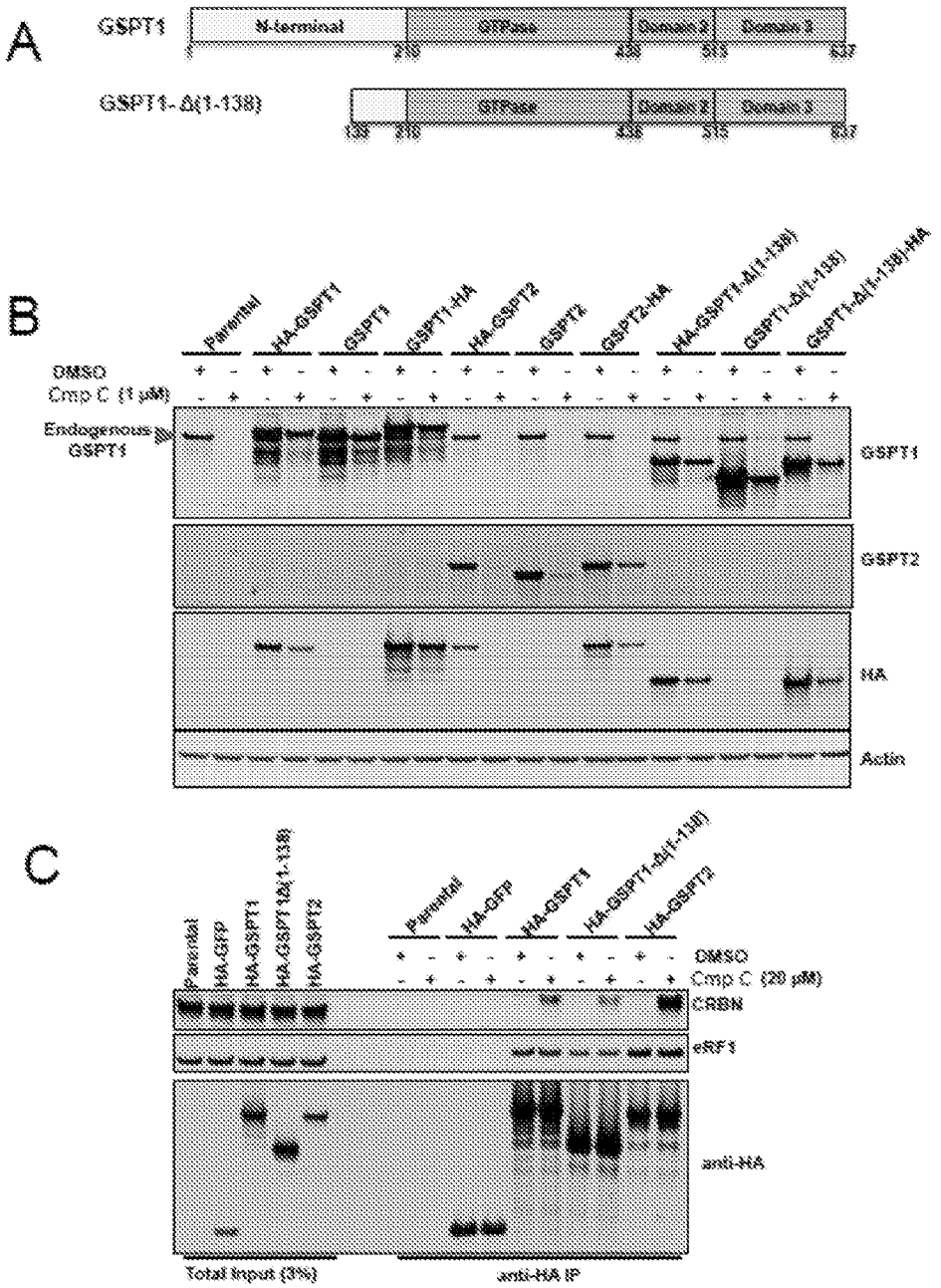
A
GSPT1
N-terminal
GTPase
Domain 2
Domain 3
GSPT1-Δ(1-138)
B
Parental
HA-GSPT1
GSPT1
GSPT1-HA
HA-GSPT2
GSPT2
GSPT2-HA
HA-GSPT1-Δ(1-138)
GSPT1-Δ(1-138)
GSPT1-Δ(1-138)-HA
DMSO
Cmp C (1 μM)
Endogenous GSPT1
GSPT1
GSPT2
HA
Actin
C
Parental
HA-GFP
HA-GSPT1
HA-GSPT1Δ(1-138)
HA-GSPT2
DMSO
Cmp C (20 μM)
CRBN
eRF1
anti-HA
Total Input (3%)
anti-HA IP

FIG. 28

A

```
hGSPT1    ------------------------------------MDPGSGGGGGGGGGGSSSGSSS
scSUP35   MSDSNQGNNQQNYQQYSQNGNQQQGNNRYQGYQAYNAQAQPAGGYYQNYQGYSGYQQGGY
                                              :**   .  * .. . ..

hGSPT1    SDSAPDCWDQADMEAPG----PGPCGGGGSLAAAAEAQRENLSAAFSRQLNVNAKPFVPN
scSUP35   QQYNPDAGYQQQYNPQGGYQQYNPQGGYQQQFNPQGGRGNYKNFNYNNNLQGYQAGFQPQ
          .:  **.  * : :. *     .* **  .   .  .: :  .  :..:*:     * *:

hGSPT1    VHAAEFVPSFLRGPAAPPPP--------AGGAANNHGAGSGAGGRAAPVESSQEEQSLCEG
scSUP35   SQGMSLNDFQKQQKQAAPKPKKTLKLVSSSGIKLANATKKVGTKPAESDKKEEEKSAETK
           :. .:     :   *.* *       :... :  .* . .* :.*  :..:**:*

hGSPT1    SNSAVSMELSEPIVENGETEMSPEESWEHKEEISEAEPGGGSLGDGRPPEESAHEMMEEE
scSUP35   EPTKEPTKVEEPVKKEEKPVQTEEKTEEKSELPKVEDLKISESTHNTNNANVTSADALIK
          . :  . ::.**: :: :.  : *:: *:.*  .  :   ..  ..    : :      :

hGSPT1    EEIPKPKSVVAPPGAPKKEHVNVVFIGHVDAGKSTIGGQIMYLTGMVDKRTLEKYEREAK
scSUP35   EQEEEVDDEVVNDMFGGKDHVSLIFMGHVDAGKSTMGGNLLYLTGSVDKRTIEKYEREAK
          *:  : .. *.      *:**.::*:*********:**:::**** *****:********

hGSPT1    EKNRETWYLSWALDTNQEERDKGKTVEVGRAYFETEKKHFTILDAPGHKSFVPNMIGGAS
scSUP35   DAGRQGWYLSWVMDTNKEERNDGKTIEVGKAYFETEKRRYTILDAPGHKMYVSEMIGGAS
          : .*: *****.:***:***:.***:***:*******:::********* :*.:******

hGSPT1    QADLAVLVISARKGEFETGFEKGGQTREHAMLAKTAGVKHLIVLINKMDDPTVNWSNERY
scSUP35   QADVGVLVISARKGEYETGFERGGQTREHALLAKTQGVNKMVVVVNKMDDPTVNWSKERY
          ***:.**********:*****:********:**** **:::*:::**********:***

hGSPT1    EECKEKLVPFLKKVGFNPKKDIHFMPCSGLTGANLKEQSD--FCPWYIGLPFIPYLDNLP
scSUP35   DQCVSNVSNFLRAIGYNIKTDVVFMPVSGYSGANLKDHVDPKECPWYTGPTLLEYLDTMN
          ::* .::  **: :*:* *.*:  *** ** :*****:: *   **** * .:: ***.:

hGSPT1    NFNRSVDGPIRLPIVDKYKDMGTVVLGKLESGSICKGQQLVMMPNKHNVEVLGILSD-DV
scSUP35   HVDRHINAPFMLPIAAKMKDLGTIVEGKIESGHIKKGQSTLLMPNKTAVEIQNIYNETEN
          :.:* ::.*: ***. * **:**:* **:*** * ***. ::****  **: .* .: :

hGSPT1    ETDTVAPGENLKIRLKGIEEEEILPGFILCDPNNLCHSGRTFDAQIVIIEHKSIICPGYN
scSUP35   EVDMAMCGEQVKLRIKGVEEEDISPGFVLTSPKNPIKSVTKFVAQIAIVELKSIIAAGFS
          *.* .  **:*:*:**:***:* ***:* .*:*  :*  .* ***.*:* ****..*:.

hGSPT1    AVLHIHTCIEEVEITALICLVDKKSGEKSKTRPRFVKQDQVCIARLRTAGTICLETFKDF
scSUP35   CVMHVHTAIEEVHIVKLLHKLEKGTNRKSKKPPAFAKKGMKVIAVLETEAPVCVETYQDY
          .*:*:**.****.*.  *:  ::* :..***. * *.*:.   ** *.* ..:*:**:*:

hGSPT1    PQMGRFTLRDEGKTIAIGKVLKLVPEKD
scSUP35   PQLGRFTLRDQGTTIAIGKIVKIAE---
          **:*******:*.******::*:.
```

FIG. 29

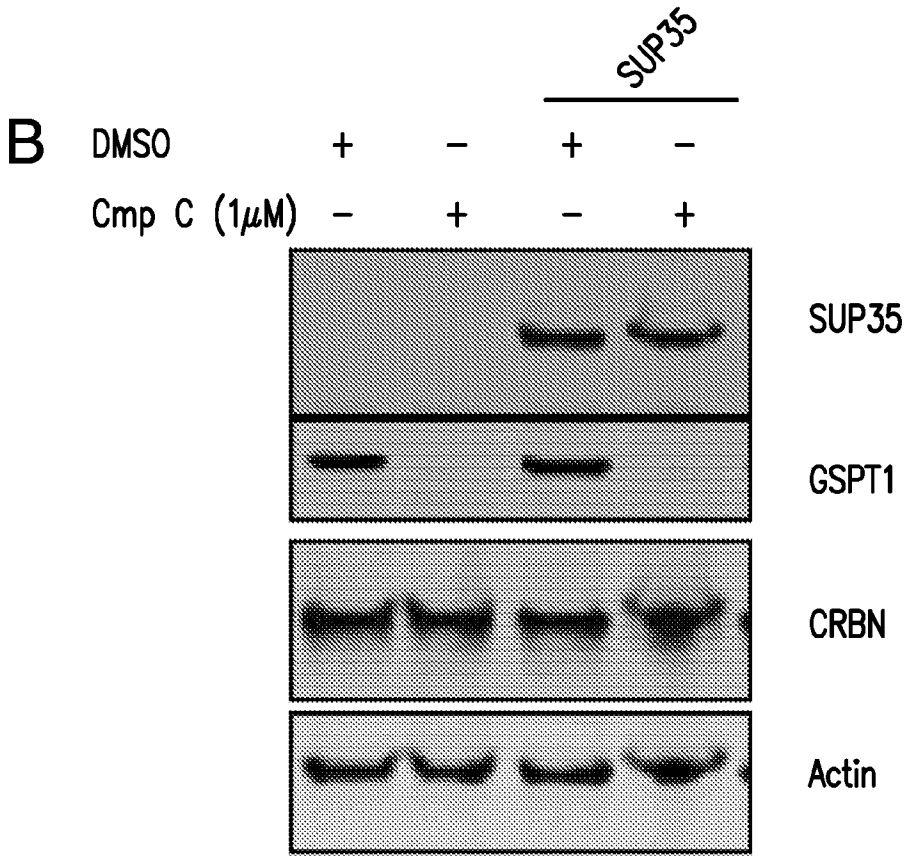

FIG. 29, cont.

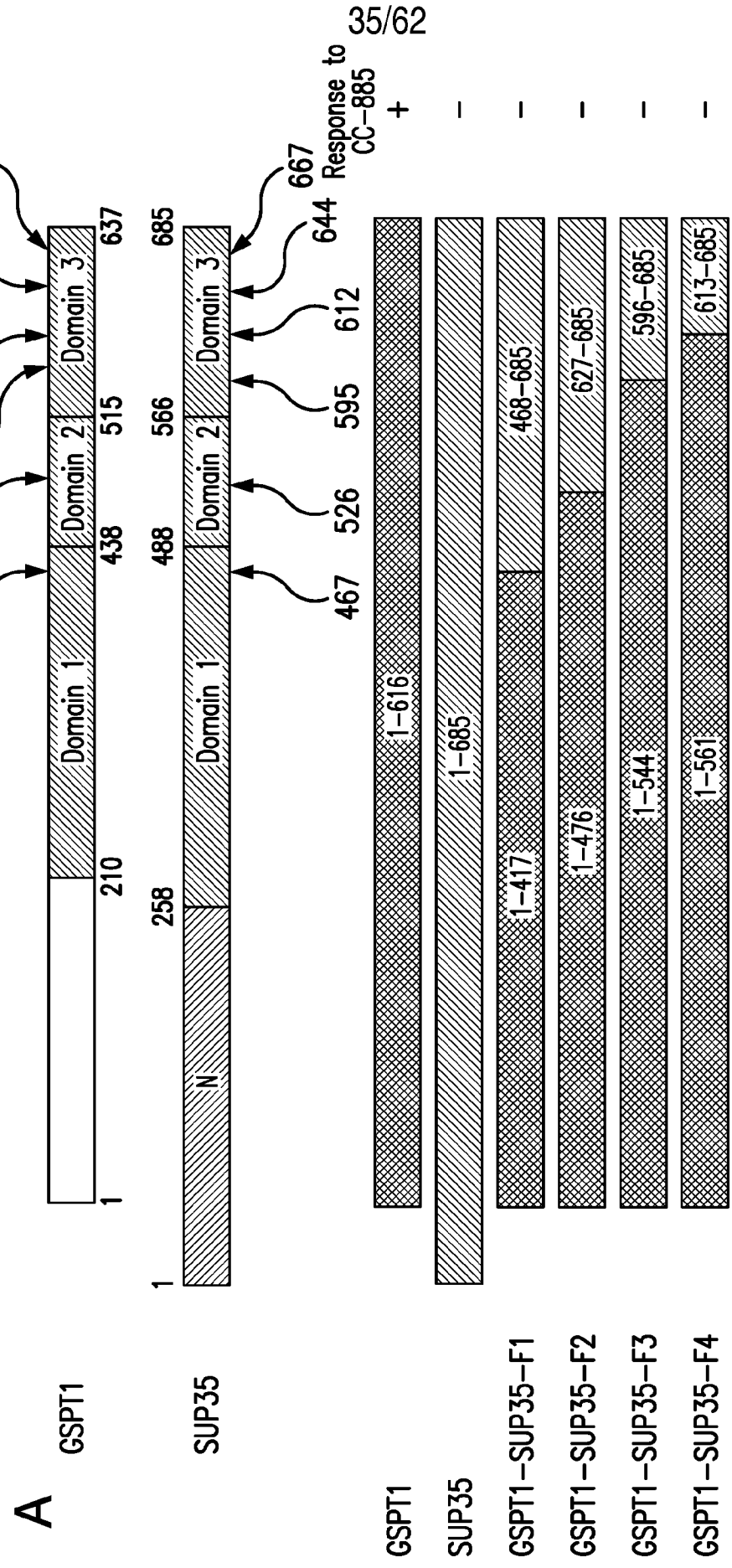
A
GSPT1
SUP35
Domain 1
Domain 21
Domain 3
N
1
210
258
417
438
476
488
526
544
561
566
593
595
612
616
637
644
667
685
Response to CC-885
+
-
-
-
-
-
GSPT1
SUP35
GSPT1-SUP35-F1
GSPT1-SUP35-F2
GSPT1-SUP35-F3
GSPT1-SUP35-F4
1-616
1-685
1-417
1-476
1-544
1-561
468-685
627-685
596-685
613-685

FIG. 30

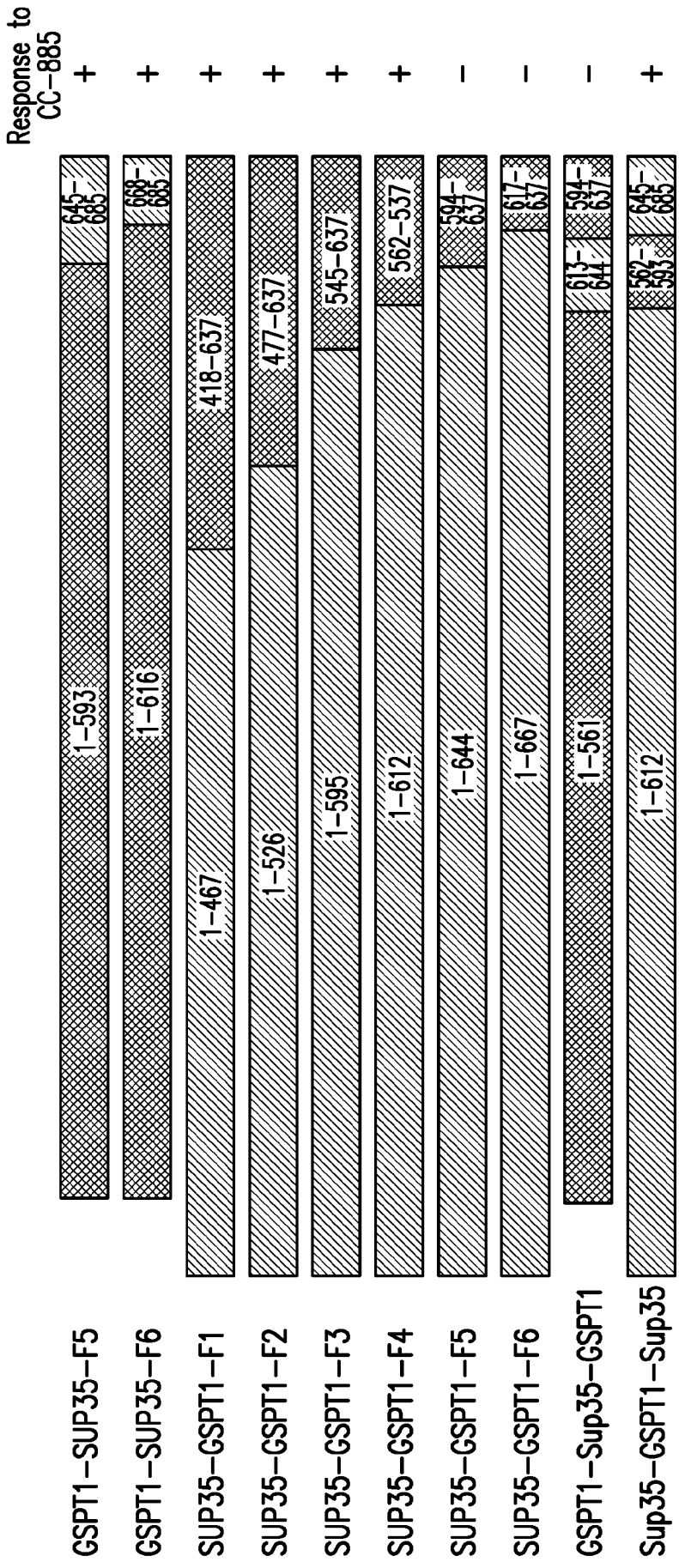
Response to CC-885
GSPT1-SUP35-F5
GSPT1-SUP35-F6
SUP35-GSPT1-F1
SUP35-GSPT1-F2
SUP35-GSPT1-F3
SUP35-GSPT1-F4
SUP35-GSPT1-F5
SUP35-GSPT1-F6
GSPT1-Sup35-GSPT1
Sup35-GSPT1-Sup35
+
+
+
+
+
+
-
-
-
+
1-593
645-685
1-616
668-685
1-467
418-637
1-526
477-637
1-595
545-637
1-612
562-637
1-644
594-637
1-667
617-637
1-561
613-644
594-637
1-612
562-593
645-685

FIG. 30, cont.

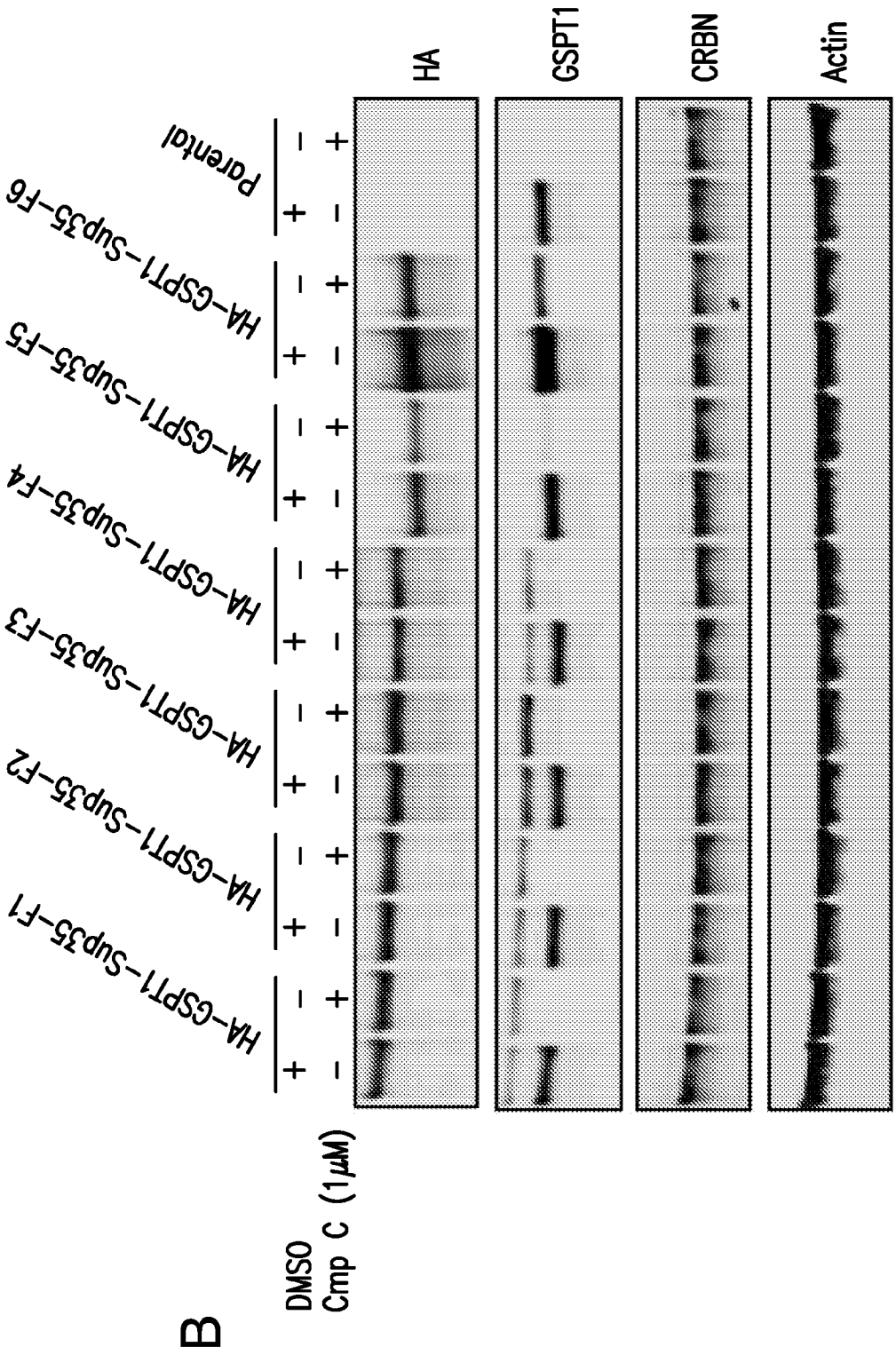
B
DMSO
Cmp C (1μM)
HA
GSPT1
CRBN
Actin
HA-GSPT1-Sup35-F1
HA-GSPT1-Sup35-F2
HA-GSPT1-Sup35-F3
HA-GSPT1-Sup35-F4
HA-GSPT1-Sup35-F5
HA-GSPT1-Sup35-F6
Parental

FIG. 30, cont.

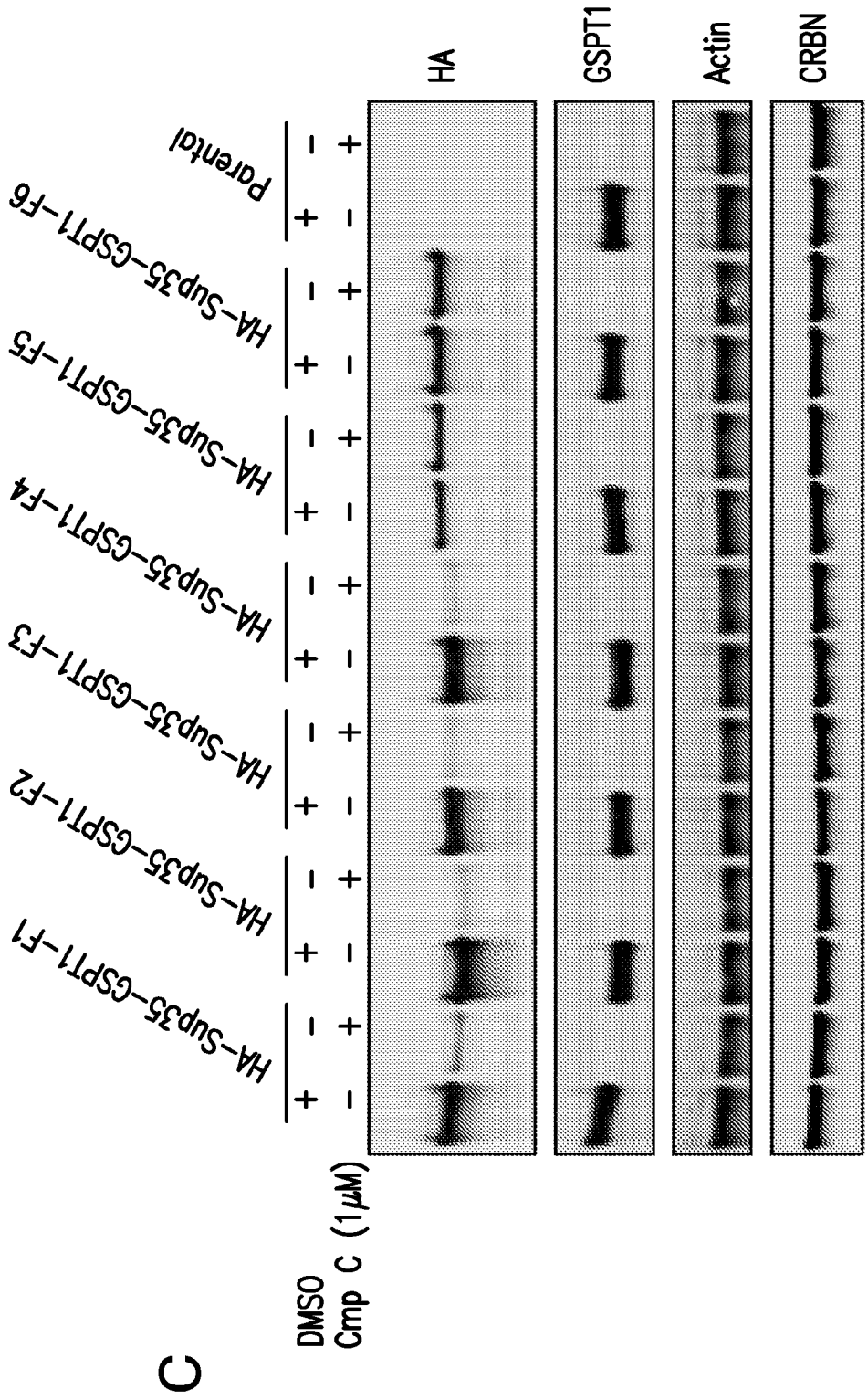
C
DMSO
Cmp C (1μM)
HA-Sup35-GSPT1-F1
HA-Sup35-GSPT1-F2
HA-Sup35-GSPT1-F3
HA-Sup35-GSPT1-F4
HA-Sup35-GSPT1-F5
HA-Sup35-GSPT1-F6
Parental
HA
GSPT1
Actin
CRBN

FIG. 30, cont.

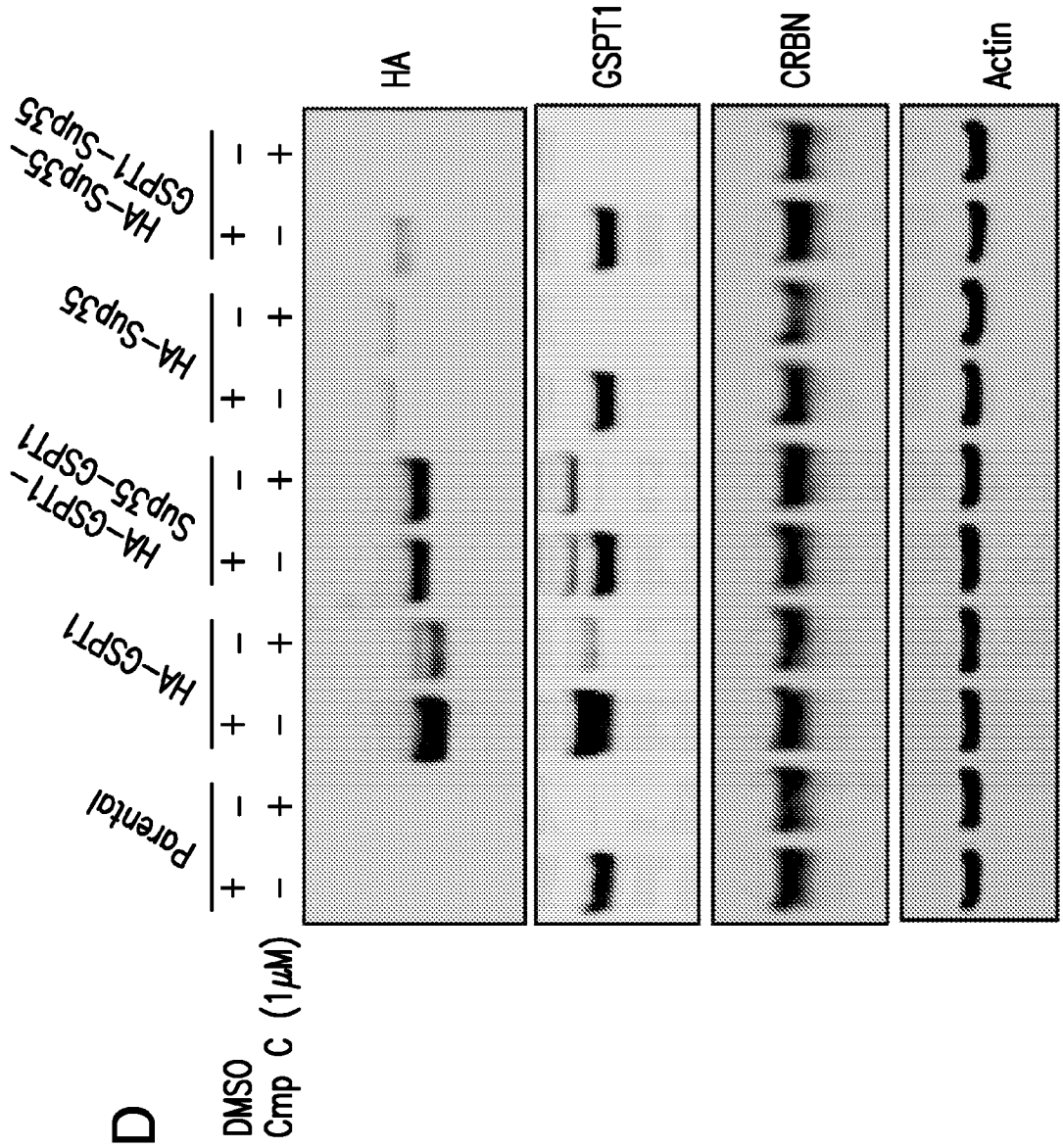
D
DMSO
Cmp C (1μM)
Parental
HA-GSPT1
HA-GSPT1-Sup35-GSPT1
HA-Sup35
HA-Sup35-GSPT1-Sup35
HA
GSPT1
CRBN
Actin

FIG. 30, cont.

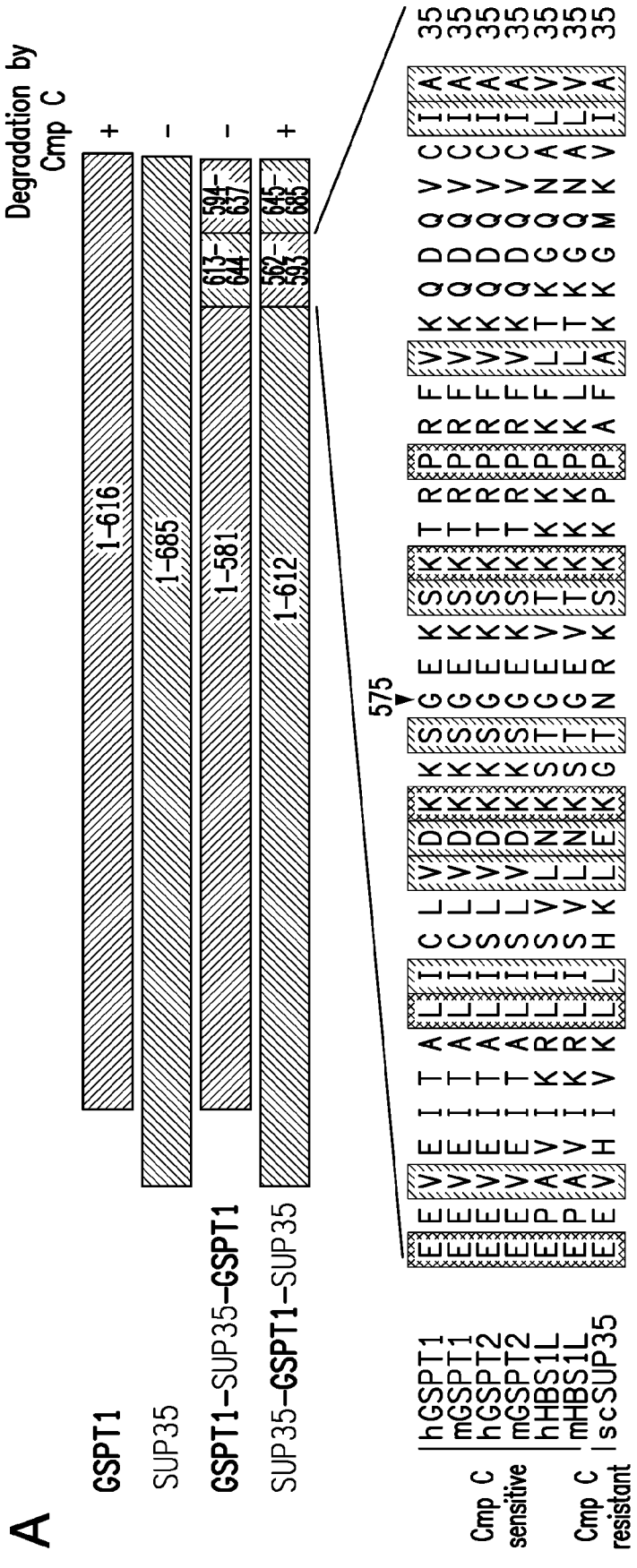
A
GSPT1
SUP35
GSPT1–SUP35–GSPT1
SUP35–GSPT1–SUP35
Degradation by Cmp C
+
–
–
+
1–616
1–685
1–581
1–612
613–644
594–637
562–593
645–685
575
Cmp C sensitive
Cmp C resistant
hGSPT1
mGSPT1
hGSPT2
mGSPT2
hHBS1L
mHBS1L
scSUP35
35

FIG. 31

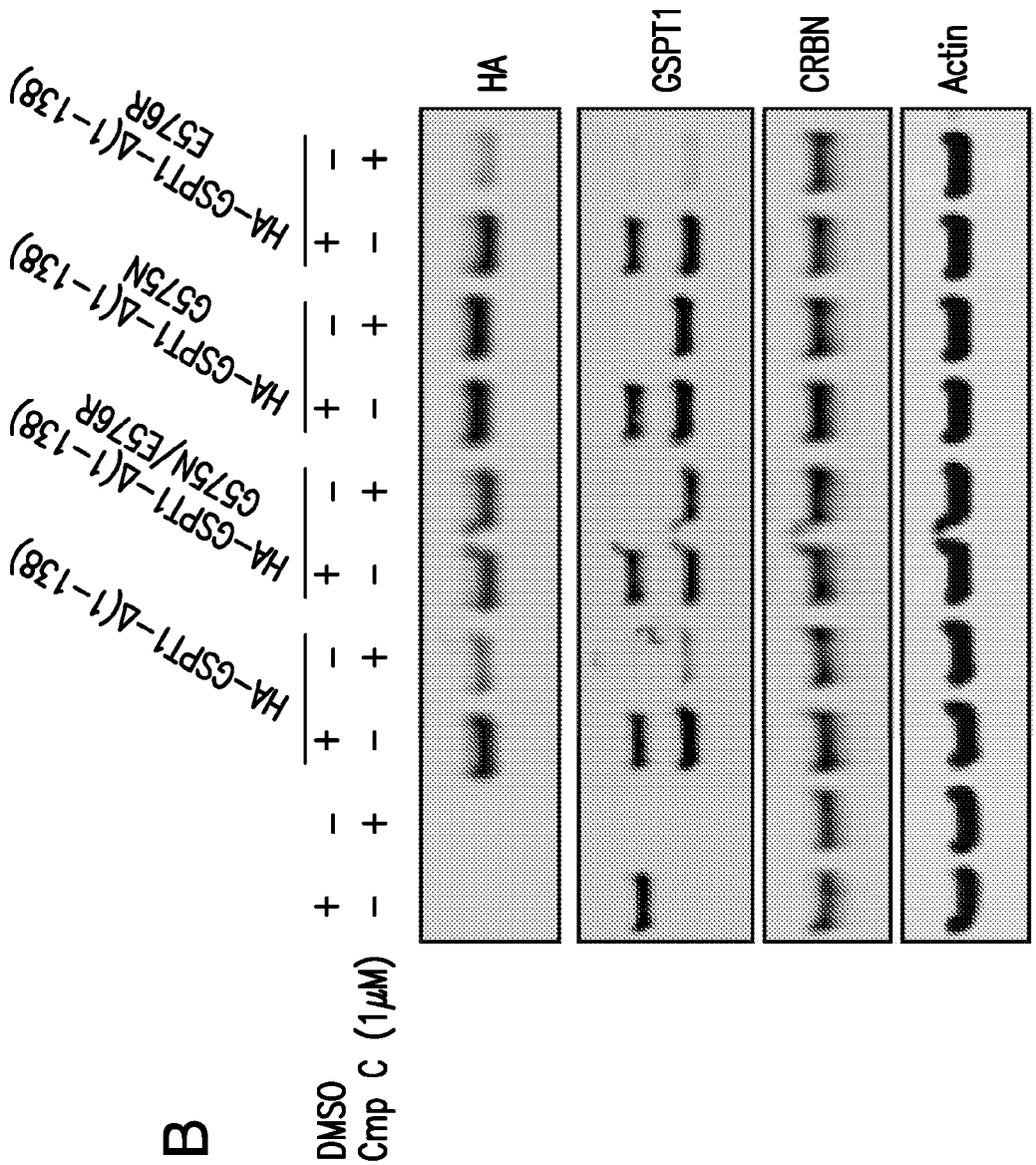
B
DMSO
Cmp C (1μM)
HA-GSPT1-Δ(1-138)
HA-GSPT1-Δ(1-138) G575N/E576R
HA-GSPT1-Δ(1-138) G575N
HA-GSPT1-Δ(1-138) E576R
HA
GSPT1
CRBN
Actin

FIG. 31, cont.

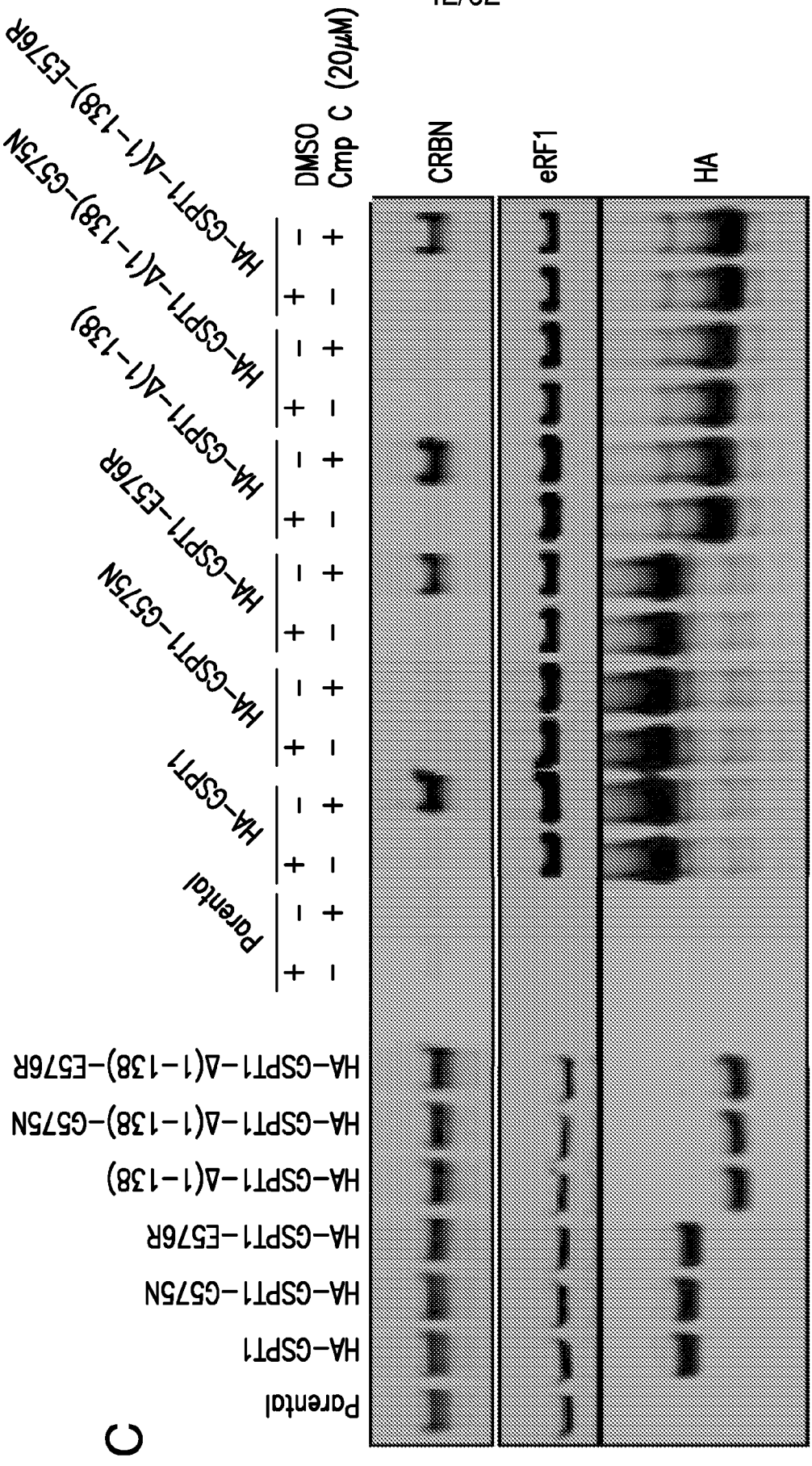
C
Parental
HA-GSPT1
HA-GSPT1-G575N
HA-GSPT1-E576R
HA-GSPT1-Δ(1-138)
HA-GSPT1-Δ(1-138)-G575N
HA-GSPT1-Δ(1-138)-E576R
Total Input (2%)
anti-HA IP
CRBN
eRF1
HA
DMSO
Cmp C (20μM)
Parental
HA-GSPT1
HA-GSPT1-G575N
HA-GSPT1-E576R
HA-GSPT1-Δ(1-138)
HA-GSPT1-Δ(1-138)-G575N
HA-GSPT1-Δ(1-138)-E576R

FIG. 31, cont.

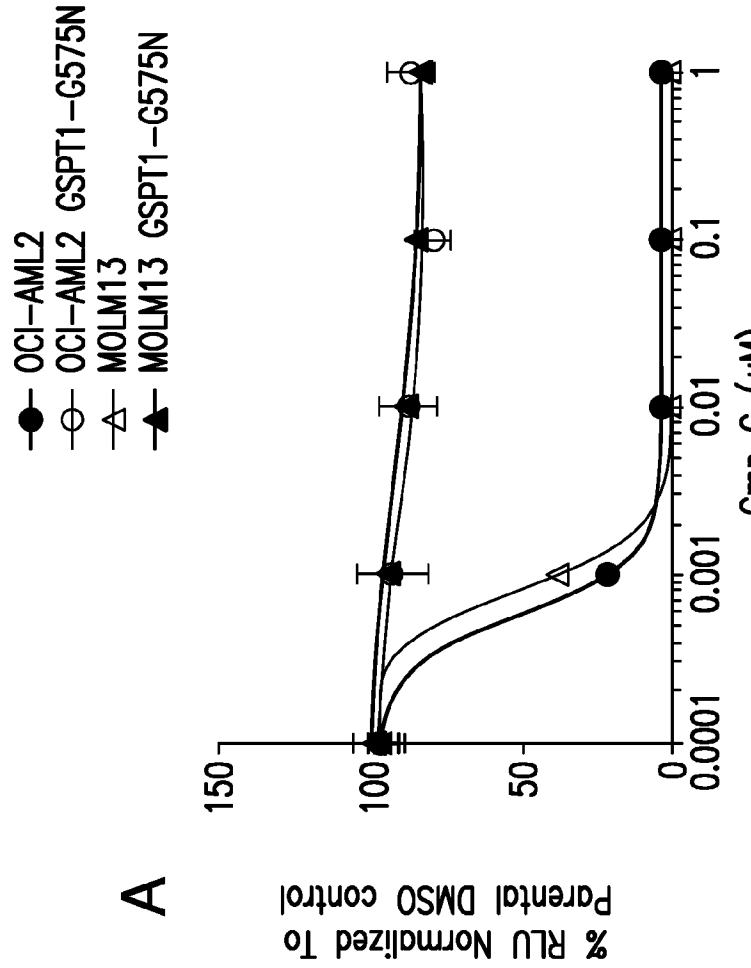
A
% RLU Normalized To Parental DMSO control
150
100
50
0
0.0001
0.001
0.01
0.1
1
Cmp C (μM)
OCI-AML2
OCI-AML2 GSPT1-G575N
MOLM13
MOLM13 GSPT1-G575N

FIG. 32

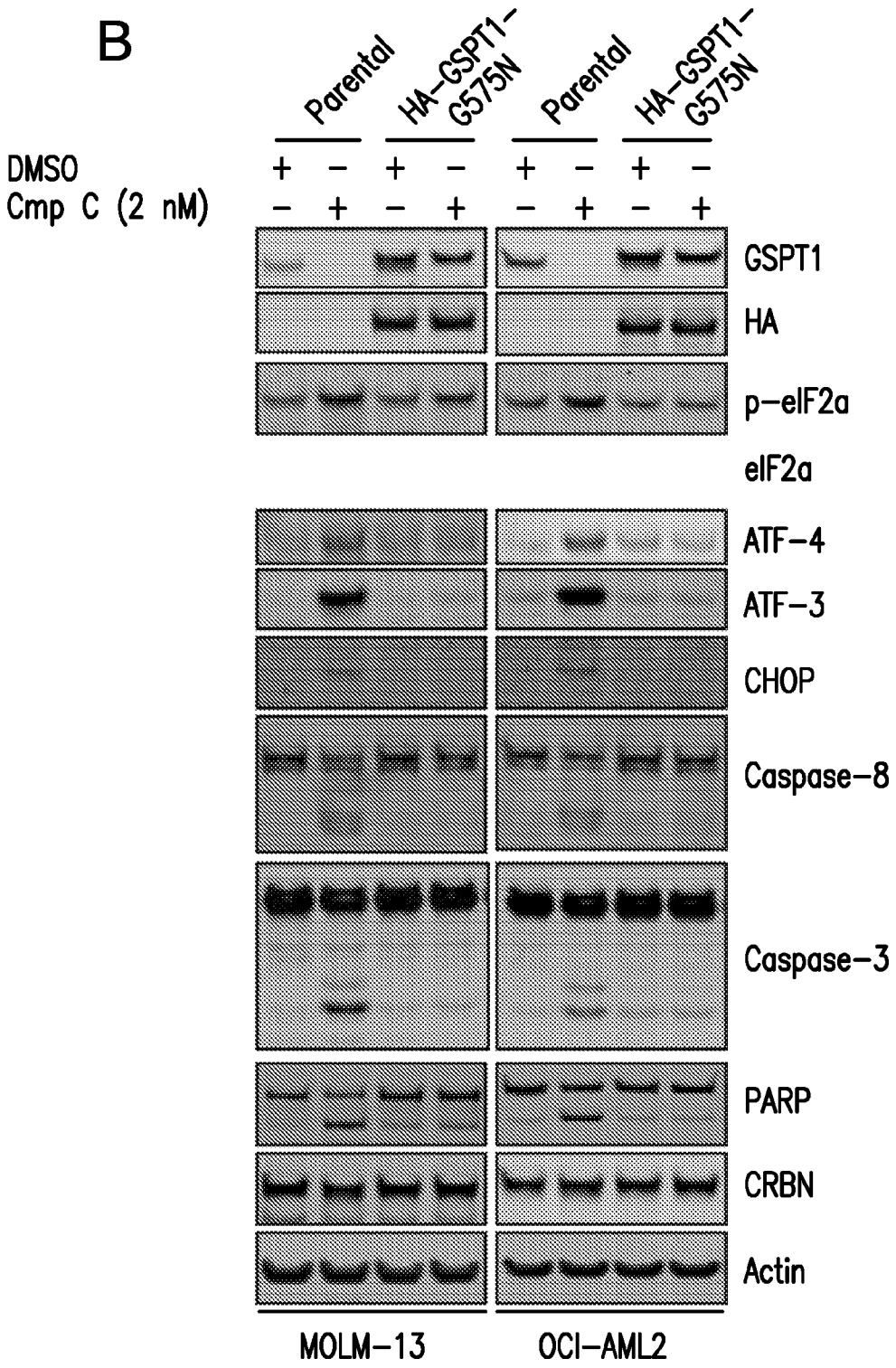
B
Parental
HA-GSPT1-G575N
Parental
HA-GSPT1-G575N
DMSO
Cmp C (2 nM)
+ − + − + − + −
− + − + − + − +
GSPT1
HA
p−eIF2a
eIF2a
ATF−4
ATF−3
CHOP
Caspase−8
Caspase−3
PARP
CRBN
Actin
MOLM−13
OCI−AML2

FIG. 32, cont.

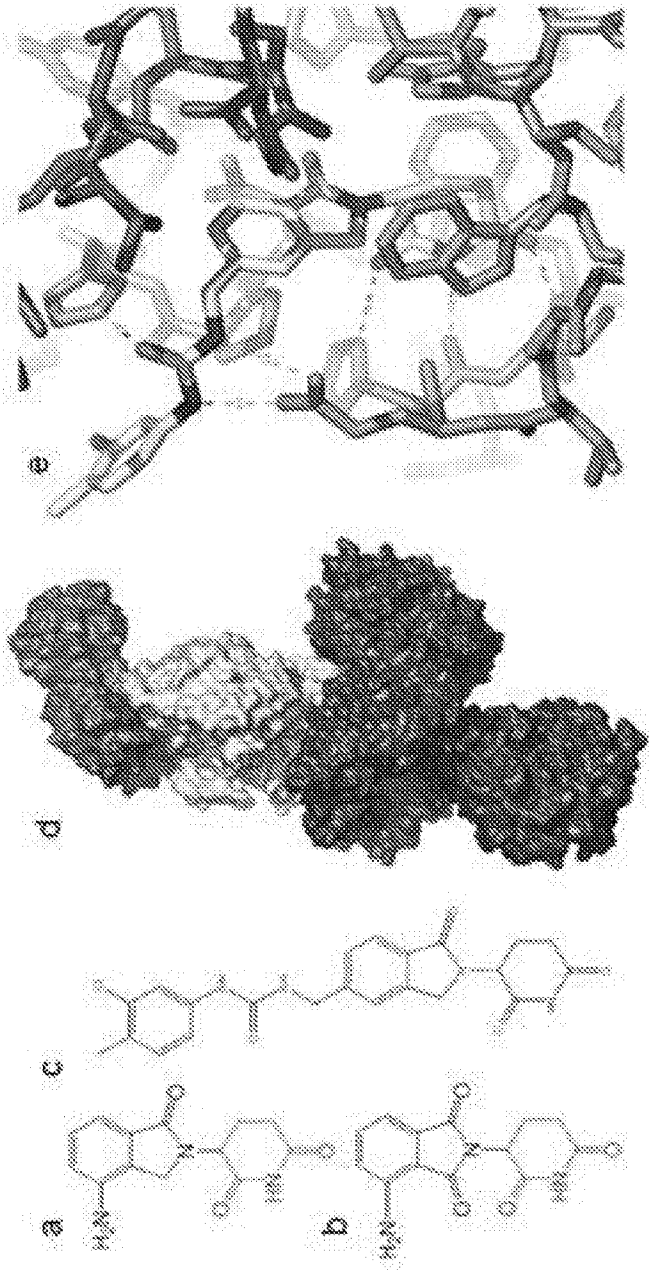

FIG. 33

A
CRBN IP
wt
E377V
V388I
E377A
V388A
H357A
I371A
R373A
T376A
H397A
K406A
K407A
Veh Cmp C
CRBN
B
Yellow–Mapped Sup35 region
Red–Key glycine residue
C
Red–Disrupts binding
Green–No effect on binding
Orange–partially disrupts binding
Blue–no mutation tested

FIG. 34

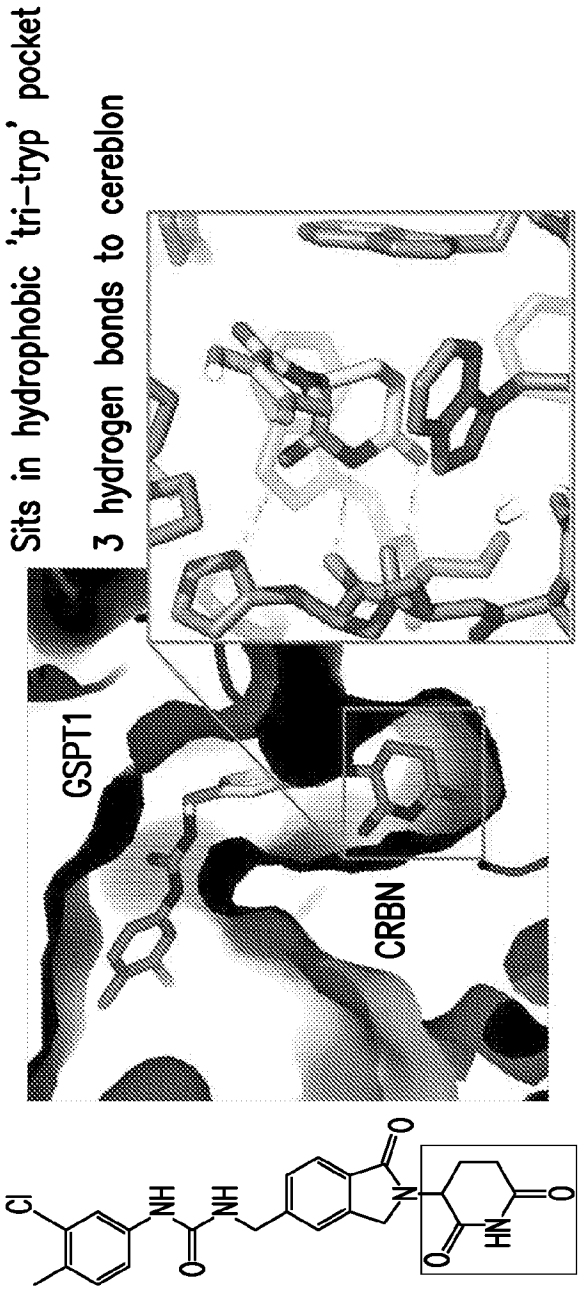
Sits in hydrophobic 'tri-tryp' pocket
3 hydrogen bonds to cereblon
GSPT1
CRBN
Cl
NH
NH
O
N
O
HN
O
O

FIG. 35A

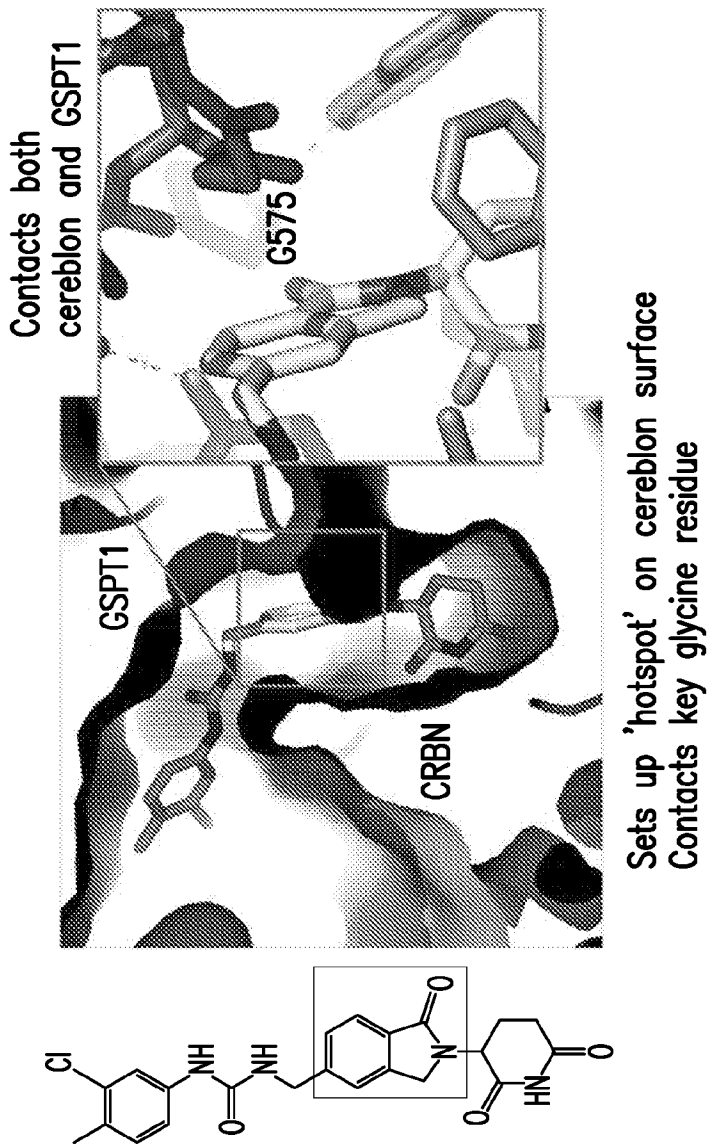
Contacts both
cereblon and GSPT1
G575
GSPT1
CRBN
Sets up 'hotspot' on cereblon surface
Contacts key glycine residue
Cl
NH
NH
O
N
O
O
HN
O

FIG. 35B

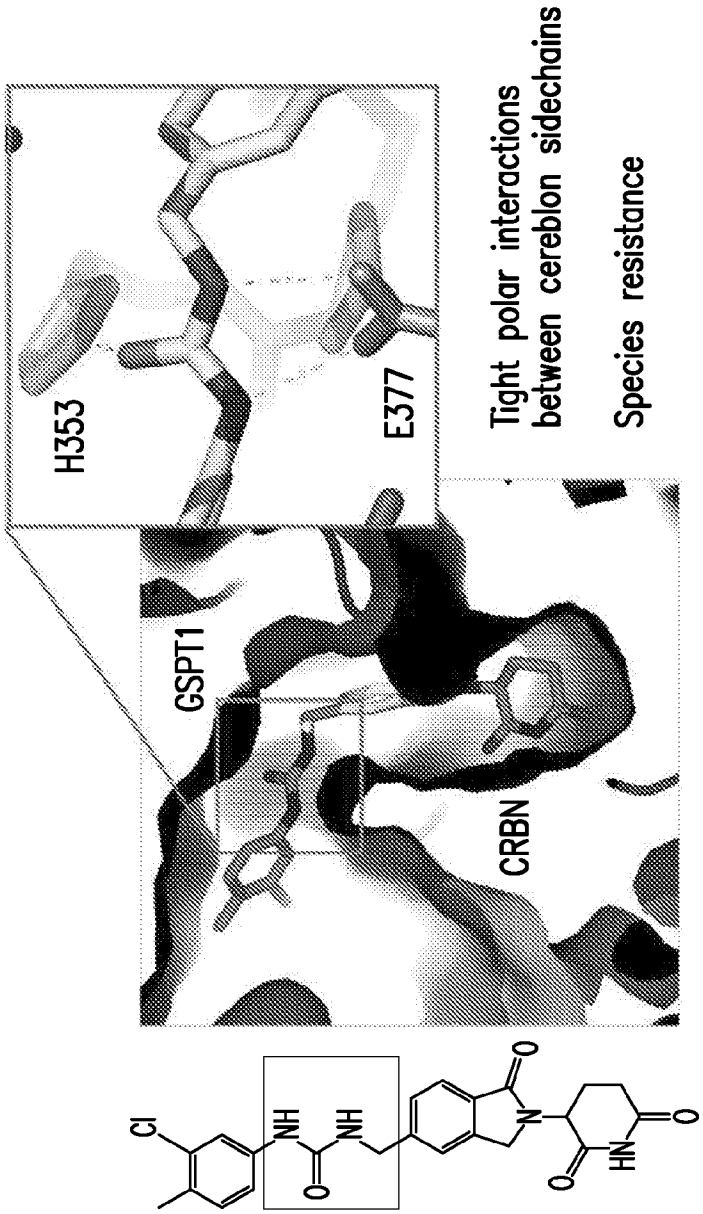
H353
E377
Tight polar interactions between cereblon sidechains
Species resistance
GSPT1
CRBN
Cl
NH
NH
O
N
O
HN
O

FIG. 35C

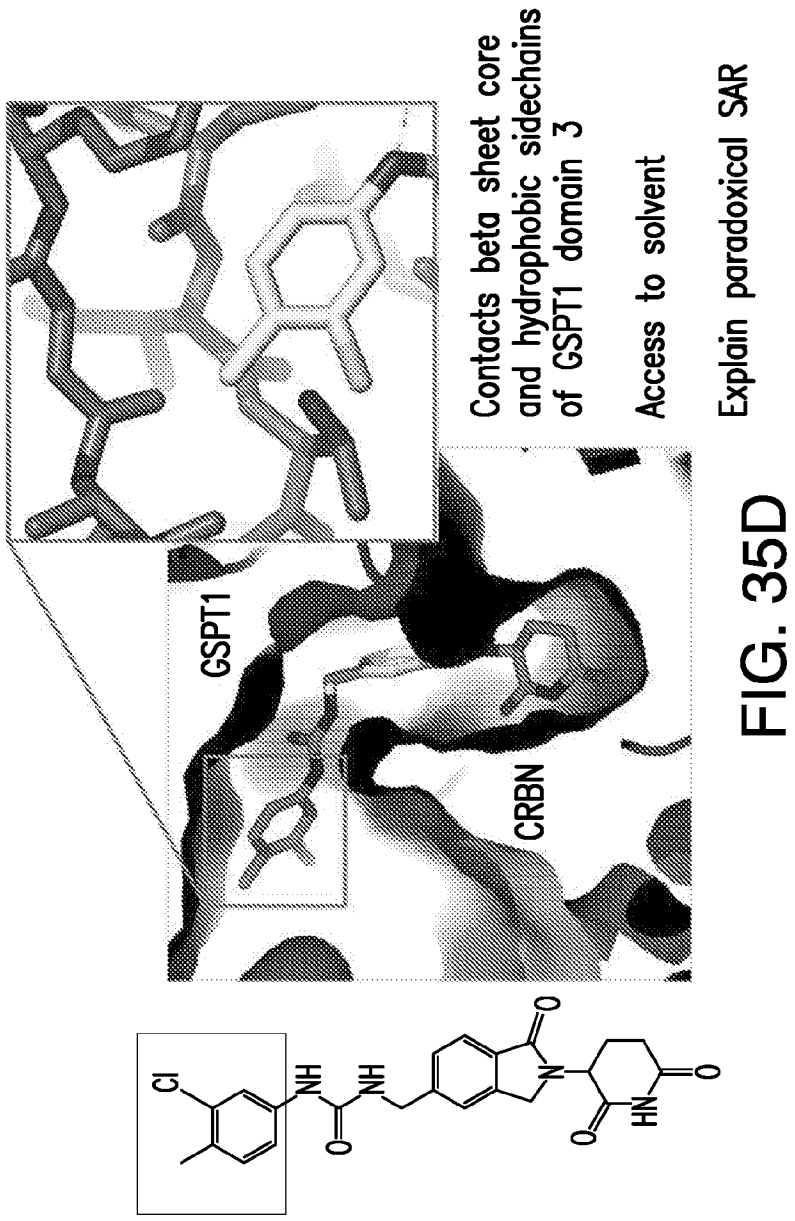
GSPT1
CRBN
Contacts beta sheet core and hydrophobic sidechains of GSPT1 domain 3
Access to solvent
Explain paradoxical SAR
Cl
NH
NH
O
N
O
O
HN
O

FIG. 35D

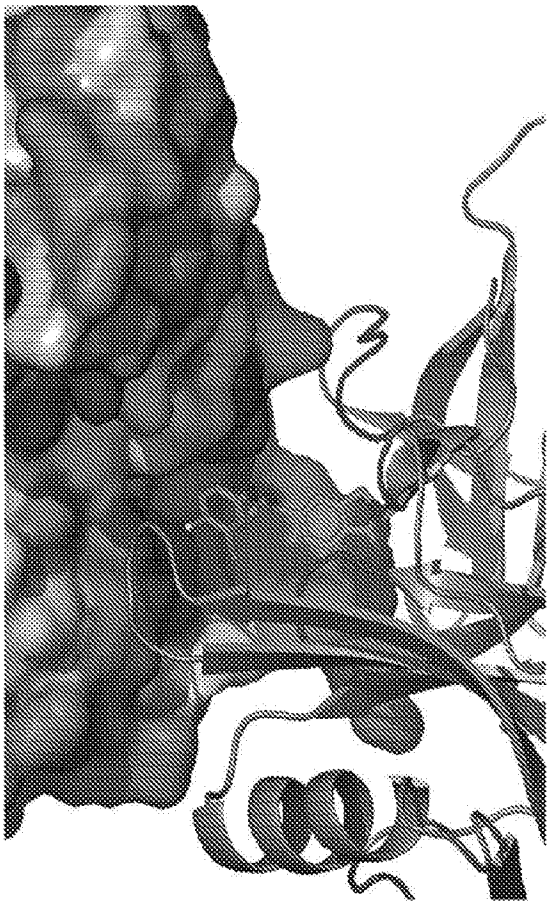

FIG. 36B

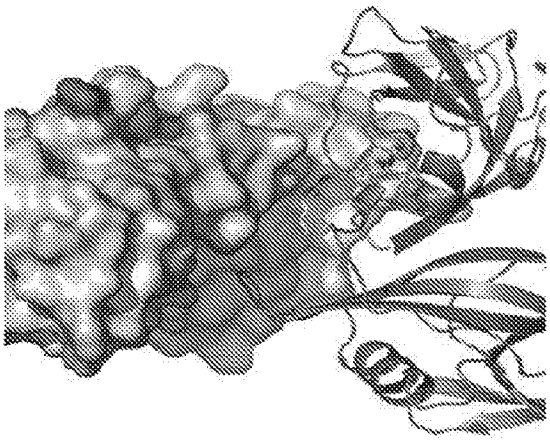

FIG. 36A

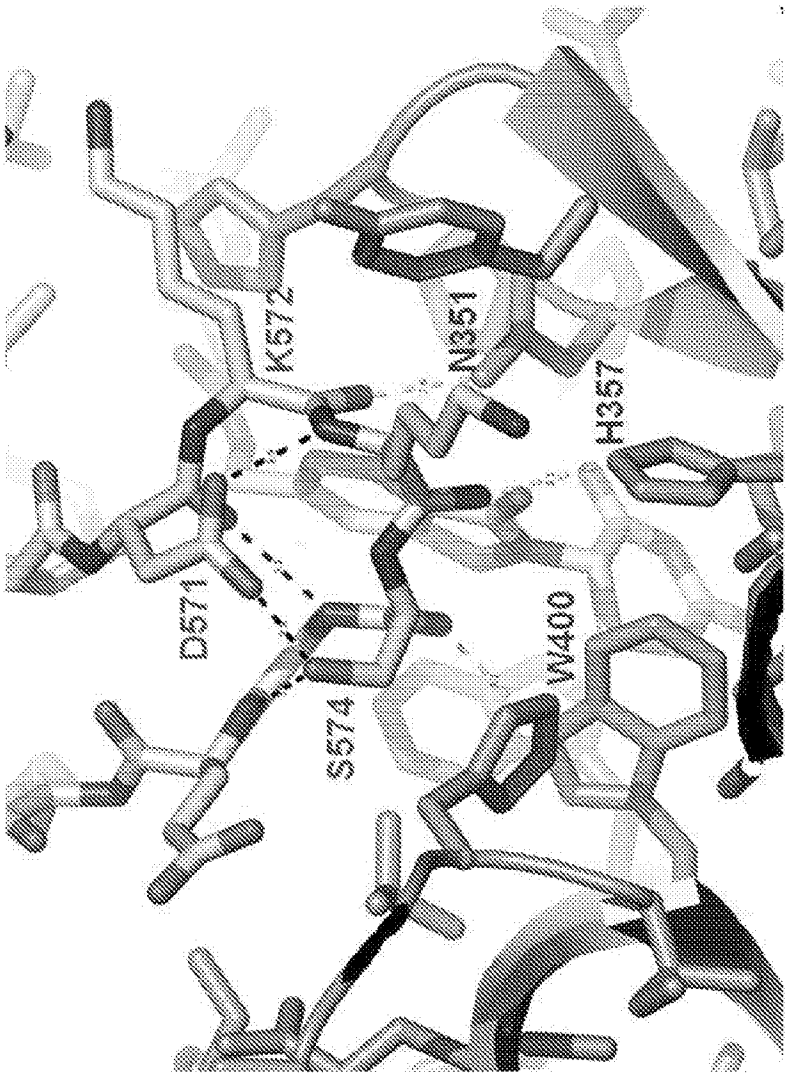

FIG. 37

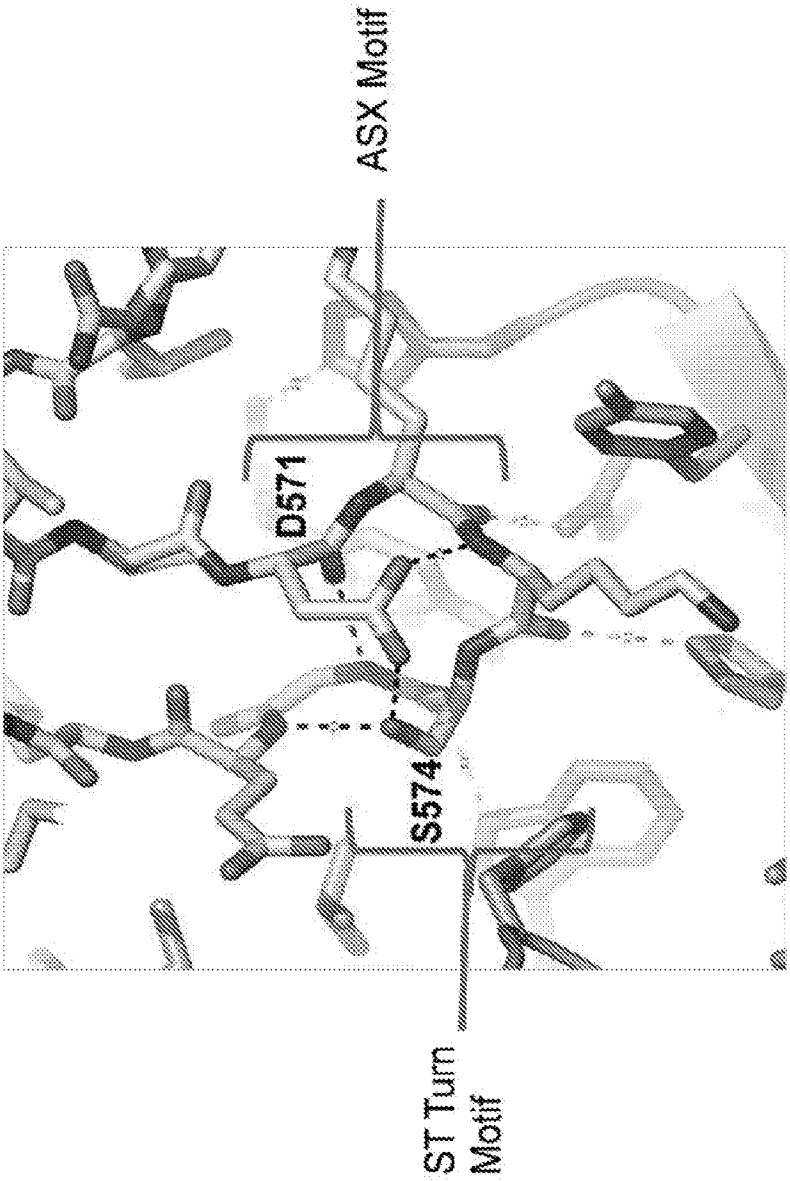

FIG. 38

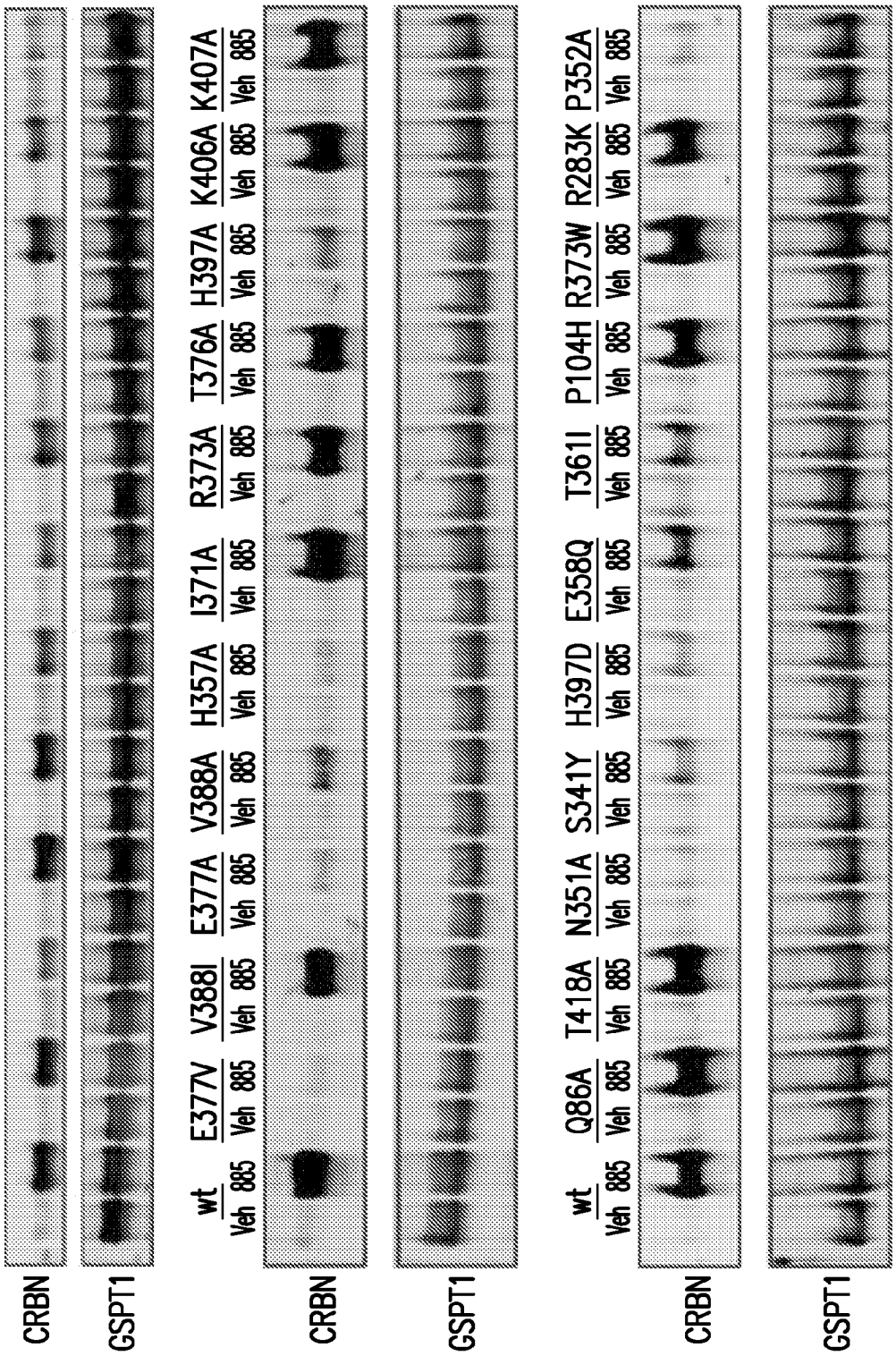
wt
Veh 885
S77R
P98A
F102A
H103A
F150A
F150A W240A
W240A
W243A
Q325A
H353A
Y355A
CRBN
GSPT1
wt
E377V
V388I
E377A
V388A
H357A
I371A
R373A
T376A
H397A
K406A
K407A
wt
Q86A
T418A
N351A
S341Y
H397D
E358Q
T361I
P104H
R373W
R283K
P352A

FIG. 39A

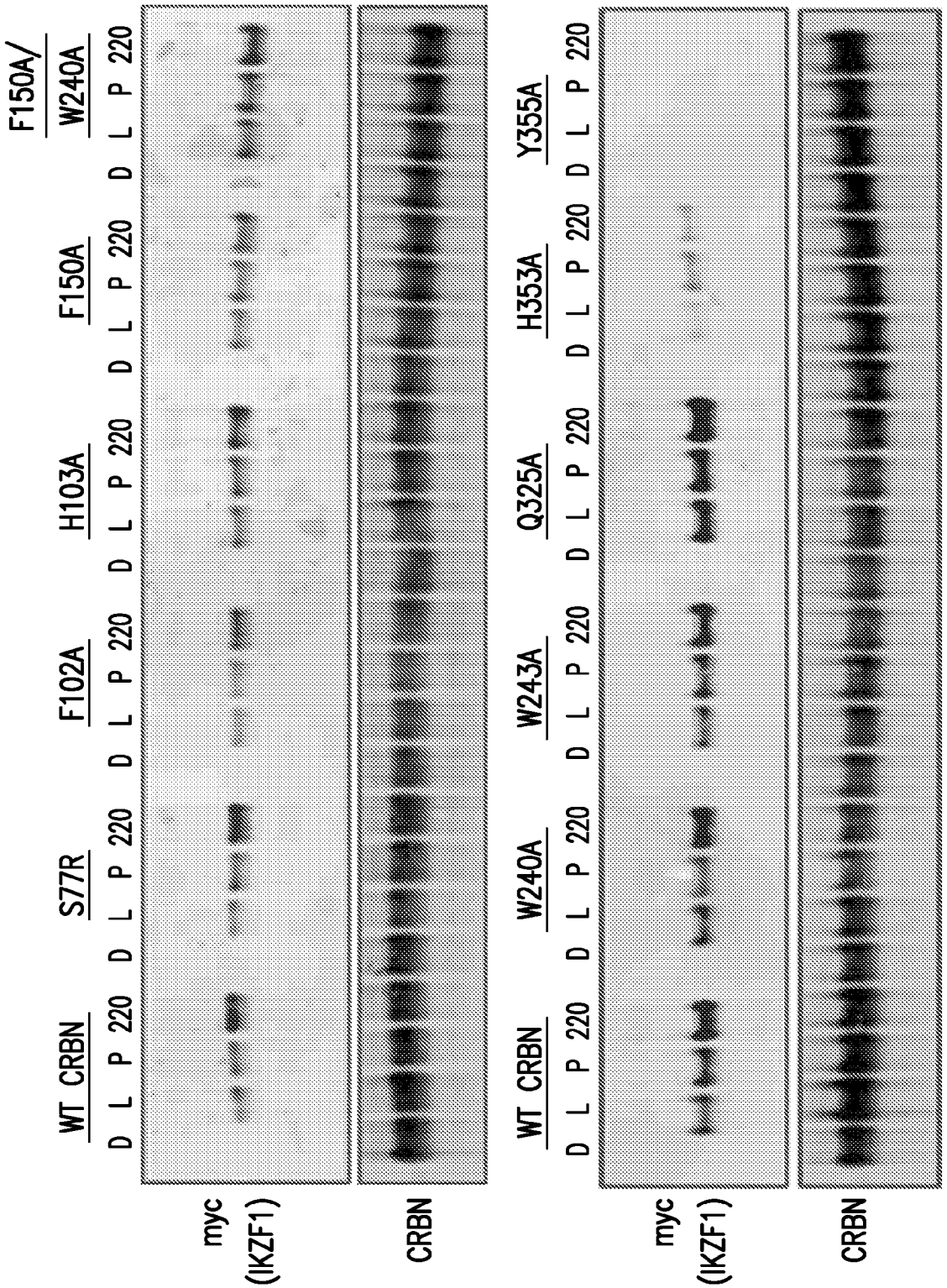
WT CRBN
S77R
F102A
H103A
F150A
F150A/ W240A
D L P 220
myc (IKZF1)
CRBN
WT CRBN
W240A
W243A
Q325A
H353A
Y355A
D L P 220
myc (IKZF1)
CRBN

FIG. 39B

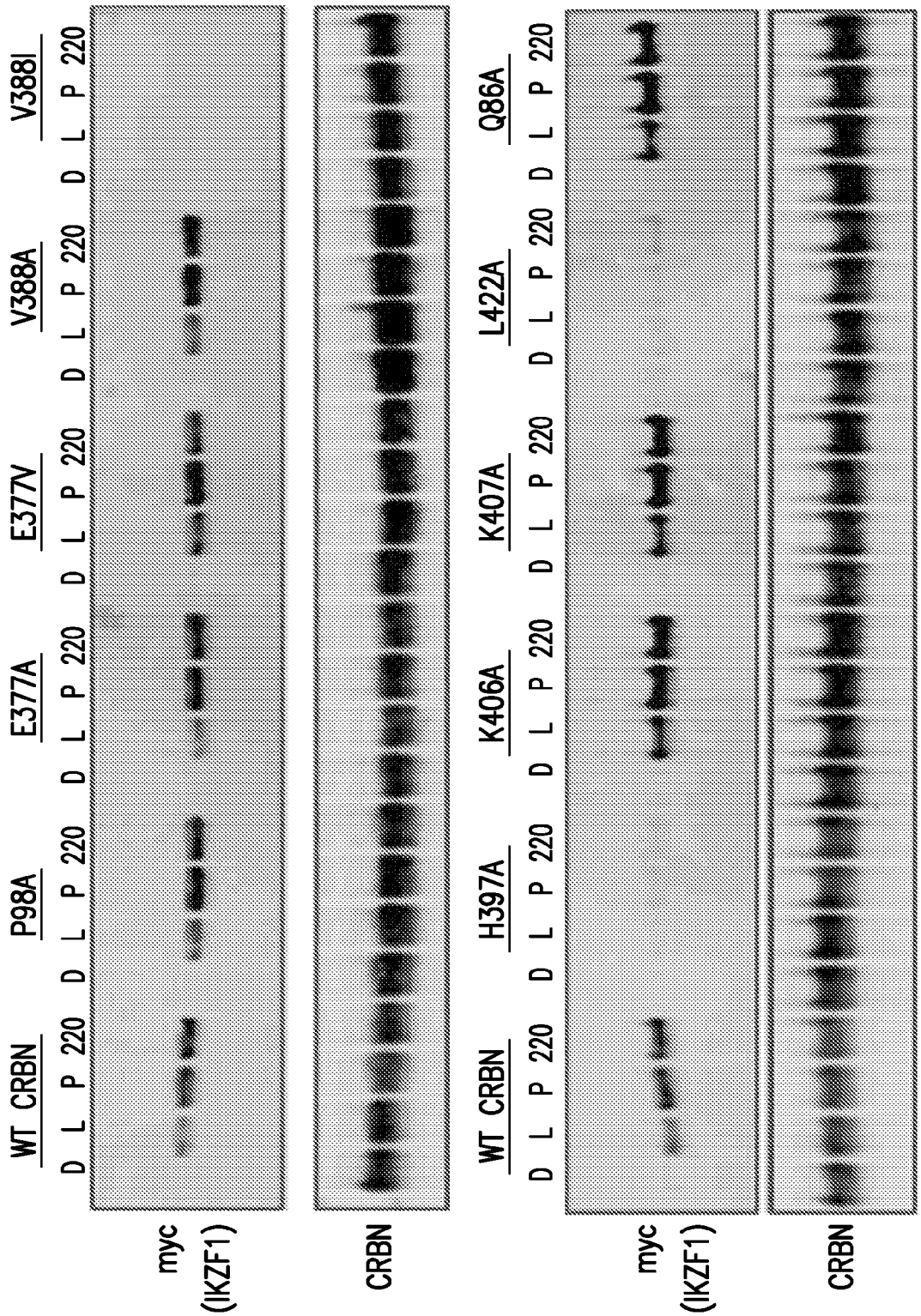
WT CRBN
P98A
E377A
E377V
V388A
V388I
D L P 220 D L P 220 D L P 220 D L P 220 D L P 220 D L P 220
myc (IKZF1)
CRBN
WT CRBN
H397A
K406A
K407A
L422A
Q86A
D L P 220 D L P 220 D L P 220 D L P 220 D L P 220 D L P 220
myc (IKZF1)
CRBN

FIG. 39B con't

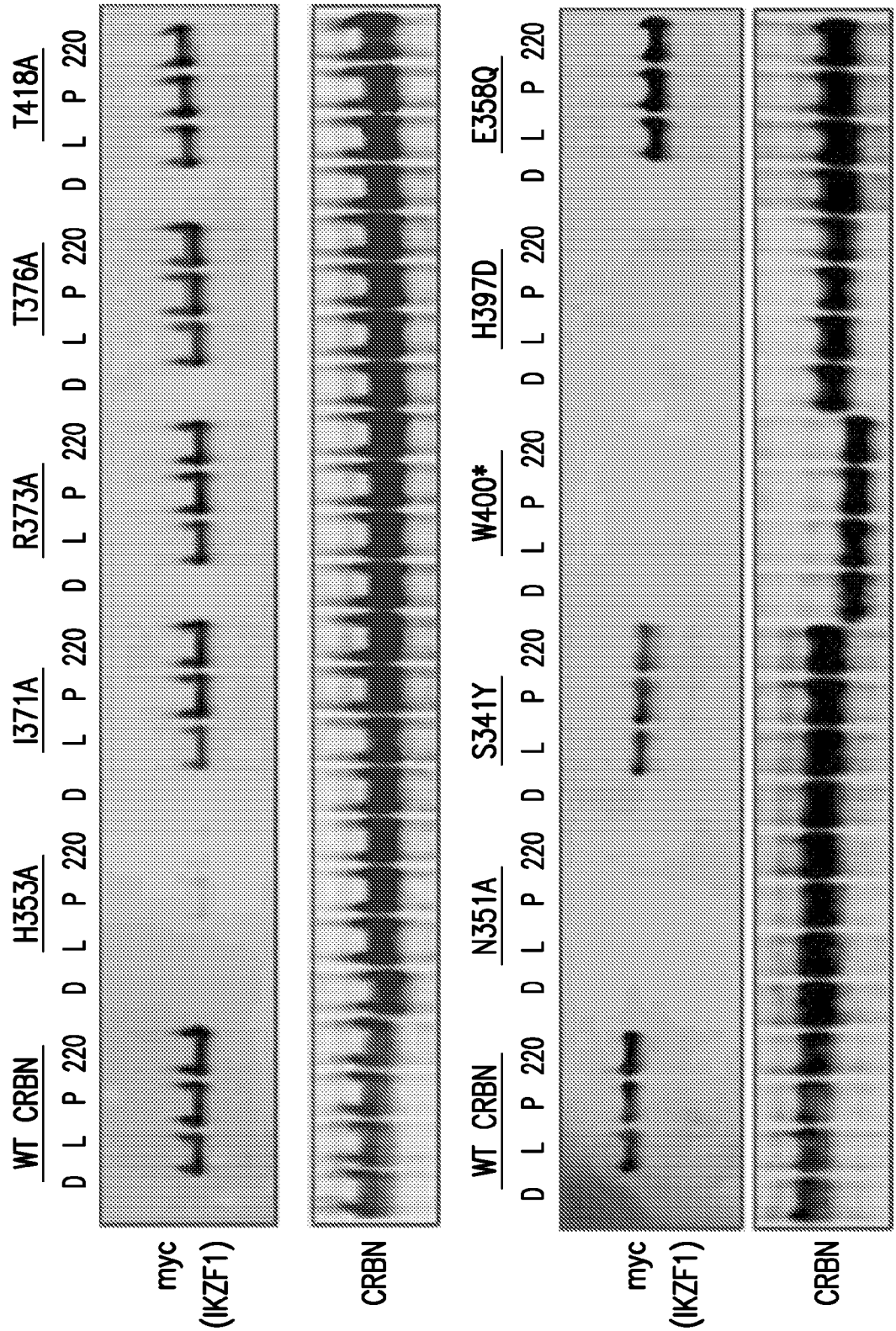
WT CRBN
H353A
I371A
R373A
T376A
T418A
D L P 220 D L P 220 D L P 220 D L P 220 D L P 220 D L P 220
myc (IKZF1)
CRBN
WT CRBN
N351A
S341Y
W400*
H397D
E358Q
D L P 220 D L P 220 D L P 220 D L P 220 D L P 220 D L P 220
myc (IKZF1)
CRBN

FIG. 39B con't

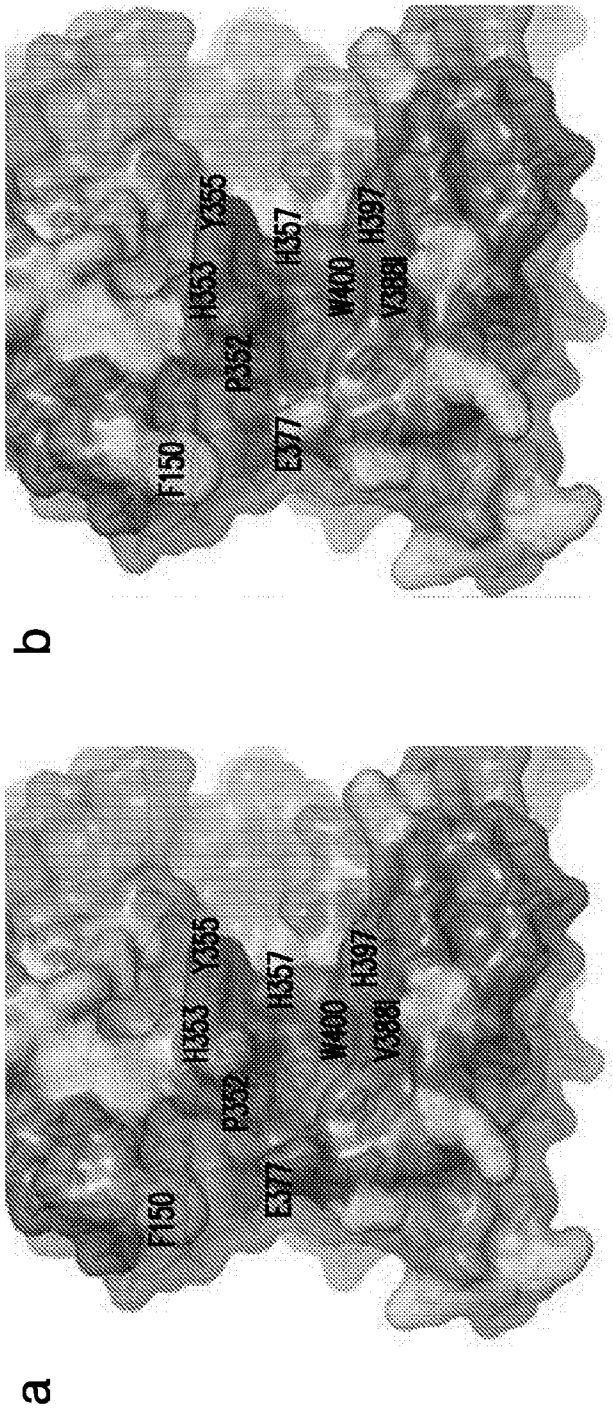
b
F150
E377
P352
H353
Y355
H357
W400
Y389
H397
a
F150
E377
P352
H353
Y355
H357
W400
Y389
H397

FIG. 40

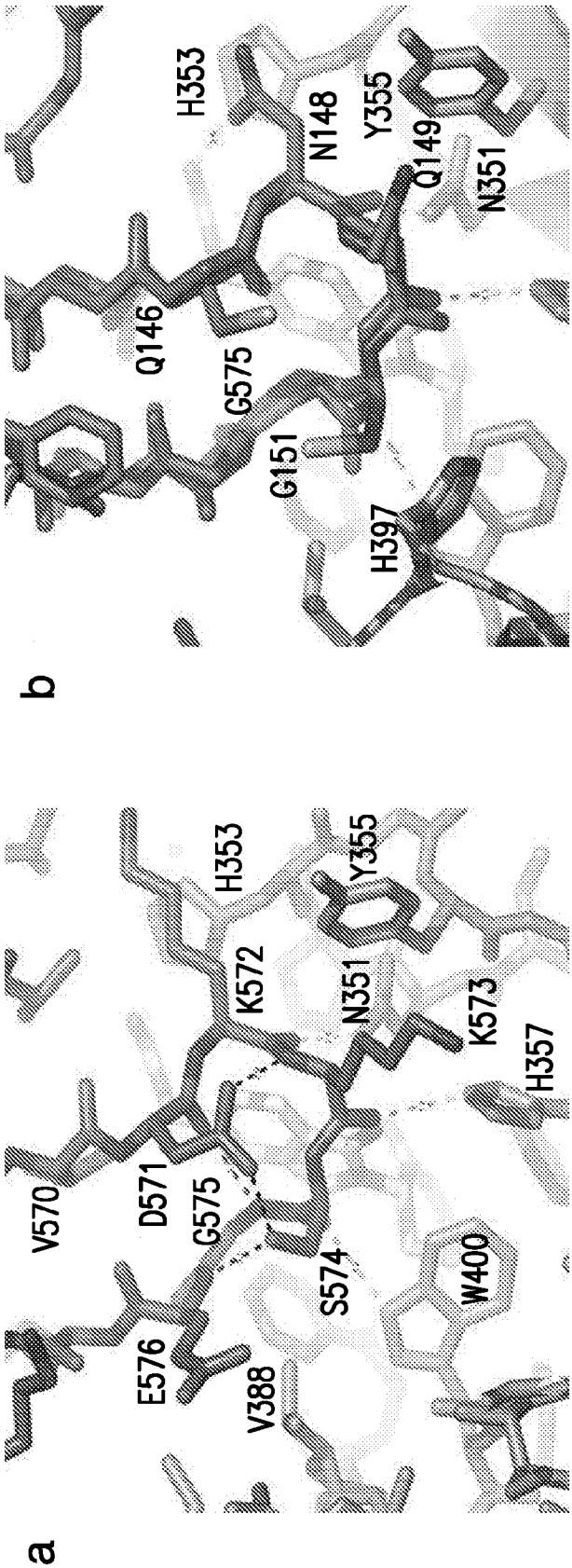
b
H353
N148
Y355
Q149
N351
Q146
G575
G151
H397
a
H353
Y355
K572
N351
K573
H357
V570
D571
G575
S574
W400
E576
V388

FIG. 41

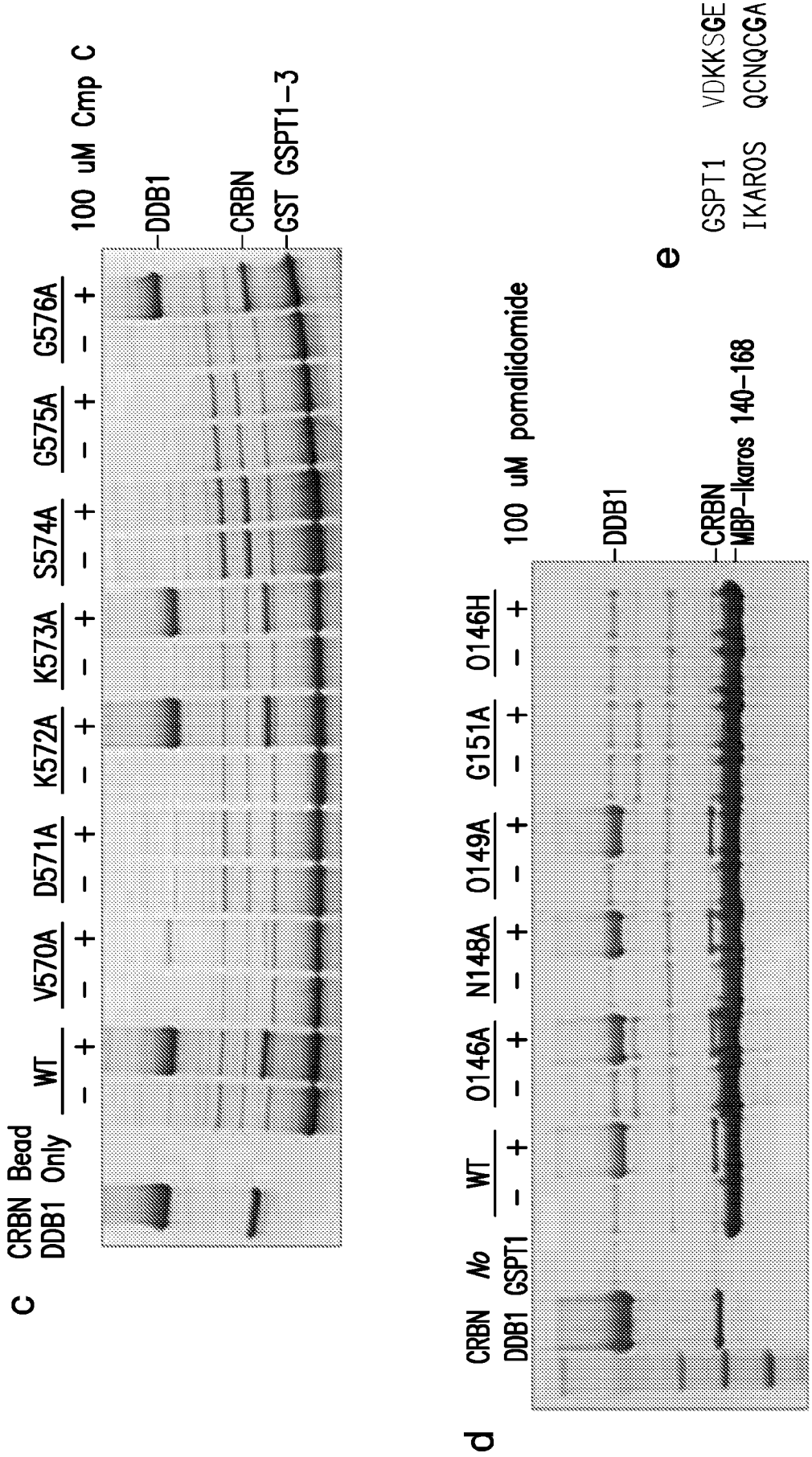
c
CRBN Bead
DDB1 Only
WT
V570A
D571A
K572A
K573A
S574A
G575A
G576A
100 uM Cmp C
DDB1
CRBN
GST GSPT1-3
d
CRBN No
DDB1 GSPT1
WT
O146A
N148A
O149A
G151A
O146H
100 uM pomalidomide
DDB1
CRBN
MBP-Ikaros 140-168
e
GSPT1 VDKKSGE
IKAROS QCNQCGA

FIG. 41, cont.

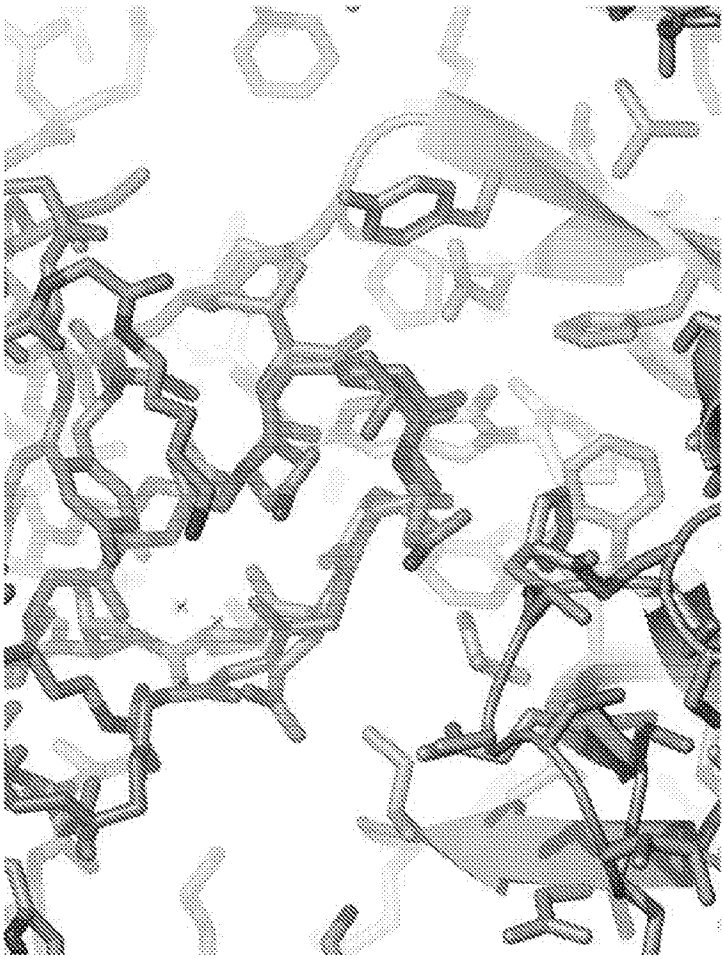

FIG. 42

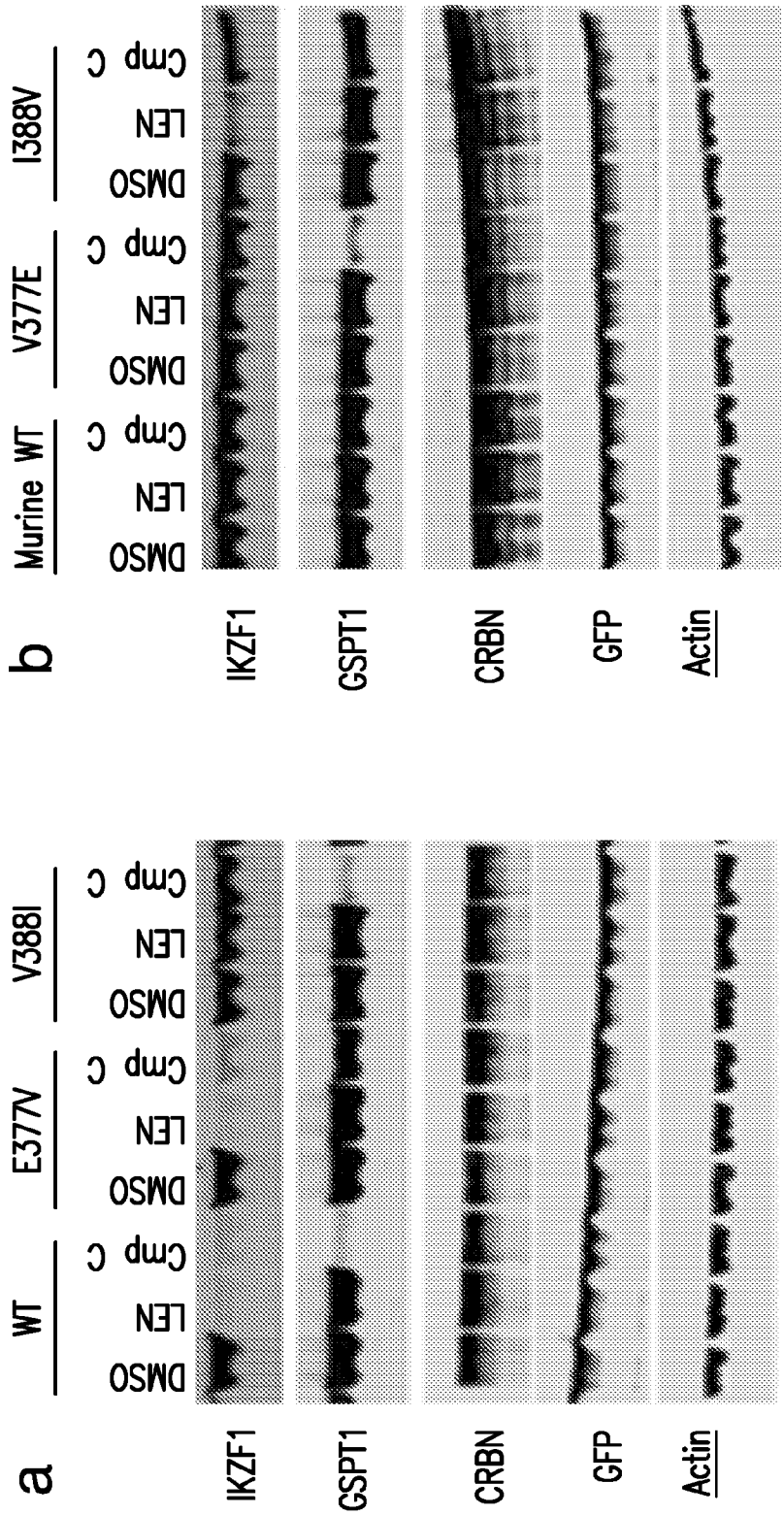
a
WT
E377V
V388I
DMSO
LEN
Cmp C
IKZF1
GSPT1
CRBN
GFP
Actin
b
Murine WT
V377E
I388V
DMSO
LEN
Cmp C
IKZF1
GSPT1
CRBN
GFP
Actin

FIG. 43

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2016/068697

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - A61K 38/00; C12Q 1/00; G01N 33/68 (2017.01)
CPC - A61K 38/00; C07K 14/4702; G01N 2500/02; G01N 2500/04 (2017.02)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 435/4; 530/300 (keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2015/077058 A2 (THE BROAD INSTITUTE, INC. et al) 28 May 2015 (28.05.2015) entire document	1-4, 21-25, 38-42, 55-59, 71-75
A	LI et al. "A promiscuous alpha-helical motif anchors viral hijackers and substrate receptors to the CUL4-DDB1 ubiquitin ligase machinery," Nat Struct Mol Biol, 06 December 2009 (06.12.2009), Vol. 17, Pgs. 105-111. entire document	1-4, 21-25, 38-42, 55-59, 71-75
A	WO 2015/085172 A2 (CELGENE CORPORATION) 11 June 2015 (11.06.2015) entire document	1-4, 21-25, 38-42, 55-59, 71-75
A	US 2012/0192297 A1 (HANDA et al) 26 July 2012 (26.07.2012) entire document	1-4, 21-25, 38-42, 55-59, 71-75
P, A	US 2015/0374678 A1 (CELGENE CORPORATION) 31 December 2015 (31.12.2015) entire document	1-4, 21-25, 38-42, 55-59, 71-75

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27 March 2017	21 APR 2017
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2016/068697

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.c of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of a sequence listing:

   a. ☐ forming part of the international application as filed:

      ☐ in the form of an Annex C/ST.25 text file.

      ☐ on paper or in the form of an image file.

   b. ☐ furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.

   c. ☒ furnished subsequent to the international filing date for the purposes of international search only:

      ☒ in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).

      ☐ on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).

2. ☒ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

SEQ ID NOs: 2-7 were searched.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2016/068697

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☒ Claims Nos.: 5-20, 26-37, 43-54, 60-70, 76-86
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.