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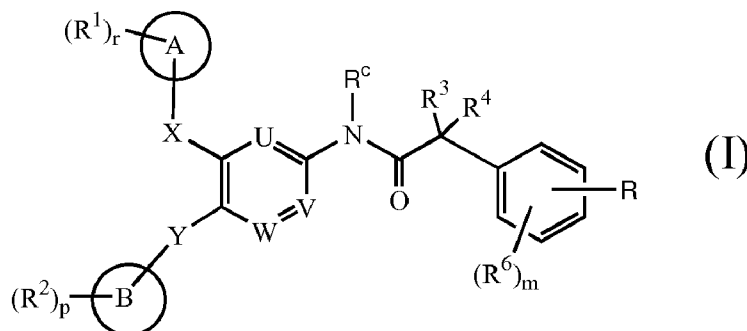
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(54) Title: ARYL AND HETEROARYL AMIDE COMPOUNDS AS RORGAMAT MODULATOR



(57) Abstract: The present disclosure is directed to compounds of Formula (I), and pharmaceutically acceptable salts thereof, as modulator of retinoid-related orphan receptor gamma t (ROR $\gamma$ t). These compounds prevent, inhibit, or suppress the action of ROR $\gamma$ t and are therefore useful in the treatment of ROR $\gamma$ t mediated disease, disorder, syndrome or condition such as pain, inflammation, COPD, asthma, rheumatoid arthritis, colitis, multiple sclerosis, neurodegenerative diseases or cancer.

## ARYL AND HETEROARYL AMIDE COMPOUNDS AS ROR $\gamma$ t MODULATOR

### Related Applications

5 This application claims the benefit of Indian Provisional Application Nos. 55/MUM/2013 filed on 08 January 2013 and 811/MUM/2013 filed on 19 March 2013; and U.S. Provisional Application No. 61/760,301 filed on 04 February 2013 each of which is hereby incorporated by reference in its entirety.

### Technical Field

10 The present patent application is directed to amides of aryl and heteroaryl compounds which may be useful as retinoid-related orphan receptor gamma t (ROR $\gamma$ t) modulators.

### Background

15 Retinoid-related orphan receptors (RORs) are transcription factors which belong to the steroid hormone nuclear receptor super family. The ROR family consists of three members, ROR alpha (ROR $\alpha$ ), ROR beta (ROR $\beta$ ) and ROR gamma (ROR $\gamma$ ), also known as NR1F1, NR1F2 and NR1F3 respectively (and each encoded by a separate gene RORA, RORB and RORC, respectively). RORs contain four principal domains shared by the majority of nuclear receptors: an *N*-terminal A/B domain, a DNA-binding domain, a hinge domain, and a ligand binding domain. Each  
20 ROR gene generates several isoforms which differ only in their *N*-terminal A/B domain. Two isoforms of ROR $\gamma$ , ROR $\gamma$ 1 and ROR $\gamma$ t (also known as ROR $\gamma$ 2) have been identified.

25 ROR $\gamma$ t is a truncated form of ROR $\gamma$ , lacking the first *N*-terminal 21 amino acids and is exclusively expressed in cells of the lymphoid lineage and embryonic lymphoid tissue inducers (Sun et al., *Science*, **2000**, 288, 2369-2372; Eberl et al., *Nat Immunol.*, **2004**, 5: 64-73) in contrast to ROR $\gamma$  which is expressed in multiple tissues (heart, brain, kidney, lung, liver and muscle).

30 ROR $\gamma$ t has been identified as a key regulator of Th17 cell differentiation. Th17 cells are a subset of T helper cells which produce IL-17 and other proinflammatory cytokines and have been shown to have key functions in several mouse autoimmune disease models including experimental autoimmune encephalomyelitis (EAE) and collagen-induced arthritis (CIA). In addition, Th17 cells have also been associated in the pathology of a variety of human inflammatory and autoimmune disorders

including multiple sclerosis, rheumatoid arthritis, psoriasis, Crohn's disease and asthma (Jetten et al., *Nucl. Recept. Signal*, **2009**, 7:e003; Manel et al., *Nat. Immunol.*, **2008**, 9, 641-649). The pathogenesis of chronic autoimmune diseases including multiple sclerosis and rheumatoid arthritis arises from the break in tolerance towards self-antigens and the development of auto-aggressive effector T cells infiltrating the target tissues. Studies have shown that Th17 cells are one of the important drivers of the inflammatory process in tissue-specific autoimmunity (Steinman et al., *J. Exp. Med.*, **2008**, 205: 1517-1522; Leung et al., *Cell. Mol. Immunol.*, **2010** 7: 182-189). Th17 cells are activated during the disease process and are responsible for recruiting other inflammatory cells types, especially neutrophils, to mediate pathology in the target tissues (Korn et al., *Annu. Rev. Immunol.*, **2009**, 27:485-517) and ROR $\gamma$ t has been shown to play a critical role in the pathogenic responses of Th17 cells (Ivanov et al., *Cell*, **2006** 126: 1121-1133). ROR $\gamma$ t deficient mice have shown no Th17 cells and also resulted in amelioration of EAE. The genetic disruption of ROR $\gamma$  in a mouse colitis model also prevented colitis development (Buonocore et al., *Nature*, **2010**, 464: 1371-1375). The role of ROR $\gamma$ t in the pathogenesis of autoimmune or inflammatory diseases has been well documented in the literature. ( Jetten et al., *Adv. Dev. Biol.*, **2006**, 16:313-355; Meier et al. *Immunity*, **2007**, 26:643-654; Aloisi et al., *Nat. Rev. Immunol.*, **2006**, 6:205-217; Jager et al., *J. Immunol.*, **2009**, 183:7169-7177; Serafmi et al., *Brain Pathol.*, **2004**, 14: 164-174; Magliozzi et al., *Brain*, **2007**, 130: 1089-1104; Barnes et al., *Nat. Rev. Immunol.*, **2008**, 8: 183-192).

In addition, ROR $\gamma$ t is also shown to play a crucial role in other non-Th17 cells, such as mast cells (Hueber et al., *J Immunol.*, **2010**, 184: 3336-3340). ROR $\gamma$ t expression and secretion of Th17-type of cytokines has also been reported in NK T-cells (Eberl et al., *Nat. Immunol.*, **2004**, 5: 64-73) and gamma-delta T-cells (Sutton et al, *Nat. Immunol.*, **2009**, 31: 331-341; Louten et al., *J Allergy Clin. Immunol.*, **2009**, 123: 1004-1011), suggesting an important function for ROR $\gamma$ t in these cells.

In view of the above, a need exists for therapeutic agents that could modulate the activity of ROR $\gamma$ t and thus will open new methods for treating diseases or condition associated with the modulation of ROR $\gamma$ t.

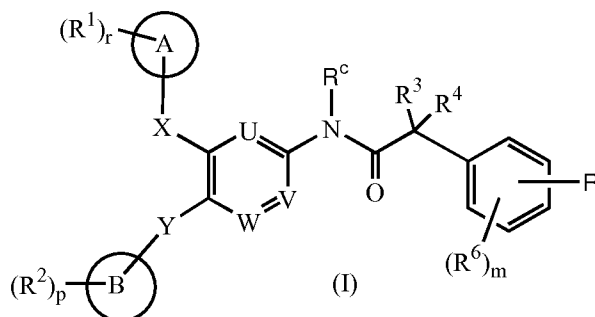
PCT publication numbers WO2012/139775, WO2012/027965, WO2012/028100, WO2012/100732, WO2012/100734, and WO2012/064744 disclose numerous heterocyclic compounds which are shown to be modulators of retinoid-related orphan receptor gamma (ROR $\gamma$ ) receptor activity.

The present application is directed to compounds that may be modulators of the ROR $\gamma$ t receptor. Thus in light of the role ROR $\gamma$ t plays in the pathogenesis of diseases, it is desirable to prepare compounds that modulate ROR $\gamma$ t activity, which can be used in the treatment of diseases mediated by ROR $\gamma$ t.

5

### Summary of the Invention

In one aspect, the present invention relates to a compound of formula (I)



or a pharmaceutically acceptable salt thereof,

10 wherein,

X is selected from -O-, -C(O)-, -NR<sup>c</sup>-, -S-, -S(O)- and -S(O)<sub>2</sub>-;

Y is bond or selected from -O-, -C(O)-, -NR<sup>c</sup>-, -S-, -S(O)- and -S(O)<sub>2</sub>-;

U, V and W are each independently selected from CR<sup>5</sup> and N;

15 Ring A is selected from C<sub>6-14</sub>aryl, C<sub>3-12</sub>cycloalkyl, 5-14 membered heteroaryl and 3-15 membered heterocyclyl;

Ring B is selected from C<sub>6-14</sub>aryl, C<sub>3-12</sub>cycloalkyl, 5-14 membered heteroaryl and 3-15 membered heterocyclyl;

R is selected from -S(O)<sub>2</sub>-R<sup>7</sup>, -S-R<sup>7</sup>, -S(O)R<sup>7</sup>, -S(O)<sub>2</sub>NR<sup>a</sup>R<sup>b</sup> and -NR<sup>d</sup>S(O)<sub>2</sub>-R<sup>8</sup>;

20 each occurrence of R<sup>1</sup> is independently selected from halogen, nitro, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>2-10</sub>alkenyl, C<sub>2-10</sub>alkynyl, C<sub>1-8</sub>alkoxy, C<sub>1-8</sub>alkoxyC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl, C<sub>3-8</sub>cycloalkylC<sub>1-8</sub>alkyl, C<sub>3-8</sub>cycloalkenyl, C<sub>3-8</sub>cycloalkenylC<sub>1-8</sub>alkyl, C<sub>6-14</sub>aryl, C<sub>6-14</sub>arylC<sub>1-8</sub>alkyl, C<sub>6-14</sub>aryloxy, 3-15 membered heterocyclyl, 3-15 membered heterocyclylC<sub>1-8</sub>alkyl, 5-14 membered heteroaryl, 5-14 membered heteroarylC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;
25 each occurrence of R<sup>2</sup> is independently selected from halogen, nitro, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>2-10</sub>alkenyl, C<sub>2-10</sub>alkynyl, C<sub>1-8</sub>alkoxy, C<sub>1-8</sub>alkoxyC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl, C<sub>3-8</sub>cycloalkylC<sub>1-8</sub>alkyl, C<sub>3-8</sub>cycloalkenyl, C<sub>3-8</sub>cycloalkenylC<sub>1-8</sub>alkyl, C<sub>6-14</sub>aryl, C<sub>6-14</sub>arylC<sub>1-8</sub>alkyl, C<sub>6-</sub>

14aryloxy, 3-15 membered heterocyclyl, 3-15 membered heterocyclylC<sub>1-8</sub>alkyl, 5-14 membered heteroaryl, 5-14 membered heteroarylC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;

R<sup>3</sup> and R<sup>4</sup>, which may be same or different, are independently selected from hydrogen and C<sub>1-8</sub>alkyl; or R<sup>3</sup> and R<sup>4</sup> together with the 'C' atom to which they are attached, form a cyclic ring which is substituted or unsubstituted;

each occurrence of R<sup>5</sup> is independently selected from hydrogen, halogen, nitro, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>2-10</sub>alkenyl, C<sub>2-10</sub>alkynyl, C<sub>1-8</sub>alkoxy, C<sub>1-8</sub>alkoxyC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl, C<sub>3-8</sub>cycloalkylC<sub>1-8</sub>alkyl, C<sub>3-8</sub>cycloalkenyl, C<sub>3-8</sub>cycloalkenylC<sub>1-8</sub>alkyl, C<sub>6-14</sub>aryl, C<sub>6-14</sub>arylC<sub>1-8</sub>alkyl, C<sub>6-14</sub>aryloxy, 3-15 membered heterocyclyl, 3-15 membered heterocyclylC<sub>1-8</sub>alkyl, 5-14 membered heteroaryl, 5-14 membered heteroarylC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;

each occurrence of R<sup>6</sup> is independently selected from halogen, nitro, cyano, hydroxyl, amino, C<sub>1-8</sub>alkyl, C<sub>2-10</sub>alkenyl, C<sub>2-10</sub>alkynyl, C<sub>1-8</sub>alkoxy, C<sub>1-8</sub>alkoxyC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl, C<sub>3-8</sub>cycloalkylC<sub>1-8</sub>alkyl, C<sub>3-8</sub>cycloalkenyl, C<sub>3-8</sub>cycloalkenylC<sub>1-8</sub>alkyl, C<sub>6-14</sub>aryl, C<sub>6-14</sub>arylC<sub>1-8</sub>alkyl, C<sub>6-14</sub>aryloxy, 3-15 membered heterocyclyl, 3-15 membered heterocyclylC<sub>1-8</sub>alkyl, 5-14 membered heteroaryl and 5-14 membered heteroarylC<sub>1-8</sub>alkyl;

each occurrence of R<sup>7</sup> is independently selected from C<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl and haloC<sub>1-8</sub>alkyl;

each occurrence of R<sup>8</sup> is independently selected from C<sub>1-8</sub>alkyl and C<sub>3-12</sub>cycloalkyl;

each occurrence of R<sup>a</sup> and R<sup>b</sup>, which may be the same or different, are independently selected from hydrogen, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxyC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkyl, hydroxyC<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl, C<sub>3-8</sub>cycloalkylC<sub>1-8</sub>alkyl, C<sub>6-14</sub>aryl, C<sub>6-14</sub>arylC<sub>1-8</sub>alkyl, 3-15 membered heterocyclyl, 3-15 membered heterocyclylC<sub>1-8</sub>alkyl, 5-14 membered heteroaryl and 5-14 membered heteroarylC<sub>1-8</sub>alkyl; or R<sup>a</sup> and R<sup>b</sup> together with the common atom to which they are attached, form a cyclic ring which is substituted or unsubstituted and wherein the cyclic ring optionally contains one or more hetero atoms selected from O, N or S;

each occurrence of R<sup>x</sup> and R<sup>y</sup>, which may be the same or different, are independently selected from hydrogen and C<sub>1-8</sub>alkyl;

R<sup>c</sup> is independently selected from hydrogen and C<sub>1-8</sub>alkyl;

each occurrence of R<sup>d</sup> is independently selected from hydrogen and C<sub>1-8</sub>alkyl;  
'm' is an integer ranging from 0 to 4, both inclusive;  
'p' is an integer ranging from 0 to 5, both inclusive; and  
'r' is an integer ranging from 0 to 5, both inclusive.

5 The compounds of formula (I) may involve one or more embodiments. Embodiments of formula (I) include compounds of formula (II), formula (III), and formula (IV) as described hereinafter. It is to be understood that the embodiments below are illustrative of the present invention and are not intended to limit the claims to the specific embodiments exemplified. It is also to be understood that the  
10 embodiments defined herein may be used independently or in conjunction with any definition, any other embodiment defined herein. Thus the invention contemplates all possible combinations and permutations of the various independently described embodiments. For example, the invention provides compounds of formula (I) as defined above wherein ring A is phenyl (according to an embodiment defined below),  
15 ring B is phenyl (according to another embodiment defined below) and 'm' is 0 (according to yet another embodiment defined below).

According to one embodiment, specifically provided are compounds of formula (I), in which ring A is C<sub>6-14</sub>aryl (e.g. phenyl).

20 According to another embodiment, specifically provided are compounds of formula (I), in which ring A is phenyl.

According to yet another embodiment, specifically provided are compounds of formula (I), in which X is -O- and Y is a bond.

25 According to yet another embodiment, specifically provided are compounds of formula (I), in which ring B is C<sub>6-14</sub>aryl (e.g. phenyl) or 5-14 membered heteroaryl (e.g. pyridinyl, pyrimidinyl, pyrazolyl, imidazolyl, 1,2,4-triazolyl, 1,3-oxazolyl or 1,2,4-oxadiazolyl).

According to yet another embodiment, specifically provided are compounds of formula (I), in which ring B is phenyl.

30 According to another embodiment, specifically provided are compounds of formula (I), in which ring B is pyridinyl or pyrimidinyl.

According to yet another embodiment, specifically provided are compounds of formula (I), in which ring B is pyrazolyl, imidazolyl, 1,2,4-triazolyl, 1,3-oxazolyl or 1,2,4-oxadiazolyl.

According to yet another embodiment, specifically provided are compounds of formula (I), in which ring B is phenyl, pyridin-3-yl, pyridin-4-yl, pyrimidin-5-yl, 1*H*-pyrazol-1-yl, 1*H*-imidazol-1-yl, 1*H*-1,2,4-triazol-1-yl, 1,3-oxazol-2-yl or 1,2,4-oxadiazol-3-yl.

5           According to yet another embodiment, specifically provided are compounds of formula (I), in which U and V are CR<sup>5</sup>, and W is N or CR<sup>5</sup>.

          According to yet another embodiment, specifically provided are compounds of formula (I), in which U and V are CH and W is N or CR<sup>5</sup>.

10           According to yet another embodiment, specifically provided are compounds of formula (I), in which U and V are CH, and W is CH or N.

          According to yet another embodiment, specifically provided are compounds of formula (I), in which each occurrence of R<sup>1</sup> is independently cyano, halogen (e.g. F, Cl or Br), C<sub>1-8</sub>alkyl (e.g. methyl or ethyl), haloC<sub>1-8</sub>alkyl (e.g. difluoromethyl or trifluoromethyl), C<sub>1-8</sub>alkoxy (methoxy or ethoxy) or haloC<sub>1-8</sub>alkoxy (e.g.  
15 difluoromethoxy or trifluoromethoxy).

          According to yet another embodiment, specifically provided are compounds of formula (I), in which each occurrence of R<sup>1</sup> is NR<sup>x</sup>R<sup>y</sup>. In this embodiment R<sup>x</sup> and R<sup>y</sup> are C<sub>1-4</sub>alkyl (e.g. methyl).

20           According to yet another embodiment, specifically provided are compounds of formula (I), in which each occurrence of R<sup>1</sup> is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub>.

          According to yet another embodiment, specifically provided are compounds of formula (I), in which R<sup>1</sup> is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub> and 'r' is 0, 1 or 2.

25           According to yet another embodiment, specifically provided are compounds of formula (I), in which each occurrence of R<sup>2</sup> is independently cyano, halogen (e.g. F, Cl or Br), C<sub>1-8</sub>alkyl (e.g. methyl or ethyl), haloC<sub>1-8</sub>alkyl (e.g. difluoromethyl or trifluoromethyl), C<sub>1-8</sub>alkoxy (methoxy or ethoxy) or haloC<sub>1-8</sub>alkoxy (e.g. difluoromethoxy or trifluoromethoxy).

30           According to yet another embodiment, specifically provided are compounds of formula (I), in which each occurrence of R<sup>2</sup> is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> or OCF<sub>3</sub>.

According to yet another embodiment, specifically provided are compounds of formula (I), in which  $R^2$  is independently CN, F, Cl,  $CH_3$ ,  $CF_3$ ,  $OCH_3$ ,  $OCHF_2$  or  $OCF_3$  and 'p' is 0, 1, 2 or 3.

According to yet another embodiment, specifically provided are compounds of formula (I), in which  $R^3$  and  $R^4$  are hydrogen.

According to yet another embodiment, specifically provided are compounds of formula (I), in which  $R^5$  is hydrogen.

According to yet another embodiment, specifically provided are compounds of formula (I), in which  $R^6$  is independently halogen (e.g. Cl, F or Br) or  $C_{1-4}$ alkyl (e.g. methyl or ethyl).

According to yet another embodiment, specifically provided are compounds of formula (I), in which 'm' is 0.

According to yet another embodiment, specifically provided are compounds of formula (I), in which R is  $-S(O)_2-R^7$ . In this embodiment  $R^7$  is  $C_{1-4}$  alkyl (e.g. methyl or ethyl),  $C_{3-6}$ cycloalkyl (e.g. cyclopropyl or cyclobutyl) or halo $C_{1-4}$ alkyl (e.g. trifluoromethyl, trifluoroethyl or 2,2,2-trifluoroethyl).

According to yet another embodiment, specifically provided are compounds of formula (I), in which R is  $-S(O)_2-R^7$ . In this embodiment  $R^7$  is methyl, ethyl, cyclopropyl or 2,2,2-trifluoroethyl.

According to yet another embodiment, specifically provided are compounds of formula (I), in which R is  $-NR^dS(O)_2-R^8$ . In this embodiment  $R^d$  is hydrogen or  $C_{1-4}$  alkyl (e.g. methyl or ethyl) and  $R^8$  is  $C_{1-4}$  alkyl (e.g. methyl or ethyl).

According to yet another embodiment, specifically provided are compounds of formula (I), in which R is  $-NR^dS(O)_2-R^8$ . In this embodiment  $R^d$  is hydrogen and  $R^8$  is methyl or ethyl.

According to yet another embodiment, specifically provided are compounds of formula (I), in which R is  $-S(O)_2NR^aR^b$ . In this embodiment  $R^a$  is hydrogen and  $R^b$  is  $C_{1-4}$ alkyl (e.g. methyl or ethyl).

According to yet another embodiment, specifically provided are compounds of formula (I), in which R is  $-S(O)_2NR^aR^b$ . In this embodiment  $R^a$  is hydrogen and  $R^b$  is methyl or ethyl.

According to yet another embodiment, specifically provided are compounds of formula (I), in which R is  $-S(O)_2CH_3$ ,  $-S(O)_2CH_2CH_3$ ,  $-S(O)_2$ -cyclopropyl,  $-S(O)_2CH_2CF_3$ ,  $-S(O)_2NHCH_3$ ,  $-S(O)_2NHCH_2CH_3$  or  $-NHS(O)_2CH_3$ .



According to yet another embodiment, specifically provided are compounds of formula (I), in which R<sup>c</sup> is hydrogen.

According to yet another embodiment, specifically provided are compounds of formula (I), in which 'r' is 0, 1 or 2.

5 According to yet another embodiment, specifically provided are compounds of formula (I), in which 'p' is 0, 1, 2 or 3.

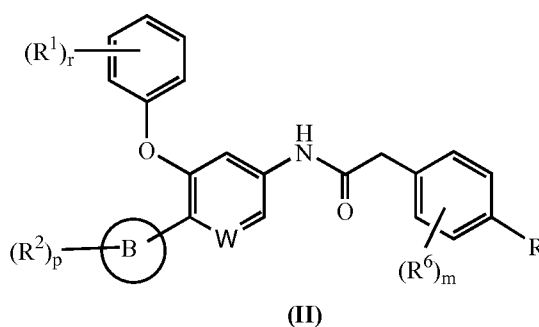
According to an embodiment, specifically provided are compounds of formula (I) with an IC<sub>50</sub> value of less than 1000 nM, preferably less than 500 nM, more preferably less than 100 nM, most preferably less than 50 nM with respect to RORγt activity.

Further embodiments relating to groups R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>6</sup>, R, R<sup>c</sup>, U, V, W, m, r, p, X, Y, ring A, ring B (and groups defined therein) are described hereinafter in relation to the compounds of formula (II), compounds of Formula (III) or compounds of Formula (IV). It is to be understood that these embodiments are not limited to use in conjunction with formula (II), (III) or (IV), but apply independently and individually to the compounds of formula (I). For example, in an embodiment described hereinafter, the invention specifically provides compounds of formula (II), (III) or (IV) in which 'r' is 0, 1 or 2 and consequently there is also provided a compound of formula (I) in which 'r' is 0, 1 or 2.

20

The invention also provides a compound of formula (II), which is an embodiment of a compound of formula (I).

Accordingly the invention provides a compound of formula (II)



25 or a pharmaceutically acceptable salt thereof, wherein,

Ring B is selected from C<sub>6-14</sub>aryl, 5-14 membered heteroaryl and 3-15 membered heterocyclyl;

W is selected from CR<sup>5</sup> and N;

R is selected from -S(O)<sub>2</sub>-R<sup>7</sup>, -S-R<sup>7</sup>, -S(O)-R<sup>7</sup>, -S(O)<sub>2</sub>NR<sup>a</sup>R<sup>b</sup> and -NR<sup>d</sup>S(O)<sub>2</sub>-R<sup>8</sup>;

5 each occurrence of R<sup>1</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;

each occurrence of R<sup>2</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;

10 each occurrence of R<sup>5</sup> is independently selected from hydrogen, halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy and haloC<sub>1-8</sub>alkyl;

each occurrence of R<sup>6</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy and haloC<sub>1-8</sub>alkyl;

15 each occurrence of R<sup>7</sup> is independently selected from C<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl and haloC<sub>1-8</sub>alkyl;

each occurrence of R<sup>8</sup> is independently selected from C<sub>1-8</sub>alkyl and C<sub>3-12</sub>cycloalkyl;

each occurrence of R<sup>a</sup> and R<sup>b</sup>, which may be the same or different, are independently selected from hydrogen and C<sub>1-8</sub>alkyl;

20 each occurrence of R<sup>d</sup> is independently selected from hydrogen and C<sub>1-8</sub>alkyl;

each occurrence of R<sup>x</sup> and R<sup>y</sup>, which may be the same or different, are independently selected from hydrogen and C<sub>1-8</sub>alkyl;

'm' is an integer ranging from 0 to 4, both inclusive;

'p' is an integer ranging from 0 to 5, both inclusive; and

25 'r' is an integer ranging from 0 to 5, both inclusive.

The compounds of formula (II) may involve one or more embodiments. It is to be understood that the embodiments below are illustrative of the present invention and are not intended to limit the claims to the specific embodiments exemplified. It is also to be understood that the embodiments defined herein may be used independently or in conjunction with any definition of any other embodiment defined herein. Thus  
30 the invention contemplates all possible combinations and permutations of the various independently described embodiments. For example, the invention provides compounds of formula (II) as defined above wherein W is CH or N (according to an

embodiment defined below), 'r' is 0, 1 or 2 (according to another embodiment defined below) and 'm' is 0 (according to yet another embodiment defined below).

According to one embodiment, specifically provided are compounds of formula (II), in which ring B is C<sub>6-14</sub>aryl (e.g. phenyl) or 5-14 membered heteroaryl (e.g. pyridinyl, pyrimidinyl, pyrazolyl, imidazolyl, 1,2,4-triazolyl, 1,3-oxazolyl or 1,2,4-oxadiazolyl).

According to another embodiment, specifically provided are compounds of formula (II), in which ring B is phenyl.

According to another embodiment, specifically provided are compounds of formula (II), in which ring B is pyridinyl or pyrimidinyl.

According to yet another embodiment, specifically provided are compounds of formula (II), in which ring B is pyrazolyl, imidazolyl, 1,2,4-triazolyl, 1,3-oxazolyl or 1,2,4-oxadiazolyl.

According to yet another embodiment, specifically provided are compounds of formula (II), in which ring B is phenyl, pyridin-3-yl, pyridin-4-yl, pyrimidin-5-yl, 1*H*-pyrazol-1-yl, 1*H*-imidazol-1-yl, 1*H*-1,2,4-triazol-1-yl, 1,3-oxazol-2-yl or 1,2,4-oxadiazol-3-yl.

According to yet another embodiment, specifically provided are compounds of formula (II), in which W is N or CR<sup>5</sup>. In this embodiment R<sup>5</sup> is hydrogen.

According to yet another embodiment, specifically provided are compounds of formula (II), in which W is CH or N.

According to yet another embodiment, specifically provided are compounds of formula (II), in which each occurrence of R<sup>1</sup> is independently cyano, halogen (e.g. F, Cl or Br), C<sub>1-8</sub>alkyl (e.g. methyl or ethyl), haloC<sub>1-8</sub>alkyl (e.g. difluoromethyl or trifluoromethyl), C<sub>1-8</sub>alkoxy (methoxy or ethoxy) or haloC<sub>1-8</sub>alkoxy (e.g. difluoromethoxy or trifluoromethoxy).

According to yet another embodiment, specifically provided are compounds of formula (II), in which R<sup>1</sup> is NR<sup>x</sup>R<sup>y</sup>. In this embodiment R<sup>x</sup> and R<sup>y</sup> are C<sub>1-4</sub>alkyl (e.g. methyl).

According to yet another embodiment, specifically provided are compounds of formula (II), in which each occurrence of R<sup>1</sup> is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub>.

According to yet another embodiment, specifically provided are compounds of formula (II), in which  $R^1$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub> and 'r' is 0, 1 or 2.

5 According to yet another embodiment, specifically provided are compounds of formula (II), in which each occurrence of  $R^2$  is independently cyano, halogen (e.g. F, Cl or Br), C<sub>1-8</sub>alkyl (e.g. methyl or ethyl), haloC<sub>1-8</sub>alkyl (e.g. difluoromethyl or trifluoromethyl), C<sub>1-8</sub>alkoxy (methoxy or ethoxy) or haloC<sub>1-8</sub>alkoxy (e.g. difluoromethoxy or trifluoromethoxy).

10 According to yet another embodiment, specifically provided are compounds of formula (II), in which each occurrence of  $R^2$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> or OCF<sub>3</sub>.

According to yet another embodiment, specifically provided are compounds of formula (II), in which  $R^2$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> or OCF<sub>3</sub> and 'p' is 0, 1, 2 or 3.

15 According to yet another embodiment, specifically provided are compounds of formula (II), in which  $R^6$  is independently halogen (e.g. Cl, F or Br) or C<sub>1-4</sub>alkyl (e.g. methyl or ethyl).

According to yet another embodiment, specifically provided are compounds of formula (II), in which 'm' is 0.

20 According to yet another embodiment, specifically provided are compounds of formula (II), in which R is -S(O)<sub>2</sub>-R<sup>7</sup>. In this embodiment R<sup>7</sup> is C<sub>1-4</sub> alkyl (e.g. methyl or ethyl), C<sub>3-6</sub>cycloalkyl (e.g. cyclopropyl or cyclobutyl) or haloC<sub>1-4</sub>alkyl (e.g. trifluoromethyl, trifluoroethyl or 2,2,2-trifluoroethyl).

25 According to yet another embodiment, specifically provided are compounds of formula (II), in which R is -S(O)<sub>2</sub>-R<sup>7</sup>. In this embodiment R<sup>7</sup> is methyl, ethyl, cyclopropyl or 2,2,2-trifluoroethyl.

According to yet another embodiment, specifically provided are compounds of formula (II), in which R is -NR<sup>d</sup>S(O)<sub>2</sub>-R<sup>8</sup>. In this embodiment R<sup>d</sup> is hydrogen or C<sub>1-4</sub> alkyl (e.g. methyl or ethyl) and R<sup>8</sup> is C<sub>1-4</sub> alkyl (e.g. methyl or ethyl).

30 According to yet another embodiment, specifically provided are compounds of formula (II), in which R is -NR<sup>d</sup>S(O)<sub>2</sub>-R<sup>8</sup>. In this embodiment R<sup>d</sup> is hydrogen and R<sup>8</sup> is methyl or ethyl.

According to yet another embodiment, specifically provided are compounds of formula (II), in which R is  $-\text{S}(\text{O})_2\text{NR}^a\text{R}^b$ . In this embodiment  $\text{R}^a$  is hydrogen and  $\text{R}^b$  is  $\text{C}_{1-4}$ alkyl (e.g. methyl or ethyl).

5 According to yet another embodiment, specifically provided are compounds of formula (II), in which R is  $-\text{S}(\text{O})_2\text{NR}^a\text{R}^b$ . In this embodiment  $\text{R}^a$  is hydrogen and  $\text{R}^b$  is methyl or ethyl.

According to yet another embodiment, specifically provided are compounds of formula (II), in which R is  $-\text{S}(\text{O})_2\text{CH}_3$ ,  $-\text{S}(\text{O})_2\text{CH}_2\text{CH}_3$ ,  $-\text{S}(\text{O})_2$ -cyclopropyl,  $-\text{S}(\text{O})_2\text{CH}_2\text{CF}_3$ ,  $-\text{S}(\text{O})_2\text{NHCH}_3$ ,  $-\text{S}(\text{O})_2\text{NHCH}_2\text{CH}_3$  or  $-\text{NHS}(\text{O})_2\text{CH}_3$ .

10 According to yet another embodiment, specifically provided are compounds of formula (II), in which 'r' is 0, 1 or 2.

According to yet another embodiment, specifically provided are compounds of formula (II), in which 'p' is 0, 1, 2 or 3.

15 According to yet another embodiment, specifically provided are compounds of formula (II), in which:

W is N or CH;

ring B is phenyl, pyridin-3-yl, pyridin-4-yl, pyrimidin-5-yl, 1*H*-pyrazol-1-yl, 1*H*-imidazol-1-yl, 1*H*-1,2,4-triazol-1-yl, 1,3-oxazol-2-yl or 1,2,4-oxadiazol-3-yl;

$\text{R}^1$  is independently CN, F, Cl,  $\text{CH}_3$ ,  $\text{CF}_3$ ,  $\text{OCH}_3$ ,  $\text{OCHF}_2$ ,  $\text{OCF}_3$  or  $\text{N}(\text{CH}_3)_2$ ;

20  $\text{R}^2$  is independently CN, F, Cl,  $\text{CH}_3$ ,  $\text{CF}_3$ ,  $\text{OCH}_3$ ,  $\text{OCHF}_2$  or  $\text{OCF}_3$ ;

R is  $-\text{S}(\text{O})_2\text{CH}_3$ ,  $-\text{S}(\text{O})_2\text{CH}_2\text{CH}_3$ ,  $-\text{S}(\text{O})_2$ -cyclopropyl,  $-\text{S}(\text{O})_2\text{CH}_2\text{CF}_3$ ,  $-\text{S}(\text{O})_2\text{NHCH}_3$ ,  $-\text{S}(\text{O})_2\text{NHCH}_2\text{CH}_3$  or  $-\text{NHS}(\text{O})_2\text{CH}_3$ ;

'r' is 0, 1 or 2;

'p' is 0, 1, 2 or 3;

25  $\text{R}^6$  is methyl and

'm' is 0.

According to an embodiment, specifically provided are compounds of formula (II) with an  $\text{IC}_{50}$  value of less than 1000 nM, preferably less than 500 nM, more preferably less than 100 nM, most preferably less than 50 nM with respect to ROR $\gamma$ t activity.

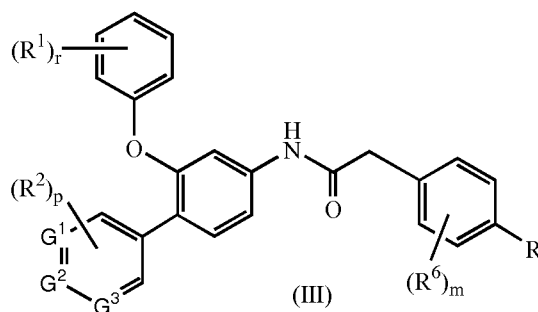
30 Further embodiments relating to groups  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^6$ , R, W, ring B, m, r and p (and groups defined therein) are described hereinafter in relation to the compounds of formula (III) or (IV). It is to be understood that these embodiments are not limited to use in conjunction with formula (III) or (IV), but apply independently and

individually to the compounds of Formula (II). For example, in an embodiment described hereinafter, the invention specifically provides compounds of formula (III) or (IV) in which 'r' is 0, 1 or 2 and consequently there is also provided a compound of Formula (II) in which 'r' is 0, 1 or 2.

5

The invention also provides a compound of formula (III), which is an embodiment of a compound of formula (I).

Accordingly the invention provides a compound of formula (III)



10 or a pharmaceutically acceptable salt thereof,  
wherein,

$G^1$ ,  $G^2$  and  $G^3$ , which may be same or different, are each independently selected from CH and N; with a proviso that  $G^1$ ,  $G^2$  and  $G^3$  are not N simultaneously;

R is selected from  $-S(O)_2-R^7$ ,  $-S(O)_2NR^aR^b$  and  $-NR^dS(O)_2-R^8$ ;

15 each occurrence of  $R^1$  is independently selected from halogen, cyano, hydroxyl,  $C_{1-8}$ alkyl,  $C_{1-8}$ alkoxy, halo $C_{1-8}$ alkyl, halo $C_{1-8}$ alkoxy, hydroxy $C_{1-8}$ alkyl and  $NR^xR^y$ ;

20 each occurrence of  $R^2$  is independently selected from halogen, cyano, hydroxyl,  $C_{1-8}$ alkyl,  $C_{1-8}$ alkoxy, halo $C_{1-8}$ alkyl, halo $C_{1-8}$ alkoxy, hydroxy $C_{1-8}$ alkyl and  $NR^xR^y$ ;

each occurrence of  $R^6$  is independently selected from halogen, cyano, hydroxyl,  $C_{1-8}$ alkyl,  $C_{1-8}$ alkoxy and halo $C_{1-8}$ alkyl;

each occurrence of  $R^7$  is independently  $C_{1-8}$ alkyl,  $C_{3-12}$ cycloalkyl and halo $C_{1-8}$ alkyl;

25 each occurrence of  $R^8$  is independently selected from  $C_{1-8}$ alkyl and  $C_{3-12}$ cycloalkyl;

each occurrence of  $R^a$  and  $R^b$ , which may be the same or different, are independently selected from hydrogen and  $C_{1-8}$ alkyl;

each occurrence of  $R^d$  is independently selected from hydrogen and  $C_{1-8}$ alkyl;

each occurrence of  $R^x$  and  $R^y$ , which may be the same or different, are independently selected from hydrogen and  $C_{1-8}$ alkyl;

'm' is an integer ranging from 0 to 3, both inclusive;

'p' is an integer ranging from 0 to 3, both inclusive; and

5 'r' is an integer ranging from 0 to 3, both inclusive.

The compounds of formula (III) may involve one or more embodiments. It is to be understood that the embodiments below are illustrative of the present invention and are not intended to limit the claims to the specific embodiments exemplified. It is also to be understood that the embodiments defined herein may be used independently or in conjunction with any definition of any other embodiment defined herein. Thus the invention contemplates all possible combinations and permutations of the various independently described embodiments. For example, the invention provides compounds of formula (III) as defined above wherein  $G^1$  is N or CH,  $G^2$  is CH and  $G^3$  is N or CH (according to an embodiment defined below), 'r' is 0, 1 or 2 (according to another embodiment defined below) and 'm' is 0 (according to yet another embodiment defined below).

According to one embodiment, specifically provided are compounds of formula (III), in which  $G^1$  is N or CH,  $G^2$  is CH and  $G^3$  is N or CH.

According to another embodiment, specifically provided are compounds of formula (III), in which  $G^1$  is CH,  $G^2$  is N and  $G^3$  is CH.

According to yet another embodiment, specifically provided are compounds of formula (III), in which  $G^1$  is N,  $G^2$  and  $G^3$  are CH.

According to yet another embodiment, specifically provided are compounds of formula (III), in which  $G^1$  is N,  $G^2$  is CH and  $G^3$  is N.

According to yet another embodiment, specifically provided are compounds of formula (III), in which  $G^1$ ,  $G^2$  and  $G^3$  are CH.

According to yet another embodiment, specifically provided are compounds of formula (III), in which each occurrence of  $R^1$  is independently cyano, halogen (e.g. F, Cl or Br),  $C_{1-8}$ alkyl (e.g. methyl or ethyl), halo $C_{1-8}$ alkyl (e.g. difluoromethyl or trifluoromethyl),  $C_{1-8}$ alkoxy (methoxy or ethoxy) or halo $C_{1-8}$ alkoxy (e.g. difluoromethoxy or trifluoromethoxy).

According to yet another embodiment, specifically provided are compounds of formula (III), in which each occurrence of  $R^1$  is  $NR^xR^y$ . In this embodiment  $R^x$  and  $R^y$  are  $C_{1-4}$ alkyl (e.g. methyl).

According to yet another embodiment, specifically provided are compounds of formula (III), in which each occurrence of  $R^1$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub>.

5 According to yet another embodiment, specifically provided are compounds of formula (III), in which  $R^1$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub> and 'r' is 0, 1 or 2.

10 According to yet another embodiment, specifically provided are compounds of formula (III), in which each occurrence of  $R^2$  is independently cyano, halogen (e.g. F, Cl or Br), C<sub>1-8</sub>alkyl (e.g. methyl or ethyl), haloC<sub>1-8</sub>alkyl (e.g. difluoromethyl or trifluoromethyl), C<sub>1-8</sub>alkoxy (methoxy or ethoxy) or haloC<sub>1-8</sub>alkoxy (e.g. difluoromethoxy or trifluoromethoxy).

According to yet another embodiment, specifically provided are compounds of formula (III), in which each occurrence of  $R^2$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> or OCF<sub>3</sub>.

15 According to yet another embodiment, specifically provided are compounds of formula (III), in which  $R^2$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> or OCF<sub>3</sub> and 'p' is 0, 1, 2 or 3.

20 According to yet another embodiment, specifically provided are compounds of formula (III), in which  $R^6$  is independently halogen (e.g. Cl, F or Br) or C<sub>1-4</sub>alkyl (e.g. methyl or ethyl).

According to yet another embodiment, specifically provided are compounds of formula (III), in which 'm' is 0.

25 According to yet another embodiment, specifically provided are compounds of formula (III), in which R is -S(O)<sub>2</sub>-R<sup>7</sup>. In this embodiment R<sup>7</sup> is C<sub>1-4</sub> alkyl (e.g. methyl or ethyl), C<sub>3-6</sub>cycloalkyl (e.g. cyclopropyl or cyclobutyl) or haloC<sub>1-4</sub>alkyl (e.g. trifluoromethyl, trifluoroethyl or 2,2,2-trifluoroethyl).

According to yet another embodiment, specifically provided are compounds of formula (III), in which R is -S(O)<sub>2</sub>-R<sup>7</sup>. In this embodiment R<sup>7</sup> is methyl, ethyl, cyclopropyl or 2,2,2-trifluoroethyl.

30 According to yet another embodiment, specifically provided are compounds of formula (III), in which R is -NR<sup>d</sup>S(O)<sub>2</sub>-R<sup>8</sup>. In this embodiment R<sup>d</sup> is hydrogen or C<sub>1-4</sub> alkyl (e.g. methyl or ethyl) and R<sup>8</sup> is C<sub>1-4</sub> alkyl (e.g. methyl or ethyl).



According to yet another embodiment, specifically provided are compounds of formula (III), in which R is  $-NR^dS(O)_2R^8$ . In this embodiment  $R^d$  is hydrogen and  $R^8$  is methyl or ethyl.

According to yet another embodiment, specifically provided are compounds of formula (III), in which R is  $-S(O)_2NR^aR^b$ . In this embodiment  $R^a$  is hydrogen and  $R^b$  is  $C_{1-4}$ alkyl (e.g. methyl or ethyl).

According to yet another embodiment, specifically provided are compounds of formula (III), in which R is  $-S(O)_2NR^aR^b$ . In this embodiment  $R^a$  is hydrogen and  $R^b$  is methyl or ethyl.

According to yet another embodiment, specifically provided are compounds of formula (III), in which R is  $-S(O)_2CH_3$ ,  $-S(O)_2CH_2CH_3$ ,  $-S(O)_2$ -cyclopropyl,  $-S(O)_2CH_2CF_3$ ,  $-S(O)_2NHCH_3$ ,  $-S(O)_2NHCH_2CH_3$  or  $-NHS(O)_2CH_3$ .

According to yet another embodiment, specifically provided are compounds of formula (III), in which 'r' is 0, 1 or 2.

According to yet another embodiment, specifically provided are compounds of formula (III), in which 'r' is 1 or 2.

According to yet another embodiment, specifically provided are compounds of formula (III), in which 'p' is 0, 1, 2 or 3.

According to yet another embodiment, specifically provided are compounds of formula (III), in which 'p' is 1, 2 or 3.

According to yet another embodiment, specifically provided are compounds of formula (III), in which:

$G^1$  is N or CH;

$G^2$  is CH;

$G^3$  is N or CH;

$R^1$  is independently CN, F, Cl,  $CH_3$ ,  $CF_3$ ,  $OCH_3$ ,  $OCHF_2$ ,  $OCF_3$  or  $N(CH_3)_2$ ;

$R^2$  is independently CN, F, Cl,  $CH_3$ ,  $CF_3$ ,  $OCH_3$ ,  $OCHF_2$  or  $OCF_3$ ;

R is  $-S(O)_2CH_3$ ,  $-S(O)_2CH_2CH_3$ ,  $-S(O)_2$ -cyclopropyl,  $-S(O)_2CH_2CF_3$ ,  $-S(O)_2NHCH_3$ ,  $-S(O)_2NHCH_2CH_3$  or  $-NHS(O)_2CH_3$ ;

'r' is 0, 1 or 2;

'p' is 0, 1, 2 or 3;

$R^6$  is methyl and

'm' is 0.

According to yet another embodiment, specifically provided are compounds of formula (III), in which:

$G^1$  is CH;

$G^2$  is CH or N;

5  $G^3$  is CH;

$R^1$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub>;

$R^2$  is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> or OCF<sub>3</sub>;

R is -S(O)<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>-cyclopropyl, -S(O)<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>, -S(O)<sub>2</sub>NHCH<sub>3</sub>, -S(O)<sub>2</sub>NHCH<sub>2</sub>CH<sub>3</sub> or -NHS(O)<sub>2</sub>CH<sub>3</sub>;

10 'r' is 0, 1 or 2;

'p' is 0, 1, 2 or 3;

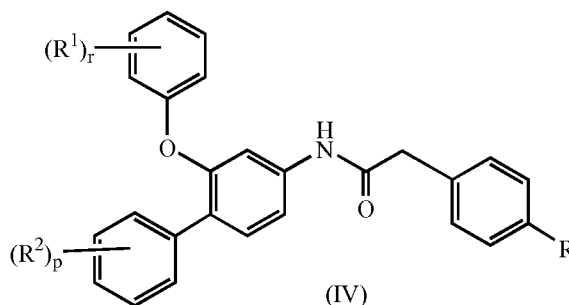
$R^6$  is methyl and

'm' is 0.

15 According to an embodiment, specifically provided are compounds of formula (III) with an IC<sub>50</sub> value of less than 1000 nM, preferably less than 500 nM, more preferably less than 100 nM, most preferably less than 50 nM with respect to RORγt activity.

20 The invention also provides a compound of formula (IV), which is an embodiment of a compound of formula (I).

Accordingly the invention provides a compound of formula (IV)



or a pharmaceutically acceptable salt thereof,  
wherein,

25 each occurrence of  $R^1$  is independently selected from CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> and N(CH<sub>3</sub>)<sub>2</sub>;

each occurrence of  $R^2$  is independently selected from CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> and OCF<sub>3</sub>;

R is  $-S(O)_2CH_3$ ,  $-S(O)_2CH_2CH_3$ ,  $-S(O)_2$ -cyclopropyl,  $-S(O)_2CH_2CF_3$ ,  $-S(O)_2NHCH_3$ ,  $-S(O)_2NHCH_2CH_3$  or  $-NHS(O)_2CH_3$ ;

'r' is 0, 1 or 2; and

'p' is 0, 1, 2 or 3.

5 According to an embodiment, specifically provided are compounds of formula (IV) with an  $IC_{50}$  value of less than 1000 nM, preferably less than 500 nM, more preferably less than 100 nM, most preferably less than 50 nM with respect to ROR $\gamma$ t activity.

10 Compounds of the present invention include the compounds in Examples 1-175.

It should be understood that the formulas (I), (II), (III) and (IV) structurally encompasses all geometrical isomers, stereoisomers, enantiomers and diastereomers, *N*-oxides, and pharmaceutically acceptable salts that may be contemplated from the chemical structure of the genera described herein.

15 The present application also provides a pharmaceutical composition that includes at least one compound described herein and at least one pharmaceutically acceptable excipient (such as a pharmaceutically acceptable carrier or diluent). Preferably, the pharmaceutical composition comprises a therapeutically effective amount of at least one compound described herein. The compounds described in the  
20 present patent application may be associated with a pharmaceutically acceptable excipient (such as a carrier or a diluent) or be diluted by a carrier, or enclosed within a carrier which can be in the form of a capsule, sachet, paper or other container.

The compounds and pharmaceutical compositions of the present invention are useful for inhibiting the activity of ROR $\gamma$ t, which is believed to be related to a variety  
25 of disease states.

The present patent application further provides a method of inhibiting ROR $\gamma$ t in a subject in need thereof by administering to the subject one or more compounds described herein in the amount effective to cause inhibition of such receptor.

## 30 Detailed Description of the Invention

### Definitions

The terms "halogen" or "halo" means fluorine (fluoro), chlorine (chloro), bromine (bromo), or iodine (iodo).

The term “alkyl” refers to a hydrocarbon chain radical that includes solely carbon and hydrogen atoms in the backbone, containing no unsaturation, having from one to eight carbon atoms (i.e. C<sub>1-8</sub>alkyl), and which is attached to the rest of the molecule by a single bond, e.g., methyl, ethyl, n-propyl, 1-methylethyl (isopropyl), n-butyl, n-pentyl, and 1,1-dimethylethyl (t-butyl). The term “C<sub>1-6</sub> alkyl” refers to an alkyl chain having 1 to 6 carbon atoms. The term “C<sub>1-4</sub>alkyl” refers to an alkyl chain having 1 to 4 carbon atoms. Unless set forth or recited to the contrary, all alkyl groups described or claimed herein may be straight chain or branched, substituted or unsubstituted.

The term “alkenyl” refers to a hydrocarbon chain containing from 2 to 10 carbon atoms (i.e. C<sub>2-10</sub>alkenyl) and including at least one carbon-carbon double bond. Non-limiting examples of alkenyl groups include ethenyl, 1-propenyl, 2-propenyl (allyl), *iso*-propenyl, 2-methyl-1-propenyl, 1-butenyl, and 2-butenyl. Unless set forth or recited to the contrary, all alkenyl groups described or claimed herein may be straight chain or branched, substituted or unsubstituted.

The term “alkynyl” refers to a hydrocarbyl radical having at least one carbon-carbon triple bond, and having 2 to about 12 carbon atoms (with radicals having 2 to about 10 carbon atoms being preferred i.e. C<sub>2-10</sub>alkynyl). Non-limiting examples of alkynyl groups include ethynyl, propynyl, and butynyl. Unless set forth or recited to the contrary, all alkynyl groups described or claimed herein may be straight chain or branched, substituted or unsubstituted.

The term “alkoxy” denotes an alkyl group attached via an oxygen linkage to the rest of the molecule (i.e. C<sub>1-8</sub> alkoxy). Representative examples of such groups are -OCH<sub>3</sub> and -OC<sub>2</sub>H<sub>5</sub>. Unless set forth or recited to the contrary, all alkoxy groups described or claimed herein may be straight chain or branched, substituted or unsubstituted.

The term “alkoxyalkyl” or “alkyloxyalkyl” refers to an alkoxy or alkyloxy group as defined above directly bonded to an alkyl group as defined above (i.e. C<sub>1-8</sub>alkoxyC<sub>1-8</sub>alkyl or C<sub>1-8</sub>alkyloxyC<sub>1-8</sub>alkyl). Example of such alkoxyalkyl moiety includes, but are not limited to, -CH<sub>2</sub>OCH<sub>3</sub> and -CH<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>. Unless set forth or recited to the contrary, all alkoxyalkyl groups described herein may be straight chain or branched, substituted or unsubstituted.

The term “haloalkyl” refers to at least one halo group (selected from F, Cl, Br or I), linked to an alkyl group as defined above (i.e. haloC<sub>1-8</sub>alkyl). Examples of such

haloalkyl moiety include, but are not limited to, trifluoromethyl, difluoromethyl and fluoromethyl groups. Unless set forth or recited to the contrary, all haloalkyl groups described herein may be straight chain or branched, substituted or unsubstituted.

The term “haloalkoxy” refers to an alkoxy group substituted with one or more  
5 halogen atoms (i.e. haloC<sub>1-8</sub>alkoxy). Examples of “haloalkoxy” include but are not limited to fluoromethoxy, difluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, pentafluoroethoxy, pentachloroethoxy, chloromethoxy, dichloromethoxy, trichloromethoxy and 1-bromoethoxy. Unless set forth or recited to the contrary, all haloalkoxy groups described herein may be straight chain or branched, substituted or  
10 unsubstituted.

The term “hydroxyalkyl” refers to an alkyl group as defined above wherein one to three hydrogen atoms on different carbon atoms is/are replaced by hydroxyl groups (i.e. hydroxyC<sub>1-8</sub>alkyl). Examples of hydroxyalkyl moieties include, but are not limited to -CH<sub>2</sub>OH, -C<sub>2</sub>H<sub>4</sub>OH and -CH(OH)C<sub>2</sub>H<sub>4</sub>OH.

The term “cycloalkyl” denotes a non-aromatic mono or multicyclic ring system of 3 to about 12 carbon atoms, (i.e. C<sub>3-12</sub>cycloalkyl). Examples of monocyclic cycloalkyl include but are not limited to cyclopropyl, cyclobutyl, cyclopentyl, and cyclohexyl. Examples of multicyclic cycloalkyl groups include, but are not limited to, perhydronaphthyl, adamantyl and norbornyl groups, bridged cyclic groups or  
20 spirobicyclic groups, e.g., spiro(4,4)non-2-yl. The term “C<sub>3-6</sub>cycloalkyl” refers to the cyclic ring having 3 to 6 carbon atoms. Unless set forth or recited to the contrary, all cycloalkyl groups described or claimed herein may be substituted or unsubstituted.

The term “cycloalkylalkyl” refers to a cyclic ring-containing radical having 3 to about 8 carbon atoms directly attached to an alkyl group (i.e. C<sub>3-8</sub>cycloalkylC<sub>1-8</sub>alkyl). The cycloalkylalkyl group may be attached to the main structure at any carbon atom in the alkyl group that results in the creation of a stable structure. Non-limiting examples of such groups include cyclopropylmethyl, cyclobutylethyl, and cyclopentylethyl. Unless set forth or recited to the contrary, all cycloalkylalkyl groups described or claimed herein may be substituted or unsubstituted.

The term “cycloalkenyl” refers to a cyclic ring-containing radical having 3 to about 8 carbon atoms with at least one carbon-carbon double bond, (i.e. C<sub>3-8</sub>cycloalkenyl). Examples of “cycloalkenyl” include but are not limited to cyclopropenyl, cyclobutenyl, and cyclopentenyl. Unless set forth or recited to the

contrary, all cycloalkenyl groups described or claimed herein may be substituted or unsubstituted.

The term “cycloalkenylalkyl” refers to a cyclic ring-containing radical having 3 to about 8 carbon atoms with at least one carbon-carbon double bond, directly attached to an alkyl group, (i.e. C<sub>3-8</sub>cycloalkenylC<sub>1-8</sub>alkyl). The cycloalkenylalkyl group may be attached to the main structure at any carbon atom in the alkyl group that results in the creation of a stable structure. Unless set forth or recited to the contrary, all cycloalkenylalkyl groups described or claimed herein may be substituted or unsubstituted.

The term “aryl” refers to an aromatic radical having 6 to 14 carbon atoms (i.e. C<sub>6-14</sub>aryl), including monocyclic, bicyclic and tricyclic aromatic systems, such as phenyl, naphthyl, tetrahydronaphthyl, indanyl, and biphenyl. Unless set forth or recited to the contrary, all aryl groups described or claimed herein may be substituted or unsubstituted.

The term “aryloxy” refers to an aryl group as defined above attached via an oxygen linkage to the rest of the molecule (i.e. C<sub>6-14</sub>aryloxy). Examples of aryloxy moieties include, but are not limited to phenoxy and naphthoxy. Unless set forth or recited to the contrary, all aryloxy groups described herein may be substituted or unsubstituted.

The term “arylalkyl” refers to an aryl group as defined above directly bonded to an alkyl group as defined above, i.e. C<sub>6-14</sub>arylC<sub>1-8</sub>alkyl, such as -CH<sub>2</sub>C<sub>6</sub>H<sub>5</sub> and -C<sub>2</sub>H<sub>4</sub>C<sub>6</sub>H<sub>5</sub>. Unless set forth or recited to the contrary, all arylalkyl groups described or claimed herein may be substituted or unsubstituted.

The term “heterocyclic ring” or “heterocyclyl” unless otherwise specified refers to substituted or unsubstituted non-aromatic 3 to 15 membered ring radical (i.e. 3 to 15 membered heterocyclyl) which consists of carbon atoms and from one to five hetero atoms selected from nitrogen, phosphorus, oxygen and sulfur. The heterocyclic ring radical may be a mono-, bi- or tricyclic ring system, which may include fused, bridged or spiro ring systems, and the nitrogen, phosphorus, carbon, oxygen or sulfur atoms in the heterocyclic ring radical may be optionally oxidized to various oxidation states. In addition, the nitrogen atom may be optionally quaternized; also, unless otherwise constrained by the definition the heterocyclic ring or heterocyclyl may optionally contain one or more olefinic bond(s). Examples of such heterocyclic ring radicals include, but are not limited to azepinyl, azetidiny, benzodioxolyl,

benzodioxanyl, chromanyl, dioxolanyl, dioxaphospholanyl, decahydroisoquinolyl, indanyl, indolyl, isoindolyl, isochromanyl, isothiazolidinyl, isoxazolidinyl, morpholyl, oxazolyl, oxazolidinyl, 2-oxopiperazinyl, 2-oxopiperidinyl, 2-oxopyrrolidinyl, 2-oxoazepinyl, octahydroindolyl, octahydroisoindolyl, 5 perhydroazepinyl, piperazinyl, 4-piperidonyl, pyrrolidinyl, piperidinyl, phenothiazinyl, phenoxazinyl, quinuclidinyl, tetrahydroisquinolyl, tetrahydrofuryl or tetrahydrofuranyl, tetrahydropyranyl, thiazolyl, thiazolidinyl, thiamorpholyl, thiamorpholyl sulfoxide and thiamorpholyl sulfone. The heterocyclic ring radical may be attached to the main structure at any heteroatom or carbon atom that results in the creation of a stable structure. Unless set forth or recited to the contrary, all 10 heterocyclyl groups described or claimed herein may be substituted or unsubstituted.

The term “heterocyclalkyl” refers to a heterocyclic ring radical directly bonded to an alkyl group (i.e. 3 to 15 membered heterocyclylC<sub>1-8</sub>alkyl). The heterocyclalkyl radical may be attached to the main structure at any carbon atom in 15 the alkyl group that results in the creation of a stable structure. Unless set forth or recited to the contrary, all heterocyclalkyl groups described or claimed herein may be substituted or unsubstituted.

The term “heteroaryl” unless otherwise specified refers to substituted or unsubstituted 5 to 14 membered aromatic heterocyclic ring radical with one or more 20 heteroatom(s) independently selected from N, O or S (i.e. 5 to 14 membered heteroaryl). The heteroaryl may be a mono-, bi- or tricyclic ring system. The heteroaryl ring radical may be attached to the main structure at any heteroatom or carbon atom that results in the creation of a stable structure. Examples of such heteroaryl ring radicals include, but are not limited to oxazolyl, isoxazolyl, 25 imidazolyl, furyl, indolyl, isoindolyl, pyrrolyl, triazolyl, triazinyl, tetrazoyl, thienyl, oxadiazolyl, thiazolyl, isothiazolyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyrazolyl, benzofuranyl, benzothiazolyl, benzoxazolyl, benzimidazolyl, benzothienyl, benzopyranyl, carbazolyl, quinolyl, isoquinolyl, quinazolyl, cinnolyl, naphthyridinyl, pteridinyl, purinyl, quinoxalyl, quinolyl, isoquinolyl, thiadiazolyl, 30 indolizyl, acridinyl, phenazinyl and phthalazinyl. Unless set forth or recited to the contrary, all heteroaryl groups described or claimed herein may be substituted or unsubstituted.

The term “heteroarylalkyl” refers to a heteroaryl ring radical directly bonded to an alkyl group (i.e. 5 to 14 membered heterarylC<sub>1-8</sub>alkyl). The heteroarylalkyl

radical may be attached to the main structure at any carbon atom in the alkyl group that results in the creation of a stable structure. Unless set forth or recited to the contrary, all heteroarylalkyl groups described or claimed herein may be substituted or unsubstituted.

5 Unless otherwise specified, the term “substituted” as used herein refers to substitution with any one or any combination of the following substituents: hydroxy, halogen, carboxyl, cyano, nitro, oxo (=O), thio (=S), substituted or unsubstituted alkyl, substituted or unsubstituted haloalkyl, substituted or unsubstituted hydroxyl alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted haloalkoxy, 10 substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkenylalkyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted amino, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heteroarylalkyl, substituted or unsubstituted 15 heterocyclalkyl ring, substituted or unsubstituted heteroarylalkyl, substituted or unsubstituted heterocyclic ring, substituted or unsubstituted guanidine,  $-\text{COOR}^x$ ,  $-\text{C(O)R}^x$ ,  $-\text{C(S)R}^x$ ,  $-\text{C(O)NR}^x\text{R}^y$ ,  $-\text{C(O)ONR}^x\text{R}^y$ ,  $-\text{NR}^x\text{CONR}^y\text{R}^z$ ,  $-\text{N(R}^x)\text{SOR}^y$ ,  $-\text{N(R}^x)\text{SO}_2\text{R}^y$ ,  $-\text{(=N-N(R}^x)\text{R}^y)$ ,  $-\text{NR}^x\text{C(O)OR}^y$ ,  $-\text{NR}^x\text{R}^y$ ,  $-\text{NR}^x\text{C(O)R}^y$ ,  $-\text{NR}^x\text{C(S)R}^y$ ,  $-\text{NR}^x\text{C(S)NR}^y\text{R}^z$ ,  $-\text{SONR}^x\text{R}^y$ ,  $-\text{SO}_2\text{NR}^x\text{R}^y$ ,  $-\text{OR}^x$ ,  $-\text{OC(O)NR}^y\text{R}^z$ ,  $-\text{OC(O)OR}^y$ ,  $-\text{OC(O)R}^x$ ,  $-\text{OC(O)NR}^x\text{R}^y$ ,  $-\text{SR}^x$ ,  $-\text{SOR}^x$ ,  $-\text{SO}_2\text{R}^x$ , and  $-\text{ONO}_2$ , wherein each occurrence of  $\text{R}^x$ ,  $\text{R}^y$  and  $\text{R}^z$  are independently selected from hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted 20 alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted amino, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted heterocyclalkyl ring, substituted or unsubstituted heteroarylalkyl, and substituted or unsubstituted heterocyclic ring. The substituents in the aforementioned “substituted” groups cannot be further substituted. For example, when the substituent on 30 “substituted alkyl” is “substituted aryl”, the substituent on “substituted aryl” can be unsubstituted alkenyl but cannot be “substituted alkenyl”.

The term “pharmaceutically acceptable salt” includes salts prepared from pharmaceutically acceptable bases or acids including inorganic or organic bases and inorganic or organic acids. Examples of such salts include, but are not limited to,



acetate, benzenesulfonate, benzoate, bicarbonate, bisulfate, bitartrate, borate, bromide, camsylate, carbonate, chloride, clavulanate, citrate, dihydrochloride, edetate, edisylate, estolate, esylate, fumarate, gluceptate, gluconate, glutamate, glycollylarsanilate, hexylresorcinate, hydrabamine, hydrobromide, hydrochloride, 5 hydroxynaphthoate, iodide, isothionate, lactate, lactobionate, laurate, malate, maleate, mandelate, mesylate, methylbromide, methylnitrate, methylsulfate, mucate, napsylate, nitrate, *N*-methylglucamine ammonium salt, oleate, oxalate, pamoate (embonate), palmitate, pantothenate, phosphate, diphosphate, polygalacturonate, salicylate, stearate, sulfate, subacetate, succinate, tannate, tartrate, teoclate, tosylate, triethiodide 10 and valerate. Examples of salts derived from inorganic bases include, but are not limited to, aluminum, ammonium, calcium, copper, ferric, ferrous, lithium, magnesium, manganic, mangamous, potassium, sodium, and zinc.

The term “treating” or “treatment” of a state, disorder or condition includes: (a) preventing or delaying the appearance of clinical symptoms of the state, disorder 15 or condition developing in a subject that may be afflicted with or predisposed to the state, disorder or condition but does not yet experience or display clinical or subclinical symptoms of the state, disorder or condition; (b) inhibiting the state, disorder or condition, i.e., arresting or reducing the development of the disease or at least one clinical or subclinical symptom thereof; or (c) relieving the disease, i.e., 20 causing regression of the state, disorder or condition or at least one of its clinical or subclinical symptoms.

The term “subject” includes mammals (especially humans) and other animals, such as domestic animals (e.g., household pets including cats and dogs) and non-domestic animals (such as wildlife).

25 A “therapeutically effective amount” means the amount of a compound that, when administered to a subject for treating a state, disorder or condition, is sufficient to effect such treatment. The “therapeutically effective amount” will vary depending on the compound, the disease and its severity and the age, weight, physical condition and responsiveness of the subject to be treated.

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#### Pharmaceutical Compositions

The compounds of the invention are typically administered in the form of a pharmaceutical composition. Such compositions can be prepared using procedures well known in the pharmaceutical art and comprise at least one compound of the

invention. The pharmaceutical composition of the present patent application comprises one or more compounds described herein and one or more pharmaceutically acceptable excipients. Typically, the pharmaceutically acceptable excipients are approved by regulatory authorities or are generally regarded as safe for human or animal use. The pharmaceutically acceptable excipients include, but are not limited to, carriers, diluents, glidants and lubricants, preservatives, buffering agents, chelating agents, polymers, gelling agents, viscosifying agents, solvents and the like.

Examples of suitable carriers include, but are not limited to, water, salt solutions, alcohols, polyethylene glycols, peanut oil, olive oil, gelatin, lactose, terra alba, sucrose, dextrin, magnesium carbonate, sugar, amylose, magnesium stearate, talc, gelatin, agar, pectin, acacia, stearic acid, lower alkyl ethers of cellulose, silicic acid, fatty acids, fatty acid amines, fatty acid monoglycerides and diglycerides, fatty acid esters, and polyoxyethylene.

The pharmaceutical composition may also include one or more pharmaceutically acceptable auxiliary agents, wetting agents, suspending agents, preserving agents, buffers, sweetening agents, flavouring agents, colorants or any combination of the foregoing.

The pharmaceutical compositions may be in conventional forms, for example, capsules, tablets, solutions, suspensions, injectables or products for topical application. Further, the pharmaceutical composition of the present invention may be formulated so as to provide desired release profile.

Administration of the compounds of the invention, in pure form or in an appropriate pharmaceutical composition, can be carried out using any of the accepted routes of administration of pharmaceutical compositions. The route of administration may be any route which effectively transports the active compound of the patent application to the appropriate or desired site of action. Suitable routes of administration include, but are not limited to, oral, nasal, buccal, dermal, intradermal, transdermal, parenteral, rectal, subcutaneous, intravenous, intraurethral, intramuscular, or topical.

Solid oral formulations include, but are not limited to, tablets, capsules (soft or hard gelatin), dragees (containing the active ingredient in powder or pellet form), troches and lozenges.

Liquid formulations include, but are not limited to, syrups, emulsions, and sterile injectable liquids, such as suspensions or solutions.

Topical dosage forms of the compounds include ointments, pastes, creams, lotions, powders, solutions, eye or ear drops, impregnated dressings, and may contain appropriate conventional additives such as preservatives, solvents to assist drug penetration.

5 The pharmaceutical compositions of the present patent application may be prepared by conventional techniques, e.g., as described in *Remington: The Science and Practice of Pharmacy*, 20<sup>th</sup> Ed., 2003 (Lippincott Williams & Wilkins).

Suitable doses of the compounds for use in treating the diseases and disorders described herein can be determined by those skilled in the relevant art. Therapeutic  
10 doses are generally identified through a dose ranging study in humans based on preliminary evidence derived from the animal studies. Doses must be sufficient to result in a desired therapeutic benefit without causing unwanted side effects. Mode of administration, dosage forms, and suitable pharmaceutical excipients can also be well used and adjusted by those skilled in the art. All changes and modifications are  
15 envisioned within the scope of the present patent application.

#### Methods of Treatment

Compounds of the present invention are particularly useful because they may inhibit the activity of Retinoid-related orphan receptor gamma {and particularly  
20 Retinoid-related orphan receptor gamma t (ROR $\gamma$ t)}, i.e., they prevent, inhibit, or suppress the action of ROR $\gamma$ t, and/or may elicit ROR $\gamma$ t modulating effect. Compounds of the invention are thus useful in the treatment of those conditions in which inhibition of a ROR gamma activity, and particularly ROR $\gamma$ t, is required.

The compounds of the present patent application are modulators of ROR $\gamma$ t and  
25 can be useful in the treatment of diseases/disorder mediated by ROR $\gamma$ t. Accordingly, the compounds and the pharmaceutical compositions of this invention may be useful in the treatment of inflammatory, metabolic and autoimmune diseases mediated by ROR $\gamma$ t.

The term “autoimmune diseases” will be understood by those skilled in the art  
30 a condition that occurs when the immune system mistakenly attacks and destroys healthy body tissue. An autoimmune disorder may result in the destruction of one or more types of body tissue, abnormal growth of an organ, and changes in organ function. An autoimmune disorder may affect one or more organ or tissue types which include blood vessels, connective tissues, endocrine glands such as the thyroid or

pancreas, joints, muscles, red blood cells, and skin. Examples of autoimmune (or autoimmune-related) disorders include multiple sclerosis, arthritis, rheumatoid arthritis, psoriasis, Crohn's disease, gastrointestinal disorder, inflammatory bowel disease, irritable bowel syndrome, colitis, ulcerative colitis, Sjorgen's syndrome, 5 atopic dermatitis, optic neuritis, respiratory disorder, chronic obstructive pulmonary disease (COPD), asthma, type I diabetes, neuromyelitis optica, Myasthenia Gavis, uveitis, Guillain- Barre syndrome, psoriatic arthritis, Gaves' disease, allergy, osteoarthritis, Kawasaki disease, mucosal leishmaniasis, Hashimoto's thyroiditis, Pernicious anemia, Addison's disease, Systemic lupus erythematosus, 10 Dermatomyositis, Sjogren syndrome, Lupus erythematosus, Myasthenia gravis, Reactive arthritis, Celiac disease - sprue (gluten-sensitive enteropathy), Graves's disease, thymopoiesis and Lupus.

Compounds of the present patent application may be useful in the treatment of inflammation. The term "inflammation" will be understood by those skilled in the art 15 to include any condition characterized by a localized or a systemic protective response, which may be elicited by physical trauma, infection, chronic diseases, and/or chemical and/or physiological reactions to external stimuli (e.g. as part of an allergic response). Any such response, which may serve to destroy, dilute or sequester both the injurious agent and the injured tissue, may be manifest by, for example, heat, 20 swelling, pain, redness, dilation of blood vessels and/or increased blood flow, invasion of the affected area by white.

The term "inflammation" is also understood to include any inflammatory disease, disorder or condition per se, any condition that has an inflammatory component associated with it, and/or any condition characterized by inflammation as 25 a symptom, including inter alia acute, chronic, ulcerative, specific, allergic, infection by pathogens, immune reactions due to hypersensitivity, entering foreign bodies, physical injury, and necrotic inflammation, and other forms of inflammation known to those skilled in the art. The term thus also includes, for the purposes of this present patent application, inflammatory pain, pain generally and/or fever.

30 The compounds of the present invention may be used for treatment of arthritis, including rheumatoid arthritis, osteoarthritis, psoriatic arthritis, septic arthritis, spondyloarthropathies, gouty arthritis, systemic lupus erythematosus and juvenile arthritis, osteoarthritis, and other arthritic conditions.

The compounds of the present invention may be used for treatment of respiratory disorders such as chronic obstructive pulmonary disease (COPD), asthma, bronchospasm, and cough.

Other respiratory disorders include bronchitis, bronchiolitis, bronchiectasis, acute nasopharyngitis, acute and chronic sinusitis, maxillary sinusitis, pharyngitis, tonsillitis, laryngitis, tracheitis, epiglottitis, croup, chronic disease of tonsils and adenoids, hypertrophy of tonsils and adenoids, peritonsillar abscess, rhinitis, abscess or ulcer and nose, pneumonia, viral and bacterial pneumonia, bronchopneumonia, influenza, extrinsic allergic alveolitis, coal workers' pneumoconiosis, asbestosis, pneumoconiosis, pneumonopathy, respiratory conditions due to chemical fumes, vapors and other external agents, emphysema, pleurisy, pneumothorax, abscess of lung and mediastinum, pulmonary congestion and hypostasis, postinflammatory pulmonary fibrosis, other alveolar and parietoalveolar pneumonopathy, idiopathic fibrosing alveolitis, Hamman-Rich syndrome, atelectasis, ARDS, acute respiratory failure, mediastinitis.

The compounds of the present invention may be used for treatment of pain conditions. The pain can be acute or chronic pain. Thus, the compounds of the present invention may be used for treatment of inflammatory pain, arthritic pain, neuropathic pain, post-operative pain, surgical pain, visceral pain, dental pain, premenstrual pain, central pain, cancer pain, pain due to burns; migraine or cluster headaches, nerve injury, neuritis, neuralgias, poisoning, ischemic injury, interstitial cystitis, viral, parasitic or bacterial infection, post-traumatic injury, or pain associated with irritable bowel syndrome.

The compounds of the present invention may be used for treatment of gastrointestinal disorder such as irritable bowel syndrome, inflammatory bowel disease, colitis, ulcerative colitis, biliary colic and other biliary disorders, renal colic, diarrhea-dominant IBS, and pain associated with gastrointestinal distension.

In addition, the compounds of the present invention may be useful in the treatment of cancer, and pain associated with cancer. Such cancers include multiple myeloma and bone disease associated with multiple myeloma, melanoma, medulloblastoma, acute myelogenous leukemia (AML), head and neck squamous cell carcinoma, hepatocellular carcinoma, gastric cancer, bladder carcinoma and colon cancer.

The methods of treatment of the present patent application comprise administering a safe and effective amount of a compound according to Formula I or a pharmaceutically-acceptable salt thereof to a patient (particularly a human) in need thereof.

5 The present patent application relates to the use of the compounds in the preparation of a medicament for the treatment of diseases mediated by ROR $\gamma$ t.

Compounds of the invention are indicated both in the therapeutic and/or prophylactic treatment of the above-mentioned conditions. For the above-mentioned therapeutic uses the dosage administered will, of course, vary with the compound employed, the mode of administration, the treatment desired and the disorder indicated.

Compounds of the present invention are indicated both in the therapeutic and/or prophylactic treatment of the above-mentioned conditions. For the above-mentioned therapeutic uses the dosage administered will, of course, vary with the compound employed, the mode of administration, the treatment desired and the disorder indicated. The daily dosage of the compound of the invention may be in the range from 0.05 mg/kg to 100 mg/kg.

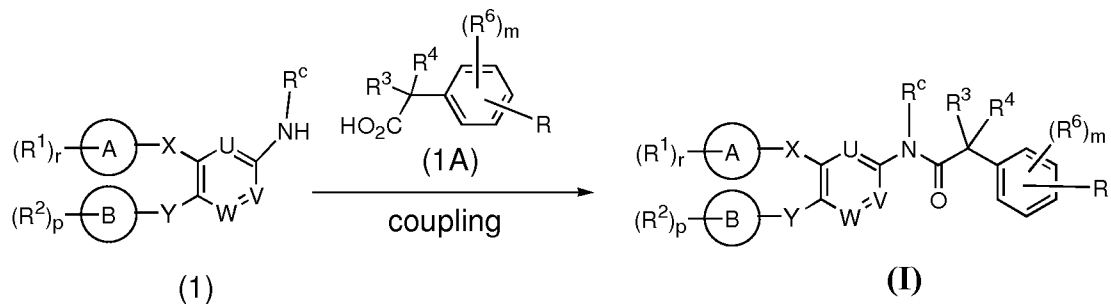
#### General Methods of Preparation

20 The compounds described herein, including compounds of general formula **(I)**, **(II)**, **(III)** and **(IV)** are prepared by the reaction schemes depicted below. Furthermore, in the following schemes, where specific acids, bases, reagents, coupling agents, solvents, etc. are mentioned, it is understood that other suitable acids, bases, reagents, coupling agents etc. may be used and are included within the scope of the present invention. Modifications to reaction conditions, for example, temperature, duration of the reaction or combinations thereof, are envisioned as part of the present invention. The compounds obtained by using the general reaction sequences may be of insufficient purity. These compounds can be purified by using any of the methods for purification of organic compounds for example, crystallization or silica gel or alumina column chromatography using different solvents in suitable ratios. All possible stereoisomers are envisioned within the scope of this invention.

A general approach for the synthesis of 2-phenylacetamide derivatives of the general formula **(I)** (wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>6</sup>, R<sup>c</sup>, ring A, ring B, U, V, W, X, Y, p, r and m are as defined with respect to a compound of formula **(I)**) is depicted in

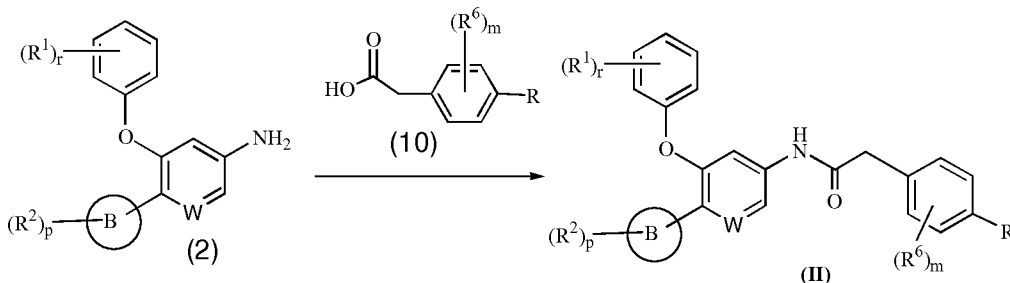
synthetic scheme 1. Appropriately substituted aryl or heteroaryl amine compound of formula **(1)** is coupled with suitably substituted phenylacetic acid compound of formula **(1A)** using a suitable coupling agent such as 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide (EDCI) and 1-hydroxybenzotriazole (HOBt) in the presence of suitable solvent such dichloromethane to afford the acetamide derivative of general formula **(I)**.

### Synthetic scheme 1



In an approach, the compound of formula **(II)** (wherein  $R^1$ ,  $R^2$ ,  $R^6$ , R, ring B, W, p, r and m are as defined with respect to a compound of formula **(II)**) can be prepared by following the synthetic step depicted in Synthetic Scheme 2.

### Synthetic scheme 2

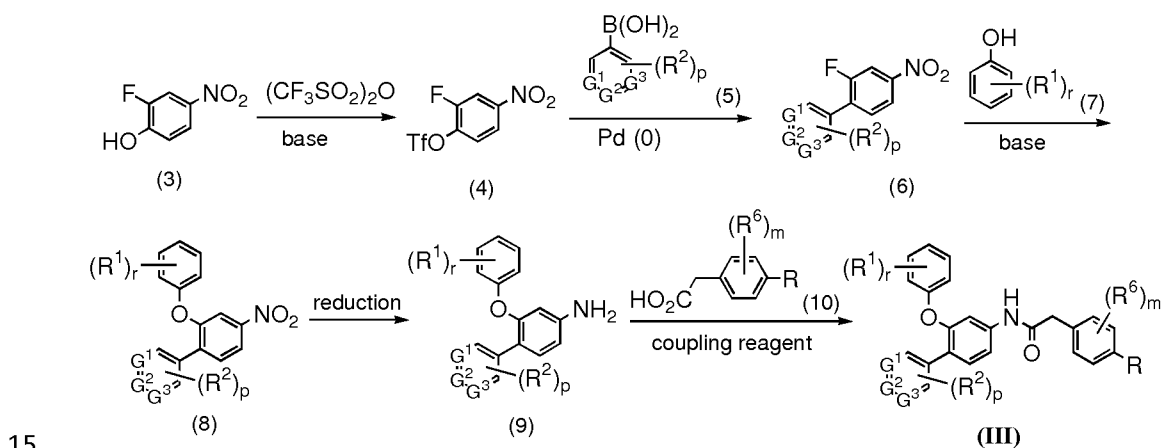


A compound of formula **(2)** can be reacted with a compound of formula **(10)** to form a compound of formula **(II)**. According to the process, the compound of formula **(2)** can be reacted with the compound of formula **(10)** in a solvent selected from DCM, THF and DMF. According to the process, the compound of formula **(2)** is converted to a compound of formula **(II)** using one or more coupling agent. The coupling agent used in the process can be a mixture of 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide (EDCI) and 1-hydroxybenzotriazole (HOBt) or any other suitable coupling agent.

An approach for the synthesis of diphenylacetamides of general formula **(III)** (wherein  $G^1$ ,  $G^2$ ,  $G^3$ , R,  $R^1$ ,  $R^2$ ,  $R^6$ , p, r and m are as defined with respect to a compound of formula **(III)**) is depicted in synthetic scheme 3. Thus, 2-fluoro-4-

nitrophenol (**3**) on reaction with trifluoromethanesulfonic anhydride in presence of suitable base such as 4-dimethylaminopyridine (DMAP) gives the corresponding triflate of formula (**4**). Intermediate (**4**) on Suzuki coupling reaction with appropriately substituted aryl boronic acid (**5**) in the presence of suitable catalyst such as tetrakis(triphenylphosphine)palladium and suitable base such as potassium carbonate affords corresponding biaryl derivative (**6**). Intermediate (**6**) is then reacted with appropriately substituted phenol of formula (**7**) using suitable base such as cesium carbonate or sodium hydride to give corresponding aryl ether derivative (**8**). The nitro group of compound (**8**) is reduced using ammonium chloride in presence of iron powder to afford amine (**9**). Intermediate (**9**) is coupled with appropriately substituted phenylacetic acid of formula (**10**) using suitable coupling agent such as EDCI in the presence of HOBt to furnish diphenyl acetamides of general formula (**III**).

### Synthetic scheme 3



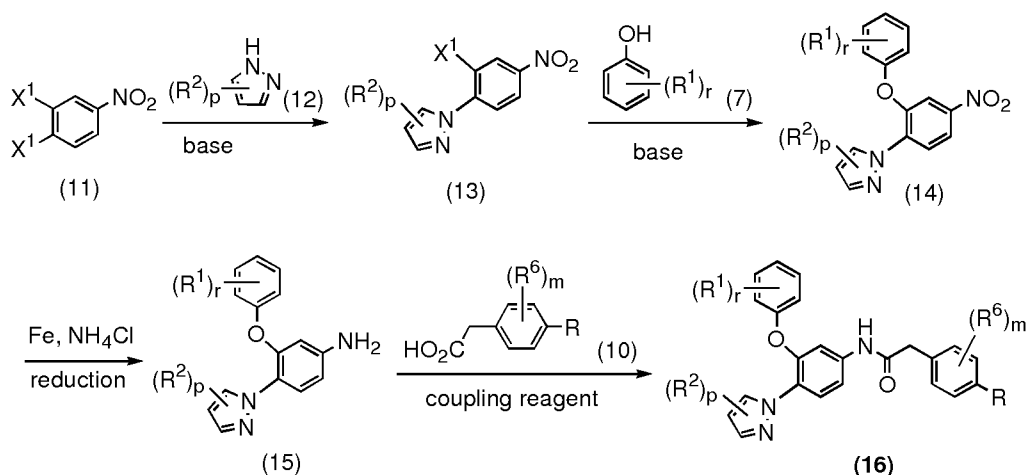
A general approach for the synthesis of compounds of general formula (**16**) (wherein R, R<sup>1</sup>, R<sup>2</sup>, R<sup>6</sup>, p, r and m are as defined with respect to a compound of formula (II)) is depicted in scheme 4. Thus, 3,4-dihalo nitro benzene of the formula (**11**) (wherein X<sup>1</sup> is halogen) undergoes reaction with substituted 1H-pyrazole of general formula (**12**) using base such as potassium carbonate to give Intermediate (**13**). The substituted phenol (**7**) reacts with Intermediate (**13**) using a strong base such as cesium carbonate to yield ether Intermediate (**14**). Reduction of the nitro group of Intermediate (**14**) using ammonium chloride and iron powder yields amine intermediate (**15**). Final compound of general formula (**16**) is obtained by coupling of acetic acid of formula (**10**) with amine derivative (**15**).

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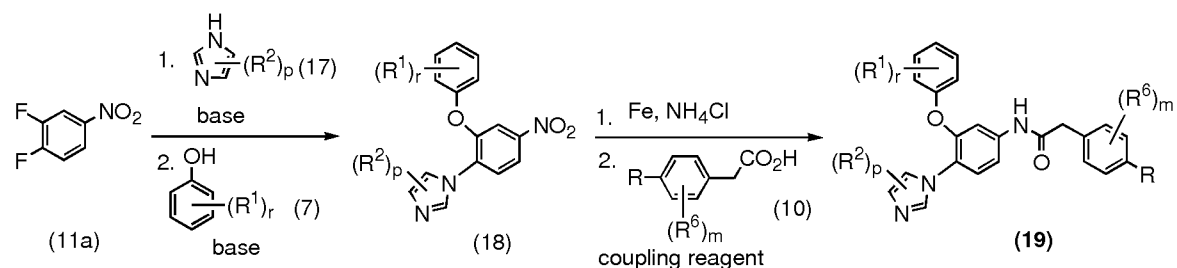


## Synthetic scheme 4



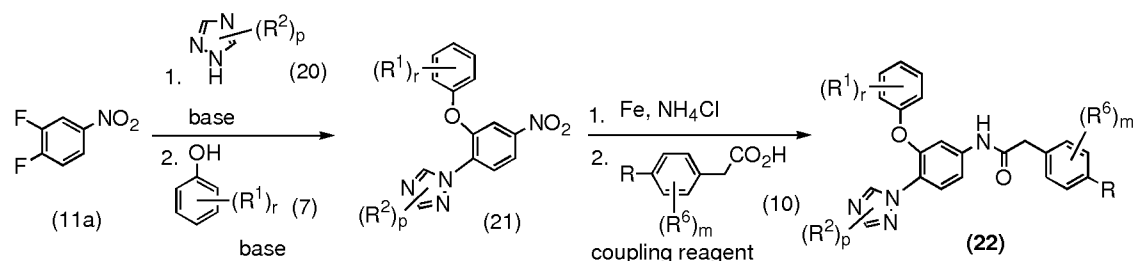
A general approach for the synthesis of imidazole substituted phenyl acetamide of the formula (19) (wherein R, R<sup>1</sup>, R<sup>2</sup>, R<sup>6</sup>, p, r and m are as defined with respect to a compound of formula (II)) is shown in scheme 5. Thus, 3,4-difluoronitrobenzene (11a) on reaction with imidazole gives the 4-imidazole derivative (17) which on further reaction with phenoxide anion gives Intermediate (18). Intermediate (18) on amino group reduction followed by coupling with phenyl acetic acid (10) gives compounds of the general formula (19).

## 10 Synthetic scheme 5



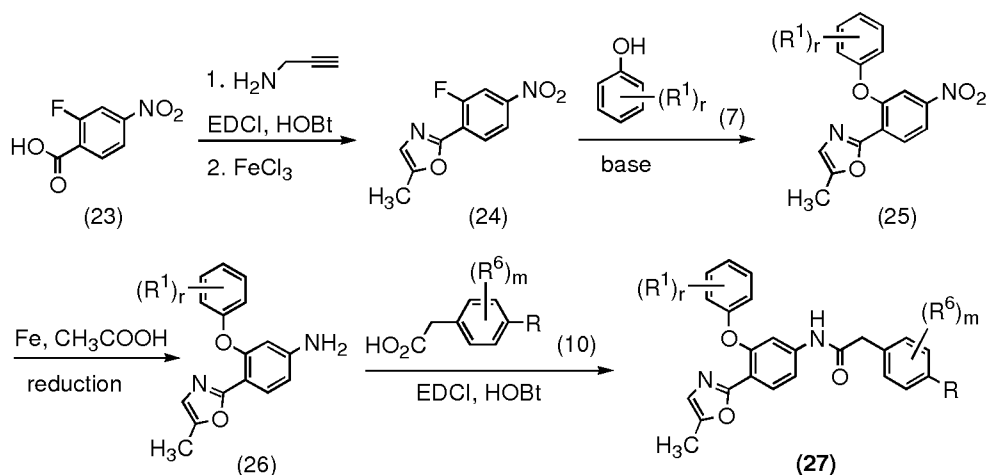
A general approach for the synthesis of triazole substituted phenyl acetamide of the formula (22) (wherein R, R<sup>1</sup>, R<sup>2</sup>, R<sup>6</sup>, p, r and m are as defined with respect to a compound of formula (II)) is shown in scheme 6. Thus, 3,4-difluoronitrobenzene (11a) on reaction with substituted triazole (20) gives the 4-triazole derivative which on further reaction with phenoxide anion gives Intermediate (21). Amino group reduction of Intermediate (21) followed by coupling with phenyl acetic acid (10) gives compounds of the general formula (22).

## Synthetic scheme 6



A general approach for the synthesis of oxazole substituted diphenyl acetamides of general formula (27) (wherein R, R<sup>1</sup>, R<sup>6</sup>, r and m are as defined with respect to a compound of formula (II)) is depicted in scheme 7. Thus, coupling of benzoic acid derivative of formula (23) with propargyl amine using coupling reagent such as EDCI and HOBT followed by cyclization using ferric chloride affords oxazole derivative (24). Intermediate (24) on reaction with phenol of general formula (7) under basic conditions gives compounds of general formula (25). Reduction of nitro group of Intermediate (25) to amino group followed by coupling with phenyl acetic acid derivative (10) yields the final compound of general formula (27).

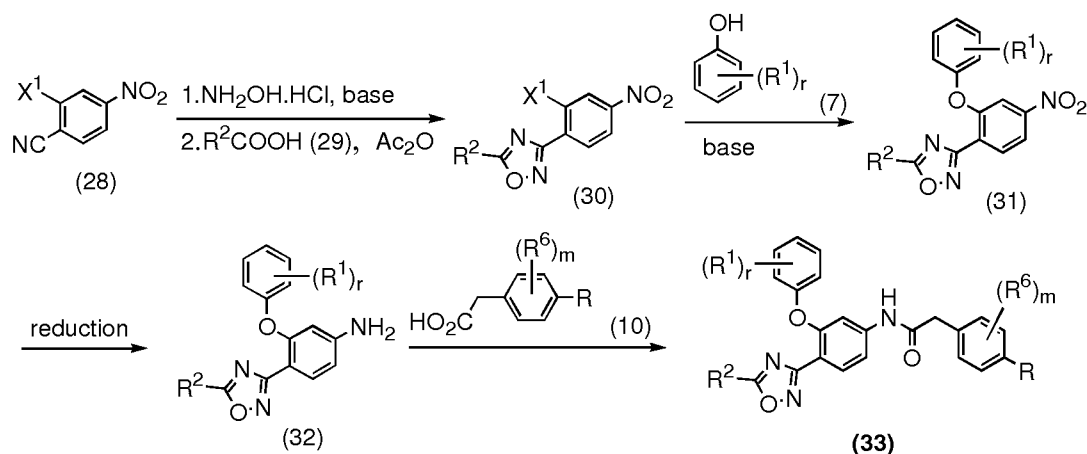
## Synthetic scheme 7



An approach for the synthesis of oxadiazone substituted diphenylacetamides of general formula (33) (wherein R, R<sup>1</sup>, R<sup>2</sup>, R<sup>6</sup>, p, r and m are as defined with respect to a compound of formula (II)) is depicted in scheme 8. Thus, benzonitrile derivative of general formula (28) undergoes reaction with hydroxylamine hydrochloride using base such as sodium bicarbonate, followed by reaction with acetic acid derivative (29) and acetic anhydride to yield Intermediate of formula (30). Displacement of halogen of intermediate (30) with phenol of general formula (7) under basic conditions yields ether of general formula (31). Reduction of the nitro group of Intermediate (31) to give amine compound of formula (32), followed by coupling of the amine with

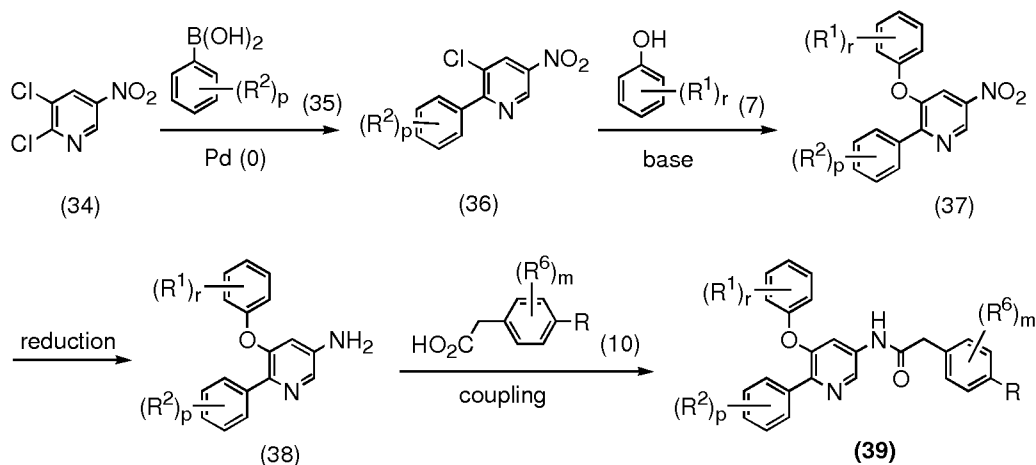
appropriately substituted phenyl acetic acid derivative **(10)** yields final compound of formula **(33)**.

Synthetic scheme 8



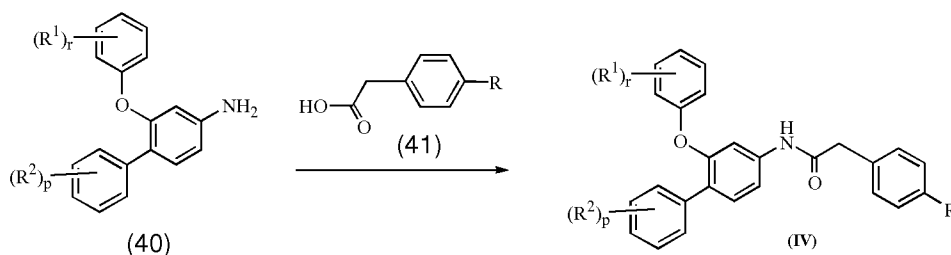
- 5 An approach for the synthesis of 2-phenyl pyridinyl acetamides of general formula **(39)** (wherein  $R$ ,  $R^1$ ,  $R^2$ ,  $R^6$ ,  $p$ ,  $r$  and  $m$  are as defined with respect to a compound of formula (III)) is depicted in synthetic scheme 9. Thus, 2,3-dichloro-3-nitropyridine derivative **(34)** undergoes selective Suzuki coupling reaction with
- 10 appropriately substituted boronic acid **(35)** using suitable catalyst such as tetrakis(triphenylphosphine)palladium and in presence of base such as potassium carbonate to afford corresponding 2-phenylpyridine derivative **(36)**. Intermediate **(36)** undergoes displacement with appropriately substituted phenol of formula **(7)** using
- 15 suitable base such as cesium carbonate, cesium fluoride or sodium hydride to give corresponding 3-phenoxy pyridine derivative **(37)**. Nitro group reduction of compound **(37)** using ammonium chloride in presence of iron powder affords amine **(38)**. Intermediate **(38)** is coupled with appropriately substituted phenylacetic acid of formula **(10)** using suitable coupling agent such as EDCI and HOBt to furnish acetamide of general formula **(39)**.

Synthetic scheme 9



In an approach, the compound of formula (IV) (wherein R<sup>1</sup>, R<sup>2</sup>, R, p and r are as defined with respect to a compound of formula (IV)) can be prepared following the synthetic steps depicted in Synthetic Scheme 10.

#### 5 Synthetic scheme 10



A compound of formula (40) can be reacted with a compound of formula (41) to form a compound of formula (IV). According to the process, the compound of formula (40) can be reacted with the compound of formula (41) in solvent such as DCM, THF or DMF. According to the process, the compound of formula (40) is converted to a compound of formula (IV) using one or more coupling agent or mixture thereof and optionally in the presence of a suitable base such as TEA or DIPEA. The coupling agent used in the process can be 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide (EDCI) and 1-hydroxybenzotriazole (HOBt) or any other suitable coupling agent.

### Experimental

The intermediates required for the synthesis are commercially available or alternatively, these intermediates can be prepared using known literature methods. The invention is described in greater detail by way of specific examples.

Unless otherwise stated, work-up includes distribution of the reaction mixture between the organic and aqueous phase indicated within parentheses, separation of

layers and drying the organic layer over sodium sulphate, filtration and evaporation of the solvent. Purification, unless otherwise mentioned, includes purification by silica gel chromatographic techniques, generally using ethyl acetate/petroleum ether mixture of a suitable polarity as the mobile phase. Use of a different eluent system is indicated within parentheses. The following abbreviations are used in the text: DMSO-*d*<sub>6</sub>: Hexadeuterodimethyl sulfoxide; DMF: *N,N*-dimethyl formamide, *J*: Coupling constant in units of Hz; RT or rt: room temperature (22-26°C). h: hour (s); min: minute (s); Aq.: aqueous; equiv. or eq.: equivalents; DMAP: 4-dimethylaminopyridine; HOBt: Hydroxybenzotriazole; EDCI: 1-Ethyl-3-(3-dimethylaminopropyl) carbodiimide, THF: Tetrahydrofuran.

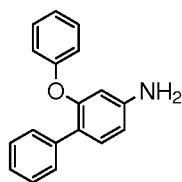
The following intermediates required for the synthesis of compounds of the present invention are prepared using the approaches described above in synthetic schemes.

#### Preparation of Intermediates

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#### Intermediate 1

2-Phenoxybiphenyl-4-amine



Step 1: 2-Fluoro-4-nitrophenyl trifluoromethanesulfonate: To a stirred solution of 2-fluoro-4-nitrophenol (4.1 g, 26.098 mmol) in dry dichloromethane (100 ml) and dry THF (10 ml), was added pyridine (16 ml) followed by triflic anhydride (5.152 ml, 31.317 mmol) at 0 °C and the reaction mixture was stirred for 10 minutes at the same temperature. DMAP (20 mg) was added to the reaction mixture at 0 °C and the reaction mixture was stirred at room temperature for 2 h. The reaction mixture was diluted with water and extracted with ethyl acetate (3 x 250 ml). The combined organic extract was washed with aqueous solution of sodium bicarbonate (400 ml) followed by brine (250 ml). The organic layer was separated, dried over sodium sulphate and concentrated under reduced pressure to obtain crude residue. The obtained residue was purified by silica gel column chromatography to yield 5.5 g of the desired product as liquid. ESI-MS (*m/z*) 290 (M+H)<sup>+</sup>.

Step 2: 2-Fluoro-4-nitrobiphenyl: To a solution of 2-fluoro-4-nitrophenyl trifluoromethanesulfonate (step 1 intermediate, 600 mg, 2.074 mmol) in toluene (20

ml), were added phenylboronic acid (303 mg, 2.489 mmol), potassium carbonate (860 mg, 6.224 mmol), ethanol (10 ml) and water (10 ml). To the reaction mixture, tetrakis triphenylphosphine palladium (11 mg, 0.010 mmol) was added and the resulting mixture was refluxed for 3 h. The reaction mixture was cooled to room temperature, diluted with water and extracted with ethyl acetate (3 x 200 ml). The combined organic extract was washed with water (300 ml) followed by brine (250 ml), separated and dried over sodium sulphate. The organic layer was concentrated under reduced pressure and the obtained residue was purified by column chromatography to yield 400 mg of the desired product as solid. ESI-MS ( $m/z$ ) 218 (M+H)<sup>+</sup>.

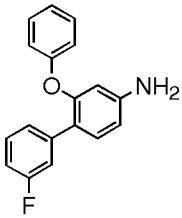
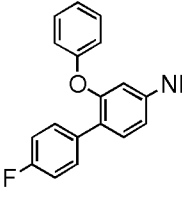
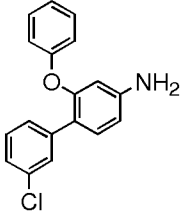
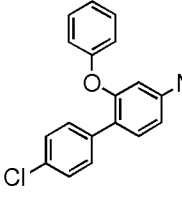
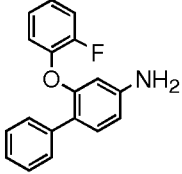
5  
10 Step 3: 4-Nitro-2-phenoxybiphenyl: To a stirred solution of 2-fluoro-4-nitrobiphenyl (step 2 intermediate, 200 mg, 0.921 mmol) in DMF (10 ml), were added cesium carbonate (600 mg, 1.842 mmol) followed by phenol (104 mg, 1.105 mmol) at room temperature and the resulting mixture was stirred at 110 °C overnight. The reaction mixture was cooled to room temperature, diluted with water and extracted with ethyl acetate (3 x 200 ml). The combined organic extract was washed with brine (215 ml), separated and dried over sodium sulphate. The organic layer was concentrated under reduced pressure and the residue was purified by column chromatography to yield 200 mg of product as pale yellow solid. ESI-MS ( $m/z$ ) 292 (M+H)<sup>+</sup>.


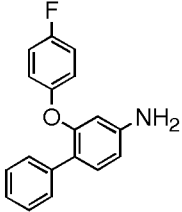
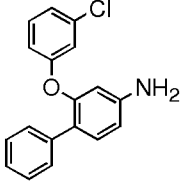
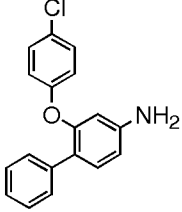
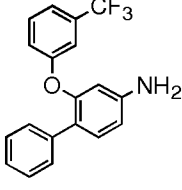
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20 Step 4: 2-Phenoxybiphenyl-4-amine: To a stirred suspension of 4-nitro-2-phenoxybiphenyl (step 3 intermediate, 200 mg, 0.686 mmol) in methanol (10 ml) and water (10 ml), were added iron powder (230 mg 4.119 mmol) and ammonium chloride (367 mg, 6.865 mmol) at room temperature and the resulting mixture was refluxed for 3 h. The reaction mixture was cooled to room temperature, diluted with water and extracted with ethyl acetate (3 x 150 ml). The combined organic extract was washed with brine (200 ml), separated and dried over sodium sulphate. The organic layer was concentrated under reduced pressure and the residue was purified by column chromatography to yield 100 mg of product as an off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 5.35 (s, 2H), 6.16 (s, 1H), 6.45 (d, *J* = 7.8 Hz, 1H), 6.91 (d, *J* = 7.8 Hz, 2H), 7.02 (t, *J* = 7.8 Hz, 1H), 7.09-7.21 (m, 2H), 7.24-7.35 (m, 4H), 7.42 (d, *J* = 7.5 Hz, 2H); ESI-MS ( $m/z$ ) 262 (M+H)<sup>+</sup>.

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30 Intermediates 2-98 were synthesized by Suzuki coupling of 2-fluoro-4-nitrophenyl trifluoromethanesulfonate, formed by reaction of 2-fluoro-4-nitro phenol with triflic

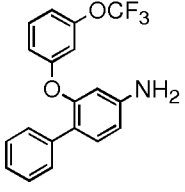
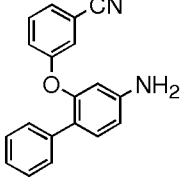

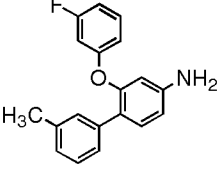
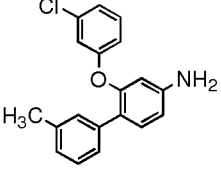
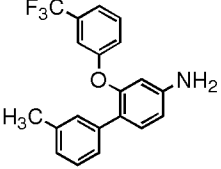
anhydride, with respective boronic acid followed by substitution with appropriate phenol and finally reduction as described in Steps 1, 2, 3 and 4 of Intermediate 1. The structural formulas, chemical names and Analytical data of Intermediate 2-98 are provided in table 1.

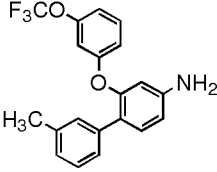
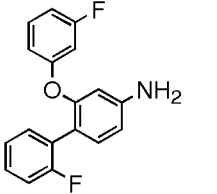
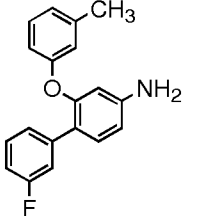
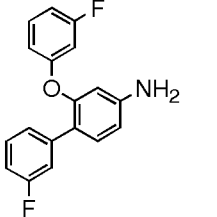
5 Table 1: Structure, chemical name and Analytical data of Intermediates 2-98.

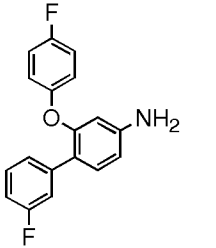
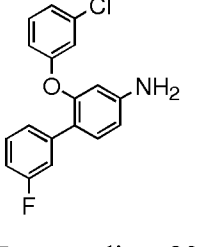
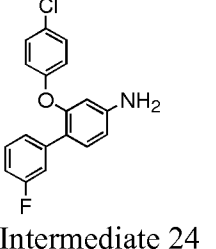
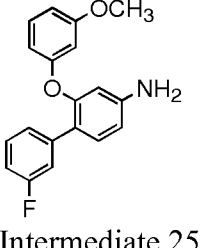
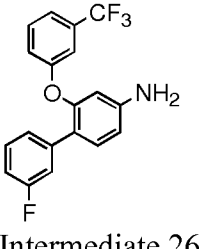
Sr. No.	Structure	Chemical name and Analytical data
2.	 Intermediate 2	3'-Fluoro-2-phenoxybiphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.44 (s, 2H), 6.15 (s, 1H), 6.46 (d, $J = 6.3$ Hz, 1H), 6.93 (d, $J = 6.3$ Hz, 2H), 6.95-7.10 (m, 2H), 7.15-7.40 (m, 6H); APCI-MS ( $m/z$ ) 280 ( $\text{M}+\text{H}$ ) <sup>+</sup> .
3.	 Intermediate 3	4'-Fluoro-2-phenoxybiphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.36 (s, 2H), 6.14 (s, 1H), 6.44 (d, $J = 7.8$ Hz, 1H), 6.91 (d, $J = 8.4$ Hz, 2H), 7.05 (t, $J = 7.8$ Hz, 1H), 7.10-7.17 (m, 3H), 7.30 (t, $J = 7.8$ Hz, 2H), 7.36-7.49 (m, 2H); ESI-MS ( $m/z$ ) 280 ( $\text{M}+\text{H}$ ) <sup>+</sup> .
4.	 Intermediate 4	3'-Chloro-2-phenoxybiphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.46 (s, 2H), 6.14 (s, 1H), 6.45 (d, $J = 6.9$ Hz, 1H), 6.93 (d, $J = 8.7$ Hz, 2H), 7.05 (t, $J = 6.9$ Hz, 1H), 7.14-7.26 (m, 2H), 7.32 (t, $J = 8.7$ Hz, 3H), 7.40 (d, $J = 7.8$ Hz, 1H), 7.46 (s, 1H); ESI-MS ( $m/z$ ) 280 ( $\text{M}+\text{H}$ ) <sup>+</sup> .
5.	 Intermediate 5	4'-Chloro-2-phenoxybiphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.41 (s, 2H), 6.15 (s, 1H), 6.45 (d, $J = 6.0$ Hz, 1H), 6.91 (d, $J = 8.4$ Hz, 2H), 7.00-7.10 (m, 1H), 7.16 (d, $J = 6.0$ Hz, 1H), 7.25-7.35 (m, 4H), 7.45 (d, $J = 6.0$ Hz, 2H); ESI-MS ( $m/z$ ) 296 ( $\text{M}+\text{H}$ ) <sup>+</sup> .
6.		2-(2-Fluorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.37 (s, 2H), 6.06 (s, 1H), 6.43 (d, $J = 8.4$ Hz, 1H), 6.99-7.25 (m, 4H), 7.35 (t, $J = 7.5$ Hz, 4H), 7.46 (d, $J = 8.4$ Hz, 2H); APCI-MS

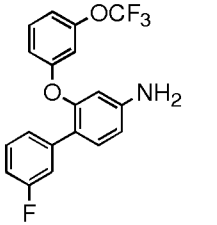
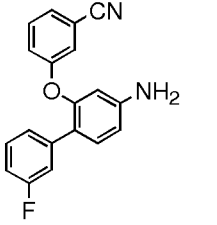
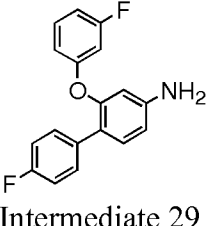
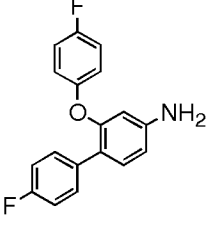
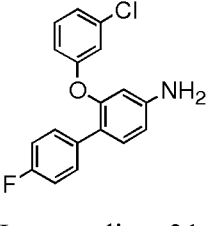
Sr. No.	Structure	Chemical name and Analytical data
	<u>Intermediate 6</u>	$(m/z)$ 280 $(M+H)^+$ .
7.	 <u>Intermediate 7</u>	2-(3-Fluorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.42 (s, 2H), 6.23 (s, 1H), 6.47 (d, $J = 6.6$ Hz, 1H), 6.70 (d, $J = 6.6$ Hz, 2H), 6.83 (t, $J = 6.3$ Hz, 1H), 7.14-7.25 (m, 2H), 7.27-7.35 (m, 3H), 7.39 (d, $J = 6.6$ Hz, 2H); APCI-MS $(m/z)$ 280 $(M+H)^+$ .
8.	 <u>Intermediate 8</u>	2-(4-Fluorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.36 (s, 2H), 6.11 (s, 1H), 6.44 (d, $J = 6.9$ Hz, 1H), 6.90-6.99 (m, 2H), 7.09-7.16 (m, 4H), 7.32 (d, $J = 8.7$ Hz, 2H), 7.42 (d, $J = 8.7$ Hz, 2H); APCI-MS $(m/z)$ 280 $(M+H)^+$ .
9.	 <u>Intermediate 9</u>	2-(3-Chlorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.43 (s, 2H), 6.22 (s, 1H), 6.51 (d, $J = 6.3$ Hz, 1H), 6.86 (d, $J = 6.6$ Hz, 2H), 6.91 (s, 1H), 7.06 (d, $J = 6.6$ Hz, 2H), 7.10-7.20 (m, 1H), 7.24-7.33 (m, 2H), 7.40 (d, $J = 9.3$ Hz, 2H); APCI-MS $(m/z)$ 296.42 $(M+H)^+$ .
10.	 <u>Intermediate 10</u>	2-(4-Chlorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.39 (s, 2H), 6.17 (s, 1H), 6.43-6.51 (m, 1H), 6.92 (d, $J = 6.6$ Hz, 2H), 7.10-7.25 (m, 2H), 7.28-7.42 (m, 6H); APCI-MS $(m/z)$ 296 $(M+H)^+$ .
11.	 <u>Intermediate 11</u>	2-[3-(Trifluoromethyl)phenoxy]biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.44 (br s, 2H), 6.25 (s, 1H), 6.54 (d, $J = 8.7$ Hz, 1H), 7.14-7.20 (m, 3H), 7.27 (t, $J = 7.2$ Hz, 2H), 7.32-7.40 (m, 4H), 7.47-7.52 (m, 1H); APCI-MS $(m/z)$ 330 $(M+H)^+$ .

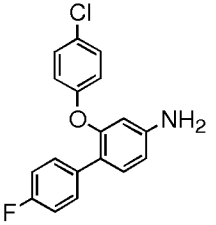
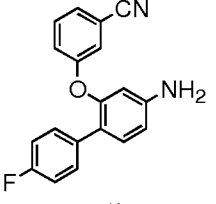
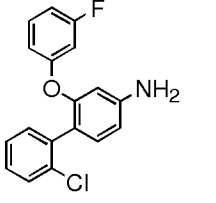
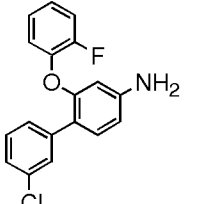
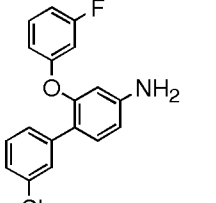
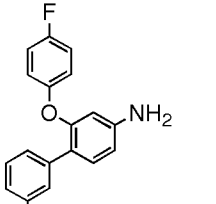


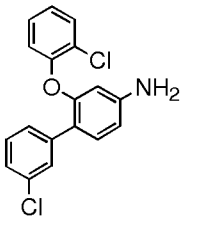
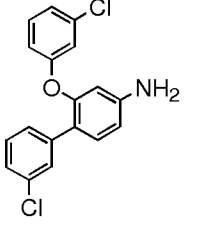
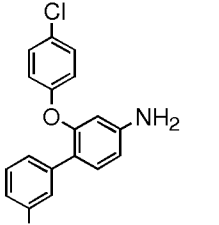
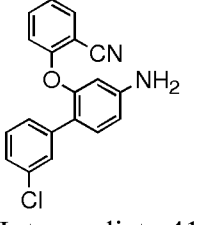
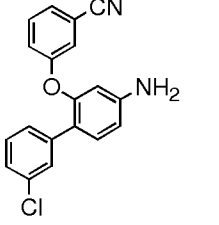
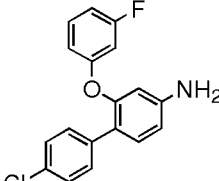
Sr. No.	Structure	Chemical name and Analytical data
12.	 <p style="text-align: center;"><u>Intermediate 12</u></p>	2-[3-(Trifluoromethoxy)phenoxy]biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.44 (br s, 2H), 6.26 (s, 1H), 6.53 (d, <i>J</i> = 9.3 Hz, 1H), 6.81 (s, 1H), 6.89 (d, <i>J</i> = 8.4 Hz, 1H), 6.97 (d, <i>J</i> = 9.9 Hz, 1H), 7.13-7.19 (m, 2H), 7.27 (t, <i>J</i> = 7.5 Hz, 2H), 7.36-7.41 (m, 3H); APCI-MS ( <i>m/z</i> ) 346 (M+H) <sup>+</sup> .
13.	 <p style="text-align: center;"><u>Intermediate 13</u></p>	3-[(4-Aminobiphenyl-2-yl)oxy]benzonitrile; ESI-MS ( <i>m/z</i> ) 287 (M+H) <sup>+</sup> .
14.	 <p style="text-align: center;"><u>Intermediate 14</u></p>	2-(3,4-Difluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.41 (s, 2H), 6.18 (s, 1H), 6.50 (d, <i>J</i> = 9.0 Hz, 1H), 6.65-6.78 (m, 1H), 6.98-7.09 (m, 1H), 7.11-7.19 (m, 2H), 7.21-7.30 (m, 2H), 7.35-7.46 (m, 3H).
15.	 <p style="text-align: center;"><u>Intermediate 15</u></p>	2-(3-Fluorophenoxy)-3'-methylbiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.25 (s, 3H), 5.39 (br s, 2H), 6.23 (s, 1H), 6.51 (d, <i>J</i> = 7.8 Hz, 1H), 6.70 (d, <i>J</i> = 8.1 Hz, 2H), 6.82 (t, <i>J</i> = 7.5 Hz, 1H), 6.99 (br s, 1H), 7.14-7.20 (m, 4H), 7.27-7.33 (m, 1H); APCI-MS ( <i>m/z</i> ) 294 (M+H) <sup>+</sup> .
16.	 <p style="text-align: center;"><u>Intermediate 16</u></p>	2-(3-Chlorophenoxy)-3'-methylbiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.25 (s, 3H), 5.40 (br s, 2H), 6.21 (s, 1H), 6.50 (d, <i>J</i> = 7.8 Hz, 1H), 6.84 (d, <i>J</i> = 9.3 Hz, 1H), 6.89 (s, 1H), 6.99 (br s, 1H), 7.05 (d, <i>J</i> = 7.8 Hz, 1H), 7.13-7.20 (m, 4H), 7.30 (t, <i>J</i> = 8.4 Hz, 1H); APCI-MS ( <i>m/z</i> ) 309 (M) <sup>+</sup> .
17.		3'-Methyl-2-[3-(trifluoromethyl)phenoxy]biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.23 (s, 3H), 5.42 (s,

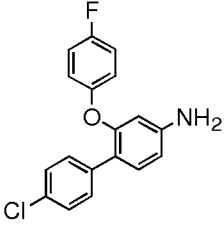
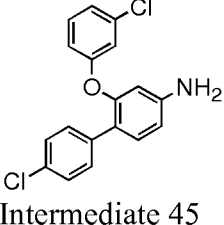
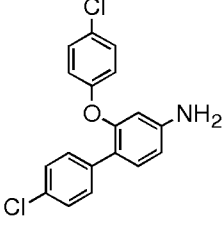
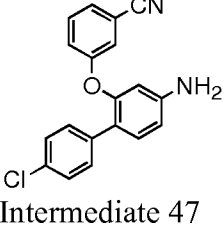
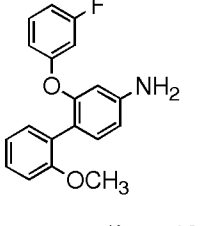
Sr. No.	Structure	Chemical name and Analytical data
	<u>Intermediate 17</u>	2H), 6.24 (s, 1H), 6.52 (d, $J = 6.3$ Hz, 1H), 6.96 (d, $J = 7.8$ Hz, 1H), 7.13-7.18 (m, 6H), 7.33 (d, $J = 6.6$ Hz, 1H), 7.50 (t, $J = 8.7$ Hz, 1H); APCI-MS ( $m/z$ ) 344 ( $M+H$ ) <sup>+</sup> .
18.	 <u>Intermediate 18</u>	3'-Methyl-2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.23 (s, 1H), 5.42 (s, 2H), 6.26 (s, 1H), 6.52 (d, $J = 8.1$ Hz, 1H), 6.79 (br s, 1H), 6.87 (d, $J = 8.1$ Hz, 1H), 6.98 (br s, 2H), 7.13-7.18 (m, 3H), 7.38 (t, $J = 7.8$ Hz, 1H).
19.	 <u>Intermediate 19</u>	2'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.45 (s, 2H), 6.23 (br s, 1H), 6.47 (dd, $J = 1.8, 6.0$ Hz, 1H), 6.55-6.61 (m, 1H), 6.69-6.73 (m, 2H), 6.82-6.88 (m, 1H), 7.05 (d, $J = 7.8$ Hz, 1H), 7.10-7.19 (m, 2H), 7.21-7.35 (m, 2H); APCI-MS ( $m/z$ ) 298 ( $M+H$ ) <sup>+</sup> .
20.	 <u>Intermediate 20</u>	3'-Fluoro-2-(3-methylphenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.55 (s, 3H), 5.42 (s, 2H), 6.13 (s, 1H), 6.44 (d, $J = 8.7$ Hz, 1H), 6.73 (d, $J = 8.4$ Hz, 1H), 6.77 (s, 1H), 6.87 (d, $J = 7.8$ Hz, 1H), 7.00 (t, $J = 8.7$ Hz, 1H), 7.17-7.24 (m, 3H), 7.29-7.34 (m, 2H); APCI-MS ( $m/z$ ) 294 ( $M+H$ ) <sup>+</sup> .
21.	 <u>Intermediate 21</u>	3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.50 (s, 2H), 6.21 (s, 1H), 6.50 (d, $J = 6.3$ Hz, 1H), 6.75 (t, $J = 6.9$ Hz, 2H), 6.80-6.87 (m, 1H), 6.95-7.07 (m, 2H), 7.14-7.30 (m, 3H), 7.41-7.47 (m, 1H); APCI-MS ( $m/z$ ) 298 ( $M+H$ ) <sup>+</sup> .

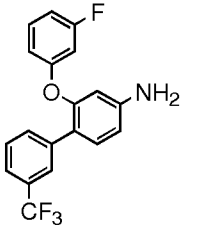
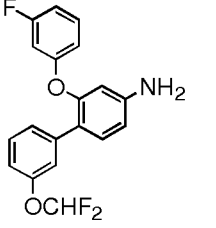
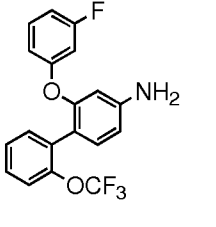
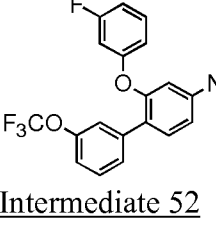
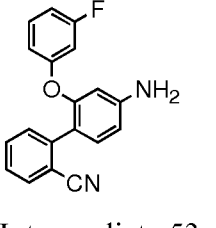
Sr. No.	Structure	Chemical name and Analytical data
22.	 <p style="text-align: center;"><u>Intermediate 22</u></p>	3'-Fluoro-2-(4-fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.43 (s, 2H), 6.08 (s, 1H), 6.40 (d, <i>J</i> = 6.3 Hz, 1H), 6.95-7.07 (m, 3H), 7.09-7.35 (m, 6H); APCI-MS ( <i>m/z</i> ) 298 (M+H) <sup>+</sup> .
23.	 <p style="text-align: center;"><u>Intermediate 23</u></p>	2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.52 (s, 2H), 6.21 (s, 1H), 6.50 (d, <i>J</i> = 6.6 Hz, 1H), 6.89 (d, <i>J</i> = 6.6 Hz, 1H), 6.93-7.03 (m, 2H), 7.09 (d, <i>J</i> = 6.6 Hz, 1H) 7.15-7.37 (m, 5H); ESI-MS ( <i>m/z</i> ) 314 (M+H) <sup>+</sup> .
24.	 <p style="text-align: center;"><u>Intermediate 24</u></p>	2-(4-Chlorophenoxy)-3'-fluorobiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.48 (s, 2H), 6.16 (s, 1H), 6.48 (d, <i>J</i> = 6.3 Hz, 1H), 6.87-7.05 (m, 3H), 7.15-7.40 (m, 6H).
25.	 <p style="text-align: center;"><u>Intermediate 25</u></p>	3'-Fluoro-2-(3-methoxyphenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 3.70 (s, 3H), 5.44 (s, 2H), 6.17 (s, 1H), 6.45-6.50 (m, 3H), 6.63 (d, <i>J</i> = 9.6 Hz, 1H), 7.00 (t, <i>J</i> = 8.7 Hz, 1H), 7.17-7.24 (m, 3H), 7.28-7.34 (m, 2H); APCI-MS ( <i>m/z</i> ) 310 (M+H) <sup>+</sup> .
26.	 <p style="text-align: center;"><u>Intermediate 26</u></p>	3'-Fluoro-2-[3-(trifluoromethyl)phenoxy]biphenyl-4-amine ; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.53 (br s, 2H), 6.23 (s, 1H), 6.52 (d, <i>J</i> = 8.7 Hz, 1H), 6.94-7.01 (m, 1H), 7.19-7.28 (m, 5H), 7.32 (d, <i>J</i> = 7.2 Hz, 1H), 7.37 (d, <i>J</i> = 8.7 Hz, 1H), 7.50-7.56 (m, 1H); APCI-MS ( <i>m/z</i> ) 348 (M+H) <sup>+</sup> .

Sr. No.	Structure	Chemical name and Analytical data
27.	 <p data-bbox="379 488 580 517"><u>Intermediate 27</u></p>	<p data-bbox="627 257 1350 344">3'-Fluoro- 2-[3-(trifluoromethoxy)phenoxy] biphenyl-4-amine;</p> <p data-bbox="627 367 1350 622"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.52 (br s, 2H), 6.25 (s, 1H), 6.52 (d, <i>J</i> = 8.4 Hz, 1H), 6.85 (s, 1H), 6.89-6.96 (m, 2H), 6.99 (d, <i>J</i> = 7.8 Hz, 1H), 7.20-7.26 (m, 3H), 7.27-7.35 (m, 1H), 7.40 (t, <i>J</i> = 8.4 Hz, 1H); APCI-MS (<i>m/z</i>) 364 (M+H)<sup>+</sup>.</p>
28.	 <p data-bbox="379 880 580 909"><u>Intermediate 28</u></p>	<p data-bbox="627 649 1350 678">3-[(4-Amino-3'-fluorobiphenyl-2-yl)oxy]benzonitrile;</p> <p data-bbox="627 701 1350 902"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.53 (s, 2H), 6.19 (s, 1H), 6.52 (d, <i>J</i> = 8.4 Hz, 1H), 7.02 (t, <i>J</i> = 8.7 Hz, 1H), 7.14-7.37 (m, 5H), 7.39 (s, 1H), 7.42-7.56 (m, 2H); APCI-MS (<i>m/z</i>) 305 (M+H)<sup>+</sup>.</p>
29.	 <p data-bbox="379 1164 580 1193"><u>Intermediate 29</u></p>	<p data-bbox="627 934 1350 963">4'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-amine;</p> <p data-bbox="627 985 1350 1187"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.43 (s, 2H), 6.23 (s, 1H), 6.50 (d, <i>J</i> = 6.6 Hz, 1H), 6.65-6.75 (m, 2H), 6.85 (t, <i>J</i> = 6.3 Hz, 1H), 7.06-7.20 (m, 3H), 7.25-7.45 (m, 3H); APCI-MS (<i>m/z</i>) 298 (M+H)<sup>+</sup>.</p>
30.	 <p data-bbox="379 1449 580 1478"><u>Intermediate 30</u></p>	<p data-bbox="627 1218 1350 1247">4'-Fluoro-2-(4-fluorophenoxy)biphenyl-4-amine;</p> <p data-bbox="627 1270 1350 1471"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.37 (s, 2H), 6.10 (s, 1H), 6.43 (d, <i>J</i> = 6.6 Hz, 1H), 6.93-7.01 (m, 2H), 7.05-7.20 (m, 5H), 7.43 (t, <i>J</i> = 6.6 Hz, 2H); APCI-MS (<i>m/z</i>) 298 (M+H)<sup>+</sup>.</p>
31.	 <p data-bbox="379 1780 580 1809"><u>Intermediate 31</u></p>	<p data-bbox="627 1550 1350 1579">2-(3-Chlorophenoxy)-4'-fluorobiphenyl-4-amine;</p> <p data-bbox="627 1601 1350 1856"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.43 (s, 2H), 6.21 (s, 1H), 6.50 (d, <i>J</i> = 6.6 Hz, 1H), 6.86 (d, <i>J</i> = 6.6 Hz, 1H), 6.92 (s, 1H), 7.15-7.40 (m, 4H), 7.31 (t, <i>J</i> = 6.3 Hz, 1H), 7.33 (t, <i>J</i> = 6.3 Hz, 2H); APCI-MS (<i>m/z</i>) 314 (M+H)<sup>+</sup>.</p>

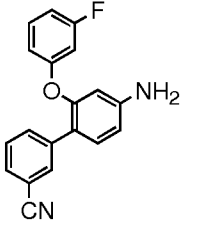
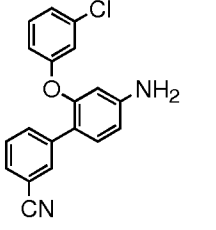
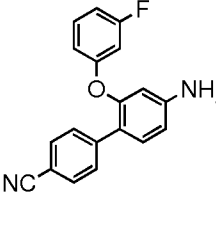
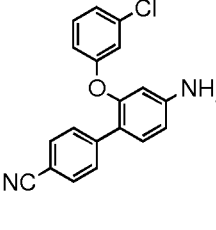
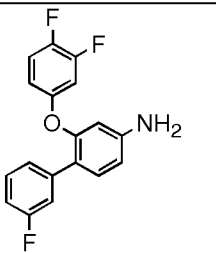
Sr. No.	Structure	Chemical name and Analytical data
32.	 <p><u>Intermediate 32</u></p>	2-(4-Chlorophenoxy)-4'-fluorobiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.40 (s, 2H), 6.17 (s, 1H), 6.49 (d, <i>J</i> = 6.3 Hz, 1H), 6.93 (d, <i>J</i> = 6.9 Hz, 2H), 7.06-7.16 (m, 3H), 7.25-7.45 (m, 4H); APCI-MS ( <i>m/z</i> ) 314 (M+H) <sup>+</sup> .
33.	 <p><u>Intermediate 33</u></p>	3-[(4-Amino-4'-fluorobiphenyl-2-yl)oxy]benzonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.45 (s, 2H), 6.21 (s, 1H), 6.52 (d, <i>J</i> = 8.4 Hz, 1H), 7.08-7.17 (m, 4H), 7.19-7.23 (m, 1H), 7.38-7.43 (m, 2H), 7.47 (br s, 2H); APCI-MS ( <i>m/z</i> ) 305 (M+H) <sup>+</sup> .
34.	 <p><u>Intermediate 34</u></p>	2'-Chloro-2-(3-Fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.16 (s, 3H), 5.48 (s, 2H), 6.09 (s, 1H), 6.23 (s, 1H), 6.46 (d, <i>J</i> = 8.7 Hz, 1H), 6.76-6.84 (m, 2H), 6.91 (t, <i>J</i> = 8.4 Hz, 1H), 7.28 (d, <i>J</i> = 9.0 Hz, 1H), 7.32-7.39 (m, 1H), 7.70 (s, 1H); APCI-MS ( <i>m/z</i> ) 314 (M+H) <sup>+</sup> .
35.	 <p><u>Intermediate 35</u></p>	3'-Chloro-2-(2-fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.19 (s, 2H), 6.57-6.66 (m, 3H), 6.81 (d, <i>J</i> = 8.7 Hz, 1H), 6.94-7.05 (m, 2H), 7.14-7.20 (m, 1H), 7.30-7.37 (m, 3H), 7.45 (s, 1H); ESI-MS ( <i>m/z</i> ) 314 (M+H) <sup>+</sup> .
36.	 <p><u>Intermediate 36</u></p>	3'-Chloro-2-(3-fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.51 (s, 2H), 6.22 (s, 1H), 6.50 (d, <i>J</i> = 6.3 Hz, 1H), 6.78 (t, <i>J</i> = 6.9 Hz, 2H), 6.80-6.89 (m, 1H), 7.21 (t, <i>J</i> = 6.9 Hz, 2H), 7.27-7.40 (m, 2H), 7.43 (s, 2H); APCI-MS ( <i>m/z</i> ) 314 (M+H) <sup>+</sup> .
37.	 <p><u>Intermediate 37</u></p>	3'-Chloro-2-(4-fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.46 (s, 2H), 6.09 (s, 1H), 6.43 (d, <i>J</i> = 6.3 Hz, 1H), 6.92-7.04 (m, 2H), 7.10-7.40 (m, 5H), 7.46 (s, 2H); APCI-MS ( <i>m/z</i> ) 314 (M+H) <sup>+</sup> .

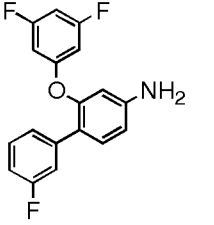
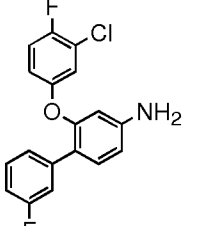
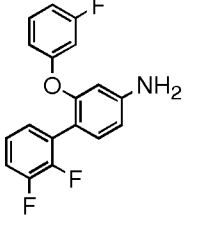
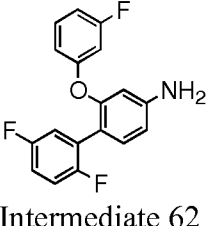
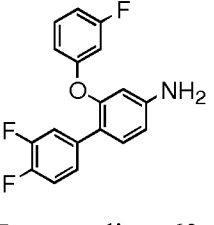
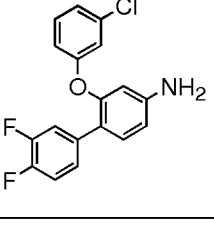
Sr. No.	Structure	Chemical name and Analytical data
38.	 <p style="text-align: center;"><u>Intermediate 38</u></p>	3'-Chloro-2-(2-chlorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.49 (s, 2H), 6.03 (s, 1H), 6.45 (d, $J = 6.6$ Hz, 1H), 6.96 (d, $J = 6.6$ Hz, 1H), 7.14 (t, $J = 6.6$ Hz, 1H), 7.19-7.40 (m, 5H), 7.45 (d, $J = 7.5$ Hz, 1H), 7.53 (d, $J = 7.5$ Hz, 1H); APCI-MS ( $m/z$ ) 330 ( $\text{M}+\text{H}$ ) $^+$ .
39.	 <p style="text-align: center;"><u>Intermediate 39</u></p>	3'-Chloro-2-(3-chlorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.52 (s, 2H), 6.20 (s, 1H), 6.50 (d, $J = 6.3$ Hz, 1H), 6.88 (d, $J = 6.3$ Hz, 1H), 6.96 (s, 1H), 7.10 (d, $J = 6.6$ Hz, 1H), 7.19 (t, $J = 6.6$ Hz, 2H), 7.25-7.37 (m, 3H), 7.43 (s, 1H); APCI-MS ( $m/z$ ) 330.37 ( $\text{M}+\text{H}$ ) $^+$ .
40.	 <p style="text-align: center;"><u>Intermediate 40</u></p>	3'-Chloro-2-(4-chlorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.49 (s, 2H), 6.16 (s, 1H), 6.48 (d, $J = 6.6$ Hz, 1H), 6.93 (d, $J = 6.6$ Hz, 2H), 7.14-7.22 (m, 2H), 7.28-7.38 (m, 4H), 7.43 (s, 1H); APCI-MS ( $m/z$ ) 330 ( $\text{M}+\text{H}$ ) $^+$ .
41.	 <p style="text-align: center;"><u>Intermediate 41</u></p>	2-[(4-Amino-3'-chlorobiphenyl-2-yl)oxy]benzonitrile; ESI-MS ( $m/z$ ) 321 ( $\text{M}+\text{H}$ ) $^+$ .
42.	 <p style="text-align: center;"><u>Intermediate 42</u></p>	3-[(4-Amino-3'-chlorobiphenyl-2-yl)oxy]benzonitrile; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.54 (s, 2H), 6.19 (s, 1H), 6.52 (d, $J = 7.8$ Hz, 1H), 7.22 (br s, 3H), 7.31-7.42 (m, 4H), 7.49 (br s, 2H); APCI-MS ( $m/z$ ) 321 ( $\text{M}+\text{H}$ ) $^+$ .
43.		4'-Chloro-2-(3-fluorophenoxy)biphenyl-4-amine; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.48 (s, 2H), 6.22 (s, 1H), 6.50 (d, $J = 6.3$ Hz, 1H), 6.64-7.76 (m, 2H), 6.83

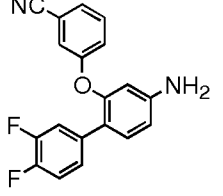
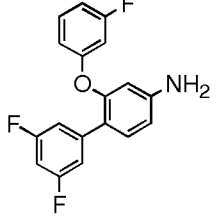
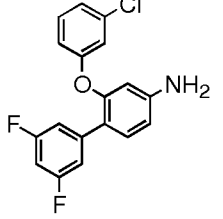
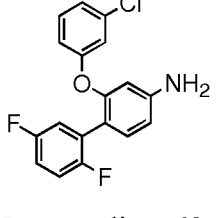
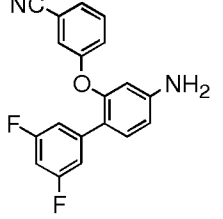
Sr. No.	Structure	Chemical name and Analytical data
	<u>Intermediate 43</u>	(t, $J = 6.3$ Hz, 1H), 7.17 (d, $J = 6.3$ Hz, 1H), 7.28-7.50 (m, 5H); APCI-MS ( $m/z$ ) 314 (M+H) <sup>+</sup> .
44.	 <u>Intermediate 44</u>	4'-Chloro-2-(4-fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.42 (s, 2H), 6.10 (s, 1H), 6.44 (d, $J = 6.6$ Hz, 1H), 6.91-67.02 (m, 2H), 7.09-7.21 (m, 3H), 7.36 (d, $J = 6.6$ Hz, 2H), 7.45 (d, $J = 6.6$ Hz, 2H); APCI-MS ( $m/z$ ) 314 (M+H) <sup>+</sup> .
45.	 <u>Intermediate 45</u>	4'-Chloro-2-(3-chlorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.49 (s, 2H), 6.21 (s, 1H), 6.50 (d, $J = 6.6$ Hz, 1H), 6.86 (d, $J = 6.6$ Hz, 1H), 6.93 (s, 1H), 7.08 (d, $J = 6.6$ Hz, 1H), 7.17 (d, $J = 6.6$ Hz, 1H), 7.25-7.37 (m, 3H), 7.42 (d, $J = 6.6$ Hz, 2H); APCI-MS ( $m/z$ ) 330 (M) <sup>+</sup> .
46.	 <u>Intermediate 46</u>	4'-Chloro-2-(4-chlorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.44 (s, 2H), 6.17 (s, 1H), 6.49 (d, $J = 6.6$ Hz, 1H), 6.93 (d, $J = 6.6$ Hz, 1H), 7.10-7.17 (m, 2H), 7.36 (d, $J = 6.6$ Hz, 1H), 7.44 (t, $J = 6.6$ Hz, 1H), 7.55 (d, $J = 6.6$ Hz, 1H), 7.60-7.75 (m, 1H), 7.81 (d, $J = 6.9$ Hz, 1H), 8.10 (d, $J = 6.9$ Hz, 1H); APCI-MS ( $m/z$ ) 330 (M+H) <sup>+</sup> .
47.	 <u>Intermediate 47</u>	3-[(4-Amino-4'-chlorobiphenyl-2-yl)oxy]benzonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.50 (s, 2H), 6.20 (s, 1H), 6.52 (d, $J = 8.4$ Hz, 1H), 7.18 (d, $J = 8.7$ Hz, 1H), 7.30-7.36 (m, 3H), 7.39-7.44 (m, 3H), 7.48 (br s, 2H); APCI-MS ( $m/z$ ) 319 (M-H) <sup>+</sup> .
48.	 <u>Intermediate 48</u>	2-(3-Fluorophenoxy)-2'-methoxybiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 3.56 (s, 3H), 5.28 (br s, 2H), 6.20 (s, 1H), 6.43 (d, $J = 7.8$ Hz, 1H), 6.64-6.72 (m, 2H), 6.81-6.86 (m, 2H), 6.91-6.96 (m, 2H), 7.08 (d, $J = 7.8$ Hz, 1H), 7.16-7.21 (m, 1H), 7.26-7.32 (m, 1H); APCI-MS ( $m/z$ ) 310 (M+H) <sup>+</sup> .

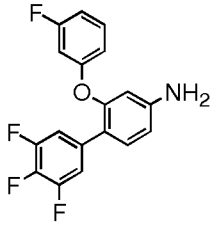
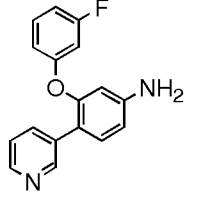
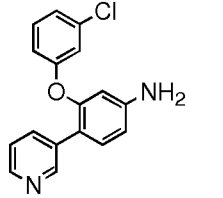
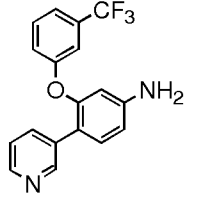
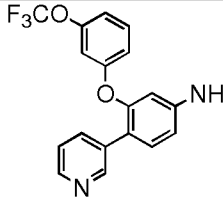
Sr. No.	Structure	Chemical name and Analytical data
49.	 <p><u>Intermediate 49</u></p>	2-(3-Fluorophenoxy)-3'-(trifluoromethyl)biphenyl-4-amine <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.54 (s, 2H), 6.26 (s, 1H), 6.54 (br s, 1H), 6.73 (br s, 2H), 6.85 (br s, 1H), 7.23-7.31 (m, 2H), 7.52 (s, 2H), 7.70 (s, 2H); APCI-MS ( <i>m/z</i> ) 348 (M+H) <sup>+</sup> .
50.	 <p><u>Intermediate 50</u></p>	3'-(difluoromethoxy)-2-(3-fluorophenoxy)biphenyl-4-amine <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.49 (s, 2H), 6.23 (s, 1H), 6.51 (d, <i>J</i> = 9.3 Hz, 1H), 6.70-6.76 (m, 2H), 6.86 (d, <i>J</i> = 7.2 Hz, 1H), 6.93-6.99 (m, 1H), 7.19 (t, <i>J</i> = 73.8 Hz, 1H), 7.17-7.25 (m, 2H), 7.27-7.34 (m, 3H); APCI-MS ( <i>m/z</i> ) 346 (M+H) <sup>+</sup> .
51.	 <p><u>Intermediate 51</u></p>	2-(3-Fluorophenoxy)-2'-(trifluoromethoxy)biphenyl-4-amine <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.45 (s, 2H), 6.21 (s, 1H), 6.46 (d, <i>J</i> = 8.1 Hz, 1H), 6.70 (t, <i>J</i> = 8.1 Hz, 2H), 6.86 (t, <i>J</i> = 8.1 Hz, 1H), 7.01 (d, <i>J</i> = 8.4 Hz, 1H), 7.28-7.35 (m, 5H); APCI-MS ( <i>m/z</i> ) 364 (M+H) <sup>+</sup> .
52.	 <p><u>Intermediate 52</u></p>	2-(3-Fluorophenoxy)-3'-(trifluoromethoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.53 (br s, 2H), 6.24 (s, 1H), 6.52 (d, <i>J</i> = 8.4 Hz, 1H), 6.71-6.76 (m, 2H), 6.85 (t, <i>J</i> = 7.8 Hz, 1H), 7.16 (br s, 1H), 7.22 (d, <i>J</i> = 8.4 Hz, 1H), 7.28-7.34 (m, 2H), 7.43 (br s, 2H); APCI-MS ( <i>m/z</i> ) 364 (M+H) <sup>+</sup> .
53.	 <p><u>Intermediate 53</u></p>	4'-Amino-2'-(3-fluorophenoxy)biphenyl-2-carbonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 3.56 (s, 3H), 5.28 (br s, 2H), 6.20 (s, 1H), 6.43 (d, <i>J</i> = 7.8 Hz, 1H), 6.64-6.72 (m, 2H), 6.81-6.86 (m, 2H), 6.91-6.96 (m, 2H), 7.08 (d, <i>J</i> = 7.8 Hz, 1H), 7.16-7.21 (m, 1H), 7.26-7.32 (m, 1H); APCI-MS ( <i>m/z</i> ) 310 (M+H) <sup>+</sup> .

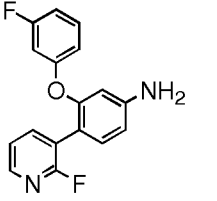
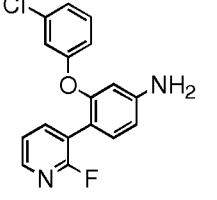
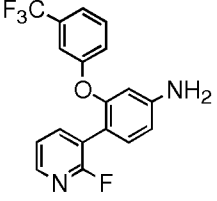
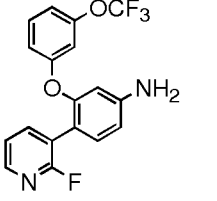
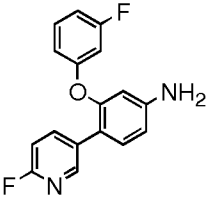


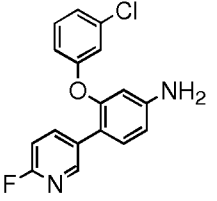
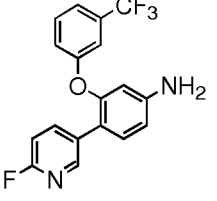
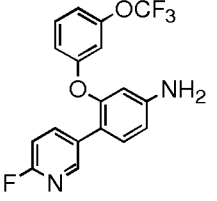
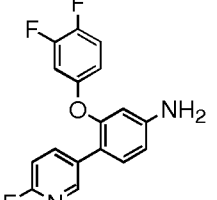
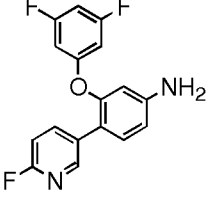
Sr. No.	Structure	Chemical name and Analytical data
54.	 <p style="text-align: center;"><u>Intermediate 54</u></p>	4'-Amino-2'-(3-fluorophenoxy)biphenyl-3-carbonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.57 (s, 2H), 6.21 (s, 1H), 6.51 (d, <i>J</i> = 8.4 Hz, 1H), 6.75-6.82 (m, 2H), 6.88-6.91 (m, 1H), 7.23 (d, <i>J</i> = 8.1 Hz, 1H), 7.30-7.35 (m, 1H), 7.50 (t, <i>J</i> = 7.8 Hz, 1H), 7.63 (d, <i>J</i> = 7.8 Hz, 1H), 7.75 (d, <i>J</i> = 8.4 Hz, 1H), 7.82 (s, 1H); ESI-MS ( <i>m/z</i> ) 305 (M+H) <sup>+</sup> .
55.	 <p style="text-align: center;"><u>Intermediate 55</u></p>	4'-Amino-2'-(3-chlorophenoxy)biphenyl-3-carbonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.57 (s, 2H), 6.19 (s, 1H), 6.50 (d, <i>J</i> = 7.8 Hz, 1H), 6.82-6.92 (m, 3H), 7.23 (d, <i>J</i> = 8.4 Hz, 1H), 7.28-7.36 (m, 2H), 7.50 (t, <i>J</i> = 7.8 Hz, 1H), 7.64 (t, <i>J</i> = 7.8 Hz, 1H), 7.82 (s, 1H); APCI-MS ( <i>m/z</i> ) 321 (M+H) <sup>+</sup> .
56.	 <p style="text-align: center;"><u>Intermediate 56</u></p>	4'-Amino-2'-(3-fluorophenoxy)biphenyl-4-carbonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.63 (s, 2H), 6.21 (s, 1H), 6.51 (d, <i>J</i> = 6.6 Hz, 1H), 6.75-6.79 (m, 1H), 6.82-6.89 (m, 1H), 7.24 (d, <i>J</i> = 8.4 Hz, 1H), 7.33-7.37 (m, 1H), 7.62 (d, <i>J</i> = 8.1 Hz, 2H), 7.75 (d, <i>J</i> = 8.7 Hz, 2H), 7.98 (s, 1H); APCI-MS ( <i>m/z</i> ) 305 (M+H) <sup>+</sup> .
57.	 <p style="text-align: center;"><u>Intermediate 57</u></p>	4'-Amino-2'-(3-chlorophenoxy)biphenyl-4-carbonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.63 (s, 2H), 6.20 (s, 1H), 6.46 (d, <i>J</i> = 9.3 Hz, 1H), 6.91 (d, <i>J</i> = 8.1 Hz, 1H), 7.00 (s, 1H), 7.11 (d, <i>J</i> = 7.8 Hz, 1H), 7.25 (d, <i>J</i> = 8.4 Hz, 1H), 7.34 (t, <i>J</i> = 7.8 Hz, 1H), 7.62 (t, <i>J</i> = 9.0 Hz, 2H), 7.75 (t, <i>J</i> = 9.0 Hz, 2H); APCI-MS ( <i>m/z</i> ) 321 (M+H) <sup>+</sup> .
58.	 <p style="text-align: center;"><u>Intermediate 58</u></p>	2-(3,4-Difluorophenoxy)-3'-fluorobiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.49 (br s, 2H), 6.16 (s, 1H), 6.48 (d, <i>J</i> = 8.4 Hz, 1H), 6.78 (br s, 1H), 7.01 (t, <i>J</i> = 8.7 Hz, 1H), 7.06-7.11 (m, 1H), 7.19 (d, <i>J</i> = 8.4 Hz, 2H), 7.25 (t, <i>J</i> = 8.1 Hz, 1H), 7.30-7.40 (m, 2H); APCI-MS ( <i>m/z</i> ) 316 (M+H) <sup>+</sup> .

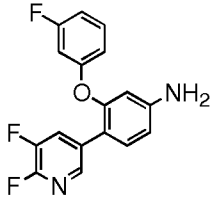
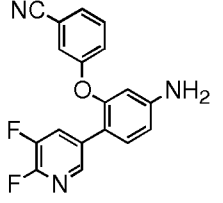
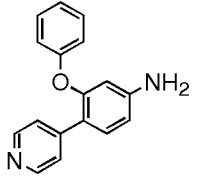
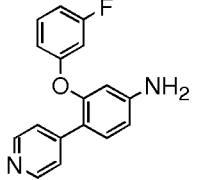
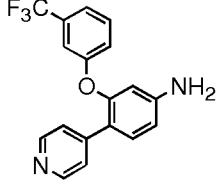
Sr. No.	Structure	Chemical name and Analytical data
59.	 <p data-bbox="379 501 580 533"><u>Intermediate 59</u></p>	<p data-bbox="628 259 1347 291">2-(3,5-Difluorophenoxy)-3'-fluorobiphenyl-4-amine;</p> <p data-bbox="628 315 1347 517"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.55 (br s, 2H), 6.27 (s, 1H), 6.55 (d, <i>J</i> = 6.3 Hz, 1H), 6.62 (d, <i>J</i> = 6.9 Hz, 1H), 6.72 (d, <i>J</i> = 7.8 Hz, 1H), 6.85-6.91 (m, 1H), 6.98-7.03 (m, 1H), 7.17-7.25 (m, 3H), 7.28-7.34 (m, 1H).</p>
60.	 <p data-bbox="379 808 580 840"><u>Intermediate 60</u></p>	<p data-bbox="628 566 1347 642">2-(3-Chloro-4-fluorophenoxy)-3'-fluorobiphenyl-4-amine;</p> <p data-bbox="628 667 1347 869"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.48 (s, 2H), 6.15 (s, 1H), 6.48 (d, <i>J</i> = 8.7 Hz, 1H), 6.95-7.01 (m, 2H), 7.19 (d, <i>J</i> = 8.4 Hz, 2H), 7.25 (d, <i>J</i> = 7.2 Hz, 2H), 7.32-7.40 (m, 2H); APCI-MS (<i>m/z</i>) 332 (M+H)<sup>+</sup>.</p>
61.	 <p data-bbox="379 1144 580 1176"><u>Intermediate 61</u></p>	<p data-bbox="628 902 1347 934">2',3'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-amine;</p> <p data-bbox="628 958 1347 1160"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.53 (s, 2H), 6.22 (s, 1H), 6.48 (d, <i>J</i> = 8.7 Hz, 1H), 6.74 (d, <i>J</i> = 8.4 Hz, 2H), 6.88 (br s, 1H), 7.08 (d, <i>J</i> = 8.4 Hz, 1H), 7.14 (br s, 2H), 7.29-7.35 (m, 2H); APCI-MS (<i>m/z</i>) 316 (M+H)<sup>+</sup>.</p>
62.	 <p data-bbox="379 1424 580 1456"><u>Intermediate 62</u></p>	<p data-bbox="628 1182 1347 1214">2',5'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-amine;</p> <p data-bbox="628 1238 1347 1440"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.51 (s, 2H), 6.20 (s, 1H), 6.47 (d, <i>J</i> = 6.3 Hz, 1H), 6.74 (d, <i>J</i> = 7.8 Hz, 2H), 7.07 (d, <i>J</i> = 8.1 Hz, 1H), 7.15-7.20 (m, 4H), 7.30-7.37 (m, 1H); APCI-MS (<i>m/z</i>) 316 (M+H)<sup>+</sup>.</p>
63.	 <p data-bbox="379 1704 580 1736"><u>Intermediate 63</u></p>	<p data-bbox="628 1462 1347 1494">3',4'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-amine;</p> <p data-bbox="628 1518 1347 1765"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.50 (br s, 2H), 6.21 (s, 1H), 6.49 (d, <i>J</i> = 6.9 Hz, 1H), 6.73-6.85 (m, 2H), 6.87-6.96 (m, 1H), 7.19 (d, <i>J</i> = 8.4 Hz, 1H), 7.24-7.30 (m, 1H), 7.33-7.42 (m, 3H); APCI-MS (<i>m/z</i>) 316 (M+H)<sup>+</sup>.</p>
64.		<p data-bbox="628 1816 1347 1848">2-(3-Chlorophenoxy)-3',4'-difluorobiphenyl-4-amine;</p> <p data-bbox="628 1872 1347 2024"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.51 (br s, 2H), 6.20 (s, 1H), 6.50 (d, <i>J</i> = 8.1 Hz, 1H), 6.89 (d, <i>J</i> = 9.0 Hz, 1H), 6.97 (s, 1H), 7.10 (d, <i>J</i> = 8.7 Hz, 1H), 7.22 (d, <i>J</i> =</p>

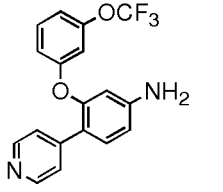
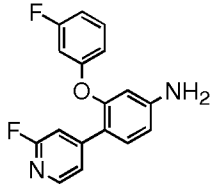
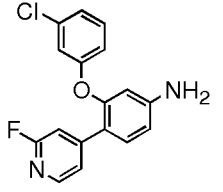
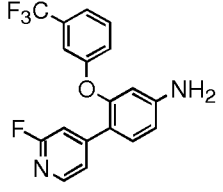
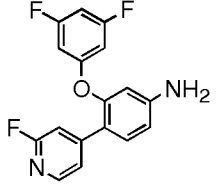
Sr. No.	Structure	Chemical name and Analytical data
	<u>Intermediate 64</u>	8.4 Hz, 1H), 7.23-7.29 (m, 1H), 7.33 (t, $J = 8.4$ Hz, 1H), 7.39-7.48 (m, 2H); APCI-MS ( $m/z$ ) 332 (M+H) <sup>+</sup> .
65.	 <u>Intermediate 65</u>	3-[(4-Amino-3',4'-difluorobiphenyl-2-yl)oxy]benzonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) $\delta$ 5.58 (br s, 2H), 6.18 (s, 1H), 6.51 (d, $J = 9.9$ Hz, 1H), 7.18-7.25 (m, 2H), 7.33-7.40 (m, 1H), 7.46-7.54 (m, 2H), 7.55-7.61 (m, 3H); APCI-MS ( $m/z$ ) 323 (M+H) <sup>+</sup> .
66.	 <u>Intermediate 66</u>	3',5'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) $\delta$ 5.58 (br s, 2H), 6.20 (s, 1H), 6.49 (d, $J = 8.7$ Hz, 1H), 6.75-6.83 (m, 2H), 6.89 (t, $J = 8.7$ Hz, 1H), 7.02 (t, $J = 8.7$ Hz, 1H), 7.12 (d, $J = 7.5$ Hz, 2H), 7.25 (d, $J = 8.4$ Hz, 1H), 7.32 (q, $J = 7.8$ Hz, 1H); APCI-MS ( $m/z$ ) 316 (M+H) <sup>+</sup> .
67.	 <u>Intermediate 67</u>	2-(3-Chlorophenoxy)-3',5'-difluorobiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) $\delta$ 5.59 (br s, 2H), 6.19 (s, 1H), 6.50 (d, $J = 8.7$ Hz, 1H), 6.91 (d, $J = 8.7$ Hz, 1H), 7.00-7.06 (m, 3H), 7.12 (d, $J = 7.8$ Hz, 2H), 7.25 (d, $J = 8.4$ Hz, 1H), 7.32 (t, $J = 9.0$ Hz, 1H); APCI-MS ( $m/z$ ) 332 (M+H) <sup>+</sup> .
68.	 <u>Intermediate 68</u>	2-(3-Chlorophenoxy)-2',5'-difluorobiphenyl-4-amine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) $\delta$ 5.53 (s, 2H), 6.19 (s, 1H), 6.48 (d, $J = 8.4$ Hz, 1H), 6.90 (d, $J = 7.8$ Hz, 1H), 6.96 (s, 1H), 7.07-7.12 (m, 3H), 7.16-7.21 (m, 2H), 7.33 (t, $J = 8.4$ Hz, 1H); APCI-MS ( $m/z$ ) 332 (M+H) <sup>+</sup> .
69.	 <u>Intermediate 69</u>	3-[(4-Amino-3',5'-difluorobiphenyl-2-yl)oxy]benzonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) $\delta$ 5.60 (s, 2H), 6.18 (s, 1H), 6.51 (d, $J = 8.4$ Hz, 1H), 7.03 (s, 1H), 7.12 (d, $J = 7.8$ Hz, 2H), 7.26 (d, $J = 8.4$ Hz, 2H), 7.44 (s, 1H), 7.52 (s, 2H); APCI-MS ( $m/z$ ) 323 (M+H) <sup>+</sup> .

Sr. No.	Structure	Chemical name and Analytical data
70.	 <p>Intermediate 70</p>	<p>3',4',5'-Trifluoro-2-(3-fluorophenoxy)biphenyl-4-amine;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.75 (s, 2H), 6.39 (s, 1H), 6.45-6.51 (m, 1H), 6.81 (d, <i>J</i> = 7.8 Hz, 1H), 6.94-7.00 (m, 2H), 7.31 (t, <i>J</i> = 8.7 Hz, 1H), 7.36-7.42 (m, 3H); APCI-MS (<i>m/z</i>) 335 (M+H)<sup>+</sup>.</p>
71.	 <p>Intermediate 71</p>	<p>3-(3-Fluorophenoxy)-4-(pyridin-3-yl)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.53 (s, 2H), 6.24 (s, 1H), 6.53 (d, <i>J</i> = 8.1 Hz, 1H), 6.74-6.80 (m, 2H), 6.87 (t, <i>J</i> = 8.7 Hz, 1H), 7.22 (d, <i>J</i> = 8.4 Hz, 1H), 7.30-7.37 (m, 2H), 7.79 (d, <i>J</i> = 7.8 Hz, 1H), 8.37 (br s, 1H), 8.61 (s, 1H); APCI-MS (<i>m/z</i>) 281 (M+H)<sup>+</sup>.</p>
72.	 <p>Intermediate 72</p>	<p>3-(3-Chlorophenoxy)-4-(pyridin-3-yl)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.54 (br s, 2H), 6.23 (s, 1H), 6.53 (d, <i>J</i> = 7.8 Hz, 1H), 6.89 (d, <i>J</i> = 8.1 Hz, 1H), 6.98 (s, 1H), 7.09 (d, <i>J</i> = 8.1 Hz, 1H), 7.23 (d, <i>J</i> = 8.1 Hz, 1H), 7.29-7.31 (m, 2H), 7.80 (d, <i>J</i> = 8.1 Hz, 1H), 8.38 (br s, 1H), 8.61 (s, 1H); APCI-MS (<i>m/z</i>) 297 (M+H)<sup>+</sup>.</p>
73.	 <p>Intermediate 73</p>	<p>4-(Pyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.56 (br s, 2H), 6.24 (s, 1H), 6.54 (d, <i>J</i> = 6.9 Hz, 1H), 7.21-7.27 (m, 3H), 7.29-7.33 (m, 1H), 7.38 (d, <i>J</i> = 6.9 Hz, 1H), 7.54 (t, <i>J</i> = 8.1 Hz, 1H), 7.80 (t, <i>J</i> = 7.2 Hz, 1H), 8.36 (br s, 1H), 8.60 (s, 1H); APCI-MS (<i>m/z</i>) 331 (M+H)<sup>+</sup>.</p>
74.	 <p>Intermediate 74</p>	<p>4-(Pyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 6.30 (br s, 2H), 6.61 (d, <i>J</i> = 8.7 Hz, 1H), 6.79 (br s, 1H), 6.89 (d, <i>J</i> = 8.1 Hz, 1H), 6.94 (d, <i>J</i> = 8.4 Hz, 1H), 7.25-7.33 (m, 4H), 7.59 (br s, 1H), 8.22 (br s, 1H), 8.51 (br s, 1H), 8.81 (s, 1H); APCI-MS (<i>m/z</i>) 347 (M+H)<sup>+</sup>.</p>

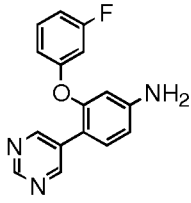
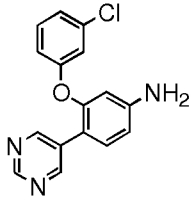
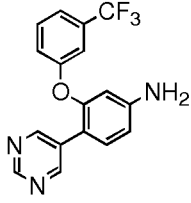
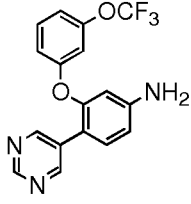
Sr. No.	Structure	Chemical name and Analytical data
75.	 <p><u>Intermediate 75</u></p>	3-(3-Fluorophenoxy)-4-(2-fluoropyridin-3-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.59 (br s, 2H), 6.37 (s, 1H), 6.41-6.47 (m, 1H), 6.89-6.94 (m, 2H), 6.98-7.04 (m, 1H), 7.15 (t, <i>J</i> = 8.7 Hz, 1H), 7.19-7.25 (m, 1H), 7.40 (q, <i>J</i> = 6.6 Hz, 1H), 7.78 (d, <i>J</i> = 7.5 Hz, 1H), 8.10 (br s, 1H); APCI-MS ( <i>m/z</i> ) 299 (M+H) <sup>+</sup> .
76.	 <p><u>Intermediate 76</u></p>	3-(3-Chlorophenoxy)-4-(2-fluoropyridin-3-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.60 (br s, 2H), 6.37 (s, 1H), 6.42-6.47 (m, 1H), 7.04 (d, <i>J</i> = 7.8 Hz, 1H), 7.13-7.25 (m, 4H), 7.40 (t, <i>J</i> = 9.0 Hz, 1H), 7.78 (d, <i>J</i> = 6.7 Hz, 1H), 8.09 (s, 1H); APCI-MS ( <i>m/z</i> ) 315 (M+H) <sup>+</sup> .
77.	 <p><u>Intermediate 77</u></p>	2-Fluoro-3-{2-[3-(trifluoromethyl)phenoxy]phenyl}pyridine; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.60 (br s, 2H), 6.37 (s, 1H), 6.42-6.48 (m, 1H), 7.17 (d, <i>J</i> = 8.1 Hz, 1H), 7.20-7.26 (m, 1H), 7.37-7.41 (m, 2H), 7.54 (d, <i>J</i> = 7.8 Hz, 1H), 7.62 (t, <i>J</i> = 7.2 Hz, 1H), 7.80 (d, <i>J</i> = 7.8 Hz, 1H), 8.08 (br s, 1H); APCI-MS ( <i>m/z</i> ) 349 (M+H) <sup>+</sup> .
78.	 <p><u>Intermediate 78</u></p>	4-(2-Fluoropyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.59 (br s, 2H), 6.40-6.46 (m, 2H), 7.11 (d, <i>J</i> = 9.9 Hz, 2H), 7.16-7.23 (m, 3H), 7.50 (s, 1H), 7.79 (d, <i>J</i> = 6.9 Hz, 1H), 8.09 (s, 1H); APCI-MS ( <i>m/z</i> ) 365 (M+H) <sup>+</sup> .
79.	 <p><u>Intermediate 79</u></p>	3-(3-Fluorophenoxy)-4-(6-fluoropyridin-3-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.62 (br s, 2H), 6.40-6.49 (m, 2H), 7.00 (d, <i>J</i> = 7.8 Hz, 1H), 7.02-7.11 (m, 3H), 7.19 (t, <i>J</i> = 9.3 Hz, 1H), 7.42-7.48 (m, 1H), 7.92 (d, <i>J</i> = 8.1 Hz, 1H), 8.22 (s, 1H); APCI-MS ( <i>m/z</i> ) 299 (M+H) <sup>+</sup> .

Sr. No.	Structure	Chemical name and Analytical data
80.	 <p><u>Intermediate 80</u></p>	3-(3-Chlorophenoxy)-4-(6-fluoropyridin-3-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.62 (br s, 2H), 6.40-6.48 (m, 2H), 7.11 (d, <i>J</i> = 9.3 Hz, 1H), 7.16-7.22 (m, 2H), 7.30 (br s, 2H), 7.45 (t, <i>J</i> = 7.8 Hz, 1H), 7.92 (d, <i>J</i> = 8.4 Hz, 1H), 8.21 (s, 1H); APCI-MS ( <i>m/z</i> ) 315 (M+H) <sup>+</sup> .
81.	 <p><u>Intermediate 81</u></p>	4-(6-Fluoropyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy] aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.62 (br s, 2H), 6.40-6.48 (m, 2H), 7.11 (d, <i>J</i> = 9.3 Hz, 1H), 7.16-7.22 (m, 2H), 7.30 (br s, 2H), 7.45 (t, <i>J</i> = 7.8 Hz, 1H), 7.92 (d, <i>J</i> = 8.4 Hz, 1H), 8.21 (s, 1H); APCI-MS ( <i>m/z</i> ) 315 (M+H) <sup>+</sup> .
82.	 <p><u>Intermediate 82</u></p>	4-(6-Fluoropyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy] aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.62 (s, 2H), 6.40-6.79 (m, 2H), 7.13 (d, <i>J</i> = 8.7 Hz, 1H), 7.17-7.23 (m, 5H), 7.55 (d, <i>J</i> = 8.4 Hz, 1H), 7.94 (t, <i>J</i> = 7.5 Hz, 1H), 8.22 (br s, 1H); ESI-MS ( <i>m/z</i> ) 365 (M+H) <sup>+</sup> .
83.	 <p><u>Intermediate 83</u></p>	3-(3,4-Difluorophenoxy)-4-(6-fluoropyridin-3-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.61 (s, 2H), 6.40-6.48 (m, 2H), 7.02-7.06 (m, 1H), 7.10 (d, <i>J</i> = 8.7 Hz, 1H), 7.19 (d, <i>J</i> = 8.1 Hz, 1H), 7.36 (br s, 1H), 7.45 (t, <i>J</i> = 9.3 Hz, 1H), 7.91 (d, <i>J</i> = 7.8 Hz, 1H), 8.20 (s, 1H); APCI-MS ( <i>m/z</i> ) 317 (M+H) <sup>+</sup> .
84.	 <p><u>Intermediate 84</u></p>	3-(3,5-Difluorophenoxy)-4-(6-fluoropyridin-3-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.63 (s, 2H), 6.41-6.50 (m, 2H), 7.00 (d, <i>J</i> = 8.4 Hz, 2H), 7.10-7.17 (m, 2H), 7.22 (d, <i>J</i> = 8.4 Hz, 1H), 7.95 (t, <i>J</i> = 8.4 Hz, 1H), 8.25 (s, 1H); APCI-MS ( <i>m/z</i> ) 317 (M+H) <sup>+</sup> .

Sr. No.	Structure	Chemical name and Analytical data
85.	 <p><u>Intermediate 85</u></p>	<p>4-(5,6-Difluoropyridin-3-yl)-3-(3-fluorophenoxy)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.69 (s, 2H), 6.39-6.47 (m, 2H), 7.02-7.10 (m, 2H), 7.15 (d, <i>J</i> = 10.2 Hz, 1H), 7.23 (t, <i>J</i> = 8.7 Hz, 1H), 7.45 (q, <i>J</i> = 7.2 Hz, 1H), 7.94 (d, <i>J</i> = 11.7 Hz, 1H), 8.04 (s, 1H); APCI-MS (<i>m/z</i>) 317 (M+H)<sup>+</sup>.</p>
86.	 <p><u>Intermediate 86</u></p>	<p>3-[5-Amino-2-(5,6-difluoropyridin-3-yl)phenoxy]benzonitrile;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.71 (br s, 2H), 6.40 (s, 1H), 6.47 (d, <i>J</i> = 9.3 Hz, 1H), 7.25 (t, <i>J</i> = 8.1 Hz, 1H), 7.61-7.67 (m, 2H), 7.72 (d, <i>J</i> = 7.5 Hz, 1H), 7.82 (s, 1H), 7.98 (d, <i>J</i> = 11.8 Hz, 1H), 8.05 (s, 1H); APCI-MS (<i>m/z</i>) 324 (M+H)<sup>+</sup>.</p>
87.	 <p><u>Intermediate 87</u></p>	<p>3-Phenoxy-4-(pyridin-4-yl) aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.61 (s, 2H), 6.14 (s, 1H), 6.47 (d, <i>J</i> = 8.4 Hz, 1H), 6.97 (d, <i>J</i> = 9.0 Hz, 2H), 7.07 (t, <i>J</i> = 6.3 Hz, 1H), 7.23-7.35 (m, 3H), 7.49 (d, <i>J</i> = 5.7 Hz, 2H), 8.44 (d, <i>J</i> = 5.7 Hz, 2H); APCI-MS (<i>m/z</i>) 263 (M+H)<sup>+</sup>.</p>
88.	 <p><u>Intermediate 88</u></p>	<p>3-(3-Fluorophenoxy)-4-(pyridin-4-yl)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.36 (s, 2H), 6.11 (s, 1H), 6.44 (d, <i>J</i> = 6.9 Hz, 1H), 6.90-6.99 (m, 2H), 7.09-7.16 (m, 4H), 7.32 (d, <i>J</i> = 8.7 Hz, 2H), 7.42 (d, <i>J</i> = 8.7 Hz, 2H); APCI-MS (<i>m/z</i>) 281 (M+H)<sup>+</sup>.</p>
89.	 <p><u>Intermediate 89</u></p>	<p>4-(Pyridin-4-yl)-3-[3-(trifluoromethyl)phenoxy]aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.68 (s, 2H), 6.22 (s, 1H), 6.54 (d, <i>J</i> = 8.4 Hz, 1H), 7.20-7.26 (m, 2H), 7.32 (d, <i>J</i> = 8.4 Hz, 2H), 7.42-7.48 (m, 2H), 7.55 (t, <i>J</i> = 7.8 Hz, 1H), 8.43 (br s, 2H); APCI-MS (<i>m/z</i>) 332 (M+H)<sup>+</sup>.</p>

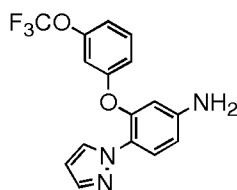
Sr. No.	Structure	Chemical name and Analytical data
90.	 <p data-bbox="375 459 598 504"><u>Intermediate 90</u></p>	<p data-bbox="630 257 1348 347">4-(Pyridin-4-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline;</p> <p data-bbox="630 358 1348 571"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.67 (s, 2H), 6.24 (s, 1H), 6.54 (d, <i>J</i> = 7.2 Hz, 1H), 6.90-6.96 (m, 2H), 7.03 (d, <i>J</i> = 8.4 Hz, 1H), 7.30 (d, <i>J</i> = 7.8 Hz, 1H), 7.43 (br s, 3H), 8.43 (br s, 2H); APCI-MS (<i>m/z</i>) 347 (M+H)<sup>+</sup>.</p>
91.	 <p data-bbox="375 795 598 840"><u>Intermediate 91</u></p>	<p data-bbox="630 593 1348 638">3-(3-Fluorophenoxy)-4-(2-fluoropyridin-4-yl)aniline;</p> <p data-bbox="630 649 1348 907"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.75 (br s, 2H), 6.20 (s, 1H), 6.51 (d, <i>J</i> = 8.7 Hz, 1H), 6.78-6.84 (m, 2H), 6.86-6.92 (m, 1H), 7.19 (s, 1H), 7.37 (d, <i>J</i> = 7.8 Hz, 2H), 7.73 (br s, 1H), 8.11 (d, <i>J</i> = 6.0 Hz, 1H); APCI-MS (<i>m/z</i>) 299 (M+H)<sup>+</sup>.</p>
92.	 <p data-bbox="375 1131 598 1176"><u>Intermediate 92</u></p>	<p data-bbox="630 929 1348 974">3-(3-Chlorophenoxy)-4-(2-fluoropyridin-4-yl)aniline;</p> <p data-bbox="630 985 1348 1243"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.75 (br s, 2H), 6.19 (s, 1H), 6.51 (d, <i>J</i> = 8.1 Hz, 1H), 6.95 (d, <i>J</i> = 7.8 Hz, 1H), 7.06 (s, 1H), 7.15 (d, <i>J</i> = 7.8 Hz, 1H), 7.20 (s, 1H), 7.34-7.39 (m, 2H), 7.44 (br s, 1H), 8.11 (d, <i>J</i> = 5.4 Hz, 1H); APCI-MS (<i>m/z</i>) 316 (M+H)<sup>+</sup>.</p>
93.	 <p data-bbox="375 1467 598 1512"><u>Intermediate 93</u></p>	<p data-bbox="630 1265 1348 1355">4-(2-Fluoropyridin-4-yl)-3-[3-(trifluoromethyl)phenoxy] aniline;</p> <p data-bbox="630 1366 1348 1635"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.77 (br s, 2H), 6.19 (s, 1H), 6.53 (d, <i>J</i> = 6.3 Hz, 1H), 7.21 (s, 1H), 7.27 (d, <i>J</i> = 9.0 Hz, 1H), 7.31 (s, 1H), 7.38 (d, <i>J</i> = 8.4 Hz, 1H), 7.45 (br s, 2H), 7.58 (t, <i>J</i> = 8.1 Hz, 1H), 8.10 (d, <i>J</i> = 5.7 Hz, 1H); APCI-MS (<i>m/z</i>) 349 (M+H)<sup>+</sup>.</p>
94.	 <p data-bbox="375 1859 598 1904"><u>Intermediate 94</u></p>	<p data-bbox="630 1657 1348 1747">3-(3,5-Difluorophenoxy)-4-(2-fluoropyridin-4-yl)aniline;</p> <p data-bbox="630 1758 1348 1971"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.78 (br s, 2H), 6.26 (s, 1H), 6.55 (d, <i>J</i> = 7.8 Hz, 1H), 6.72 (d, <i>J</i> = 8.4 Hz, 2H), 6.95 (t, <i>J</i> = 8.1 Hz, 1H), 7.17 (s, 1H), 7.36-7.45 (m, 2H), 8.11 (br s, 1H); APCI-MS (<i>m/z</i>) 317 (M+H)<sup>+</sup>.</p>



Sr. No.	Structure	Chemical name and Analytical data
95.	 <u>Intermediate 95</u>	3-(3-Fluorophenoxy)-4-(pyrimidin-5-yl)aniline; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.56 (br s, 2H), 6.24 (s, 1H), 6.54 (d, $J = 6.9$ Hz, 1H), 7.21-7.27 (m, 3H), 7.29-7.33 (m, 1H), 7.38 (d, $J = 6.9$ Hz, 1H), 7.54 (t, $J = 8.1$ Hz, 1H), 7.80 (t, $J = 7.2$ Hz, 1H), 8.36 (br s, 1H), 8.60 (s, 1H); APCI-MS ( $m/z$ ) 331 ( $\text{M}+\text{H}$ ) <sup>+</sup> .
96.	 <u>Intermediate 96</u>	3-(3-Chlorophenoxy)-4-(pyrimidin-5-yl)aniline; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.65 (br s, 2H), 6.22 (s, 1H), 6.54 (d, $J = 6.9$ Hz, 1H), 6.94 (d, $J = 8.7$ Hz, 1H), 7.06 (s, 1H), 7.13 (d, $J = 8.4$ Hz, 1H), 7.28-7.38 (m, 2H), 8.86 (s, 2H), 8.98 (s, 1H); APCI-MS ( $m/z$ ) 298 ( $\text{M}+\text{H}$ ) <sup>+</sup> .
97.	 <u>Intermediate 97</u>	4-(Pyrimidin-5-yl)-3-[3-(trifluoromethyl)phenoxy]aniline; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.56 (s, 2H), 6.21 (s, 1H), 6.55 (d, $J = 8.7$ Hz, 1H), 7.26-7.31 (m, 3H), 7.43 (d, $J = 7.8$ Hz, 1H), 7.55 (d, $J = 8.7$ Hz, 1H), 8.87 (s, 2H), 8.98 (s, 1H); APCI-MS ( $m/z$ ) 332 ( $\text{M}+\text{H}$ ) <sup>+</sup> .
98.	 <u>Intermediate 98</u>	4-(Pyrimidin-5-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline; $^1\text{H NMR}$ (300 MHz, $\text{DMSO-}d_6$ ) $\delta$ 5.66 (s, 2H), 6.25 (s, 1H), 6.55 (d, $J = 8.7$ Hz, 1H), 6.96-7.01 (m, 2H), 7.05 (d, $J = 7.8$ Hz, 1H), 7.31 (d, $J = 8.7$ Hz, 1H), 7.44 (t, $J = 8.4$ Hz, 1H), 8.84 (s, 2H), 8.97 (s, 1H); APCI-MS ( $m/z$ ) 348 ( $\text{M}+\text{H}$ ) <sup>+</sup> .

## Intermediate 99

4-(1H-Pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline



Step 1: 1-(2-Fluoro-4-nitrophenyl)-1H-pyrazole:

To a well stirred solution of 1,2-difluoro-4-nitrobenzene (8 ml, 73.443 mmol) in DMF (25 ml) was added pyrazole (5 g, 73.443 mmol) followed by potassium carbonate (15 g, 110.16 mmol) and it was further stirred at 90 °C for 16 h. The reaction mixture was diluted with water (500 ml) and extracted with ethyl acetate (3 x 350 ml) and the combined organic layer was washed with water (2 x 200 ml) followed by brine (300 ml). The organic layer was dried over sodium sulphate and concentrated under reduced pressure to obtain crude residue. The residue obtained was purified by column chromatography to yield 12.5 g of the desired product as liquid. <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) δ 6.57 (s, 1H), 7.82 (s, 1H), 8.13-8.19 (m, 3H), 8.24-8.30 (m, 1H); APCI-MS (*m/z*) 208 (M+H)<sup>+</sup>.

Step 2: 1-{4-Nitro-2-[3-(trifluoromethoxy)phenoxy]phenyl}-1H-pyrazole:

To a well stirred solution of Step 1 intermediate (242 mg, 1.169 mmol) in DMF (5 ml) was added 3-(trifluoromethoxy)phenol (0.18 ml, 1.403 mmol) followed by cesium carbonate (1.14 g, 3.504 mmol) and the reaction mixture was further stirred at 110 °C overnight. The reaction mixture was diluted with water (50 ml) and extracted with ethyl acetate (3 x 50 ml) and the combined organic layer was washed with water (2 x 50 ml) followed by brine (25 ml). The organic layer was dried over sodium sulphate and concentrated under reduced pressure to obtain the crude residue. The obtained residue was purified by column chromatography to yield 410 mg of the desired product as liquid. <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) δ 6.48 (s, 1H), 6.94 (d, *J* = 6.9 Hz, 2H), 7.09 (d, *J* = 7.8 Hz, 1H), 7.42 (t, *J* = 8.1 Hz, 1H), 7.78 (s, 1H), 7.91 (s, 1H), 8.15 (d, *J* = 9.0 Hz, 1H), 8.22-8.28 (m, 2H); APCI-MS (*m/z*) 366 (M+H)<sup>+</sup>.

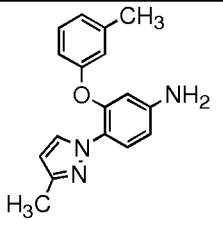
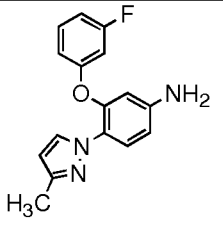
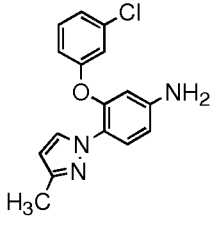
Step 3: 4-(1H-Pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline;

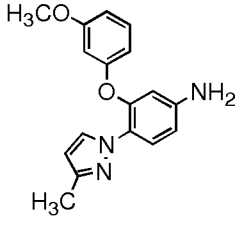
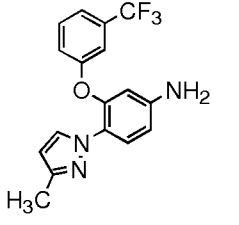
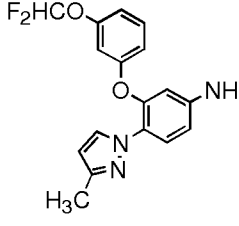
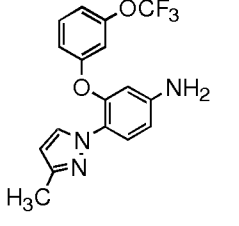
To a well stirred solution of Step 2 intermediate (400 mg, 1.095 mmol) in a mixture of methanol (10 ml) and water (10 ml) was added iron powder (367 mg, 6.575 mmol) and ammonium chloride (540 mg, 10.95 mmol) and the reaction was stirred at 80 °C for 3h. Excess of solvent was distilled out and the residue obtained was diluted with ethyl acetate (2 x 100 ml) and the combined organic layer was washed with water (50 ml) followed by brine (25 ml). The organic layer was dried over sodium sulphate and concentrated under reduced pressure to obtain crude residue. The obtained residue was purified by column chromatography to yield 300 mg of the desired product as liquid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 3.87 (br s, 2H), 6.30 (s, 1H), 6.50 (s, 1H),

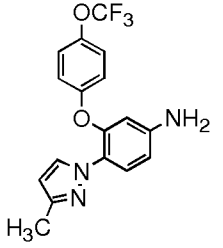
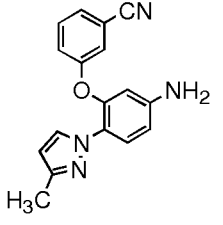
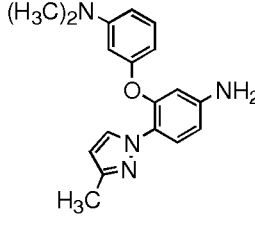
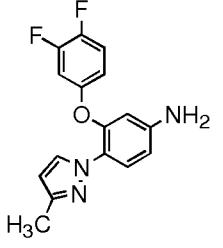
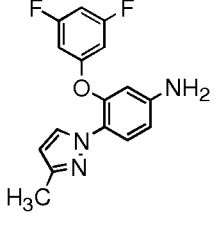
6.71 (d,  $J = 8.7$  Hz, 1H), 6.79-6.84 (m, 2H), 6.89 (d,  $J = 7.8$  Hz, 1H), 7.21-7.27 (m, 1H), 7.54-7.60 (m, 2H), 7.76 (s, 1H); APCI-MS ( $m/z$ ) 336 (M+H)<sup>+</sup>.

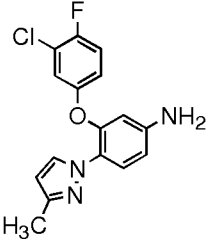
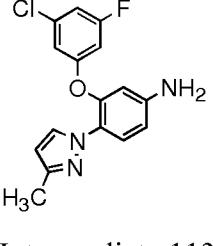
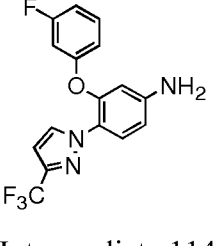
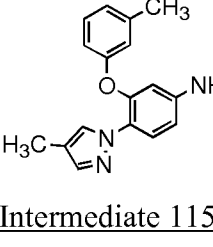
Intermediates 100-140 were synthesized by first coupling of of 1,2-difluoro-4-nitrobenzene with respective pyrazole, imidazole or triazole compound followed by second coupling with respective phenol compound and then reduction of nitro group as described in Intermediate 100. The structural formulas, chemical names and Analytical data of Intermediates 100-140 are provided in table 2.

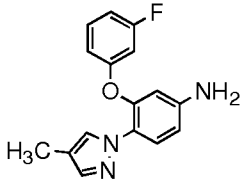
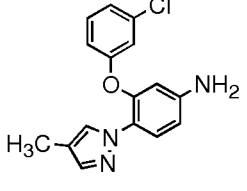
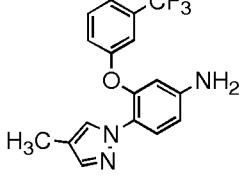
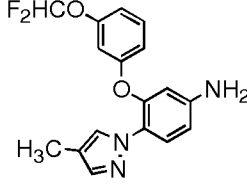
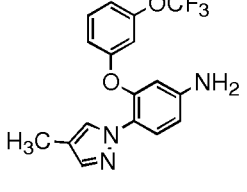
Table 2: Structure, chemical name and Analytical data of Intermediates 100 - 140.

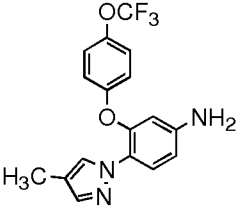
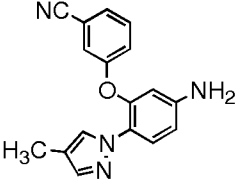
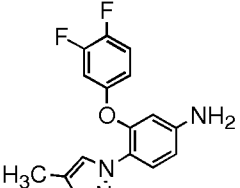
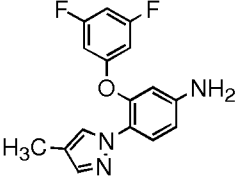
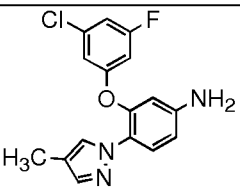
Sr. No.	Structure	Chemical name and Analytical data
100.	 Intermediate 100	3-(3-Methylphenoxy)-4-(3-methyl-1 <i>H</i> -pyrazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.18 (s, 3H), 2.26 (s, 3H), 5.39 (br s, 2H), 6.10 (s, 1H), 6.15 (s, 1H), 6.40 (d, $J = 8.7$ Hz, 1H), 6.74-6.80 (m, 2H), 6.90 (d, $J = 7.2$ Hz, 1H), 7.19-7.27 (m, 2H), 7.72 (s, 1H); APCI-MS ( $m/z$ ) 280 (M+H) <sup>+</sup> .
101.	 Intermediate 101	3-(3-Fluorophenoxy)-4-(3-methyl-1 <i>H</i> -pyrazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.16 (s, 3H), 5.48 (s, 2H), 6.09 (s, 1H), 6.23 (s, 1H), 6.46 (d, $J = 8.7$ Hz, 1H), 6.76-6.84 (m, 2H), 6.91 (t, $J = 8.4$ Hz, 1H), 7.28 (d, $J = 9.0$ Hz, 1H), 7.32-7.39 (m, 1H), 7.70 (s, 1H); APCI-MS ( $m/z$ ) 284 (M+H) <sup>+</sup> .
102.	 Intermediate 102	3-(3-Chlorophenoxy)-4-(3-methyl-1 <i>H</i> -pyrazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.16 (s, 3H), 5.48 (br s, 2H), 6.09 (s, 1H), 6.23 (s, 1H), 6.46 (d, $J = 8.7$ Hz, 1H), 6.91 (d, $J = 8.4$ Hz, 1H), 7.01 (s, 1H), 7.13 (t, $J = 7.8$ Hz, 1H), 7.27 (d, $J = 8.7$ Hz, 1H), 7.34 (t, $J = 8.1$ Hz, 1H), 7.70 (s, 1H); APCI-MS ( $m/z$ ) 301 (M+H) <sup>+</sup> .

Sr. No.	Structure	Chemical name and Analytical data
103.	 <p data-bbox="375 492 614 526"><u>Intermediate 103</u></p>	<p data-bbox="651 257 1353 347">3-(3-Methoxyphenoxy)-4-(3-methyl-1<i>H</i>-pyrazol-1-yl)aniline;</p> <p data-bbox="651 369 1356 627"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.18 (s, 3H), 3.71 (s, 3H), 5.41 (br s, 2H), 6.10 (s, 1H), 6.18 (s, 1H), 6.41 (d, <i>J</i> = 8.7 Hz, 1H), 6.50-6.55 (m, 2H), 7.22-7.28 (m, 2H), 7.73 (d, <i>J</i> = 8.7 Hz, 1H), 8.13 (m, 1H); APCI-MS (<i>m/z</i>) 296 (M+H)<sup>+</sup>.</p>
104.	 <p data-bbox="375 884 614 918"><u>Intermediate 104</u></p>	<p data-bbox="651 649 1337 739">4-(3-Methyl-1<i>H</i>-pyrazol-1-yl)-3-[3-(trifluoromethyl)phenoxy]aniline;</p> <p data-bbox="651 761 1348 963"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.13 (s, 3H), 5.50 (br s, 2H), 6.06 (s, 1H), 6.25 (s, 1H), 6.48 (d, <i>J</i> = 8.7 Hz, 1H), 7.21-7.28 (m, 3H), 7.39-7.43 (m, 1H), 7.54 (br s, 1H), 7.71 (s, 1H); APCI-MS (<i>m/z</i>) 334 (M+H)<sup>+</sup>.</p>
105.	 <p data-bbox="375 1254 614 1288"><u>Intermediate 105</u></p>	<p data-bbox="651 985 1308 1075">3-[3-(Difluoromethoxy)phenoxy]-4-(3-methyl-1<i>H</i>-pyrazol-1-yl)aniline;</p> <p data-bbox="651 1097 1356 1411"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.16 (s, 3H), 5.47 (s, 2H), 6.09 (s, 1H), 6.23 (s, 1H), 6.45 (d, <i>J</i> = 9.0 Hz, 1H), 6.76-6.81 (m, 2H), 6.88 (d, <i>J</i> = 8.4 Hz, 1H), 7.23 (t, <i>J</i> = 73.8 Hz, 1H), 7.27 (d, <i>J</i> = 9.0 Hz, 1H), 7.36 (t, <i>J</i> = 7.8 Hz, 1H), 7.69 (s, 1H); APCI-MS (<i>m/z</i>) 332 (M+H)<sup>+</sup>.</p>
106.	 <p data-bbox="375 1668 614 1702"><u>Intermediate 106</u></p>	<p data-bbox="651 1433 1356 1523">4-(3-Methyl-1<i>H</i>-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline;</p> <p data-bbox="651 1545 1348 1792"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.14 (s, 3H), 5.50 (br s, 2H), 6.07 (s, 1H), 6.25 (s, 1H), 6.47 (d, <i>J</i> = 8.7 Hz, 1H), 6.91-6.97 (m, 2H), 7.06 (d, <i>J</i> = 7.2 Hz, 1H), 7.27 (d, <i>J</i> = 9.0 Hz, 1H), 7.43 (t, <i>J</i> = 8.7 Hz, 1H), 7.69 (s, 1H); APCI-MS (<i>m/z</i>) 350 (M+H)<sup>+</sup>.</p>

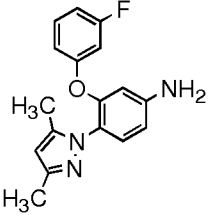
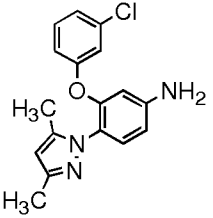
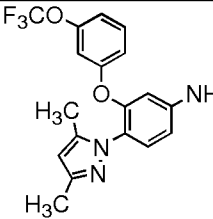
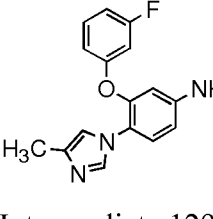
Sr. No.	Structure	Chemical name and Analytical data
107.	 <p><u>Intermediate 107</u></p>	<p>4-(3-Methyl-1<i>H</i>-pyrazol-1-yl)-3-[4-(trifluoromethoxy)phenoxy]aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.15 (s, 3H), 5.47 (s, 2H), 6.09 (s, 1H), 6.21 (s, 1H), 6.45 (d, <i>J</i> = 8.7 Hz, 1H), 7.05 (d, <i>J</i> = 9.3 Hz, 2H), 7.27 (d, <i>J</i> = 8.7 Hz, 1H), 7.33 (d, <i>J</i> = 9.0 Hz, 2H), 7.71 (s, 1H); APCI-MS (<i>m/z</i>) 350 (M+H)<sup>+</sup>.</p>
108.	 <p><u>Intermediate 108</u></p>	<p>3-[5-Amino-2-(3-methyl-1<i>H</i>-pyrazol-1-yl)phenoxy]benzonitrile;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.13 (s, 3H), 5.50 (s, 2H), 6.07 (s, 1H), 6.23 (s, 1H), 6.48 (d, <i>J</i> = 8.1 Hz, 1H), 7.23-7.28 (m, 2H), 7.35-7.42 (m, 1H), 7.48-7.53 (m, 2H), 7.70 (s, 1H); APCI-MS (<i>m/z</i>) 291 (M+H)<sup>+</sup>.</p>
109.	 <p><u>Intermediate 109</u></p>	<p>3-[5-Amino-2-(3-methyl-1<i>H</i>-pyrazol-1-yl)phenoxy]-<i>N,N</i>-dimethylaniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.32 (s, 3H), 2.93 (s, 6H), 6.49 (br s, 2H), 6.10 (s, 1H), 6.30 (s, 1H), 6.39 (d, <i>J</i> = 7.8 Hz, 1H), 6.45-6.50 (m, 2H), 6.56 (d, <i>J</i> = 7.8 Hz, 1H), 7.16 (t, <i>J</i> = 7.8 Hz, 1H), 7.50 (d, <i>J</i> = 8.4 Hz, 1H), 7.75 (s, 1H); APCI-MS (<i>m/z</i>) 309 (M+H)<sup>+</sup>.</p>
110.	 <p><u>Intermediate 110</u></p>	<p>3-(3,4-Difluorophenoxy)-4-(3-methyl-1<i>H</i>-pyrazol-1-yl)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.16 (s, 3H), 5.46 (s, 2H), 6.09 (s, 1H), 6.18 (s, 1H), 6.44 (d, <i>J</i> = 9.0 Hz, 1H), 6.78-6.81 (m, 1H), 7.10-7.17 (m, 1H), 7.25 (d, <i>J</i> = 8.7 Hz, 1H), 7.33-7.45 (m, 1H), 7.72 (s, 1H); APCI-MS (<i>m/z</i>) 302 (M+H)<sup>+</sup>.</p>
111.	 <p><u>Intermediate 111</u></p>	<p>3-(3,5-Difluorophenoxy)-4-(3-methyl-1<i>H</i>-pyrazol-1-yl)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.15 (s, 3H), 5.53 (s, 2H), 6.09 (s, 1H), 6.30 (s, 1H), 6.50 (d, <i>J</i> = 8.4 Hz, 1H), 6.66 (d, <i>J</i> = 7.5 Hz, 2H), 6.93 (d, <i>J</i> = 9.3 Hz, 1H),</p>

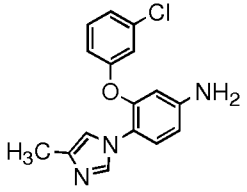
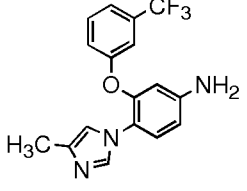
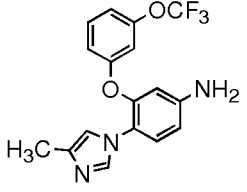
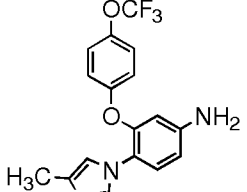
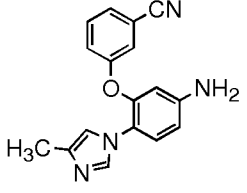
Sr. No.	Structure	Chemical name and Analytical data
	<u>Intermediate 111</u>	7.28 (d, $J = 8.1$ Hz, 1H), 7.69 (s, 1H); APCI-MS ( $m/z$ ) 302 (M+H) <sup>+</sup> .
112.	 <u>Intermediate 112</u>	3-(3-Chloro-4-fluorophenoxy)-4-(3-methyl-1H-pyrazol-1-yl) aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.16 (s, 3H), 5.46 (br s, 2H), 6.09 (s, 1H), 6.18 (s, 1H), 6.44 (d, $J = 8.1$ Hz, 1H), 6.99 (br s, 1H), 7.21-7.27 (m, 2H), 7.35 (t, $J = 8.7$ Hz, 1H), 7.74 (s, 1H); APCI-MS ( $m/z$ ) 318 (M+H) <sup>+</sup> .
113.	 <u>Intermediate 113</u>	3-(3-Chloro-5-fluorophenoxy)-4-(3-methyl-1H-pyrazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.14 (s, 3H), 5.53 (s, 2H), 6.09 (s, 1H), 6.29 (s, 1H), 6.50 (d, $J = 8.7$ Hz, 1H), 6.77-6.83 (m, 2H), 7.12 (d, $J = 8.7$ Hz, 1H), 7.27 (d, $J = 8.1$ Hz, 1H), 7.69 (s, 1H); APCI-MS ( $m/z$ ) 318 (M+H) <sup>+</sup> .
114.	 <u>Intermediate 114</u>	3-(3-Fluorophenoxy)-4-[3-(trifluoromethyl)-1H-pyrazol-1-yl]aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.68 (br s, 2H), 6.24 (s, 1H), 6.47 (d, $J = 8.1$ Hz, 1H), 6.79 (s, 2H), 6.83-6.94 (m, 2H), 7.28 (d, $J = 8.7$ Hz, 1H), 7.34 (q, $J = 7.8$ Hz, 1H), 8.08 (s, 1H); APCI-MS ( $m/z$ ) 338 (M+H) <sup>+</sup> .
115.	 <u>Intermediate 115</u>	3-(3-Methylphenoxy)-4-(4-methyl-1H-pyrazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.08 (s, 3H), 2.31 (s, 3H), 3.39 (br s, 2H), 6.31 (s, 1H), 6.56 (d, $J = 9.0$ Hz, 1H), 6.77-6.82 (m, 2H), 6.90 (d, $J = 6.9$ Hz, 1H), 7.18 (d, $J = 7.2$ Hz, 1H), 7.44 (s, 1H), 7.53 (d, $J = 8.1$ Hz, 1H), 7.65 (s, 1H); APCI-MS ( $m/z$ ) 280 (M+H) <sup>+</sup> .

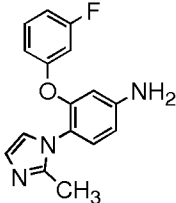
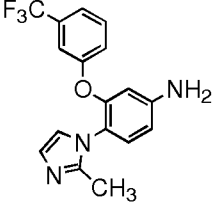
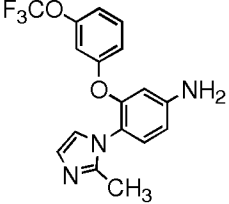
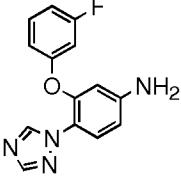
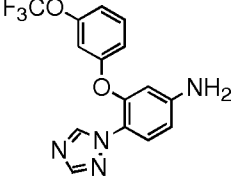
Sr. No.	Structure	Chemical name and Analytical data
116.	 <p><u>Intermediate 116</u></p>	<p>3-(3-Fluorophenoxy)-4-(4-methyl-1<i>H</i>-pyrazol-1-yl)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 1.98 (s, 3H), 5.47 (br s, 2H), 6.22 (s, 1H), 6.45 (d, <i>J</i> = 8.1 Hz, 1H), 6.77-6.84 (m, 2H), 6.92 (t, <i>J</i> = 8.4 Hz, 1H), 7.24 (d, <i>J</i> = 8.4 Hz, 1H), 7.33-7.38 (m, 2H), 7.62 (s, 1H); APCI-MS (<i>m/z</i>) 284 (M+H)<sup>+</sup>.</p>
117.	 <p><u>Intermediate 117</u></p>	<p>3-(3-Chlorophenoxy)-4-(4-methyl-1<i>H</i>-pyrazol-1-yl)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 1.98 (s, 3H), 5.48 (br s, 2H), 6.21 (s, 1H), 6.47 (br s, 1H), 6.93 (br s, 1H), 7.01 (s, 1H), 7.15 (br s, 1H), 7.24 (d, <i>J</i> = 9.3 Hz, 1H), 7.34 (br s, 2H), 7.62 (s, 1H); APCI-MS (<i>m/z</i>) 300 (M+H)<sup>+</sup>.</p>
118.	 <p><u>Intermediate 118</u></p>	<p>4-(4-Methyl-1<i>H</i>-pyrazol-1-yl)-3-[3-(trifluoromethyl)phenoxy]aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 1.96 (s, 3H), 5.50 (br s, 2H), 6.23 (s, 1H), 6.45 (br s, 1H), 7.01-7.07 (m, 1H), 7.24-7.31 (m, 3H), 7.43 (br s, 1H), 7.55 (br s, 1H), 7.63 (s, 1H); APCI-MS (<i>m/z</i>) 334 (M+H)<sup>+</sup>.</p>
119.	 <p><u>Intermediate 119</u></p>	<p>3-[3-(Difluoromethoxy)phenoxy]-4-(4-methyl-1<i>H</i>-pyrazol-1-yl)aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 1.99 (s, 3H), 5.47 (s, 2H), 6.22 (s, 1H), 6.45 (d, <i>J</i> = 8.7 Hz, 1H), 6.79-6.83 (m, 2H), 6.89 (d, <i>J</i> = 8.7 Hz, 1H), 7.24 (br s, 1H), 7.26 (t, <i>J</i> = 78.9 Hz, 1H), 7.34-7.40 (m, 2H), 7.62 (s, 1H); APCI-MS (<i>m/z</i>) 332 (M+H)<sup>+</sup>.</p>
120.	 <p><u>Intermediate 120</u></p>	<p>4-(4-Methyl-1<i>H</i>-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 1.97 (s, 3H), 5.51 (br s, 2H), 6.25 (s, 1H), 6.46 (d, <i>J</i> = 8.4 Hz, 1H), 6.92-6.97 (m, 2H), 7.06 (d, <i>J</i> = 8.4 Hz, 1H), 7.24 (d, <i>J</i> = 8.4</p>

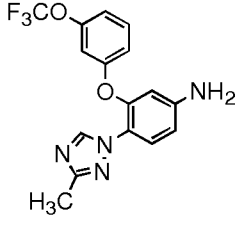
Sr. No.	Structure	Chemical name and Analytical data
		Hz, 1H), 7.32 (s, 1H), 7.43 (t, $J = 8.4$ Hz, 1H), 7.61 (s, 1H); APCI-MS ( $m/z$ ) 350 (M+H) <sup>+</sup> .
121.	 <p data-bbox="379 600 596 629"><u>Intermediate 121</u></p>	4-(4-Methyl-1H-pyrazol-1-yl)-3-[4-(trifluoromethoxy)phenoxy]aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.05 (s, 3H), 3.34 (br s, 2H), 6.37 (s, 1H), 6.61 (d, $J = 7.8$ Hz, 1H), 6.94 (d, $J = 8.7$ Hz, 2H), 7.11 (t, $J = 8.7$ Hz, 2H), 7.40 (s, 1H), 7.51 (d, $J = 8.7$ Hz, 1H), 7.54 (s, 2H); APCI-MS ( $m/z$ ) 350 (M+H) <sup>+</sup> .
122.	 <p data-bbox="379 969 596 999"><u>Intermediate 122</u></p>	3-[5-Amino-2-(4-methyl-1H-pyrazol-1-yl)phenoxy]benzonitrile; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 1.97 (s, 3H), 5.51 (br s, 2H), 6.21 (s, 1H), 6.59 (d, $J = 8.1$ Hz, 1H), 7.23-7.30 (m, 2H), 7.32 (s, 1H), 7.43 (s, 1H), 7.49-7.54 (m, 2H), 7.62 (s, 1H); APCI-MS ( $m/z$ ) 291 (M+H) <sup>+</sup> .
123.	 <p data-bbox="379 1305 596 1335"><u>Intermediate 123</u></p>	3-(3,4-Difluorophenoxy)-4-(4-methyl-1H-pyrazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.07 (s, 3H), 3.39 (br s, 2H), 6.38 (s, 1H), 6.64 (br s, 2H), 6.76-6.82 (m, 1H), 7.04 (q, $J = 9.0$ Hz, 1H), 7.42 (s, 1H), 7.49-7.53 (m, 2H); APCI-MS ( $m/z$ ) 302 (M+H) <sup>+</sup> .
124.	 <p data-bbox="379 1641 596 1671"><u>Intermediate 124</u></p>	3-(3,5-Difluorophenoxy)-4-(4-methyl-1H-pyrazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 1.98 (s, 3H), 5.53 (s, 2H), 6.28 (s, 1H), 6.50 (d, $J = 8.4$ Hz, 1H), 6.67 (d, $J = 9.0$ Hz, 2H), 6.94 (t, $J = 9.3$ Hz, 1H), 7.24 (d, $J = 8.1$ Hz, 1H), 7.33 (s, 1H), 7.60 (s, 1H); APCI-MS ( $m/z$ ) 302 (M+H) <sup>+</sup> .
125.		3-(3-Chloro-5-fluorophenoxy)-4-(4-methyl-1H-pyrazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 1.98 (s, 3H), 5.54 (s, 2H), 6.28 (s, 1H), 6.50 (d, $J = 8.4$ Hz, 1H), 6.81-



Sr. No.	Structure	Chemical name and Analytical data
	<u>Intermediate 125</u>	6.86 (m, 2H), 7.13 (d, $J = 8.4$ Hz, 1H), 7.25 (d, $J = 8.4$ Hz, 1H), 7.33 (s, 1H), 7.61 (s, 1H); APCI-MS ( $m/z$ ) 318 (M+H) <sup>+</sup> .
126.	 <u>Intermediate 126</u>	4-(3,5-Dimethyl-1 <i>H</i> -pyrazol-1-yl)-3-(3-fluorophenoxy) aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.04 (d, $J = 6.0$ Hz, 6H), 5.54 (br s, 2H), 5.82 (s, 1H), 6.21 (s, 1H), 6.42 (d, $J = 9.0$ Hz, 1H), 6.72-6.77 (m, 2H), 6.90 (t, $J = 8.4$ Hz, 1H), 7.01 (d, $J = 8.7$ Hz, 1H), 7.30-7.36 (m, 1H); APCI-MS ( $m/z$ ) 298 (M+H) <sup>+</sup> .
127.	 <u>Intermediate 127</u>	3-(3-Chlorophenoxy)-4-(3,5-dimethyl-1 <i>H</i> -pyrazol-1-yl) aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.03 (d, $J = 6.3$ Hz, 6H), 5.56 (br s, 2H), 5.81 (s, 1H), 6.21 (s, 1H), 6.42 (d, $J = 8.7$ Hz, 1H), 6.87 (d, $J = 8.1$ Hz, 1H), 6.92 (s, 1H), 7.01 (d, $J = 8.7$ Hz, 1H), 7.12 (d, $J = 8.4$ Hz, 1H), 7.31 (t, $J = 7.8$ Hz, 1H); APCI-MS ( $m/z$ ) 314 (M+H) <sup>+</sup> .
128.	 <u>Intermediate 128</u>	4-(3,5-Dimethyl-1 <i>H</i> -pyrazol-1-yl)-3-[3-(trifluoromethoxy) phenoxy]aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.01 (s, 6H), 5.57 (s, 2H), 5.79 (s, 1H), 6.26 (s, 1H), 6.44 (d, $J = 8.1$ Hz, 1H), 6.83 (s, 1H), 6.91 (d, $J = 8.1$ Hz, 1H), 7.02 (d, $J = 8.4$ Hz, 2H), 7.40 (t, $J = 8.7$ Hz, 1H).
129.	 <u>Intermediate 129</u>	3-(3-Fluorophenoxy)-4-(4-methyl-1 <i>H</i> -imidazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.06 (s, 3H), 5.52 (s, 2H), 6.22 (s, 1H), 6.43 (d, $J = 8.7$ Hz, 1H), 6.78-6.87 (m, 2H), 6.94 (br s, 2H), 7.11 (d, $J = 9.0$ Hz, 1H), 7.33-7.38 (m, 1H), 7.55 (s, 1H); ESI-MS ( $m/z$ ) 284 (M+H) <sup>+</sup> .

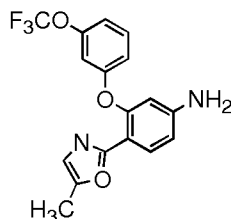
Sr. No.	Structure	Chemical name and Analytical data
130.	 <p data-bbox="375 459 598 504"><u>Intermediate 130</u></p>	<p data-bbox="646 257 1356 347">3-(3-Chlorophenoxy)-4-(4-methyl-1<i>H</i>-imidazol-1-yl)aniline;</p> <p data-bbox="646 358 1356 627"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.06 (s, 3H), 5.52 (br s, 2H), 6.21 (s, 1H), 6.44 (d, <i>J</i> = 6.3 Hz, 1H), 6.90-6.96 (m, 2H), 7.05 (s, 1H), 7.11 (d, <i>J</i> = 8.7 Hz, 1H), 7.14-7.19 (m, 1H), 7.36 (t, <i>J</i> = 8.1 Hz, 1H), 7.56 (s, 1H); APCI-MS (<i>m/z</i>) 300 (M+H)<sup>+</sup>.</p>
131.	 <p data-bbox="375 855 598 900"><u>Intermediate 131</u></p>	<p data-bbox="646 654 1356 743">4-(4-Methyl-1<i>H</i>-imidazol-1-yl)-3-[3-(trifluoromethyl)phenoxy]aniline;</p> <p data-bbox="646 754 1356 1023"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.04 (s, 3H), 5.54 (br s, 2H), 6.22 (s, 1H), 6.45 (d, <i>J</i> = 8.7 Hz, 1H), 6.95 (s, 1H), 7.13 (d, <i>J</i> = 9.0 Hz, 1H), 7.24-7.29 (m, 2H), 7.45 (t, <i>J</i> = 8.1 Hz, 1H), 7.54-7.60 (m, 2H); APCI-MS (<i>m/z</i>) 334 (M+H)<sup>+</sup>.</p>
132.	 <p data-bbox="375 1243 598 1288"><u>Intermediate 132</u></p>	<p data-bbox="646 1041 1356 1131">4-(4-Methyl-1<i>H</i>-imidazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline;</p> <p data-bbox="646 1142 1356 1355"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.04 (s, 3H), 5.54 (br s, 2H), 6.25 (br s, 1H), 6.46 (d, <i>J</i> = 8.4 Hz, 1H), 6.92-6.98 (m, 3H), 7.06-7.13 (m, 2H), 7.44 (t, <i>J</i> = 7.5 Hz, 1H), 7.53 (s, 1H); APCI-MS (<i>m/z</i>) 350 (M+H)<sup>+</sup>.</p>
133.	 <p data-bbox="375 1601 598 1646"><u>Intermediate 133</u></p>	<p data-bbox="646 1377 1356 1467">4-(4-Methyl-1<i>H</i>-imidazol-1-yl)-3-[4-(trifluoromethoxy)phenoxy]aniline;</p> <p data-bbox="646 1478 1356 1691"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.50 (s, 3H), 5.51 (s, 2H), 6.20 (s, 1H), 6.47 (s, 1H), 6.93 (s, 1H), 7.05-7.11 (m, 3H), 7.30-7.36 (m, 2H), 7.55 (s, 1H); APCI-MS (<i>m/z</i>) 350 (M+H)<sup>+</sup>.</p>
134.	 <p data-bbox="375 1915 598 1960"><u>Intermediate 134</u></p>	<p data-bbox="646 1713 1356 1803">3-[5-Amino-2-(4-methyl-1<i>H</i>-imidazol-1-yl)phenoxy]benzonitrile;</p> <p data-bbox="646 1814 1356 2027"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 2.05 (s, 3H), 5.53 (s, 2H), 6.22 (s, 1H), 6.46 (d, <i>J</i> = 7.8 Hz, 1H), 6.93 (s, 1H), 7.12 (d, <i>J</i> = 9.3 Hz, 1H), 7.30 (d, <i>J</i> = 7.2 Hz, 1H), 7.46 (s, 1H), 7.50-7.56 (m, 3H); APCI-MS (<i>m/z</i>) 291</p>

Sr. No.	Structure	Chemical name and Analytical data
		(M+H) <sup>+</sup> .
135.	 <p data-bbox="379 539 596 573"><u>Intermediate 135</u></p>	3-(3-Fluorophenoxy)-4-(2-methyl-1 <i>H</i> -imidazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.10 (s, 3H), 5.60 (s, 2H), 6.27 (s, 1H), 6.45 (d, <i>J</i> = 7.8 Hz, 1H), 6.72-6.79 (m, 3H), 6.91 (t, <i>J</i> = 8.7 Hz, 1H), 6.97 (s, 1H), 7.05 (d, <i>J</i> = 8.7 Hz, 1H), 7.29-7.37 (m, 1H); APCI-MS ( <i>m/z</i> ) 284 (M+H) <sup>+</sup> .
136.	 <p data-bbox="379 931 596 965"><u>Intermediate 136</u></p>	4-(2-Methyl-1 <i>H</i> -imidazol-1-yl)-3-[3-(trifluoromethyl)phenoxy]aniline; <sup>1</sup> H NMR (300 MHz, CDCl <sub>3</sub> ) δ 2.29 (s, 3H), 4.02 (br s, 2H), 6.34 (s, 1H), 6.54 (d, <i>J</i> = 8.4 Hz, 1H), 6.81 (s, 1H), 6.91 (s, 1H), 7.03-7.09 (m, 3H), 7.29-7.41 (m, 2H); APCI-MS ( <i>m/z</i> ) 334 (M+H) <sup>+</sup> .
137.	 <p data-bbox="379 1267 596 1301"><u>Intermediate 137</u></p>	4-(2-Methyl-1 <i>H</i> -imidazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline; <sup>1</sup> H NMR (300 MHz, CDCl <sub>3</sub> ) δ 2.09 (s, 3H), 5.63 (br s, 2H), 6.29 (s, 1H), 6.47 (d, <i>J</i> = 8.7 Hz, 1H), 6.72 (s, 1H), 6.86 (s, 1H), 6.90-6.96 (m, 2H), 7.05-7.10 (m, 2H), 7.42 (t, <i>J</i> = 8.7 Hz, 1H); APCI-MS ( <i>m/z</i> ) 350 (M+H) <sup>+</sup> .
138.	 <p data-bbox="379 1637 596 1671"><u>Intermediate 138</u></p>	3-(3-Fluorophenoxy)-4-(1 <i>H</i> -1,2,4-triazol-1-yl)aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.68 (s, 2H), 6.25 (s, 1H), 6.48 (d, <i>J</i> = 9.0 Hz, 1H), 6.80-6.89 (m, 2H), 6.95 (t, <i>J</i> = 8.4 Hz, 1H), 7.27 (d, <i>J</i> = 8.7 Hz, 1H), 7.37 (q, <i>J</i> = 7.8 Hz, 1H), 8.04 (s, 1H), 8.67 (s, 1H); APCI-MS ( <i>m/z</i> ) 271 (M+H) <sup>+</sup> .
139.	 <p data-bbox="379 1973 596 2007"><u>Intermediate 139</u></p>	4-(1 <i>H</i> -1,2,4-Triazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 5.70 (s, 2H), 6.26 (s, 1H), 6.49 (d, <i>J</i> = 8.1 Hz, 1H), 6.97-6.72 (m, 2H), 7.10 (d, <i>J</i> = 7.8 Hz, 1H), 7.28 (d, <i>J</i> = 8.4 Hz, 1H), 7.46

Sr. No.	Structure	Chemical name and Analytical data
		(t, $J = 9.3$ Hz, 1H), 8.03 (s, 1H), 8.67 (s, 1H); APCI-MS ( $m/z$ ) 337 (M+H) <sup>+</sup> .
140.	 <p data-bbox="375 604 598 638"><u>Intermediate 140</u></p>	4-(3-Methyl-1H-1,2,4-triazol-1-yl)-3-[3-(trifluoromethoxy) phenoxy]aniline; <sup>1</sup> H NMR (300 MHz, DMSO- <i>d</i> <sub>6</sub> ) δ 2.23 (s, 3H), 5.66 (br s, 2H), 6.24 (br s, 1H), 6.47 (d, $J = 7.5$ Hz, 1H), 7.02 (br s, 2H), 7.10 (d, $J = 8.1$ Hz, 1H), 7.26 (d, $J = 8.1$ Hz, 1H), 7.46 (t, $J = 8.7$ Hz, 1H), 8.49 (s, 1H); APCI-MS ( $m/z$ ) 351 (M+H) <sup>+</sup> .

## Intermediate 141

4-(5-Methyl-1,3-oxazol-2-yl)-3-[(3-(trifluoromethoxy)phenoxy)amino]aniline

5 Step 1: 2-Fluoro-4-nitro-*N*-(prop-2-yn-1-yl)benzamide;

To a well stirred solution of 2-fluoro-4-nitrobenzoic acid (500 mg, 2.701 mmol) in dry DMF (10 ml) were added EDCI (621 mg, 3.241 mmol) and HOBt (489 mg, 3.619 mmol). Propargyl amine (0.17 ml, 2.701 mmol) was added to the reaction mixture after stirring it for 20 mins and it was further stirred at RT for 18 h. The reaction mixture was diluted with water (100 ml) and extracted with ethyl acetate (3 x 100 ml) and the combined organic layer was washed with water (2 x 100 ml) followed by brine (100 ml). The organic layer was dried over sodium sulphate and concentrated under reduced pressure to obtain crude residue. The crude residue was purified by column chromatography to yield 377 mg of the desired product as white solid. <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) δ 3.19 (s, 1H), 4.07 (br s, 2H), 7.84 (t,  $J = 8.7$  Hz, 1H), 8.13 (d,  $J = 9.9$  Hz, 1H), 8.21 (d,  $J = 9.9$  Hz, 1H), 9.14 (br s, 1H); APCI-MS ( $m/z$ ) 223 (M+H)<sup>+</sup>.

Step 2: 2-(2-Fluoro-4-nitrophenyl)-5-methyl-1,3-oxazole;

To the well stirred solution of Step 1 product (365 mg, 1.643 mmol) in dichloroethane (DCE) (20 ml) was added ferric chloride (133 mg, 0.821 mmol) and the reaction mixture was heated at 80 °C for 18h. The reaction mixture was diluted with water (100 ml) and extracted with ethyl acetate (2 x 100 ml) and the combined organic layer was washed with water (100 ml) followed by brine (100 ml). The organic layer was dried over sodium sulphate and concentrated under reduced pressure to obtain crude residue. The crude residue was purified by column chromatography to yield 208 mg of the desired product as off-white solid. <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) δ 2.43 (s, 3H), 7.20 (s, 1H), 8.17-8.23 (m, 2H), 8.29 (d, *J* = 9.9 Hz, 1H); APCI-MS (*m/z*) 223 (M+H)<sup>+</sup>.

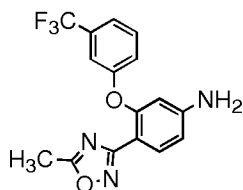
Step 3: 5-Methyl-2-{4-nitro-2-[3-(trifluoromethoxy)phenoxy]phenyl}-1,3-oxazole;

To a well stirred solution of Step 2 product (100 mg, 0.450 mmol) in DMSO (2 ml) was added potassium carbonate followed by 3-trifluoromethoxy phenol (80 mg, 0.450 mmol) and the reaction mixture was stirred at 110°C for 2h. The reaction mixture was diluted with water (50 ml) and extracted with ethyl acetate (2 x 50 ml) and the combined organic layer was washed with water (50 ml) followed by brine (25 ml). The organic layer was dried over sodium sulphate and concentrated under reduced pressure to obtain crude residue. The crude residue was purified by column chromatography to yield 33 mg of the desired product as off-white solid. <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) δ 2.30 (s, 3H), 7.02-7.08 (m, 2H), 7.16 (d, *J* = 8.7 Hz, 2H), 7.50 (t, *J* = 8.4 Hz, 1H), 7.95 (s, 1H), 8.20 (d, *J* = 8.7 Hz, 1H), 8.29 (d, *J* = 9.0 Hz, 1H); APCI-MS (*m/z*) 381 (M+H)<sup>+</sup>.

Step 4: 4-(5-Methyl-1,3-oxazol-2-yl)-3-[3-(trifluoromethoxy)phenoxy]aniline; To the well stirred solution of Step 3 product (85 mg, 0.223 mmol) in glacial acetic acid (2 ml) was added iron powder (125 mg, 2.235 mmol) and the reaction was stirred at RT for 2 h. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure. The residue obtained was purified by silica gel column chromatography to yield 73 mg of the title compound as off white solid. <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) δ 2.16 (s, 3H), 5.86 (br s, 2H), 6.27 (s, 1H), 6.52 (d, *J* = 9.0 Hz, 1H), 6.74 (s, 1H), 6.87 (d, *J* = 8.4 Hz, 2H), 7.02 (d, *J* = 9.0 Hz, 1H), 7.42 (t, *J* = 8.1 Hz, 1H), 7.65 (d, *J* = 8.7 Hz, 1H); APCI-MS (*m/z*) 351 (M+H)<sup>+</sup>.

Intermediate 142

4-(5-Methyl-1,2,4-oxadiazol-3-yl)-3-[3-(trifluoromethyl)phenoxy]aniline



Step 1: 2-Fluoro-*N*'-hydroxy-4-nitrobenzenecarboximidamide:

To a well stirred solution of 2-fluoro-4-nitro benzonitrile (6 g, 0.036 mmol) in ethanol  
 5 (200 ml) were added hydroxylamine hydrochloride (25 g, 0.361 mmol) and sodium bicarbonate (38 g, 0.361 mmol) and the reaction mixture was refluxed for 18 h. Excess of solvent was distilled out and the residue obtained was diluted with ethyl acetate (3 x 300 ml) and the combined organic layer was washed with water (500 ml) followed by brine (250 ml). The organic layer was dried over sodium sulphate and  
 10 concentrated under reduced pressure to obtain crude residue. The obtained residue was purified by column chromatography to yield 6.4 g of the desired product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 6.03 (s, 2H), 7.79 (d, *J* = 8.4 Hz, 1H), 8.09 (d, *J* = 8.1 Hz, 1H), 8.16 (d, *J* = 8.4 Hz, 1H), 10.03 (s, 1H); APCI-MS (*m/z*) 200 (M+H)<sup>+</sup>.

15 Step 2: 3-(2-Fluoro-4-nitrophenyl)-5-methyl-1,2,4-oxadiazole:

To a well stirred solution of step 1 product (300 mg, 1.03 mmol) in glacial acetic acid (4 ml) was added acetic anhydride (0.24 ml, 2.575 mmol) and the reaction mixture was heated at 140°C for 18 h. The reaction mixture was diluted with water (50 ml) and extracted with ethyl acetate (2 x 100 ml) and the combined organic layer was  
 20 washed with water (50 ml) followed by brine (25 ml). The organic layer was dried over sodium sulphate and concentrated under reduced pressure to obtain crude residue. The residue obtained was purified by column chromatography to yield 339 mg of the desired product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.72 (s, 3H), 8.27-8.37 (m, 3H).

25 Step 3: 5-Methyl-3-{4-nitro-2-[3-(trifluoromethyl)phenoxy]phenyl}-1,2,4-oxadiazole;

The title compound was prepared from Step 2 product (370 mg, 1.658 mmol) and 3-(trifluoromethyl) phenol (0.2 ml, 1.658 mmol) using potassium carbonate (344 mg, 2.487 mmol) in presence of DMSO (4 ml) as described in step 3 of Intermediate 141 to yield 505 mg of the desired product as off white solid. <sup>1</sup>H NMR (300 MHz,  
 30 DMSO-*d*<sub>6</sub>) δ 2.66 (s, 3H), 7.37 (d, *J* = 6.9 Hz, 1H), 7.47 (s, 1H), 7.56 (d, *J* = 7.8 Hz,

1H), 7.64 (t,  $J = 8.4$  Hz, 1H), 7.91 (s, 1H), 8.23 (d,  $J = 8.4$  Hz, 1H), 8.32 (d,  $J = 8.4$  Hz, 1H); APCI-MS ( $m/z$ ) 365 (M+H)<sup>+</sup>.

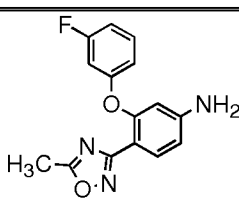
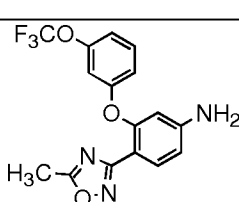
Step 4: 4-(5-Methyl-1,2,4-oxadiazol-3-yl)-3-[3-(trifluoromethyl)phenoxy]aniline;

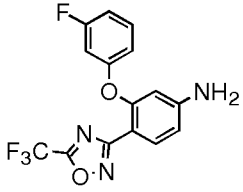
The title compound was prepared by reduction of Step 3 product (150 mg, 0.410 mmol) using iron powder (229 ml, 4.10 mmol) in glacial acetic acid (2 ml) as described in step 4 of Intermediate 141 to yield 78 mg of the title compound as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  2.50 (s, 3H), 5.95 (s, 2H), 6.26 (s, 1H), 6.54 (d,  $J = 8.4$  Hz, 1H), 7.16-7.21 (m, 2H), 7.41 (d,  $J = 8.4$  Hz, 1H), 7.55 (t,  $J = 7.8$  Hz, 1H), 7.74 (d,  $J = 8.7$  Hz, 1H); APCI-MS ( $m/z$ ) 336 (M+H)<sup>+</sup>.

10

Intermediates 143-145 were synthesized by 2-fluoro-4-nitro benzonitrile, hydroxylamine hydrochloride, acetic acid or trifluoroacetic acid and respective phenol in steps 1, 2, 3 and 4 as described in Intermediate 142. The structural formulas, chemical names and Analytical data of Intermediates 143-145 are provided in table 3.

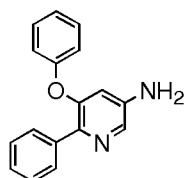
15 Table 3: Structure, chemical name and Analytical data of Intermediates 143-145.

Sr. No.	Structure	Chemical name and Analytical data
143.	 <p><u>Intermediate 143</u></p>	<p>3-(3-Fluorophenoxy)-4-(5-methyl-1,2,4-oxadiazol-3-yl) aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) <math>\delta</math> 2.52 (s, 3H), 5.90 (s, 2H), 6.22 (s, 1H), 6.50 (d, <math>J = 7.5</math> Hz, 1H), 6.70-6.76 (m, 2H), 6.87 (t, <math>J = 7.2</math> Hz, 1H), 7.33 (q, <math>J = 6.9</math> Hz, 1H), 7.69 (d, <math>J = 8.7</math> Hz, 1H); APCI-MS (<math>m/z</math>) 285 (M+H)<sup>+</sup>.</p>
144.	 <p><u>Intermediate 144</u></p>	<p>4-(5-Methyl-1,2,4-oxadiazol-3-yl)-3-[3-(trifluoromethoxy) phenoxy]aniline;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) <math>\delta</math> 2.53 (s, 3H), 5.94 (s, 2H), 6.27 (s, 1H), 6.53 (d, <math>J = 6.9</math> Hz, 1H), 6.89 (br s, 2H), 7.05 (d, <math>J = 7.2</math> Hz, 1H), 7.41 (t, <math>J = 8.7</math> Hz, 1H), 7.72 (d, <math>J = 9.0</math> Hz, 1H); APCI-MS (<math>m/z</math>) 352 (M+H)<sup>+</sup>.</p>

Sr. No.	Structure	Chemical name and Analytical data
145.	 <p data-bbox="395 465 616 499"><u>Intermediate 145</u></p>	<p data-bbox="662 257 1355 347">3-(3-Fluorophenoxy)-4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]aniline;</p> <p data-bbox="662 369 1355 629"><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 6.15 (s, 2H), 6.24 (s, 1H), 6.54 (d, <i>J</i> = 9.0 Hz, 1H), 6.80-6.87 (m, 2H), 6.96 (t, <i>J</i> = 7.2 Hz, 1H), 7.40 (q, <i>J</i> = 7.2 Hz, 1H), 7.77 (d, <i>J</i> = 8.7 Hz, 1H); APCI-MS (<i>m/z</i>) 340 (M+H)<sup>+</sup>.</p>

## Intermediate 146

## 5-Phenoxy-6-phenylpyridin-3-amine



5 Step 1: 3-Chloro-5-nitro-2-phenylpyridine: This intermediate was prepared by the reaction of 2,3-dichloro-5-nitropyridine (1 mg, 5.181 mmol) with phenyl boronic acid (758 mg, 6.217 mmol) using tetrakis triphenylphosphine palladium (30 mg, 0.023 mmol) in presence of potassium carbonate (2.1 g, 15.544 mmol) in toluene (60 ml) and water (25 ml) as per the process described in step 2 of Intermediate 1 to yield 1 g of product as off white solid.

10 Step 2: 5-Nitro-3-phenoxy-2-phenylpyridine: This intermediate was prepared by the reaction of step 1 intermediate (525 mg, 2.237 mmol) with phenol (252 mg, 2.684 mmol) using cesium fluoride (642 mg, 3.356 mmol) in DMF (10 ml) as per the process described in step 3 of Intermediate 1 to yield 241 mg of product as off white solid. APCI-MS (*m/z*) 293.33 (M+H)<sup>+</sup>.

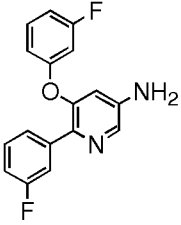
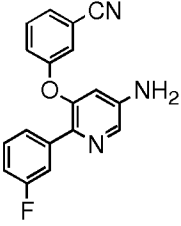
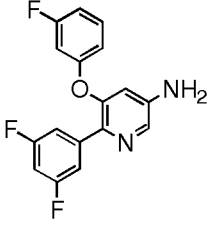
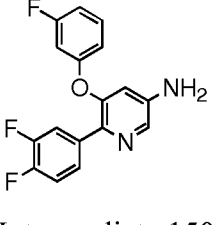
15 Step 3: The title compound was prepared by nitro group reduction of step 1 intermediate (165 mg, 0.565 mmol) using iron powder (158 mg, 2.822 mmol) and ammonium chloride (302 mg, 5.645 mmol) in methanol (10 ml) and water (10 ml) as per the process described in step 4 of Intermediate 1 to yield 141 mg of product as an off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 5.62 (s, 2H), 6.60 (s, 1H), 7.01 (d, *J* = 9.0 Hz, 2H), 7.11 (t, *J* = 7.5 Hz, 1H), 7.23 (t, *J* = 7.5 Hz, 1H), 7.25-7.42 (m, 4H), 7.80 (d, *J* = 9.0 Hz, 2H), 7.87 (s, 1H); APCI-MS (*m/z*) 263.44 (M+H)<sup>+</sup>.

20



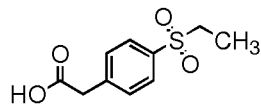
Intermediates 147-150 were synthesized by Suzuki reaction of 2,3-dichloro-5-nitropyridine with appropriate boronic acid followed by reaction with suitable phenol and finally reduction. The structural formulas, chemical names and Analytical data of Intermediate 147-150 are provided in table 4.

5 Table 4: Structure, chemical name and Analytical data of Intermediates 147-150.

Sr. No.	Structure	Chemical name and Analytical data
147.	 <p><u>Intermediate 147</u></p>	<p>5-(3-Fluorophenoxy)-6-(3-fluorophenyl)pyridin-3-amine;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.77 (s, 2H), 6.55 (s, 1H), 6.85 (d, <i>J</i> = 9.0 Hz, 1H), 6.90-7.00 (m, 2H), 7.06 (t, <i>J</i> = 8.7 Hz, 1H), 7.29-7.46 (m, 2H), 7.50-7.61 (m, 1H), 7.67 (d, <i>J</i> = 7.8 Hz, 1H), 7.91 (s, 1H); APCI-MS (<i>m/z</i>) 299.27 (M+H)<sup>+</sup>.</p>
148.	 <p><u>Intermediate 148</u></p>	<p>3-{[5-amino-2-(3-fluorophenyl)pyridin-3-yl]oxy} benzonitrile;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.77 (br s, 2H), 6.54 (s, 1H), 7.07 (t, <i>J</i> = 6.6 Hz, 1H), 7.34-7.39 (m, 2H), 7.53-7.59 (m, 4H), 7.65 (d, <i>J</i> = 7.8 Hz, 1H), 7.93 (s, 1H); APCI-MS (<i>m/z</i>) 306 (M+H)<sup>+</sup>.</p>
149.	 <p><u>Intermediate 149</u></p>	<p>6-(3,5-Difluorophenyl)-5-(3-fluorophenoxy)pyridin-3-amine;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.87 (br s, 2H), 6.53 (s, 1H), 6.88 (d, <i>J</i> = 8.4 Hz, 1H), 6.99-7.06 (m, 2H), 7.10 (t, <i>J</i> = 9.3 Hz, 1H), 7.43 (q, <i>J</i> = 7.2 Hz, 1H), 7.50 (d, <i>J</i> = 8.1 Hz, 2H), 7.90 (s, 1H); APCI-MS (<i>m/z</i>) 317 (M+H)<sup>+</sup>.</p>
150.	 <p><u>Intermediate 150</u></p>	<p>6-(3,4-Difluorophenyl)-5-(3-fluorophenoxy)pyridin-3-amine;</p> <p><sup>1</sup>H NMR (300 MHz, DMSO-<i>d</i><sub>6</sub>) δ 5.77 (br s, 2H), 6.54 (s, 1H), 6.86 (d, <i>J</i> = 7.8 Hz, 1H), 6.92-7.00 (m, 2H), 7.41 (br s, 2H), 7.65 (br s, 1H), 7.80 (br s, 1H), 7.89 (s, 1H); APCI-MS (<i>m/z</i>) 317 (M+H)<sup>+</sup>.</p>

Intermediate 151

[4-(Ethylsulfonyl)phenyl]acetic acid



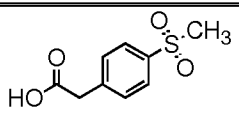
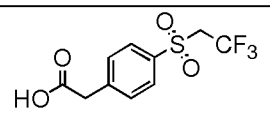
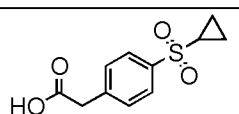
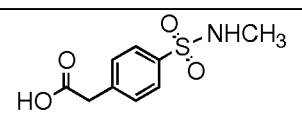
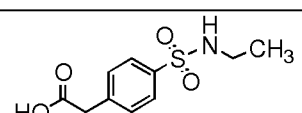
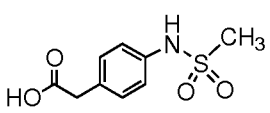
Step 1: Ethyl [4-(ethylsulfonyl)phenyl]acetate: To a stirred solution of (4-sulfanylphenyl)acetic acid (2.0 g, 11.889 mmol) in DMF (10 ml), potassium carbonate (6.6 g, 47.559 mmol) was added followed by addition of bromoethane (2.6 ml, 35.669 mmol) and the resulting mixture was stirred at room temperature for 3 h. The reaction mixture was partitioned between aqueous (250 ml) and ethyl acetate (250 ml). The organic layer was separated, washed with water (250 ml), brine (150 ml), dried over sodium sulphate and concentrated under reduced pressure. The obtained residue was purified by column chromatography to yield 2.46 g of desired product as liquid.

Step 2: Ethyl [4-(ethylsulfonyl)phenyl]acetate: To a stirred solution of ethyl [4-(ethylsulfonyl)phenyl]acetate (step 1 intermediate, 1.4 g, 6.241 mmol) in dichloromethane (20 ml), m-chlorobenzoic acid (3.2 g, 18.723 mmol) was added in portions at 0 °C, under nitrogen atmosphere and the resulting mixture was stirred at room temperature overnight. The reaction mixture was diluted with dichloromethane (100 ml) and washed with aqueous saturated solution of sodium bicarbonate (250 ml) and brine (200 ml). The organic layer was separated dried over sodium sulphate and concentrated under reduced pressure and the obtained residue was purified by column chromatography to yield 1.46 g of desired solid product.

Step 3: [4-(Ethylsulfonyl)phenyl]acetic acid: To a solution of ethyl [4-(ethylsulfonyl)phenyl]acetate (step 2 intermediate, 1.4 g, 5.461 mmol) in ethanol (15 ml) and water (15 ml), sodium hydroxide (0.786 g, 19.659 mmol) was added and the reaction mixture was stirred at room temperature overnight. The solvent was evaporated under reduced pressure and water (100 ml) was added to the residue. The reaction mixture was acidified to about pH 1 using 6 N HCl (~60 ml). The aqueous layer was extracted with ethyl acetate (2 x 250 ml). The combined extract was washed with brine (200 ml), separated and dried over sodium sulphate. The organic layer was concentrated under reduced pressure to yield 1.18 g of product as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 3.22-3.35 (m, 2H), 3.74 (s, 2H), 7.55 (d, *J* = 8.4 Hz, 2H), 7.82 (d, *J* = 8.1 Hz, 2H), 12.55 (s, 1H).

Intermediates 152-157 were prepared by the process described for Intermediate 151. The structural formulas, chemical names and  $^1\text{H}$  NMR data of Intermediates 152 - 157 are provided in table-5.

Table 5: Structure, chemical name and  $^1\text{H}$  NMR data of Intermediates 152-157.

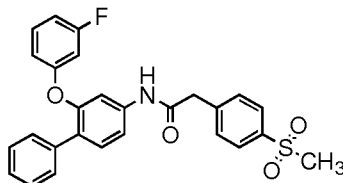
Sr. No.	Structure	Chemical name and $^1\text{H}$ NMR data
152.	 <u>Intermediate 152</u>	[4-(Methylsulfonyl)phenyl]acetic acid: $^1\text{H}$ NMR (400 MHz, DMSO- $d_6$ ) $\delta$ 2.39 (q, $J$ = 4.8 Hz, 3H), 3.69 (s, 2H), 7.40 (q, $J$ = 4.8 Hz, 1H), 7.47 (d, $J$ = 8.4 Hz, 2H), 7.70 (d, $J$ = 8.4 Hz, 2H).
153.	 <u>Intermediate 153</u>	{4-[(2,2,2-Trifluoroethyl)sulfonyl]phenyl}acetic acid: $^1\text{H}$ NMR (300 MHz, DMSO- $d_6$ ) $\delta$ 3.76 (s, 2H), 4.92 (q, $J$ = 8.4 Hz, 2H), 7.58 (d, $J$ = 9.0 Hz, 2H), 7.87 (d, $J$ = 9.0 Hz, 2H), 12.56 (br s, 1H).
154.	 <u>Intermediate 154</u>	[4-(Cyclopropylsulfonyl)phenyl]acetic acid: $^1\text{H}$ NMR (300 MHz, DMSO- $d_6$ ) $\delta$ 0.99-1.15 (m, 4H), 3.74 (s, 2H), 7.53 (d, $J$ = 8.7 Hz, 2H), 7.83 (d, $J$ = 8.7 Hz, 2H), 12.56 (br s, 1H).
155.	 <u>Intermediate 155</u>	[4-(Methylsulfamoyl)phenyl]acetic acid: $^1\text{H}$ NMR (300 MHz, DMSO- $d_6$ ) $\delta$ 2.38 (s 3H), 3.69 (s, 2H), 7.36-7.43 (m, 1H), 7.47 (d, $J$ = 6.3 Hz, 2H), 7.70 (d, $J$ = 6.3 Hz, 2H), 12.53 (br s, 1H).
156.	 <u>Intermediate 156</u>	[4-(Ethylsulfamoyl)phenyl]acetic acid: $^1\text{H}$ NMR (300 MHz, DMSO- $d_6$ ) $\delta$ 0.95 (t, $J$ = 6.9 Hz, 3H), 2.49 (q, $J$ = 7.2 Hz, 2H), 3.68 (s, 2H), 7.41-7.52 (m, 3H), 7.70 (d, $J$ = 6.3 Hz, 2H), 12.49 (br s, 1H).
157.	Intermediate 42  <u>Intermediate 157</u>	{4-[(Methylsulfonyl)amino]phenyl}acetic acid: $^1\text{H}$ NMR (300 MHz, DMSO- $d_6$ ) $\delta$ 2.94-3.01 (m, 3H), 3.44-3.52 (m, 2H), 7.14 (d, $J$ = 8.4 Hz, 2H), 7.21 (d, $J$ = 8.4 Hz, 2H), 9.68 (s, 1H), 12.29 (br s, 1H).

The following examples illustrate the present invention. However, these examples are not intended to limit the scope of the present invention. The person skilled in the art can readily recognize a variety of non-critical parameters which can be modified or altered to yield similar results.

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## Example 1

*N*-[2-(3-Fluorophenoxy)biphenyl-4-yl]-2-[4-(methylsulfonyl)phenyl]acetamide

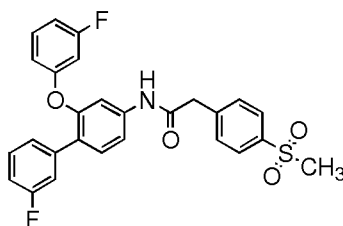


To a well stirred mixture of [4-(methylsulfonyl)phenyl]acetic acid (50 mg, 0.233 mmol) in dichloromethane (5 ml) were added EDCI (53 mg, 0.280 mmol) and HOBt (32 mg, 0.239 mmol) followed by addition of Intermediate 7 (65 mg, 0.233 mmol). The reaction mixture was stirred at RT overnight. After completion of the reaction, it was diluted with water (25 ml), extracted with ethyl acetate (2 x 50 ml) and the combined organic extract was washed with water (25 ml) and brine (25 ml). The organic layer was separated, dried over sodium sulphate and concentrated under reduced pressure. The obtained residue was purified by column chromatography to yield 61 mg of the title product as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 3.19 (s, 3H), 3.78 (s, 2H), 6.71-6.80 (m, 2H), 6.85-6.93 (m, 1H), 7.24-7.42 (m, 5H), 7.45 (d, *J* = 7.8 Hz, 4H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.87 (d, *J* = 8.1 Hz, 2H), 10.44 (s, 1H); ESI-MS (*m/z*) 476.40 (M+H)<sup>+</sup>.

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## Example 2

*N*-[3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(methylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 21 (69 mg, 0.233 mmol) with [4-(methylsulfonyl)phenyl]acetic acid (50 mg, 0.233 mmol) using EDCI (53 mg, 0.278 mmol), HOBt (42 mg, 0.311 mmol) in dichloromethane (5 ml) as per

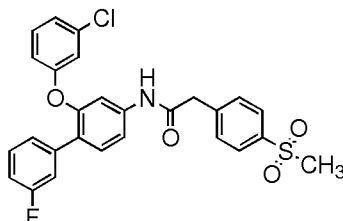
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the process described in Example 1 to yield 42 mg of product as white solid.  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO-}d_6$ )  $\delta$  3.19 (s, 3H), 3.78 (s, 2H), 6.75-6.99 (m, 2H), 7.03-7.11 (m, 1H), 7.24-7.42 (m, 6H), 7.50 (s, 2H), 7.56 (d,  $J = 7.8$  Hz, 2H), 7.87 (d,  $J = 7.8$  Hz, 2H), 10.46 (s, 1H); APCI-MS ( $m/z$ ) 494.32 ( $\text{M}+\text{H}$ ) $^+$ .

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## Example 3

*N*-[2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfonyl)phenyl]acetamide

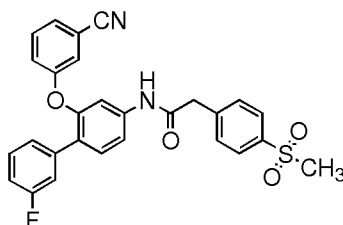


The title compound was prepared by the reaction of Intermediate 23 (30 mg, 0.095 mmol) with [4-(methylsulfonyl)phenyl]acetic acid (20 mg, 0.095 mmol) using EDCI (22 mg, 0.114 mmol), HOBt (18 mg, 0.128 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 18 mg of product as a white solid.  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO-}d_6$ )  $\delta$  3.19 (s, 3H), 3.78 (s, 2H), 6.97 (d,  $J = 6.3$  Hz, 1H), 7.06 (s, 1H), 7.15 (d,  $J = 6.3$  Hz, 2H), 7.27-7.45 (m, 5H), 7.50 (s, 2H), 7.57 (d,  $J = 9.3$  Hz, 2H), 7.87 (d,  $J = 9.3$  Hz, 2H), 10.46 (s, 1H); APCI-MS ( $m/z$ ) 510.17 ( $\text{M}+\text{H}$ ) $^+$ .

15

## Example 4

*N*-[2-(3-Cyanophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfonyl)phenyl]acetamide

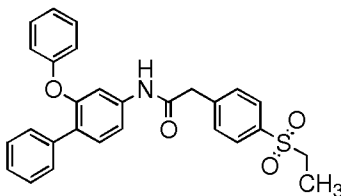


The title compound was prepared by the reaction of Intermediate 28 (71 mg, 0.233 mmol) with [4-(methylsulfonyl)phenyl]acetic acid (50 mg, 0.233 mmol) using EDCI (53 mg, 0.280 mmol), HOBt (42 mg, 0.312 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as an off-white solid.  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO-}d_6$ )  $\delta$  3.19 (s, 3H), 3.78 (s, 2H), 7.12 (t,  $J = 6.3$  Hz, 1H), 7.25-7.45 (m, 6H), 7.49-7.61 (m, 6H), 7.88 (d,  $J = 8.4$  Hz, 2H), 10.48 (s, 1H); APCI-MS ( $m/z$ ) 501.22 ( $\text{M}+\text{H}$ ) $^+$ .

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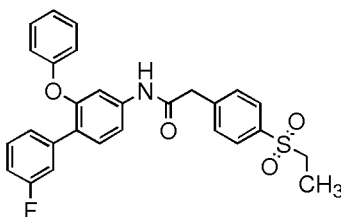
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## Example 5

2-[4-(Ethylsulfonyl)phenyl]-*N*-(2-phenoxybiphenyl-4-yl)acetamide

The title compound was prepared by the reaction of Intermediate 1 (60 mg, 0.229 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.229 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (42 mg, 0.312 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 38 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.07 (t, *J* = 5.4 Hz, 3H), 3.25 (q, *J* = 5.7 Hz, 2H), 3.71 (s, 2H), 6.93 (d, *J* = 4.8 Hz, 2H), 7.08 (t, *J* = 7.2 Hz, 1H), 7.21-7.39 (m, 6H), 7.41-7.59 (m, 4H), 7.61 (d, *J* = 6.3 Hz, 2H), 7.81 (d, *J* = 6.3 Hz, 2H), 10.37 (s, 1H); ESI-MS (*m/z*) 472.23 (M+H)<sup>+</sup>.

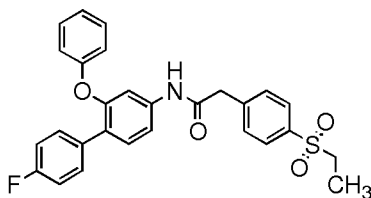
## Example 6

2-[4-(Ethylsulfonyl)phenyl]-*N*-(3'-fluoro-2-phenoxybiphenyl-4-yl)acetamide

The title compound was prepared by the reaction of Intermediate 2 (47 mg, 0.169 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.169 mmol) using EDCI (39 mg, 0.202 mmol), HOBt (32 mg, 0.236 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 78 mg of product as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.17-3.25 (m, 2H), 3.77 (s, 2H), 6.98 (d, *J* = 7.8 Hz, 2H), 7.06-7.17 (m, 2H), 7.28-7.40 (m, 6H), 7.48 (s, 2H), 7.56 (d, *J* = 6.9 Hz, 2H), 7.83 (d, *J* = 7.5 Hz, 2H), 10.43 (s, 1H); APCI-MS (*m/z*) 490.36 (M+H)<sup>+</sup>.

## Example 7

2-[4-(Ethylsulfonyl)phenyl]-*N*-(4'-fluoro-2-phenoxybiphenyl-4-yl)acetamide

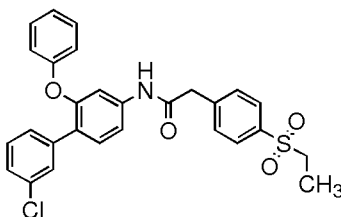


The title compound was prepared by the reaction of Intermediate 3 (60 mg, 0.214 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (49 mg, 0.214 mmol) using EDCI (49 mg, 0.257 mmol), HOBt (38 mg, 0.288 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 47 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.07 (t, *J* = 5.7 Hz, 3H), 3.25 (q, *J* = 5.7 Hz, 2H), 3.75 (s, 2H), 6.93 (d, *J* = 5.1 Hz, 2H), 6.11 (d, *J* = 9.0 Hz, 1H), 7.08 (t, *J* = 5.4 Hz, 2H), 7.18 (t, *J* = 6.0 Hz, 3H), 7.31-7.40 (m, 2H), 7.52-7.60 (m, 4H), 7.81 (d, *J* = 5.7 Hz, 2H), 10.38 (s, 1H); APCI-MS (*m/z*) 490.54 (M+H)<sup>+</sup>.

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## Example 8

*N*-(3'-Chloro-2-phenoxybiphenyl-4-yl)-2-[4-(ethylsulfonyl)phenyl]acetamide

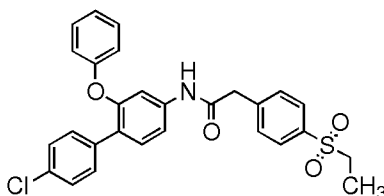


The title compound was prepared by the reaction of Intermediate 4 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (65 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.298 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 58 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.4 Hz, 3H), 3.24 (q, *J* = 5.4 Hz, 2H), 3.76 (s, 2H), 6.96 (t, *J* = 6.0 Hz, 2H), 7.09 (t, *J* = 5.4 Hz, 1H), 7.29-7.40 (m, 5H), 7.43-7.49 (m, 3H), 7.52-7.60 (m, 3H), 7.81 (t, *J* = 6.3 Hz, 2H), 10.39 (s, 1H); APCI-MS (*m/z*) 506.17 (M+H)<sup>+</sup>.

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## Example 9

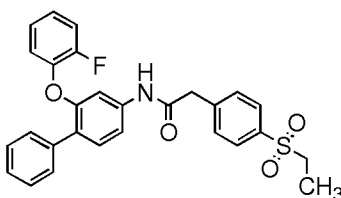
*N*-(4'-Chloro-2-phenoxybiphenyl-4-yl)-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 5 (65 mg, 0.169 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.169 mmol) using EDCI (50 mg, 0.263 mmol), HOBt (40 mg, 0.298 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 50 mg of product as an off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 5.4 Hz, 3H), 3.26 (q, *J* = 5.7 Hz, 2H), 3.77 (s, 2H), 6.96 (d, *J* = 5.7 Hz, 2H), 7.08 (t, *J* = 5.7 Hz, 1H), 7.30-7.38 (m, 3H), 7.40-7.50 (m, 4H), 7.60-7.70 (m, 4H), 7.83 (d, *J* = 5.7 Hz, 2H), 10.41 (s, 1H); APCI-MS (*m/z*) 506.54 (M+H)<sup>+</sup>.

## Example 10

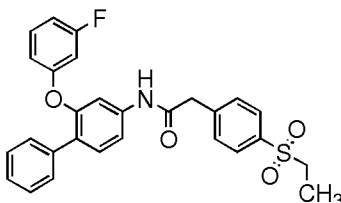
2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(2-fluorophenoxy)biphenyl-4-yl]acetamide



The title compound was prepared by the reaction of Intermediate 6 (47 mg, 0.169 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.169 mmol) using EDCI (39 mg, 0.203 mmol), HOBt (32 mg, 0.236 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 56 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 5.7 Hz, 3H), 3.26 (q, *J* = 5.4 Hz, 2H), 3.76 (s, 2H), 7.11-7.23 (m, 3H), 7.29-7.36 (m, 1H), 7.42-7.50 (m, 6H), 7.52-7.60 (m, 4H), 7.82 (d, *J* = 6.3 Hz, 2H), 10.38 (s, 1H); APCI-MS (*m/z*) 490.18 (M+H)<sup>+</sup>.

## Example 11

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)biphenyl-4-yl]acetamide



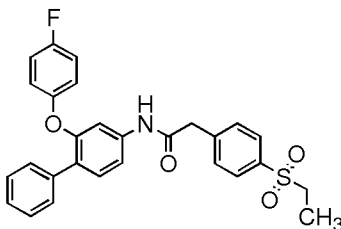
The title compound was prepared by the reaction of Intermediate 7 (61 mg, 0.214 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.257 mmol), HOBt (38 mg, 0.287 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 52 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 6.0 Hz, 3H), 3.27 (q, *J* = 5.4 Hz, 2H), 3.79 (s,



2H), 6.71-6.82 (m, 2H), 6.92 (t,  $J = 5.1$  Hz, 1H), 7.25-7.51 (m, 9H), 7.58 (d,  $J = 6.0$  Hz, 2H), 7.83 (d,  $J = 6.0$  Hz, 2H), 10.44 (s, 1H); ESI-MS ( $m/z$ ) 490.42 (M+H)<sup>+</sup>.

#### Example 12

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(4-fluorophenoxy)biphenyl-4-yl]acetamide



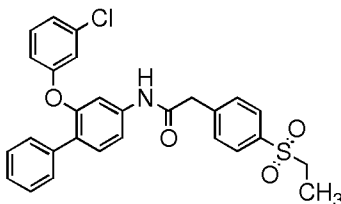
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The title compound was prepared by the reaction of Intermediate 8 (47 mg, 0.169 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.169 mmol) using EDCI (39 mg, 0.202 mmol), HOBt (32 mg, 0.236 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 64 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t,  $J = 5.4$  Hz, 3H), 3.28 (q,  $J = 5.4$  Hz, 2H), 3.77 (s, 2H), 6.98 (d,  $J = 5.1$  Hz, 2H), 7.18 (t,  $J = 6.6$  Hz, 2H), 7.30 (d,  $J = 6.3$  Hz, 2H), 7.41-7.62 (m, 8H), 7.83 (d,  $J = 6.3$  Hz, 2H), 10.39 (s, 1H); APCI-MS ( $m/z$ ) 490.22 (M+H)<sup>+</sup>.

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#### Example 13

*N*-[2-(3-Chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



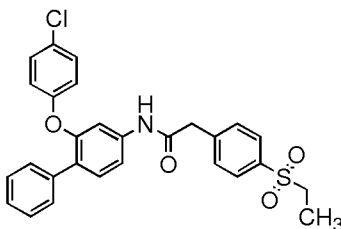
15

The title compound was prepared by the reaction of Intermediate 9 (40 mg, 0.135 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (30 mg, 0.135 mmol) using EDCI (31 mg, 0.162 mmol), HOBt (24 mg, 0.181 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 25 mg of product as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t,  $J = 5.7$  Hz, 3H), 3.21-3.28 (m, 2H), 3.79 (s, 2H), 6.89 (d,  $J = 6.0$  Hz, 1H), 7.00 (s, 1H), 7.12 (d,  $J = 6.0$  Hz, 1H), 7.30-7.43 (m, 5H), 7.49 (d,  $J = 8.4$  Hz, 4H), 7.57 (d,  $J = 8.4$  Hz, 2H), 7.83 (d,  $J = 8.7$  Hz, 2H), 10.45 (s, 1H); APCI-MS ( $m/z$ ) 506.49 (M+H)<sup>+</sup>.

20

#### Example 14

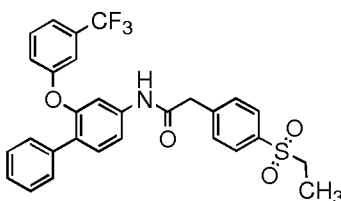
25 *N*-[2-(4-Chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 10 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (38 mg, 0.203 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 50 mg of product as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 5.7 Hz, 3H), 3.21-3.28 (m, 2H), 3.78 (s, 2H), 6.96 (d, *J* = 9.0 Hz, 2H), 7.25-7.50 (m, 10H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.43 (s, 1H); APCI-MS (*m/z*) 506.45 (M+H)<sup>+</sup>.

#### Example 15

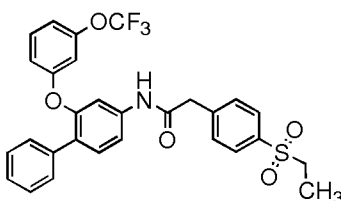
2-[4-(Ethylsulfonyl)phenyl]-*N*-{2-[3-(trifluoromethyl)phenoxy]biphenyl-4-yl}acetamide



The title compound was prepared by the reaction of Intermediate 11 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (47 mg, 0.349 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.79 (s, 2H), 7.19-7.26 (m, 2H), 7.27 (d, *J* = 6.3 Hz, 1H), 7.34 (d, *J* = 7.5 Hz, 2H), 7.35-7.41 (m, 2H), 7.47 (d, *J* = 7.8 Hz, 2H), 7.50-7.55 (m, 3H), 7.57 (d, *J* = 8.1 Hz, 2H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 540 (M+H)<sup>+</sup>.

#### Example 16

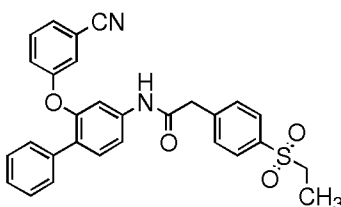
2-[4-(Ethylsulfonyl)phenyl]-*N*-{2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-yl}acetamide



The title compound was prepared by the reaction of Intermediate 12 (75 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 23 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.92 (d, *J* = 9.0 Hz, 2H), 7.04 (br s, 1H), 7.29 (br s, 1H), 7.34 (t, *J* = 7.8 Hz, 2H), 7.44-7.50 (m, 6H), 7.58 (d, *J* = 7.5 Hz, 2H), 7.83 (d, *J* = 6.6 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 557 (M+H)<sup>+</sup>.

## Example 17

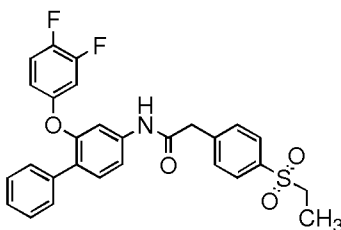
10 *N*-[2-(3-Cyanophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 13 (62 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 20 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.26 (q, *J* = 5.7 Hz, 2H), 3.79 (s, 2H), 7.29 (t, *J* = 6.3 Hz, 2H), 7.34-7.53 (m, 10H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 497 (M+H)<sup>+</sup>.

## Example 18

20 *N*-[2-(3,4-Difluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

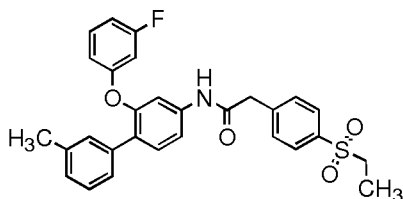


The title compound was prepared by the reaction of Intermediate 14 (65 mg, 0.218 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (49 mg, 0.218 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 60 mg of product as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.19-3.28 (m, 2H), 3.78 (s,

2H), 6.74-6.85 (m, 1H), 7.12-7.20 (m, 1H), 7.24-7.50 (m, 9H), 7.57 (d,  $J = 8.4$  Hz, 2H), 7.82 (d,  $J = 8.4$  Hz, 2H), 10.43 (s, 1H); APCI-MS ( $m/z$ ) 508 (M+H)<sup>+</sup>.

#### Example 19

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-3'-methylbiphenyl-4-yl]acetamide

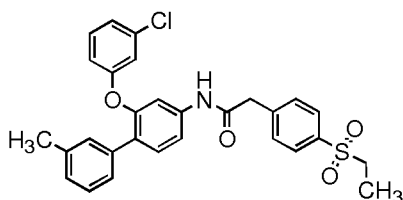


The title compound was prepared by the reaction of Intermediate 15 (64 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 60 mg of product as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  1.09 (t,  $J = 7.2$  Hz, 3H), 2.28 (s, 3H), 3.26 (q,  $J = 7.5$  Hz, 2H), 3.79 (s, 2H), 6.73-6.81 (m, 2H), 6.89 (d,  $J = 8.7$  Hz, 1H), 7.09 (d,  $J = 6.9$  Hz, 1H), 7.21-7.28 (m, 3H), 7.34 (d,  $J = 7.5$  Hz, 1H), 7.38-7.50 (m, 3H), 7.58 (d,  $J = 8.1$  Hz, 2H), 7.83 (d,  $J = 8.4$  Hz, 2H), 10.43 (s, 1H); APCI-MS ( $m/z$ ) 504 (M+H)<sup>+</sup>.

15

#### Example 20

*N*-[2-(3-Chlorophenoxy)-3'-methylbiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

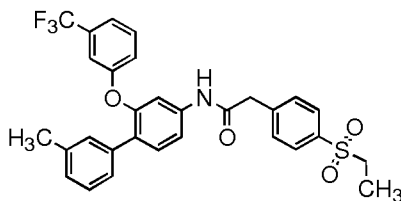


The title compound was prepared by the reaction of Intermediate 16 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 44 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  1.09 (t,  $J = 7.2$  Hz, 3H), 2.29 (s, 3H), 3.26 (q,  $J = 7.2$  Hz, 2H), 3.79 (s, 2H), 6.87 (d,  $J = 8.4$  Hz, 1H), 6.99 (br s, 1H), 7.08-7.13 (m, 2H), 7.23-7.30 (m, 4H), 7.33-7.38 (m, 1H), 7.42-7.51 (m, 2H), 7.58 (d,  $J = 8.1$  Hz, 2H), 7.83 (d,  $J = 8.1$  Hz, 2H), 10.43 (s, 1H); APCI-MS ( $m/z$ ) 521 (M+H)<sup>+</sup>.

25

#### Example 21

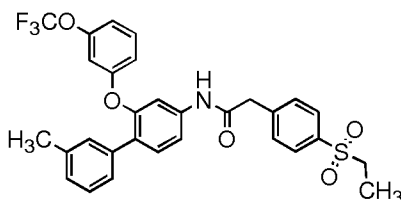
2-[4-(Ethylsulfonyl)phenyl]-*N*-{3'-methyl-2-[3-(trifluoromethyl)phenoxy]biphenyl-4-yl} acetamide



The title compound was prepared by the reaction of Intermediate 17 (75 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 72 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.06 (t, *J* = 7.2 Hz, 3H), 2.25 (s, 3H), 3.24 (q, *J* = 7.8 Hz, 2H), 3.77 (s, 2H), 7.05 (d, *J* = 6.9 Hz, 1H), 7.14-7.25 (m, 5H), 7.36-7.42 (m, 2H), 7.45-7.51 (m, 3H), 7.56 (d, *J* = 8.4 Hz, 2H), 7.81 (d, *J* = 8.4 Hz, 2H), 10.43 (s, 1H); APCI-MS (*m/z*) 554 (M+H)<sup>+</sup>.

#### Example 22

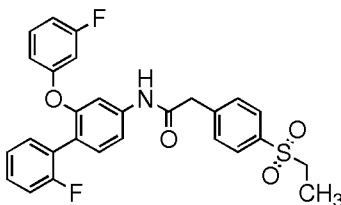
2-[4-(Ethylsulfonyl)phenyl]-*N*-{3'-methyl-2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-yl} acetamide



The title compound was prepared by the reaction of Intermediate 18 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 92 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.26 (s, 3H), 3.26 (q, *J* = 6.9 Hz, 2H), 3.79 (s, 2H), 6.87-6.92 (m, 2H), 7.00-7.08 (m, 2H), 7.22-7.26 (m, 3H), 7.38-7.46 (m, 3H), 7.46-7.53 (m, 1H), 7.58 (d, *J* = 8.1 Hz, 2H), 7.83(d, *J* = 8.7 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 570 (M+H)<sup>+</sup>.

#### Example 23

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2'-fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide

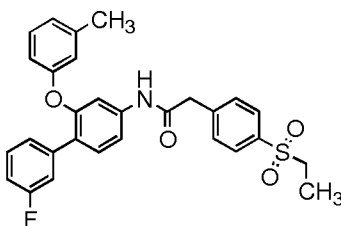


The title compound was prepared by the reaction of Intermediate 19 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 25 mg of product as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.75-6.81 (m, 2H), 6.91 (br s, 1H), 7.21 (t, *J* = 7.8 Hz, 2H), 7.34-7.39 (m, 5H), 7.48 (d, *J* = 8.4 Hz, 1H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.46 (s, 1H); APCI-MS (*m/z*) 508 (M+H)<sup>+</sup>.

10

## Example 24

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3'-fluoro-2-(3-methylphenoxy)biphenyl-4-yl]acetamide



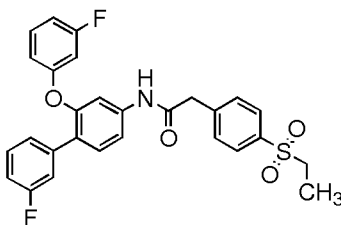
The title compound was prepared by the reaction of Intermediate 20 (64 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 46 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.26 (s, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.77 (s, 2H), 6.76 (d, *J* = 9.0 Hz, 1H), 6.82 (s, 1H), 6.92 (d, *J* = 7.5 Hz, 1H), 7.10-7.16 (m, 1H), 7.21 (d, *J* = 7.8 Hz, 1H), 7.27-7.34 (m, 2H), 7.37-7.43 (m, 2H), 7.48 (s, 2H), 7.56 (d, *J* = 8.4 Hz, 2H), 7.82 (d, *J* = 7.8 Hz, 2H), 10.40 (s, 1H); APCI-MS (*m/z*) 504 (M+H)<sup>+</sup>.

20

## Example 25

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3'-fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide

25

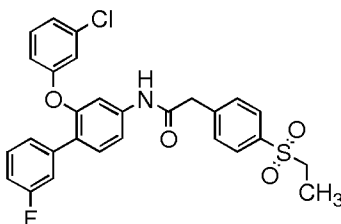


The title compound was prepared by the reaction of Intermediate 21 (60 mg, 0.201 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (46 mg, 0.201 mmol) using EDCI (46 mg, 0.242 mmol), HOBt (36 mg, 0.270 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 25 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.24 (q, *J* = 6.6 Hz, 2H), 3.79 (s, 2H), 6.75-6.95 (m, 3H), 7.13 (t, *J* = 6.6 Hz, 1H), 7.25-7.45 (m, 5H), 7.50 (s, 2H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 508.42 (M+H)<sup>+</sup>.

10

## Example 26

*N*-[2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

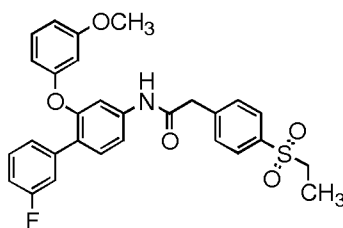


The title compound was prepared by the reaction of Intermediate 23 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.260 mmol), HOBt (39 mg, 0.290 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 28 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.17-3.27 (m, 2H), 3.79 (s, 2H), 6.93 (d, *J* = 6.6 Hz, 1H), 7.02-7.10 (m, 1H), 7.12-7.18 (m, 2H), 7.29-7.45 (m, 5H), 7.50 (s, 2H), 7.58 (d, *J* = 8.4 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 524.49 (M+H)<sup>+</sup>.

20

## Example 27

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3'-fluoro-2-(3-methoxyphenoxy)biphenyl-4-yl]acetamide

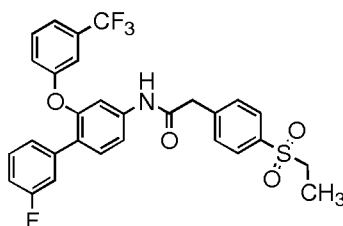


The title compound was prepared by the reaction of Intermediate 25 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI 50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 26 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.6 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.70 (s, 3H), 3.77 (s, 2H), 6.51 (d, *J* = 8.4 Hz, 1H), 6.56 (br s, 1H), 6.68 (d, *J* = 9.3 Hz, 1H), 7.09-7.16 (m, 1H), 7.24 (t, *J* = 8.4 Hz, 1H), 7.31-7.43 (m, 4H), 7.48 (s, 2H), 7.56 (d, *J* = 7.8 Hz, 2H), 7.82 (d, *J* = 7.8 Hz, 2H), 10.41 (s, 1H); APCI-MS (*m/z*) 520 (M+H)<sup>+</sup>.

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## Example 28

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3'-fluoro-2-[3-(trifluoromethyl)phenoxy]biphenyl-4-yl} acetamide



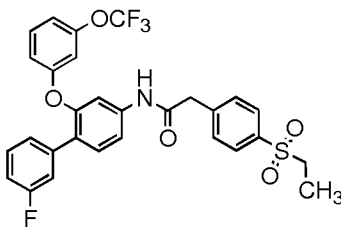
The title compound was prepared by the reaction of Intermediate 26 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 34 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 7.11 (br s, 2H), 7.23 (d, *J* = 7.5 Hz, 2H), 7.28-7.34 (m, 3H), 7.39-7.44 (m, 3H), 7.52-7.58 (m, 5H), 7.82 (d, *J* = 8.1 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 558 (M+H)<sup>+</sup>.

20

## Example 29

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3'-fluoro-2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-yl} acetamide



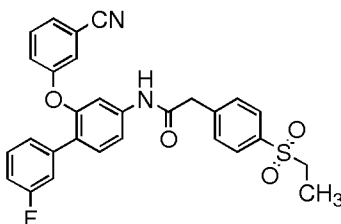


The title compound was prepared by the reaction of Intermediate 27 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (38 mg, 0.203 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 44 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.95 (br s, 2H), 7.04-7.14 (m, 2H), 7.27-7.36 (m, 2H), 7.39-7.48 (m, 3H), 7.51 (s, 2H), 7.57 (d, *J* = 8.1 Hz, 2H), 7.83 (d, *J* = 8.1 Hz, 2H), 10.49 (s, 1H); APCI-MS (*m/z*) 574 (M+H)<sup>+</sup>.

10

## Example 30

*N*-[2-(3-Cyanophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

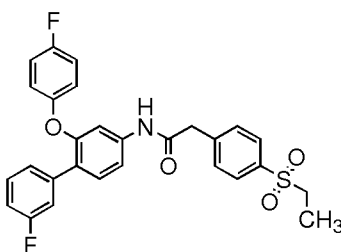


The title compound was prepared by the reaction of Intermediate 28 (66 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (47 mg, 0.350 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.3 Hz, 3H), 3.26 (q, *J* = 5.7 Hz, 2H), 3.79 (s, 2H), 7.13 (t, *J* = 6.0 Hz, 1H), 7.24-7.44 (m, 5H), 7.47-7.63 (m, 7H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.48 (s, 1H); APCI-MS (*m/z*) 515 (M+H)<sup>+</sup>.

20

## Example 31

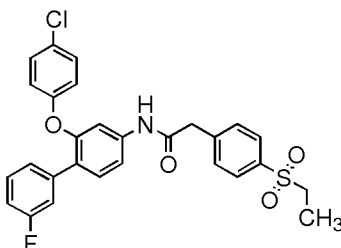
2-[4-(Ethylsulfonyl)phenyl]-*N*-[3'-fluoro-2-(4-fluorophenoxy)biphenyl-4-yl]acetamide



The title compound was prepared by the reaction of Intermediate 22 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.21-3.28 (m, 2H), 3.77 (s, 2H), 7.04-7.40 (m, 9H), 7.46 (s, 2H), 7.56 (d, *J* = 6.6 Hz, 2H), 7.83 (d, *J* = 6.6 Hz, 2H), 10.42 (s, 1H); APCI-MS (*m/z*) 508 (M+H)<sup>+</sup>.

#### Example 32

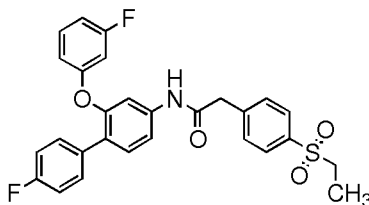
10 *N*-[2-(4-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 24 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.260 mmol), HOBt (43 mg, 0.325 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 27 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.20-3.28 (m, 2H), 3.78 (s, 2H), 6.99 (d, *J* = 9.0 Hz, 2H), 7.09-7.16 (m, 1H), 7.34-7.40 (m, 2H), 7.27-7.45 (m, 4H), 7.49 (s, 2H), 7.57 (d, *J* = 8.4 Hz, 2H), 10.45 (s, 2H), 10.58 (s, 1H); APCI-MS (*m/z*) 524 (M+H)<sup>+</sup>.

#### Example 33

2-[4-(Ethylsulfonyl)phenyl]-*N*-[4'-fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide

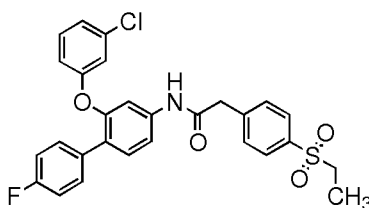


The title compound was prepared by the reaction of Intermediate 29 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.26 (q, *J* = 6.0 Hz, 2H), 3.79 (s, 2H), 6.71-6.95 (m, 3H), 7.23 (t, *J* = 7.8 Hz, 2H), 7.31-7.60 (m, 8H), 7.43 (d, *J* = 6.6 Hz, 1H), 7.62 (d, *J* = 6.0 Hz, 1H), 7.67 (d, *J* = 5.7 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 508 (M+H)<sup>+</sup>.

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## Example 34

*N*-[2-(3-Chlorophenoxy)-4'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

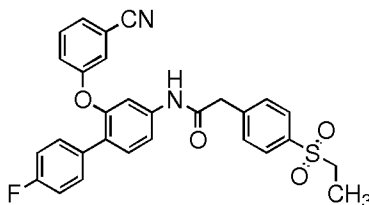


The title compound was prepared by the reaction of Intermediate 31 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.260 mmol), HOBt (39 mg, 0.290 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.18-3.28 (m, 2H), 3.79 (s, 2H), 6.90 (d, *J* = 8.4 Hz, 1H), 7.02 (s, 1H), 7.10-7.25 (m, 3H), 7.30-7.40 (m, 2H), 7.41-7.60 (m, 6H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 524 (M+H)<sup>+</sup>.

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## Example 35

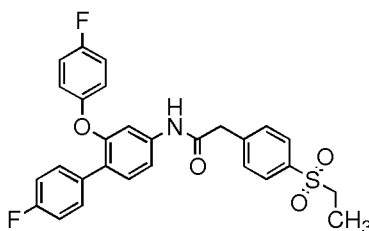
*N*-[2-(3-Cyanophenoxy)-4'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 33 (66 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (52 mg, 0.392 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 7.19 (t, *J* = 9.0 Hz, 2H), 7.25-7.31 (m, 1H), 7.38 (s, 1H), 7.43-7.48 (m, 4H), 7.49-7.53 (m, 3H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.83 (d, *J* = 8.1 Hz, 2H), 10.46 (s, 1H); APCI-MS (*m/z*) 516 (M+H)<sup>+</sup>.

## Example 36

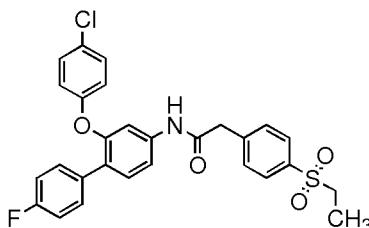
2-[4-(Ethylsulfonyl)phenyl]-*N*-[4'-fluoro-2-(4-fluorophenoxy)biphenyl-4-yl]acetamide



The title compound was prepared by the reaction of Intermediate 30 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 6.6 Hz, 2H), 3.76 (s, 2H), 7.01-7.10 (m, 2H), 7.14-7.29 (m, 5H), 7.35-7.60 (m, 6H), 7.86 (d, *J* = 8.4 Hz, 2H), 10.39 (s, 1H); APCI-MS (*m/z*) 508 (M+H)<sup>+</sup>.

Example 37

*N*-[2-(4-Chlorophenoxy)-4'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



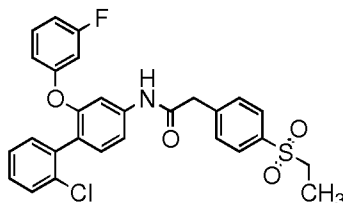
The title compound was prepared by the reaction of Intermediate 32 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.260 mmol), HOBt (39 mg, 0.290 mmol) in dichloromethane (5 ml) as per

the process described in Example 1 to yield 42 mg of product as white solid.  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO-}d_6$ )  $\delta$  1.08 (t,  $J = 5.7$  Hz, 3H), 3.20-3.29 (m, 2H), 3.77 (s, 2H), 6.97 (d,  $J = 8.7$  Hz, 2H), 7.23 (t,  $J = 9.3$  Hz, 2H), 7.31-7.60 (m, 9H), 7.82 (d,  $J = 8.4$  Hz, 2H), 10.42 (s, 1H).

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## Example 38

*N*-[2'-Chloro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

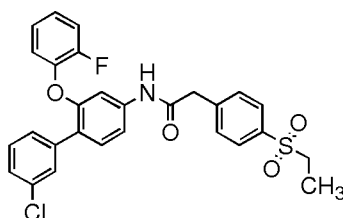


The title compound was prepared by the reaction of Intermediate 34 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as described in Example 1 to yield 30 mg of product as off white solid.  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO-}d_6$ )  $\delta$  1.08 (t,  $J = 7.5$  Hz, 3H), 3.26 (q,  $J = 6.6$  Hz, 2H), 3.78 (s, 2H), 6.76 (d,  $J = 8.4$  Hz, 2H), 6.90 (br s, 1H), 7.27-7.38 (m, 6H), 7.46 (d,  $J = 8.1$  Hz, 2H), 7.57 (d,  $J = 8.4$  Hz, 2H), 7.83 (d,  $J = 8.4$  Hz, 2H), 10.45 (s, 1H); APCI-MS ( $m/z$ ) 524 ( $\text{M}+\text{H}$ ) $^+$ .

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## Example 39

*N*-[3'-Chloro-2-(2-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



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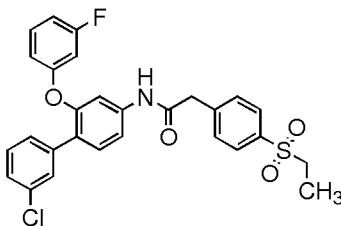
The title compound was prepared by the reaction of Intermediate 35 (70 mg, 0.223 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.223 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.297 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 47 mg of product as white solid.  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO-}d_6$ )  $\delta$  1.10 (t,  $J = 5.4$  Hz, 3H), 3.24 (q,  $J = 5.7$  Hz, 2H), 3.81 (s, 2H), 6.93 (d,  $J = 6.6$  Hz, 2H), 7.11 (d,  $J = 6.3$  Hz, 2H), 7.29 (t,  $J = 4.8$  Hz, 1H), 7.38-

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7.48 (m, 3H), 7.54-7.60 (m, 4H), 7.79 (s, 1H), 7.81-7.90 (d,  $J = 6.0$  Hz, 2H), 10.41 (s, 1H); APCI-MS ( $m/z$ ) 524 (M+H)<sup>+</sup>.

#### Example 40

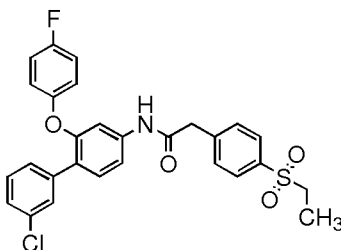
5 *N*-[3'-Chloro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



10 The title compound was prepared by the reaction of Intermediate 36 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.260 mmol), HOBt (39 mg, 0.290 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 52 mg of product as an off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t,  $J = 5.7$  Hz, 3H), 3.18-3.25 (m, 2H), 3.79 (s, 2H), 6.79 (d,  $J = 7.2$  Hz, 1H), 7.83-7.95 (m, 2H), 7.31-7.52 (m, 9H), 7.57 (d,  $J = 8.7$  Hz, 2H), 7.82 (d,  $J = 8.7$  Hz, 2H), 10.46 (s, 1H); APCI-MS ( $m/z$ ) 524 (M+H)<sup>+</sup>.

#### Example 41

15 *N*-[3'-Chloro-2-(4-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

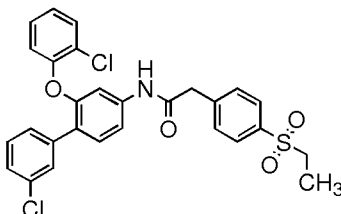


20 The title compound was prepared by the reaction of Intermediate 37 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 42 mg of product as an off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t,  $J = 5.7$  Hz, 3H), 3.20-3.30 (m, 2H), 3.76 (s, 2H), 7.01-7.10 (m, 2H), 7.15-7.30 (m, 3H), 7.35-7.60 (m, 8H), 7.82 (d,  $J = 8.7$  Hz, 2H), 10.41 (s, 1H); APCI-MS ( $m/z$ ) 524.66 (M+H)<sup>+</sup>.

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#### Example 42

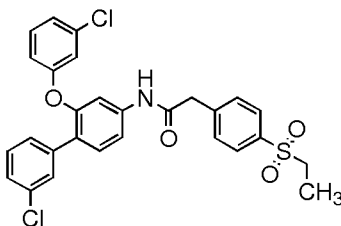
*N*-[3'-Chloro-2-(2-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 38 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (72 mg, 0.219 mmol) using EDCI (50 mg, 0.263 mmol), HOBt (40 mg, 0.298 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 36 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.4 Hz, 3H), 3.25 (q, *J* = 5.7 Hz, 2H), 3.75 (s, 2H), 7.05 (d, *J* = 6.0 Hz, 1H), 7.14-7.21 (m, 2H), 7.29-7.56 (m, 9H), 7.62 (s, 1H), 7.81 (d, *J* = 6.0 Hz, 2H), 10.39 (s, 1H); APCI-MS (*m/z*) 540 (M+H)<sup>+</sup>.

#### Example 43

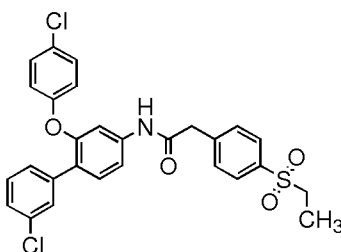
*N*-[3'-Chloro-2-(3-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 39 (61 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (54 mg, 0.282 mmol), HOBt (35 mg, 0.291 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 50 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.20-3.28 (m, 2H), 3.79 (s, 2H), 6.92 (d, *J* = 8.1 Hz, 1H), 7.06 (s, 1H), 7.15 (d, *J* = 8.1 Hz, 1H), 7.36 (t, *J* = 8.4 Hz, 4H), 7.49-7.60 (m, 6H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.46 (s, 1H); APCI-MS (*m/z*) 540 (M+H)<sup>+</sup>.

#### Example 44

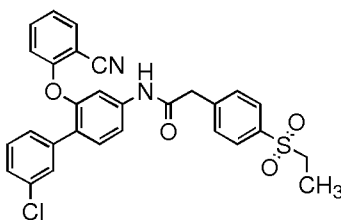
*N*-[3'-Chloro-2-(4-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 40 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 58 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.20-3.30 (m, 2H), 3.78 (s, 2H), 6.99 (d, *J* = 8.7 Hz, 2H), 7.30-7.60 (m, 11H), 7.83 (d, *J* = 8.7 Hz, 2H), 10.44 (s, 1H); APCI-MS (*m/z*) 540 (M+H)<sup>+</sup>.

#### Example 45

10 *N*-[3'-Chloro-2-(2-cyanophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

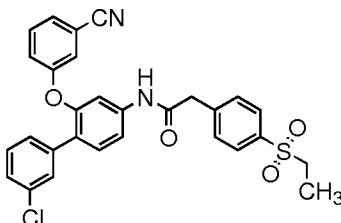


The title compound was prepared by the reaction of Intermediate 41 (35 mg, 0.109 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (32 mg, 0.109 mmol) using EDCI (25 mg, 0.131 mmol), HOBt (20 mg, 0.153 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 19 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 5.7 Hz, 3H), 3.26 (q, *J* = 5.7 Hz, 2H), 3.81 (s, 2H), 6.91 (d, *J* = 6.3 Hz, 1H), 7.22 (t, *J* = 6.3 Hz, 1H), 7.34-7.61 (m, 10H), 7.84 (d, *J* = 6.3 Hz, 3H), 10.54 (s, 1H); APCI-MS (*m/z*) 531 (M+H)<sup>+</sup>.

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#### Example 46

*N*-[3'-Chloro-2-(3-cyanophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

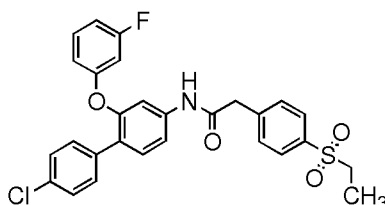




The title compound was prepared by the reaction of Intermediate 42 (70 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 35 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 3.27 (q, *J* = 6.6 Hz, 2H), 3.79 (s, 2H), 7.37-7.44 (m, 6H), 7.51-7.58 (m, 7H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.49 (s, 1H); APCI-MS (*m/z*) 531 (M+H)<sup>+</sup>.

## Example 47

*N*-[4'-Chloro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

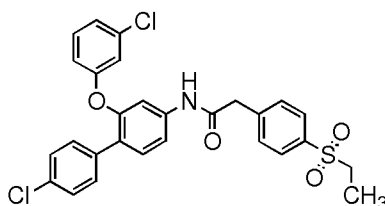


The title compound was prepared by the reaction of Intermediate 43 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.260 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.20-3.27 (m, 2H), 3.79 (s, 2H), 6.71-6.93 (m, 3H), 7.31-7.60 (m, 10H), 7.82 (d, *J* = 8.4 Hz, 2H), 10.46 (s, 1H); APCI-MS (*m/z*) 524 (M+H)<sup>+</sup>.

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## Example 48

*N*-[4'-Chloro-2-(3-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



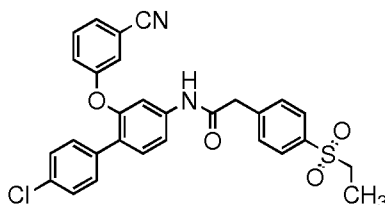
The title compound was prepared by the reaction of Intermediate 45 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H NMR

(300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  1.08 (t, *J* = 5.7 Hz, 3H), 3.20-3.31 (m, 2H), 3.79 (s, 2H), 6.90 (d, *J* = 6.9 Hz, 1H), 7.03 (s, 1H), 7.14 (d, *J* = 6.9 Hz, 1H), 7.27-7.50 (m, 8H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.82 (d, *J* = 8.4 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 540.24 (M+H)<sup>+</sup>.

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## Example 49

*N*-[4'-Chloro-2-(3-cyanophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

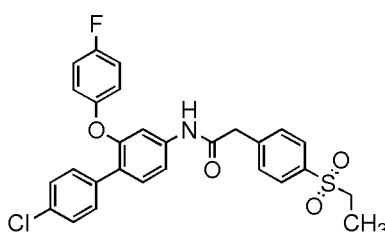


The title compound was prepared by the reaction of Intermediate 47 (70 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.79 (s, 2H), 7.28 (d, *J* = 6.6 Hz, 1H), 7.38-7.46 (m, 6H), 7.49-7.58 (m, 6H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 531 (M)<sup>+</sup>.

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## Example 50

*N*-[4'-Chloro-2-(4-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

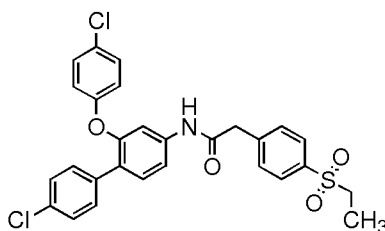


The title compound was prepared by the reaction of Intermediate 44 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.262 mmol), HOBt (39 mg, 0.290 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 21 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  1.08 (t, *J* = 5.7 Hz, 3H), 3.21-3.28 (m, 2H), 3.76 (s, 2H), 7.00-7.09 (m, 2H), 7.19 (t, *J* = 8.7 Hz, 2H), 7.24-7.30 (m, 1H), 7.42-7.50 (m, 4H), 7.51-7.60 (m, 4H), 7.82 (d, *J* = 8.4 Hz, 2H), 10.40 (s, 1H); APCI-MS (*m/z*) 524 (M+H)<sup>+</sup>.

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## Example 51

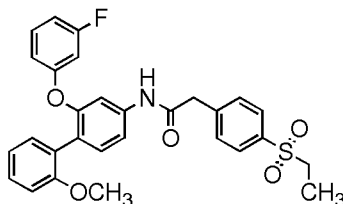
*N*-[4'-Chloro-2-(4-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



- 5 The title compound was prepared by the reaction of Intermediate 46 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (44 mg, 0.327 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 15 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 5.7 Hz, 3H), 3.22-3.30 (m, 2H), 3.78 (s, 2H), 6.98 (d, *J* = 9.0 Hz, 2H), 7.30-7.60 (m, 11H), 7.83 (d, *J* = 9.0 Hz, 2H), 10.44 (s, 1H); APCI-MS (*m/z*) 540 (M+H)<sup>+</sup>.
- 10

## Example 52

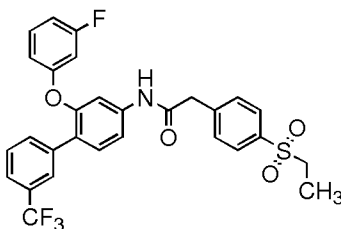
2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-2'-methoxybiphenyl-4-yl]acetamide



- 15 The title compound was prepared by the reaction of Intermediate 48 (80 mg, 0.258 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (59 mg, 0.258 mmol) using EDCI (59 mg, 0.310 mmol), HOBt (45 mg, 0.346 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 36 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.58 (s, 3H), 3.78 (s, 2H), 6.74 (d, *J* = 7.8 Hz, 1H), 6.87-6.99 (m, 3H), 7.15 (d, *J* = 6.9 Hz, 2H), 7.24-7.36 (m, 4H), 7.43 (d, *J* = 8.7 Hz, 1H), 7.58 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.39 (s, 1H); APCI-MS (*m/z*) 520 (M+H)<sup>+</sup>.
- 20

## Example 53

- 25 2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-3'-(trifluoromethyl)biphenyl-4-yl] acetamide

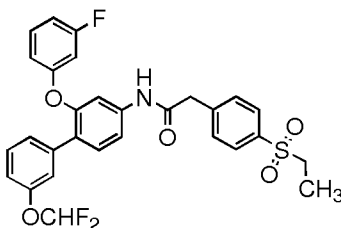


The title compound was prepared by the reaction of Intermediate 49 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), <sup>1</sup>H HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 68 mg of product as white solid NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.27 (q, *J* = 7.2 Hz, 2H), 3.80 (s, 2H), 6.78 (d, *J* = 8.7 Hz, 1H), 6.84-6.94 (m, 2H), 7.35 (d, *J* = 7.8 Hz, 1H), 7.43 (s, 1H), 7.54-7.64 (m, 6H), 7.79-7.85 (m, 4H), 10.49 (s, 1H); APCI-MS (*m/z*) 558 (M+H)<sup>+</sup>.

10

## Example 54

*N*-[3'-(Difluoromethoxy)-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl] acetamide

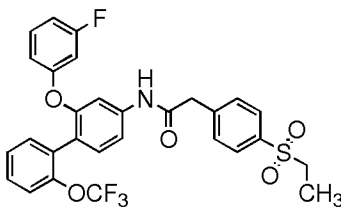


The title compound was prepared by the reaction of Intermediate 50 (95 mg, 0.275 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (63 mg, 0.275 mmol) using EDCI (63 mg, 0.330 mmol), HOBt (50 mg, 0.368 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 60 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 6.9 Hz, 2H), 3.79 (s, 2H), 6.77 (d, *J* = 7.8 Hz, 2H), 6.83-6.97 (m, 1H), 7.12 (br s, 1H), 7.21-7.29 (m, 2H), 7.35-7.42 (m, 4H), 7.50 (s, 2H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 7.5 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 554 (M-H)<sup>-</sup>.

20

## Example 55

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-2'-(trifluoromethoxy)biphenyl-4-yl] acetamide

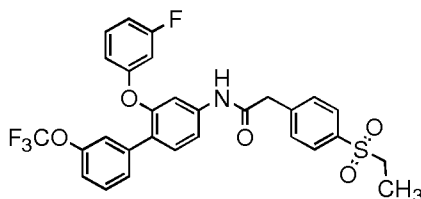


The title compound was prepared by the reaction of Intermediate 51 (80 mg, 0.220 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.220 mmol) using EDCI (50 mg, 0.264 mmol), HOBt (39 mg, 0.295 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 35 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.79 (s, 2H), 6.75 (d, *J* = 9.0 Hz, 2H), 6.92 (br s, 1H), 7.31-7.40 (m, 4H), 7.43-7.50 (m, 4H), 7.58 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.46 (s, 1H); APCI-MS (*m/z*) 574 (M+H)<sup>+</sup>.

10

## Example 56

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-3'-(trifluoromethoxy)biphenyl-4-yl] acetamide

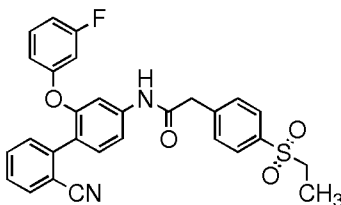


The title compound was prepared by the reaction of Intermediate 52 (70 mg, 0.192 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (43 mg, 0.192 mmol) using EDCI (44 mg, 0.213 mmol), HOBt (34 mg, 0.258 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.8 Hz, 3H), 3.26 (q, *J* = 6.9 Hz, 2H), 3.79 (s, 2H), 6.77 (d, *J* = 7.8 Hz, 1H), 6.82-6.92 (m, 2H), 7.30 (br s, 1H), 7.35 (d, *J* = 8.4 Hz, 1H), 7.43 (d, *J* = 6.9 Hz, 2H), 7.51 (s, 4H), 7.57 (d, *J* = 8.1 Hz, 2H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 574 (M+H)<sup>+</sup>.

20

## Example 57

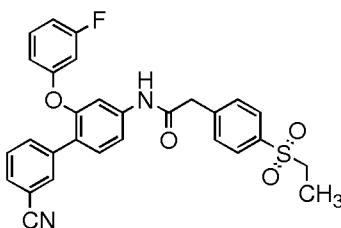
*N*-[2'-Cyano-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 53 (70 mg, 0.230 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (52 mg, 0.230 mmol) using EDCI (52 mg, 0.276 mmol), HOBt (41 mg, 0.3082 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 32 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.8 Hz, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.80 (s, 2H), 6.80-6.86 (m, 2H), 6.95 (br s, 1H), 7.36-7.43 (m, 3H), 7.49-7.59 (m, 5H), 7.71 (t, *J* = 7.8 Hz, 1H), 7.82-7.88 (m, 3H), 10.51 (s, 1H); APCI-MS (*m/z*) 515 (M+H)<sup>+</sup>.

#### Example 58

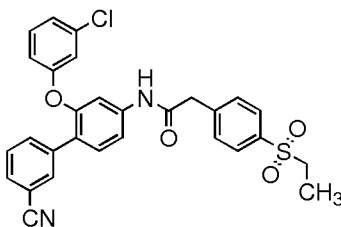
10 *N*-[3'-Cyano-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 54 (66 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 31 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.27 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.81 (d, *J* = 7.8 Hz, 1H), 6.89-6.95 (m, 2H), 7.39 (m, 2H), 7.52-7.61 (m, 5H), 7.77 (d, *J* = 8.4 Hz, 1H), 7.81-7.85 (m, 3H), 7.94 (br s, 1H), 10.49 (s, 1H); APCI-MS (*m/z*) 515 (M+H)<sup>+</sup>.

#### Example 59

*N*-[2-(3-Chlorophenoxy)-3'-cyanobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

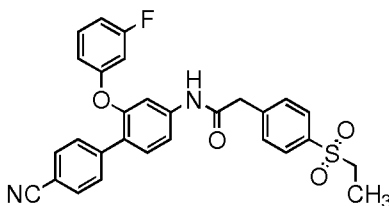


The title compound was prepared by the reaction of Intermediate 55 (70 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.24 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.96 (d, *J* = 8.4 Hz, 1H), 7.11 (br s, 1H), 7.17 (d, *J* = 8.1 Hz, 1H), 7.34-7.40 (m, 2H), 7.53-7.61 (m, 5H), 7.76 (d, *J* = 7.8 Hz, 1H), 7.81-7.86 (m, 3H), 7.95 (br s, 1H), 10.48 (s, 1H); APCI-MS (*m/z*) 531 (M)<sup>+</sup>.

10

## Example 60

*N*-[4'-Cyano-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

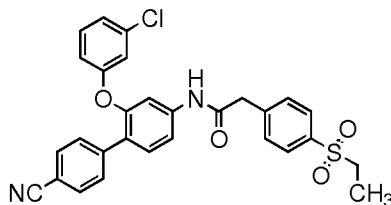


The title compound was prepared by the reaction of Intermediate 56 (66 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 51 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.24 (q, *J* = 7.5 Hz, 2H), 3.79 (s, 2H), 6.81 (d, *J* = 8.4 Hz, 1H), 6.82-6.95 (m, 2H), 7.34-7.39 (m, 2H), 7.52 (br s, 2H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.70 (d, *J* = 8.4 Hz, 2H), 7.81-7.86 (m, 4H), 10.50 (s, 1H); APCI-MS (*m/z*) 515 (M+H)<sup>+</sup>.

20

## Example 61

*N*-[2-(3-Chlorophenoxy)-4'-cyanobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

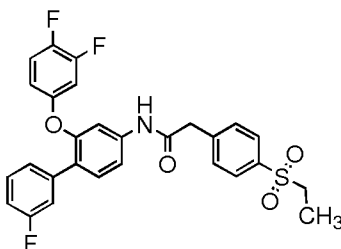


The title compound was prepared by the reaction of Intermediate 57 (70 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.96 (d, *J* = 7.8 Hz, 1H), 7.10 (br s, 1H), 7.17-7.20 (m, 1H), 7.34-7.40 (m, 2H), 7.53 (br s, 2H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.71 (d, *J* = 8.1 Hz, 2H), 7.81-7.86 (m, 4H), 10.49 (s, 1H); APCI-MS (*m/z*) 532 (M+H)<sup>+</sup>.

10

## Example 62

*N*-[2-(3,4-Difluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



15

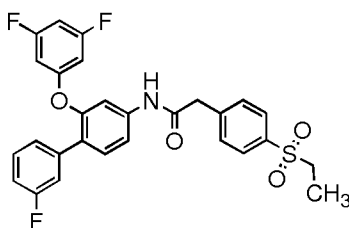
The title compound was prepared by the reaction of Intermediate 58 (69 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (2 ml) as per the process described in Example 1 to yield 53 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.07 (t, *J* = 7.5 Hz, 3H), 3.25 (q, *J* = 7.8 Hz, 2H), 3.76 (s, 2H), 6.79-6.84 (m, 1H), 7.09-7.19 (m, 2H), 7.29-7.35 (m, 3H), 7.37-7.41 (m, 2H), 7.46 (s, 2H), 7.55 (d, *J* = 8.4 Hz, 2H), 7.81 (d, *J* = 8.4 Hz, 2H), 10.42 (s, 1H); APCI-MS (*m/z*) 526 (M+H)<sup>+</sup>.

20

## Example 63

*N*-[2-(3,5-Difluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



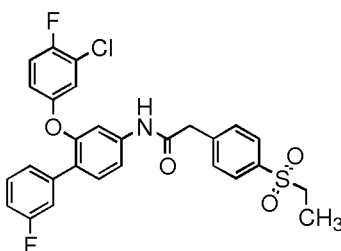


The title compound was prepared by the reaction of Intermediate 59 (69 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 52 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 3.27 (q, *J* = 6.6 Hz, 2H), 3.81 (s, 2H), 6.71 (br s, 2H), 6.94 (br s, 1H), 7.13 (br s, 1H), 7.32 (br s, 2H), 7.40-7.46 (m, 3H), 7.52 (s, 1H), 7.58 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 6.9 Hz, 2H), 10.50 (s, 1H); APCI-MS (*m/z*) 526 (M+H)<sup>+</sup>.

10

## Example 64

*N*-[2-(3-Chloro-4-fluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

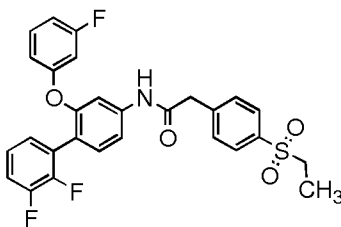


The title compound was prepared by the reaction of Intermediate 60 (73 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 54 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.78 (s, 2H), 7.03 (br s, 1H), 7.13 (br s, 1H), 7.30-7.36 (m, 4H), 7.40-7.46 (m, 2H), 7.49 (s, 2H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.83 (d, *J* = 7.2 Hz, 2H), 10.43 (s, 1H); APCI-MS (*m/z*) 542 (M+H)<sup>+</sup>.

20

## Example 65

*N*-[2',3'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

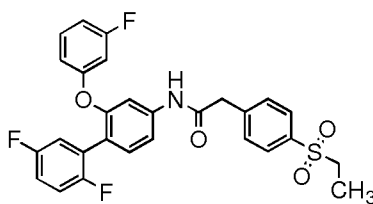


The title compound was prepared by the reaction of Intermediate 61 (90 mg, 0.285 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (65 mg, 0.285 mmol) using EDCI (65 mg, 0.342 mmol), HOBt (51 mg, 0.382 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 30 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.79 (s, 2H), 6.77-6.84 (m, 2H), 6.94 (br s, 1H), 7.21 (br s, 2H), 7.36-7.43 (m, 4H), 7.51 (d, *J* = 9.9 Hz, 1H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 8.1 Hz, 2H), 10.48 (s, 1H); APCI-MS (*m/z*) 526 (M+H)<sup>+</sup>.

10

## Example 66

*N*-[2',5'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

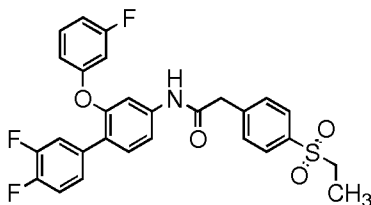


The title compound was prepared by the reaction of Intermediate 62 (90 mg, 0.285 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (65 mg, 0.285 mmol) using EDCI (65 mg, 0.342 mmol), HOBt (51 mg, 0.382 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 31 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.78 (s, 2H), 6.81 (d, *J* = 9.0 Hz, 1H), 6.84 (s, 1H), 6.94 (t, *J* = 7.8 Hz, 1H), 7.20-7.26 (m, 3H), 7.35-7.41 (m, 3H), 7.48 (d, *J* = 8.4 Hz, 1H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 526 (M+H)<sup>+</sup>.

20

## Example 67

*N*-[3',4'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

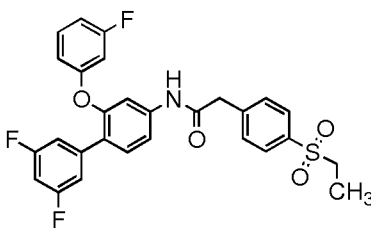


The title compound was prepared by the reaction of Intermediate 63 (75 mg, 0.237 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (54 mg, 0.237 mmol) using EDCI (54 mg, 0.285 mmol), HOBt (43 mg, 0.318 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 38 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.80 (d, *J* = 7.2 Hz, 1H), 6.85-6.96 (m, 2H), 7.33-7.38 (m, 4H), 7.42-7.51 (m, 3H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.45 (s, 1H); ESI-MS (*m/z*) 524 (M-H)<sup>+</sup>.

10

## Example 68

*N*-[3',5'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

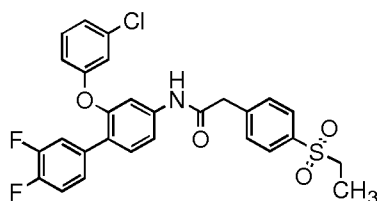


The title compound was prepared by the reaction of Intermediate 66 (90 mg, 0.285 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (55 mg, 0.285 mmol) using EDCI (65 mg, 0.342 mmol), HOBt (51 mg, 0.382 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 40 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.82 (d, *J* = 9.0 Hz, 1H), 6.89-6.95 (m, 2H), 7.15-7.24 (m, 3H), 7.39 (m, 2H), 7.52 (s, 2H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.83 (d, *J* = 8.4 Hz, 2H), 10.48 (s, 1H); APCI-MS (*m/z*) 526 (M+H)<sup>+</sup>.

20

## Example 69

*N*-[2-(3-Chlorophenoxy)-3',4'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

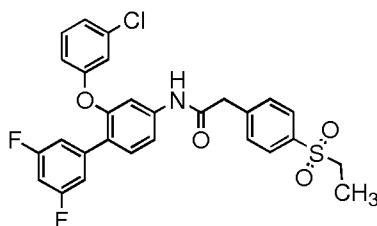


The title compound was prepared by the reaction of Intermediate 64 (80 mg, 0.241 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (55 mg, 0.241 mmol) using EDCI (55 mg, 0.289 mmol), HOBt (43 mg, 0.323 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 34 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.06 (t, *J* = 7.2 Hz, 3H), 3.24 (q, *J* = 7.5 Hz, 2H), 3.77 (s, 2H), 6.92 (d, *J* = 8.1 Hz, 1H), 7.06 (br s, 1H), 7.14 (d, *J* = 7.8 Hz, 1H), 7.31-7.37 (m, 4H), 7.40-7.47 (m, 3H), 7.55 (d, *J* = 7.8 Hz, 2H), 7.81 (d, *J* = 8.4 Hz, 2H), 10.44 (s, 1H); APCI-MS (*m/z*) 542 (M+H)<sup>+</sup>.

10

## Example 70

*N*-[2-(3-Chlorophenoxy)-3',5'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

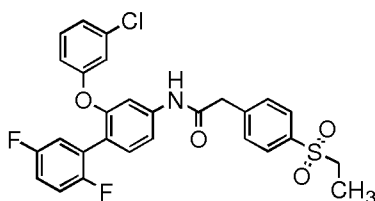


The title compound was prepared by the reaction of Intermediate 67 (80 mg, 0.241 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (55 mg, 0.241 mmol) using EDCI (55 mg, 0.287 mmol), HOBt (43 mg, 0.323 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 37 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.79 (s, 2H), 6.95 (d, *J* = 8.1 Hz, 1H), 7.11 (s, 1H), 7.17-7.25 (m, 4H), 7.34 (s, 1H), 7.39 (d, *J* = 8.1 Hz, 1H), 7.52 (s, 2H), 7.56 (d, *J* = 8.1 Hz, 2H), 7.82 (d, *J* = 8.1 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 542 (M+H)<sup>+</sup>.

20

## Example 71

*N*-[2-(3-Chlorophenoxy)-2',5'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

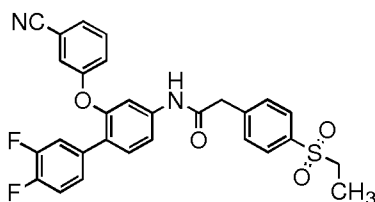


The title compound was prepared by the reaction of Intermediate 68 (90 mg, 0.271 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (61 mg, 0.271 mmol) using EDCI (62 mg, 0.325 mmol), HOBt (49 mg, 0.363 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 34 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.93 (d, *J* = 8.4 Hz, 1H), 7.03 (s, 1H), 7.16 (d, *J* = 7.2 Hz, 1H), 7.21-7.29 (m, 3H), 7.31-7.37 (m, 2H), 7.40 (d, *J* = 7.8 Hz, 1H), 7.50 (d, *J* = 9.0 Hz, 1H), 7.57 (d, *J* = 7.2 Hz, 2H), 7.83 (d, *J* = 8.7 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 540 (M-H)<sup>+</sup>.

10

## Example 72

*N*-[2-(3-Cyanophenoxy)-3',4'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

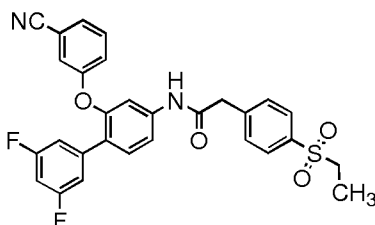


The title compound was prepared by the reaction of Intermediate 65 (100 mg, 0.310 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (70 mg, 0.310 mmol) using EDCI (71 mg, 0.372 mmol), HOBt (56 mg, 0.415 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 52 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (br s, 3H), 3.32 (q, *J* = 7.5 Hz, 2H), 3.78 (s, 2H), 7.35 (br s, 4H), 7.50 (br s, 5H), 7.56 (br s, 3H), 7.83 (d, *J* = 7.2 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 533 (M+H)<sup>+</sup>.

20

## Example 73

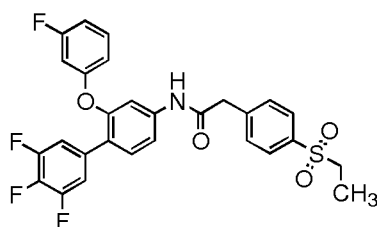
*N*-[2-(3-Cyanophenoxy)-3',5'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 69 (67 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 35 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (d, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 7.18-7.24 (m, 2H), 7.35 (br s, 2H), 7.56 (br s, 7H), 7.83 (d, *J* = 7.2 Hz, 2H); APCI-MS (*m/z*) 533 (M+H)<sup>+</sup>.

## Example 74

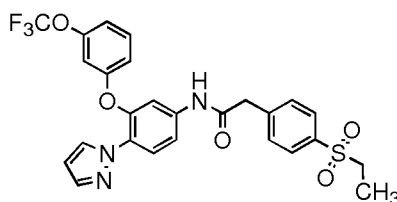
2-[4-(Ethylsulfonyl)phenyl]-*N*-[3',4',5'-trifluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide



The title compound was prepared by the reaction of Intermediate 70 (110 mg, 0.330 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (75 mg, 0.330 mmol) using EDCI (75 mg, 0.396 mmol), HOBt (59 mg, 0.442 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.01 (t, *J* = 7.2 Hz, 3H), 3.28 (q, *J* = 7.2 Hz, 2H), 3.85 (s, 2H), 6.83 (d, *J* = 9.6 Hz, 1H), 6.97 (d, *J* = 9.3 Hz, 2H), 7.42 (br s, 2H), 7.53 (d, *J* = 9.9 Hz, 2H), 7.61 (d, *J* = 8.7 Hz, 3H), 7.70-7.76 (m, 1H), 7.85 (d, *J* = 8.1 Hz, 2H), 10.63 (s, 1H); APCI-MS (*m/z*) 544 (M+H)<sup>+</sup>.

20 Example 75

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(1*H*-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide

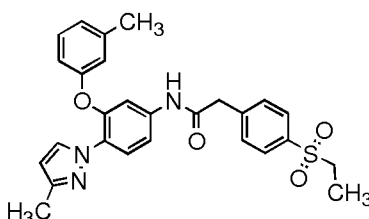


The title compound was prepared by the reaction of Intermediate 99 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (88 mg, 0.262 mmol) using EDCI (57 mg, 0.297 mmol), HOBt (36 mg, 0.262 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 100 mg of product as white solid. <sup>1</sup>H

NMR (300 MHz, DMSO- $d_6$ )  $\delta$  1.08 (br s, 3H), 3.32 (br s, 2H), 3.78 (s, 2H), 6.41 (s, 1H), 7.04-7.11 (m, 3H), 7.50-7.63 (m, 5H), 7.65 (br s, 2H), 7.82 (br s, 2H), 8.08 (s, 1H), 10.52 (s, 1H); APCI-MS ( $m/z$ ) 547 (M+H)<sup>+</sup>.

## Example 76

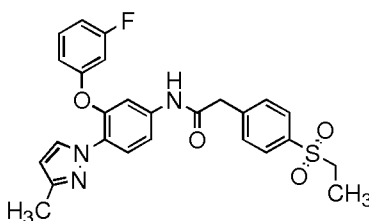
- 5 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-methylphenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide



The title compound was prepared by the reaction of Intermediate 100 (73 mg, 0.262 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (36 mg, 0.262 mmol), HOBt (36 mg, 0.262 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 90 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO- $d_6$ )  $\delta$  1.08 (t,  $J$  = 7.2 Hz, 3H), 2.22 (s, 3H), 2.27 (s, 3H), 3.26 (q,  $J$  = 7.2 Hz, 2H), 3.76 (s, 2H), 6.21 (s, 1H), 6.80 (d,  $J$  = 9.0 Hz, 1H), 6.86 (s, 1H), 6.96 (d,  $J$  = 8.4 Hz, 1H), 7.25 (t,  $J$  = 8.1 Hz, 1H), 7.35 (s, 1H), 7.46 (d,  $J$  = 9.0 Hz, 1H), 7.56 (d,  $J$  = 8.4 Hz, 2H), 7.67 (d,  $J$  = 8.7 Hz, 1H), 7.82 (d,  $J$  = 7.8 Hz, 2H), 7.96 (s, 1H), 10.42 (s, 1H); APCI-MS ( $m/z$ ) 490 (M+H)<sup>+</sup>.

## Example 77

- 20 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide

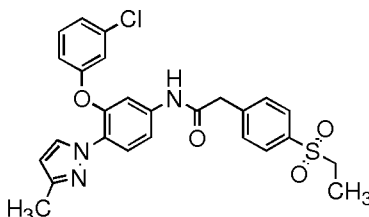


The title compound was prepared by the reaction of Intermediate 101 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (62 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO- $d_6$ )  $\delta$  1.08 (t,  $J$  = 7.2 Hz, 3H), 2.20 (s, 3H), 3.26 (q,  $J$  = 7.2 Hz, 2H), 3.78 (s, 2H), 6.21 (s, 1H), 6.83 (d,  $J$  = 8.4 Hz, 1H), 6.92-7.00 (m, 2H), 7.35-7.41

(m, 1H), 7.45-7.49 (m, 2H), 7.57 (d,  $J = 8.7$  Hz, 2H), 7.69 (d,  $J = 8.7$  Hz, 1H), 7.83 (d,  $J = 8.4$  Hz, 2H), 7.96 (br s, 1H), 10.48 (s, 1H); APCI-MS ( $m/z$ ) 494 (M+H)<sup>+</sup>.

#### Example 78

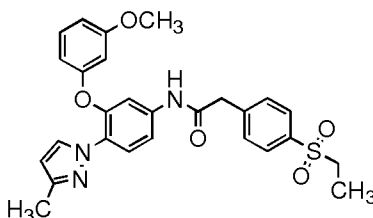
5 N-[3-(3-Chlorophenoxy)-4-(3-methyl-1H-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide



10 The title compound was prepared by the reaction of Intermediate 102 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  1.08 (br s, 3H), 2.20 (s, 3H), 3.28-3.35 (m, 2H), 3.78 (s, 2H), 6.21 (s, 1H), 6.95 (br s, 1H), 7.13-7.19 (m, 2H), 7.44-7.58 (m, 5H), 7.68 (br s, 1H), 7.81 (br s, 2H), 7.96 (br s, 1H), 10.47 (s, 1H); APCI-MS ( $m/z$ ) 510 (M)<sup>+</sup>.

#### Example 79

15 2-[4-(Ethylsulfonyl)phenyl]-N-[3-(3-methoxyphenoxy)-4-(3-methyl-1H-pyrazol-1-yl)phenyl] acetamide

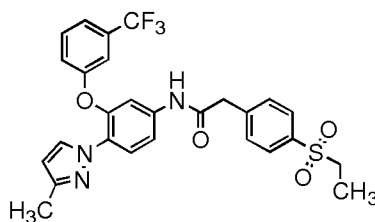


20 The title compound was prepared by the reaction of Intermediate 103 (64 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.350 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 31 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  1.08 (t,  $J = 7.2$  Hz, 3H), 2.21 (s, 3H), 3.25 (q,  $J = 6.6$  Hz, 2H), 3.71 (s, 3H), 3.76 (s, 2H), 6.21 (s, 1H), 6.55 (d,  $J = 8.4$  Hz, 1H), 6.63 (s, 1H), 6.72 (d,  $J = 8.5$  Hz, 1H), 7.26 (t,  $J = 7.8$  Hz, 1H), 7.40 (s, 1H), 7.46 (d,  $J = 8.4$  Hz, 1H), 7.56 (d,  $J = 6.6$  Hz, 2H), 7.67 (d,  $J = 8.7$  Hz, 1H), 7.82 (d,  $J = 6.9$  Hz, 2H), 7.97 (s, 1H), 10.43 (s, 1H); APCI-MS ( $m/z$ ) 506 (M+H)<sup>+</sup>.



## Example 80

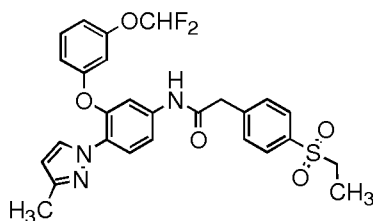
2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(3-methyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethyl)phenoxy] phenyl}acetamide



- 5 The title compound was prepared by the reaction of Intermediate 104 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.289 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 31 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 2.18 (s, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.78 (s, 2H), 6.19 (s, 1H), 7.27 (d, *J* = 7.5 Hz, 1H), 7.39 (s, 1H), 7.46-7.52 (m, 4H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.69 (d, *J* = 8.7 Hz, 1H), 7.82 (d, *J* = 8.1 Hz, 2H), 7.97 (s, 1H), 10.49 (s, 1H); APCI-MS (*m/z*) 544 (M+H)<sup>+</sup>.
- 10

## Example 81

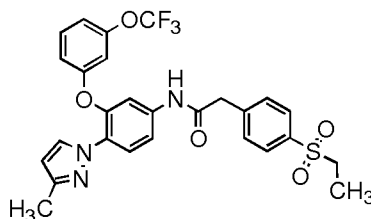
- 15 *N*-{3-[3-(Difluoromethoxy)phenoxy]-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl}-2-[4-(ethylsulfonyl) phenyl]acetamide



- The title compound was prepared by the reaction of Intermediate 105 (50 mg, 0.150 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (34 mg, 0.150 mmol) using EDCI (34 mg, 0.181 mmol), HOBt (27 mg, 0.202 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 34 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.20 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.78 (s, 2H), 6.21 (s, 1H), 6.83-6.95 (m, 3H), 7.40 (t, *J* = 7.8 Hz, 1H), 7.46 (t, *J* = 64.5 Hz, 1H), 7.48 (d, *J* = 9.0 Hz, 2H), 7.57 (d, *J* = 7.2 Hz, 2H), 7.69 (d, *J* = 9.0 Hz, 1H), 7.82 (d, *J* = 8.1 Hz, 2H), 7.95 (s, 1H), 10.47 (s, 1H); APCI-MS (*m/z*) 542 (M+H)<sup>+</sup>.
- 20
- 25

## Example 82

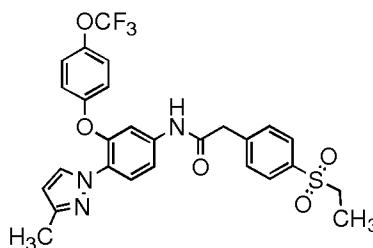
2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(3-methyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy] phenyl} acetamide



The title compound was prepared by the reaction of Intermediate 106 (75 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 37 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.19 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.78 (s, 2H), 6.19 (s, 1H), 6.99 (d, *J* = 8.4 Hz, 1H), 7.06 (s, 1H), 7.12 (d, *J* = 9.3 Hz, 1H), 7.44-7.51 (m, 3H), 7.57 (d, *J* = 8.1 Hz, 2H), 7.69 (d, *J* = 9.3 Hz, 1H), 7.82 (d, *J* = 8.1 Hz, 2H), 7.95 (s, 1H), 10.49 (s, 1H); APCI-MS (*m/z*) 560 (M+H)<sup>+</sup>.

#### Example 83

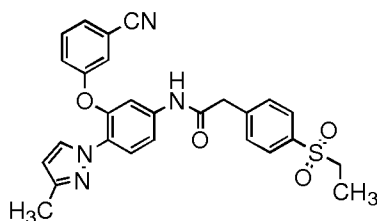
2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(3-methyl-1*H*-pyrazol-1-yl)-3-[4-(trifluoromethoxy)phenoxy] phenyl} acetamide



The title compound was prepared by the reaction of Intermediate 107 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (47 mg, 0.350 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 24 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (br s, 3H), 2.20 (br s, 3H), 3.24 (q, *J* = 7.4 Hz, 2H), 3.78 (s, 2H), 6.20 (s, 1H), 7.10 (br s, 3H), 7.35 (br s, 2H), 7.42-7.46 (m, 1H), 7.58 (m, 2H), 7.66 (br s, 1H), 7.81 (br s, 2H), 7.95 (br s, 1H), 10.49 (s, 1H); APCI-MS (*m/z*) 560 (M+H)<sup>+</sup>.

#### Example 84

*N*-[3-(3-Cyanophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide

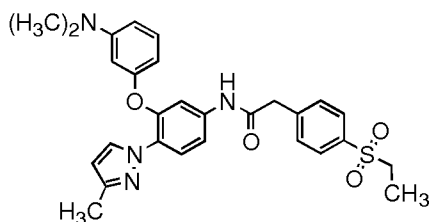


The title compound was prepared by the reaction of Intermediate 108 (63 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.260 mmol), HOBt (39 mg, 0.291 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 35 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 8.1 Hz, 3H), 2.19 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.79 (s, 2H), 6.19 (s, 1H), 7.33 (d, *J* = 9.3 Hz, 1H), 7.46-7.51 (m, 2H), 7.54-7.59 (m, 5H), 7.69 (d, *J* = 9.0 Hz, 1H), 7.83 (d, *J* = 8.4 Hz, 2H), 7.94 (s, 1H), 10.49 (s, 1H); APCI-MS (*m/z*) 501 (M+H)<sup>+</sup>.

10

## Example 85

*N*-{3-[3-(Dimethylamino)phenoxy]-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl}-2-[4-(ethylsulfonyl) phenyl]acetamide



15

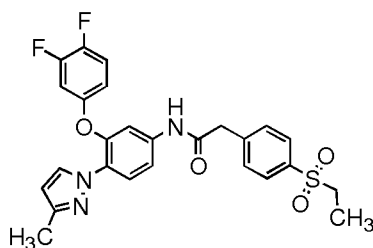
The title compound was prepared by the reaction of Intermediate 109 (80 mg, 0.262 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (57 mg, 0.297 mmol), HOBt (36 mg, 0.262 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 60 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.23 (s, 3H), 2.87 (s, 6H), 3.26 (q, *J* = 6.9 Hz, 2H), 3.76 (s, 2H), 6.23 (br s, 2H), 6.41 (s, 1H), 6.50 (d, *J* = 9.3 Hz, 1H), 7.14 (t, *J* = 8.1 Hz, 1H), 7.33 (s, 1H), 7.45 (d, *J* = 9.3 Hz, 1H), 7.56 (d, *J* = 8.4 Hz, 2H), 7.65 (d, *J* = 9.3 Hz, 1H), 7.82 (d, *J* = 8.4 Hz, 2H), 7.99 (s, 1H), 10.39 (s, 1H); APCI-MS (*m/z*) 519 (M+H)<sup>+</sup>.

20

## Example 86

25

*N*-[3-(3,4-Difluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide

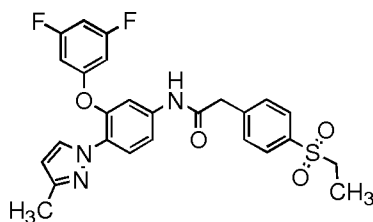


The title compound was prepared by the reaction of Intermediate 110 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 26 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (br s, 3H), 2.21 (s, 3H), 3.30 (q, *J* = 7.4 Hz, 2H), 3.78 (s, 2H), 6.21 (s, 1H), 6.88 (br s, 1H), 7.26 (br s, 1H), 7.41-7.46 (m, 3H), 7.58 (br s, 2H), 7.66 (d, *J* = 8.1 Hz, 1H), 7.82 (d, *J* = 8.4 Hz, 2H), 7.97 (s, 1H), 10.45 (s, 1H); APCI-MS (*m/z*) 512 (M+H)<sup>+</sup>.

10

## Example 87

*N*-[3-(3,5-Difluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl) phenyl]acetamide



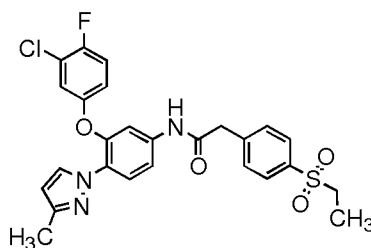
15

The title compound was prepared by the reaction of Intermediate 111 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.243 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 33 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 6.9 Hz, 3H), 2.19 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.80 (s, 2H), 6.21 (s, 1H), 6.78 (d, *J* = 8.7 Hz, 2H), 7.01 (br s, 1H), 7.49-7.59 (m, 4H), 7.69 (d, *J* = 8.7 Hz, 1H), 7.83 (d, *J* = 7.8 Hz, 2H), 7.93 (s, 1H), 10.51 (s, 1H); APCI-MS (*m/z*) 512 (M+H)<sup>+</sup>.

20

## Example 88

*N*-[3-(3-Chloro-4-fluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl) phenyl]acetamide

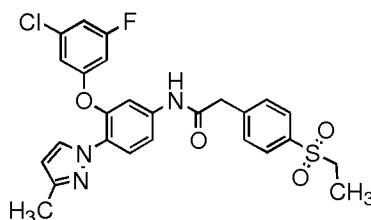


The title compound was prepared by the reaction of Intermediate 112 (69 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (47 mg, 0.350 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 21 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 2.21 (s, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.78 (s, 2H), 6.22 (s, 1H), 7.07 (br s, 1H), 7.38 (s, 2H), 7.43-7.49 (m, 2H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.66 (d, *J* = 9.3 Hz, 1H), 7.83 (d, *J* = 7.8 Hz, 2H), 7.99 (s, 1H), 10.45 (s, 1H); APCI-MS (*m/z*) 528 (M)<sup>+</sup>.

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## Example 89

*N*-[3-(3-Chloro-5-fluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl) phenyl]acetamide



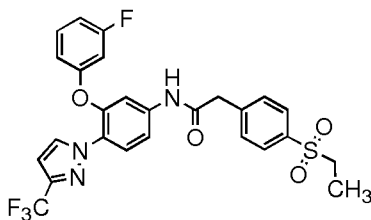
15

The title compound was prepared by the reaction of Intermediate 113 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (83 mg, 0.262 mmol) using EDCI (57 mg, 0.297 mmol), HOBt (36 mg, 0.262 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 65 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.5 Hz, 3H), 2.19 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.80 (s, 2H), 6.21 (s, 1H), 6.95 (br s, 2H), 6.94 (d, *J* = 8.4 Hz, 1H), 7.51 (br s, 2H), 7.58 (d, *J* = 9.0 Hz, 2H), 7.68 (br s, 1H), 7.83 (d, *J* = 7.8 Hz, 2H), 7.94 (s, 1H), 10.51 (s, 1H); APCI-MS (*m/z*) 528 (M)<sup>+</sup>.

20

## Example 90

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3-(3-fluorophenoxy)-4-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl] phenyl}acetamide

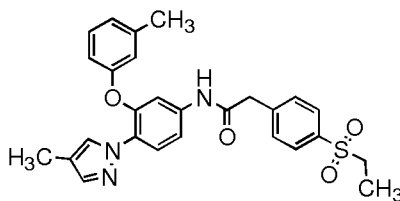


The title compound was prepared by the reaction of Intermediate 114 (73 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (44 mg, 0.328 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 19 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.80 (s, 2H), 6.89 (d, *J* = 8.1 Hz, 2H), 7.00 (d, *J* = 8.7 Hz, 2H), 7.37-7.43 (m, 1H), 7.45-7.50 (m, 1H), 7.53-7.59 (m, 3H), 7.68 (d, *J* = 8.4 Hz, 1H), 7.83 (d, *J* = 7.8 Hz, 2H), 8.30 (s, 1H), 10.56 (s, 1H); APCI-MS (*m/z*) 548 (M+H)<sup>+</sup>.

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## Example 91

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-methylphenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide



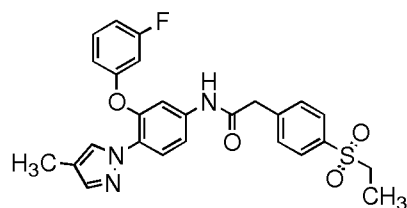
The title compound was prepared by the reaction of Intermediate 115 (73 mg, 0.262 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (57 mg, 0.297 mmol), HOBt (36 mg, 0.262 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 63 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 2.03 (s, 3H), 2.28 (s, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.76 (s, 2H), 6.82 (d, *J* = 8.4 Hz, 1H), 6.88 (s, 1H), 6.97 (d, *J* = 7.2 Hz, 1H), 7.26 (d, *J* = 7.2 Hz, 1H), 7.33 (s, 1H), 7.43-7.48 (m, 2H), 7.55 (d, *J* = 8.7 Hz, 2H), 7.65 (d, *J* = 8.7 Hz, 1H), 7.82 (d, *J* = 8.1 Hz, 2H), 7.87 (s, 1H), 10.41 (s, 1H); APCI-MS (*m/z*) 490 (M+H)<sup>+</sup>.

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## Example 92

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide

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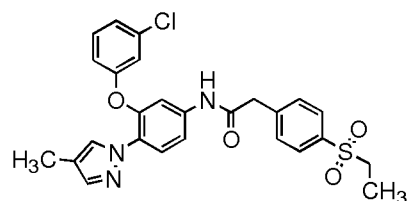


The title compound was prepared by the reaction of Intermediate 116 (62 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.02 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.78 (s, 2H), 6.85 (d, *J* = 8.4 Hz, 1H), 6.93-7.01 (m, 2H), 7.36-7.47 (m, 4H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.66 (d, *J* = 9.0 Hz, 1H), 7.81 (s, 1H), 7.85 (d, *J* = 6.9 Hz, 1H), 10.48 (s, 1H); APCI-MS (*m/z*) 494 (M+H)<sup>+</sup>.

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## Example 93

*N*-[3-(3-Chlorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide



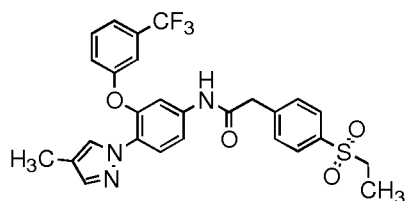
The title compound was prepared by the reaction of Intermediate 117 (58 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.288 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 32 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.06 (t, *J* = 7.2 Hz, 3H), 2.00 (s, 3H), 3.24 (q, *J* = 7.5 Hz, 2H), 3.76 (s, 2H), 6.99 (d, *J* = 7.5 Hz, 1H), 7.13 (s, 1H), 7.19 (d, *J* = 9.3 Hz, 1H), 7.35-7.40 (m, 2H), 7.46 (d, *J* = 6.3 Hz, 2H), 7.55 (d, *J* = 8.1 Hz, 2H), 7.64 (d, *J* = 8.7 Hz, 1H), 7.81 (d, *J* = 8.4 Hz, 2H), 7.85 (s, 1H), 10.46 (s, 1H); APCI-MS (*m/z*) 510 (M)<sup>+</sup>.

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## Example 94

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethyl)phenoxy] phenyl}acetamide

25

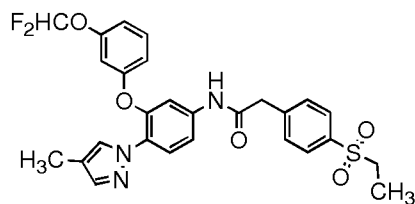


The title compound was prepared by the reaction of Intermediate 118 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.289 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 26 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 2.00 (s, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.78 (s, 2H), 7.28 (d, *J* = 8.7 Hz, 1H), 7.39-7.45 (m, 3H), 7.48-7.58 (m, 6H), 7.67 (d, *J* = 8.7 Hz, 1H), 7.82 (d, *J* = 8.1 Hz, 1H), 7.89 (s, 1H), 10.49 (s, 1H); APCI-MS (*m/z*) 544 (M+H)<sup>+</sup>.

10

## Example 95

*N*-{3-[3-(Difluoromethoxy)phenoxy]-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl}-2-[4-(ethylsulfonyl)phenyl]acetamide



15

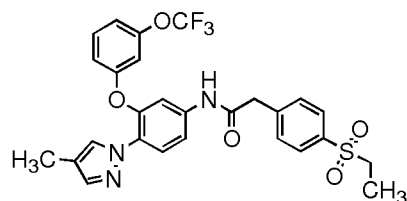
The title compound was prepared by the reaction of Intermediate 119 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 19 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 2.02 (s, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.78 (s, 2H), 6.84-6.91 (m, 2H), 6.93-6.99 (m, 1H), 7.26 (s, 1H), 7.41-7.47 (m, 4H), 7.56 (d, *J* = 8.7 Hz, 2H), 7.66 (d, *J* = 8.4 Hz, 1H), 7.81 (s, 1H), 7.85 (d, *J* = 7.8 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 542 (M+H)<sup>+</sup>.

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## Example 96

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl}acetamide



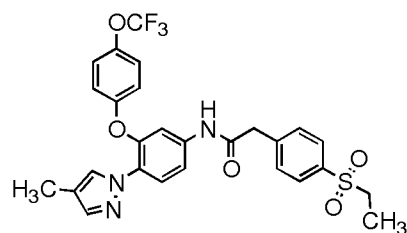


The title compound was prepared by the reaction of Intermediate 120 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 68 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 2.00 (s, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.78 (s, 2H), 7.03 (d, *J* = 8.7 Hz, 1H), 7.08-7.15 (m, 2H), 7.45-7.50 (m, 4H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.66 (d, *J* = 7.8 Hz, 1H), 7.81 (s, 1H), 7.85 (d, *J* = 6.3 Hz, 2H), 10.49 (s, 1H); APCI-MS (*m/z*) 560 (M+H)<sup>+</sup>.

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## Example 97

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-pyrazol-1-yl)-3-[4-(trifluoromethoxy)phenoxy] phenyl} acetamide

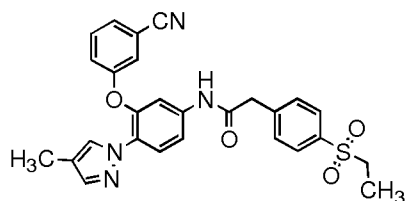


The title compound was prepared by the reaction of Intermediate 121 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (92 mg, 0.262 mmol) using EDCI (57 mg, 0.292 mmol), HOBt (36 mg, 0.262 mmol) in dichloromethane (5 ml) as described in Example 1 to yield 50 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.02 (s, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.78 (s, 2H), 7.14 (d, *J* = 9.3 Hz, 2H), 7.37-7.42 (m, 3H), 7.45-7.51 (m, 3H), 7.56 (d, *J* = 8.1 Hz, 1H), 7.66 (d, *J* = 8.1 Hz, 1H), 7.81-7.86 (m, 3H), 10.43 (s, 1H); APCI-MS (*m/z*) 560 (M+H)<sup>+</sup>.

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## Example 98

*N*-[3-(3-Cyanophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide

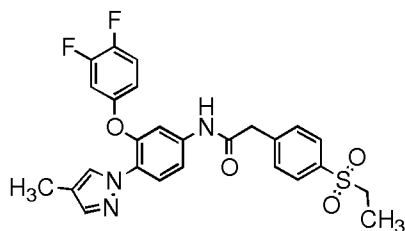


The title compound was prepared by the reaction of Intermediate 122 (63 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.01 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.78 (s, 2H), 7.35 (d, *J* = 9.0 Hz, 1H), 7.44-7.50 (m, 3H), 7.56-7.62 (m, 5H), 7.66 (d, *J* = 8.7 Hz, 1H), 7.81 (s, 1H), 7.85 (d, *J* = 6.9 Hz, 2H), 10.49 (s, 1H); APCI-MS (*m/z*) 501 (M+H)<sup>+</sup>.

10

## Example 99

*N*-[3-(3,4-Difluorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide

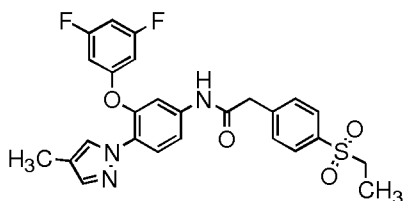


The title compound was prepared by the reaction of Intermediate 123 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (79 mg, 0.262 mmol) using EDCI (57 mg, 0.297 mmol), HOBt (36 mg, 0.262 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 60 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.03 (s, 3H), 3.24 (q, *J* = 7.8 Hz, 2H), 3.77 (s, 2H), 6.92 (br s, 1H), 7.28 (br s, 1H), 7.40 (br s, 1H), 7.43-7.48 (m, 3H), 7.55-7.58 (m, 2H), 7.63 (br s, 1H), 7.82 (d, *J* = 8.4 Hz, 2H), 7.88 (s, 1H), 10.45 (s, 1H); APCI-MS (*m/z*) 512 (M+H)<sup>+</sup>.

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## Example 100

*N*-[3-(3,5-Difluorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide

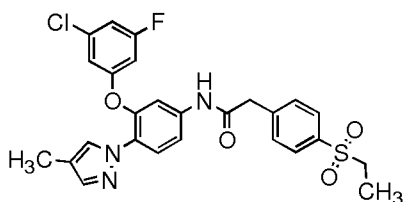


The title compound was prepared by the reaction of Intermediate 124 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 43 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 2.02 (s, 3H), 3.26 (q, *J* = 6.9 Hz, 2H), 3.80 (s, 2H), 6.80 (d, *J* = 8.4 Hz, 2H), 7.01 (br s, 1H), 7.47-7.52 (m, 3H), 7.58 (d, *J* = 7.8 Hz, 2H), 7.67 (d, *J* = 8.7 Hz, 1H), 7.80-7.86 (m, 3H), 10.51 (s, 1H); APCI-MS (*m/z*) 512 (M+H)<sup>+</sup>.

10

## Example 101

*N*-[3-(3-Chloro-5-fluorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide

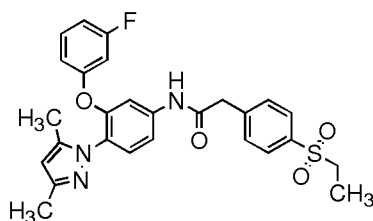


The title compound was prepared by the reaction of Intermediate 125 (69 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (51 mg, 0.260 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 20 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 2.02 (s, 3H), 3.27 (q, *J* = 6.9 Hz, 2H), 3.80 (s, 2H), 6.92-6.98 (m, 2H), 7.22 (d, *J* = 9.3 Hz, 1H), 7.47-7.57 (m, 3H), 7.58 (d, *J* = 7.2 Hz, 2H), 7.66 (d, *J* = 9.3 Hz, 1H), 7.83 (d, *J* = 8.4 Hz, 3H), 10.51 (s, 1H); APCI-MS (*m/z*) 528 (M)<sup>+</sup>.

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## Example 102

*N*-[4-(3,5-Dimethyl-1*H*-pyrazol-1-yl)-3-(3-fluorophenoxy)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide

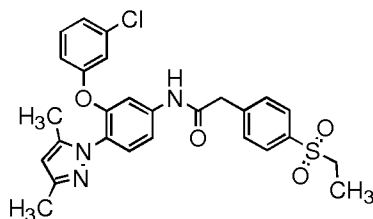


The title compound was prepared by the reaction of Intermediate 126 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 20 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 2.08 (s, 6H), 3.27 (q, *J* = 6.9 Hz, 2H), 3.79 (s, 2H), 5.90 (s, 1H), 6.78 (d, *J* = 7.5 Hz, 1H), 6.82-6.87 (m, 1H), 6.96 (t, *J* = 7.5 Hz, 1H), 7.33-7.39 (m, 2H), 7.44-7.49 (m, 2H), 7.57 (d, *J* = 8.1 Hz, 2H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.52 (s, 1H); APCI-MS (*m/z*) 508 (M+H)<sup>+</sup>.

10

## Example 103

*N*-[3-(3-Chlorophenoxy)-4-(3,5-dimethyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide



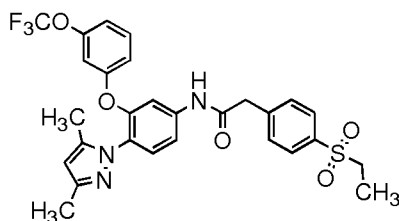
15

The title compound was prepared by the reaction of Intermediate 127 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 50 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.8 Hz, 3H), 2.08 (s, 6H), 3.27 (q, *J* = 7.2 Hz, 2H), 3.80 (s, 2H), 5.89 (s, 1H), 6.91 (d, *J* = 8.1 Hz, 1H), 7.01 (s, 1H), 7.17 (d, *J* = 6.3 Hz, 1H), 7.32-7.39 (m, 2H), 7.44-7.50 (m, 2H), 7.58 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.52 (s, 1H); APCI-MS (*m/z*) 524 (M+H)<sup>+</sup>.

20

## Example 104

*N*-{4-(3,5-Dimethyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl}-2-[4-(ethylsulfonyl)phenyl]acetamide

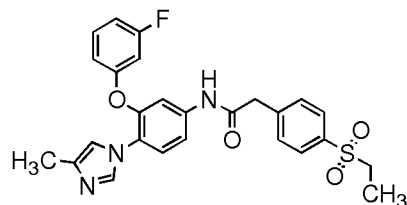


The title compound was prepared by the reaction of Intermediate 128 (80 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 65 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 2.06 (br s, 6H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.80 (s, 2H), 5.87 (s, 1H), 6.91-6.96 (m, 2H), 7.09 (d, *J* = 8.4 Hz, 1H), 7.38-7.43 (m, 2H), 7.45-7.50 (m, 2H), 7.58 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.54 (s, 1H); APCI-MS (*m/z*) 574 (M+H)<sup>+</sup>.

10

## Example 105

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(4-methyl-1*H*-imidazol-1-yl)phenyl] acetamide

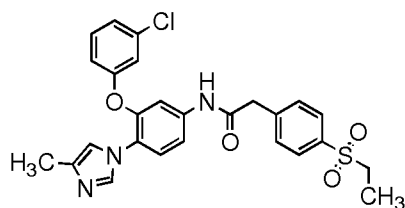


The title compound was prepared by the reaction of Intermediate 129 (62 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.09 (s, 3H), 3.25-3.30 (m, 2H), 3.78 (s, 2H), 6.87 (br s, 1H), 6.99 (br s, 2H), 7.12 (s, 1H), 7.41-7.48 (m, 4H), 7.57 (d, *J* = 7.5 Hz, 2H), 7.76 (s, 1H), 7.82 (d, *J* = 7.8 Hz, 2H), 10.50 (s, 1H); ESI-MS (*m/z*) 491 (M-H)<sup>+</sup>.

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## Example 106

*N*-[3-(3-Chlorophenoxy)-4-(4-methyl-1*H*-imidazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide

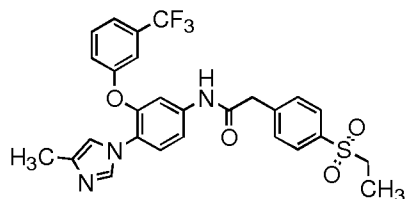


The title compound was prepared by the reaction of Intermediate 130 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (44 mg, 0.326 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 20 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.09 (s, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.78 (s, 2H), 6.99 (d, *J* = 7.8 Hz, 1H), 7.13-7.23 (m, 3H), 7.35-7.41 (m, 2H), 7.49 (s, 2H), 7.56 (d, *J* = 8.4 Hz, 2H), 7.77 (s, 1H), 7.82 (d, *J* = 7.8 Hz, 2H), 10.49 (s, 1H); APCI-MS (*m/z*) 510 (M)<sup>+</sup>.

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## Example 107

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-imidazol-1-yl)-3-[3-(trifluoromethyl)phenoxy] phenyl}acetamide

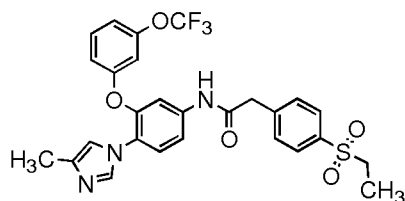


The title compound was prepared by the reaction of Intermediate 131 (73 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 16 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.8 Hz, 3H), 2.07 (s, 3H), 3.25 (q, *J* = 7.2 Hz, 2H), 3.77 (s, 2H), 7.13 (s, 1H), 7.30 (d, *J* = 9.9 Hz, 1H), 7.40 (br s, 2H), 7.50-7.59 (m, 6H), 7.76 (s, 1H), 7.81 (d, *J* = 8.4 Hz, 2H), 10.49 (s, 1H); APCI-MS (*m/z*) 544 (M+H)<sup>+</sup>.

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## Example 108

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-imidazol-1-yl)-3-[3-(trifluoromethoxy) phenoxy]phenyl}acetamide

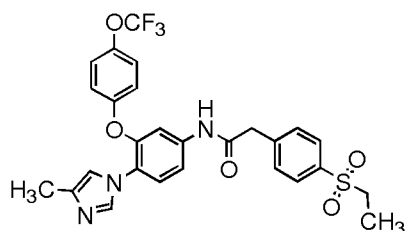


The title compound was prepared by the reaction of Intermediate 132 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (76 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.291 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 50 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 2.08 (s, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.78 (s, 2H), 7.03 (d, *J* = 8.4 Hz, 1H), 7.09-7.16 (m, 3H), 7.44-7.50 (m, 4H), 7.56 (d, *J* = 8.1 Hz, 2H), 7.74 (s, 1H), 7.82 (d, *J* = 7.8 Hz, 2H), 10.50 (s, 1H); APCI-MS (*m/z*) 560 (M+H)<sup>+</sup>.

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## Example 109

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-imidazol-1-yl)-3-[4-(trifluoromethoxy)phenoxy]phenyl}acetamide

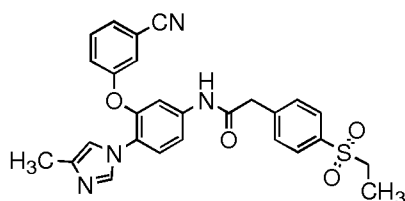


The title compound was prepared by the reaction of Intermediate 133 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 21 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (br s, 3H), 2.09 (s, 3H), 3.30 (q, *J* = 7.8 Hz, 2H), 3.78 (s, 2H), 7.14 (br s, 3H), 7.39 (br s, 3H), 7.50 (s, 3H), 7.57 (br s, 1H), 7.76 (s, 1H), 7.82 (d, *J* = 8.4 Hz, 2H), 10.48 (s, 1H); APCI-MS (*m/z*) 560 (M+H)<sup>+</sup>.

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## Example 110

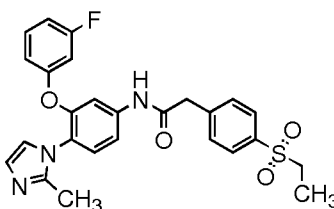
*N*-[3-(3-Cyanophenoxy)-4-(4-methyl-1*H*-imidazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide



The title compound was prepared by the reaction of Intermediate 134 (90 mg, 0.310 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (70 mg, 0.310 mmol) using EDCI (71 mg, 0.372 mmol), HOBt (56 mg, 0.415 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.6 Hz, 3H), 2.08 (s, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.78 (s, 2H), 7.12 (s, 1H), 7.36-7.41 (m, 2H), 7.50 (s, 2H), 7.55-7.63 (m, 5H), 7.75 (s, 2H), 7.82 (d, *J* = 8.1 Hz, 2H), 10.50 (s, 1H); APCI-MS (*m/z*) 501 (M+H)<sup>+</sup>.

## Example 111

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(2-methyl-1*H*-imidazol-1-yl)phenyl] acetamide

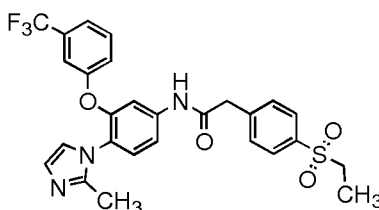


The title compound was prepared by the reaction of Intermediate 135 (65 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 56 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.8 Hz, 3H), 2.14 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.79 (s, 2H), 6.80 (br s, 2H), 6.86-6.97 (m, 2H), 7.10 (s, 1H), 7.36-7.41 (m, 1H), 7.44-7.52 (m, 3H), 7.57 (d, *J* = 8.4 Hz, 2H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.55 (s, 1H); APCI-MS (*m/z*) 494 (M+H)<sup>+</sup>.

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## Example 112

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-methyl-1*H*-imidazol-1-yl)-3-[3-(trifluoromethyl)phenoxy] phenyl} acetamide



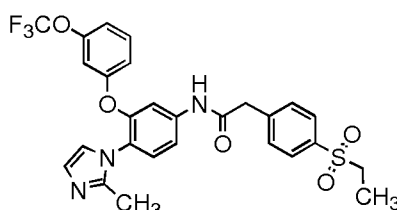
The title compound was prepared by the reaction of Intermediate 136 (89 mg, 0.262 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (57 mg, 0.297 mmol), HOBt (36 mg, 0.262 mmol) in dichloromethane (5 ml) as described in Example 1 to yield 75 mg of product as off white solid. <sup>1</sup>H NMR (300



MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 2.13 (s, 3H), 3.27 (q, *J* = 7.8 Hz, 2H), 3.80 (s, 2H), 6.77 (s, 1H), 7.10 (s, 1H), 7.27 (s, 2H), 7.48 (br s, 3H), 7.54-7.59 (m, 4H), 7.83 (d, *J* = 7.8 Hz, 2H), 10.57 (s, 1H); APCI-MS (*m/z*) 543 (M)<sup>+</sup>.

## Example 113

- 5 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-methyl-1*H*-imidazol-1-yl)-3-[3-(trifluoromethoxy) phenoxy]phenyl}acetamide

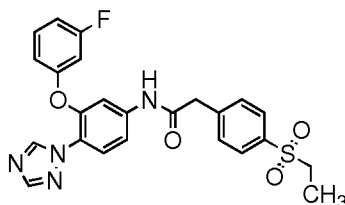


The title compound was prepared by the reaction of Intermediate 137 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 24 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 2.13 (s, 3H), 3.25 (br s, 2H), 3.79 (s, 2H), 6.78 (s, 1H), 6.97 (br s, 2H), 7.08 (br s, 2H), 7.45-7.52 (m, 4H), 7.57 (d, *J* = 7.2 Hz, 2H), 7.85 (d, *J* = 7.4 Hz, 2H), 10.55 (s, 1H); APCI-MS (*m/z*) 560 (M+H)<sup>+</sup>.

15

## Example 114

- 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(1*H*-1,2,4-triazol-1-yl)phenyl]acetamide

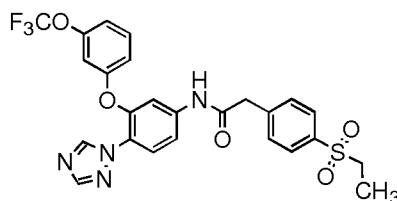


The title compound was prepared by the reaction of Intermediate 138 (59 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 20 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 6.9 Hz, 2H), 3.80 (s, 2H), 6.90 (d, *J* = 7.8 Hz, 1H), 6.98-7.03 (m, 2H), 7.39-7.44 (m, 2H), 7.49 (s, 1H), 7.54-7.59 (m, 3H), 7.69 (d, *J* = 7.8 Hz, 1H), 7.83 (d, *J* = 6.3 Hz, 1H), 8.16 (s, 1H), 8.89 (s, 1H), 10.56 (s, 1H); APCI-MS (*m/z*) 481 (M+H)<sup>+</sup>.

25

## Example 115

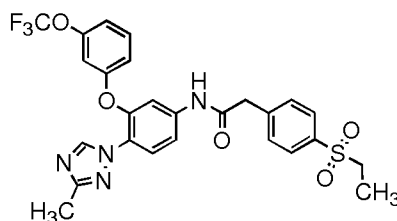
2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(1*H*-1,2,4-triazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy] phenyl} acetamide



The title compound was prepared by the reaction of Intermediate 139 (103 mg, 0.306 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (70 mg, 0.306 mmol) using EDCI (70 mg, 0.367 mmol), HOBt (55 mg, 0.410 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 46 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.27 (q, *J* = 8.4 Hz, 2H), 3.80 (s, 2H), 7.08 (d, *J* = 8.4 Hz, 1H), 7.14 (br s, 2H), 7.50-7.58 (m, 5H), 7.70 (d, *J* = 9.6 Hz, 1H), 7.83 (d, *J* = 7.8 Hz, 2H), 8.15 (s, 1H), 8.91 (s, 1H), 10.57 (s, 1H); APCI-MS (*m/z*) 547 (M+H)<sup>+</sup>.

#### Example 116

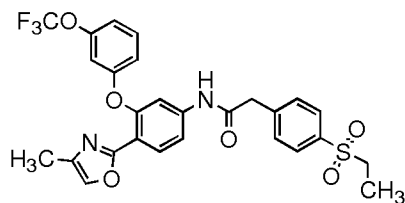
2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(3-methyl-1*H*-1,2,4-triazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide



The title compound was prepared by the reaction of Intermediate 140 (100 mg, 0.285 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (65 mg, 0.285 mmol) using EDCI (65 mg, 0.342 mmol), HOBt (51 mg, 0.382 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 35 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 8.1 Hz, 3H), 2.28 (s, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.79 (s, 2H), 7.07 (d, *J* = 7.2 Hz, 1H), 7.12-7.18 (m, 2H), 7.47-7.58 (m, 5H), 7.65 (d, *J* = 8.7 Hz, 1H), 7.82 (d, *J* = 8.7 Hz, 2H), 8.75 (s, 1H), 10.54 (s, 1H); APCI-MS (*m/z*) 561 (M+H)<sup>+</sup>.

#### Example 117

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(5-methyl-1,3-oxazol-2-yl)-3-[3-(trifluoromethoxy)phenoxy] phenyl} acetamide

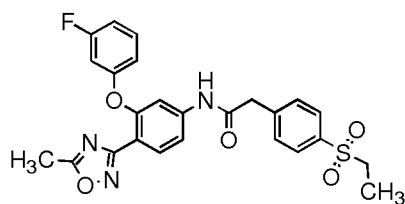


The title compound was prepared by the reaction of Intermediate 141 (65 mg, 0.185 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (42 mg, 0.185 mmol) using EDCI (43 mg, 0.222 mmol), HOBt (34 mg, 0.248 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 19 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.22 (s, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.81 (s, 2H), 6.87-6.92 (m, 2H), 6.97 (s, 1H), 7.07 (d, *J* = 7.8 Hz, 1H), 7.44 (t, *J* = 7.8 Hz, 1H), 7.53-7.59 (m, 4H), 7.57 (d, *J* = 8.7 Hz, 2H), 7.95 (d, *J* = 9.3 Hz, 1H), 10.61 (s, 1H); APCI-MS (*m/z*) 561 (M+H)<sup>+</sup>.

10

## Example 118

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(5-methyl-1,2,4-oxadiazol-3-yl)phenyl] acetamide

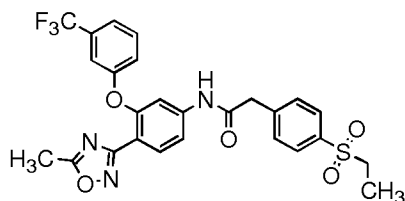


The title compound was prepared by the reaction of Intermediate 143 (62 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 24 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 2.60 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.81 (s, 2H), 6.78 (d, *J* = 8.7 Hz, 1H), 6.84-6.90 (m, 1H), 6.97 (br s, 1H), 7.39 (d, *J* = 7.2 Hz, 1H), 7.48 (s, 1H), 7.57 (d, *J* = 7.8 Hz, 3H), 7.83 (d, *J* = 8.4 Hz, 2H), 7.99 (d, *J* = 9.3 Hz, 1H), 10.61 (s, 1H); APCI-MS (*m/z*) 496 (M+H)<sup>+</sup>.

20

## Example 119

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(5-methyl-1,2,4-oxadiazol-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide

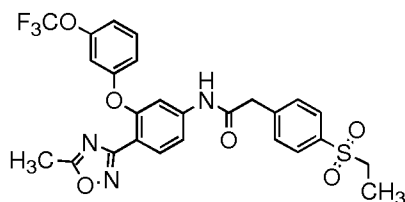


The title compound was prepared by the reaction of Intermediate 142 (73 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.213 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 20 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 2.59 (s, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.81 (s, 2H), 7.23 (d, *J* = 7.2 Hz, 1H), 7.31 (s, 1H), 7.49 (br s, 2H), 7.55-7.61 (m, 4H), 7.82 (d, *J* = 7.8 Hz, 2H), 8.02 (d, *J* = 8.1 Hz, 1H), 10.63 (s, 1H); APCI-MS (*m/z*) 545 (M+H)<sup>+</sup>.

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## Example 120

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(5-methyl-1,2,4-oxadiazol-3-yl)-3-[3-(trifluoromethoxy) phenoxy]phenyl}acetamide

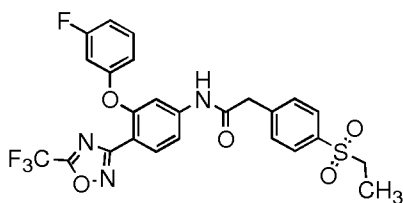


The title compound was prepared by the reaction of Intermediate 144 (115 mg, 0.328 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (75 mg, 0.328 mmol) using EDCI (76 mg, 0.394 mmol), HOBt (60 mg, 0.445 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 20 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 2.59 (s, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.81 (s, 2H), 6.94 (d, *J* = 9.3 Hz, 1H), 7.00 (s, 1H), 7.11 (d, *J* = 7.5 Hz, 1H), 7.44-7.50 (m, 2H), 7.57 (d, *J* = 8.1 Hz, 3H), 7.82 (d, *J* = 8.7 Hz, 2H), 8.00 (d, *J* = 9.0 Hz, 1H), 10.63 (s, 1H); APCI-MS (*m/z*) 562 (M+H)<sup>+</sup>.

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## Example 121

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3-(3-fluorophenoxy)-4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl}acetamide

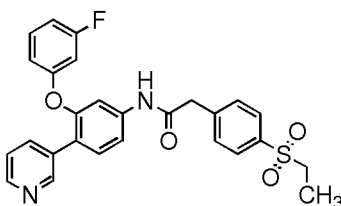


The title compound was prepared by the reaction of Intermediate 145 (74 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 20 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.81 (s, 2H), 6.89 (d, *J* = 8.4 Hz, 1H), 6.94-7.02 (m, 2H), 7.43 (d, *J* = 6.3 Hz, 1H), 7.55 (s, 1H), 7.55-7.61 (m, 3H), 7.83 (d, *J* = 8.4 Hz, 2H), 8.07 (d, *J* = 8.4 Hz, 1H), 10.68 (s, 1H); APCI-MS (*m/z*) 550 (M+H)<sup>+</sup>.

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## Example 122

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(pyridin-3-yl)phenyl]acetamide

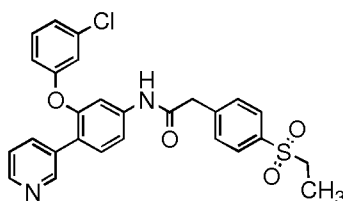


The title compound was prepared by the reaction of Intermediate 71 (61 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 55 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.27 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 6.80 (d, *J* = 7.2 Hz, 1H), 6.86-6.92 (m, 2H), 7.35-7.42 (m, 3H), 7.53 (br s, 2H), 7.57 (d, *J* = 8.1 Hz, 2H), 7.83 (d, *J* = 8.1 Hz, 2H), 7.90 (d, *J* = 7.8 Hz, 1H), 8.47 (br s, 1H), 8.69 (br s, 1H), 10.48 (s, 1H); APCI-MS (*m/z*) 491 (M+H)<sup>+</sup>.

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## Example 123

*N*-[3-(3-Chlorophenoxy)-4-(pyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide

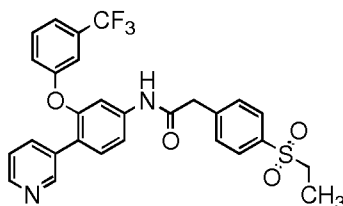


The title compound was prepared by the reaction of Intermediate 72 (64 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.79 (s, 2H), 6.94 (d, *J* = 8.4 Hz, 1H), 7.08 (s, 1H), 7.16 (d, *J* = 7.8 Hz, 1H), 7.33-7.39 (m, 3H), 7.53 (s, 2H), 7.57 (d, *J* = 7.8 Hz, 2H), 7.83 (d, *J* = 8.1 Hz, 2H), 7.90 (d, *J* = 7.2 Hz, 1H), 8.48 (s, 1H), 8.69 (s, 1H), 10.48 (s, 1H); APCI-MS (*m/z*) 507 (M+H)<sup>+</sup>.

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## Example 124

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide

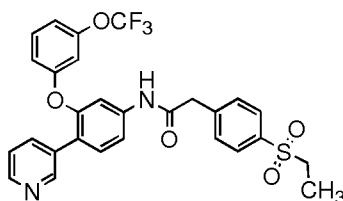


The title compound was prepared by the reaction of Intermediate 73 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 35 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.8 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 7.26 (d, *J* = 8.1 Hz, 1H), 7.33 (s, 1H), 7.37-7.46 (m, 3H), 7.54-7.59 (m, 5H), 7.83 (d, *J* = 8.1 Hz, 2H), 7.92 (d, *J* = 9.0 Hz, 1H), 8.47 (br s, 1H), 8.69 (s, 1H), 10.49 (s, 1H); APCI-MS (*m/z*) 541 (M+H)<sup>+</sup>.

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## Example 125

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide

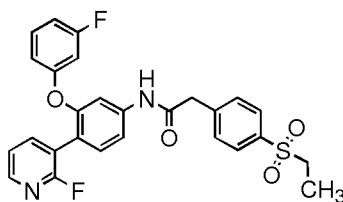


The title compound was prepared by the reaction of Intermediate 74 (45 mg, 0.129 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (35 mg, 0.155 mmol) using EDCI (29 mg, 0.155 mmol), HOBt (23 mg, 0.174 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 19 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.27 (q, *J* = 7.8 Hz, 2H), 3.80 (s, 2H), 6.98 (br s, 2H), 7.09 (br s, 1H), 7.38-7.44 (m, 4H), 7.53-7.60 (m, 3H), 7.83 (d, *J* = 7.8 Hz, 2H), 7.88 (br s, 1H), 8.46 (br s, 1H), 8.68 (br s, 1H), 10.50 (s, 1H); APCI-MS (*m/z*) 557 (M+H)<sup>+</sup>.

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## Example 126

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(2-fluoropyridin-3-yl)phenyl]acetamide



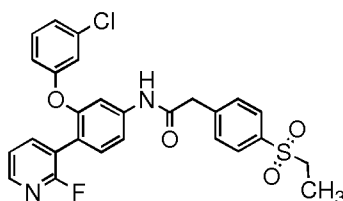
The title compound was prepared by the reaction of Intermediate 75 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (65 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 50 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.5 Hz, 3H), 3.27 (q, *J* = 7.8 Hz, 2H), 3.84 (s, 2H), 6.92 (d, *J* = 8.1 Hz, 1H), 6.98-7.05 (m, 2H), 7.25-7.30 (m, 1H), 7.41 (d, *J* = 8.4 Hz, 1H), 7.51 (t, *J* = 7.8 Hz, 1H), 7.69 (d, *J* = 8.4 Hz, 1H), 7.61 (d, *J* = 8.4 Hz, 2H), 7.66-7.73 (m, 1H), 7.83-7.89 (m, 3H), 8.19 (br s, 1H), 10.59 (s, 1H); APCI-MS (*m/z*) 509 (M+H)<sup>+</sup>.

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## Example 127

*N*-[3-(3-Chlorophenoxy)-4-(2-fluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide

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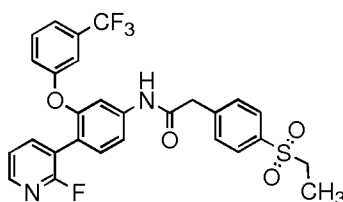


The title compound was prepared by the reaction of Intermediate 76 (68 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.5 Hz, 3H), 3.27 (q, *J* = 7.8 Hz, 2H), 3.84 (s, 2H), 7.03 (d, *J* = 7.8 Hz, 1H), 7.19 (s, 1H), 7.26-7.32 (m, 2H), 7.38-7.44 (m, 2H), 7.48-7.56 (m, 1H), 7.61 (d, *J* = 8.4 Hz, 2H), 7.68 (d, *J* = 8.7 Hz, 1H), 7.85 (d, *J* = 8.7 Hz, 2H), 7.89 (s, 1H), 8.17 (br s, 1H), 10.59 (s, 1H); APCI-MS (*m/z*) 525 (M)<sup>+</sup>.

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## Example 128

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-fluoropyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide



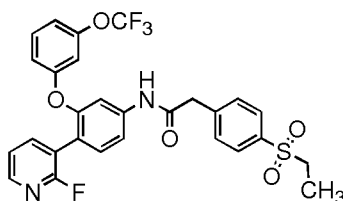
The title compound was prepared by the reaction of Intermediate 77 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 3.27 (q, *J* = 7.5 Hz, 2H), 3.84 (s, 2H), 7.26-7.31 (m, 1H), 7.40-7.46 (m, 3H), 7.52-7.62 (m, 5H), 7.66-7.72 (m, 1H), 7.85 (d, *J* = 8.4 Hz, 2H), 7.90 (d, *J* = 6.3 Hz, 1H), 8.17 (br s, 1H), 10.60 (s, 1H); APCI-MS (*m/z*) 559 (M+H)<sup>+</sup>.

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## Example 129

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-fluoropyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide

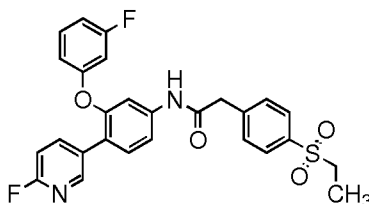




The title compound was prepared by the reaction of Intermediate 78 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (79 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 6.9 Hz, 3H), 3.27 (q, *J* = 7.8 Hz, 2H), 3.84 (s, 2H), 7.13 (d, *J* = 7.5 Hz, 2H), 7.19 (d, *J* = 8.4 Hz, 1H), 7.29 (t, *J* = 7.5 Hz, 1H), 7.41 (d, *J* = 8.1 Hz, 1H), 7.52 (t, *J* = 9.0 Hz, 2H), 7.60 (d, *J* = 8.4 Hz, 2H), 7.69 (d, *J* = 12.6 Hz, 1H), 7.82-7.87 (m, 3H), 8.17 (br s, 1H), 10.59 (s, 1H); APCI-MS (*m/z*) 575 (M+H)<sup>+</sup>.

#### Example 130

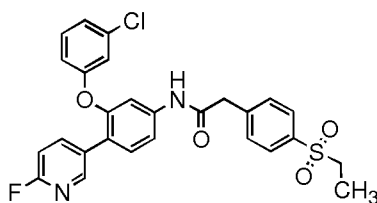
2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(6-fluoropyridin-3-yl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 79 (65 mg, 0.217 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (49 mg, 0.217 mmol) using EDCI (49 mg, 0.261 mmol), HOBt (39 mg, 0.288 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 34 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.5 Hz, 3H), 3.28 (q, *J* = 7.2 Hz, 2H), 3.84 (s, 2H), 7.03 (d, *J* = 9.9 Hz, 1H), 7.08-7.18 (m, 3H), 7.41 (d, *J* = 7.2 Hz, 1H), 7.45-7.54 (m, 2H), 7.61 (d, *J* = 8.4 Hz, 2H), 7.72 (d, *J* = 8.4 Hz, 1H), 7.85 (d, *J* = 8.4 Hz, 2H), 8.03 (d, *J* = 8.1 Hz, 1H), 8.32 (s, 1H), 10.59 (s, 1H); APCI-MS (*m/z*) 509 (M+H)<sup>+</sup>.

#### Example 131

*N*-[3-(3-Chlorophenoxy)-4-(6-fluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide

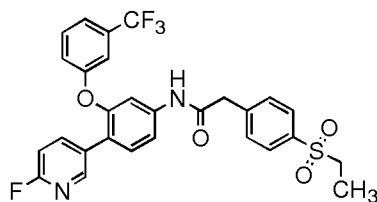


The title compound was prepared by the reaction of Intermediate 80 (80 mg, 0.254 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (58 mg, 0.254 mmol) using EDCI (58 mg, 0.305 mmol), HOBt (45 mg, 0.340 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 35 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 6.9 Hz, 3H), 3.28 (q, *J* = 7.8 Hz, 2H), 3.85 (s, 2H), 7.18 (t, *J* = 8.4 Hz, 2H), 7.29 (br s, 2H), 7.40-7.46 (m, 2H), 7.51-7.57 (m, 1H), 7.61 (d, *J* = 8.4 Hz, 2H), 7.69-7.75 (m, 1H), 7.85 (d, *J* = 8.4 Hz, 2H), 8.03 (d, *J* = 9.3 Hz, 1H), 8.31 (s, 1H), 10.60 (s, 1H); APCI-MS (*m/z*) 525 (M+H)<sup>+</sup>.

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## Example 132

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(6-fluoropyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide

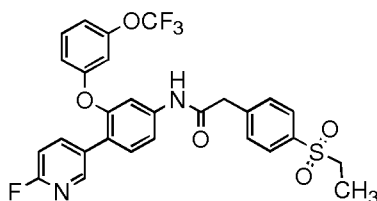


The title compound was prepared by the reaction of Intermediate 81 (99 mg, 0.258 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (58 mg, 0.254 mmol) using EDCI (59 mg, 0.310 mmol), HOBt (46 mg, 0.346 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 38 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 6.9 Hz, 3H), 3.27 (q, *J* = 7.2 Hz, 2H), 3.84 (s, 2H), 7.22 (d, *J* = 8.7 Hz, 1H), 7.41 (d, *J* = 7.8 Hz, 1H), 7.52 (d, *J* = 9.3 Hz, 2H), 7.54-7.65 (m, 4H), 7.68-7.74 (m, 2H), 7.85 (d, *J* = 8.1 Hz, 2H), 8.05 (d, *J* = 7.8 Hz, 1H), 8.30 (s, 1H), 10.60 (s, 1H); APCI-MS (*m/z*) 559 (M+H)<sup>+</sup>.

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## Example 133

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(6-fluoropyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide

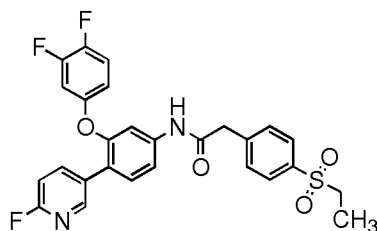


The title compound was prepared by the reaction of Intermediate 82 (99 mg, 0.247 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (56 mg, 0.247 mmol) using EDCI (56 mg, 0.294 mmol), HOBt (44 mg, 0.331 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 40 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.5 Hz, 3H), 3.28 (q, *J* = 7.8 Hz, 2H), 3.85 (s, 2H), 7.18-7.26 (m, 4H), 7.41 (d, *J* = 8.1 Hz, 1H), 7.54 (t, *J* = 8.1 Hz, 2H), 7.61 (d, *J* = 8.1 Hz, 2H), 7.72 (d, *J* = 13.2 Hz, 1H), 7.85 (d, *J* = 7.8 Hz, 2H), 8.05 (d, *J* = 8.1 Hz, 1H), 8.32 (s, 1H), 10.59 (s, 1H); APCI-MS (*m/z*) 575 (M+H)<sup>+</sup>.

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## Example 134

*N*-[3-(3,4-Difluorophenoxy)-4-(6-fluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide

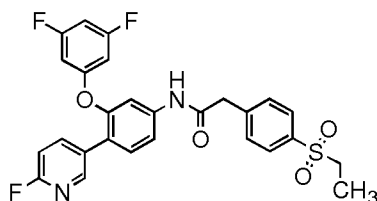


The title compound was prepared by the reaction of Intermediate 83 (90 mg, 0.284 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (65 mg, 0.284 mmol) using EDCI (65 mg, 0.341 mmol), HOBt (51 mg, 0.381 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 35 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 3.27 (q, *J* = 7.5 Hz, 2H), 3.84 (s, 2H), 7.08 (br s, 1H), 7.17 (d, *J* = 9.0 Hz, 1H), 7.40-7.48 (m, 2H), 7.49-7.55 (m, 2H), 7.61 (d, *J* = 8.4 Hz, 2H), 7.69-7.75 (m, 1H), 7.85 (d, *J* = 8.7 Hz, 2H), 8.03 (d, *J* = 8.4 Hz, 1H), 8.30 (s, 1H), 10.59 (s, 1H); APCI-MS (*m/z*) 527 (M+H)<sup>+</sup>.

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## Example 135

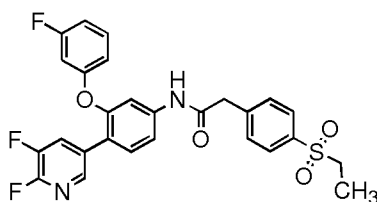
*N*-[3-(3,5-Difluorophenoxy)-4-(6-fluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide



The title compound was prepared by the reaction of Intermediate 84 (90 mg, 0.284 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (64 mg, 0.284 mmol) using EDCI (65 mg, 0.341 mmol), HOBt (51 mg, 0.381 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 32 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.28 (q, *J* = 6.9 Hz, 2H), 3.85 (s, 2H), 7.03 (d, *J* = 7.2 Hz, 2H), 7.12 (br s, 1H), 7.21 (d, *J* = 8.7 Hz, 1H), 7.44 (d, *J* = 8.4 Hz, 1H), 7.53 (d, *J* = 8.7 Hz, 1H), 7.61 (d, *J* = 8.4 Hz, 2H), 7.69-7.75 (m, 1H), 7.85 (d, *J* = 8.4 Hz, 2H), 8.06 (d, *J* = 8.4 Hz, 1H), 8.35 (s, 1H), 10.59 (s, 1H); APCI-MS (*m/z*) 527 (M+H)<sup>+</sup>.

#### Example 136

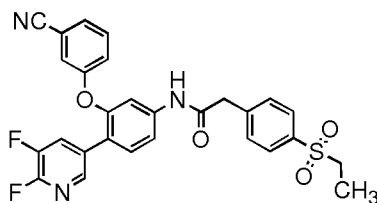
*N*-[4-(5,6-Difluoropyridin-3-yl)-3-(3-fluorophenoxy)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide



The title compound was prepared by the reaction of Intermediate 85 (70 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.263 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 31 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 3.28 (q, *J* = 5.1 Hz, 2H), 7.08-7.12 (m, 2H), 7.21 (d, *J* = 9.6 Hz, 1H), 7.12 (br s, 1H), 7.40-7.49 (m, 2H), 7.61 (d, *J* = 7.8 Hz, 3H), 7.73 (d, *J* = 13.2 Hz, 1H), 7.85 (d, *J* = 7.2 Hz, 2H), 8.09 (s, 1H), 8.14 (d, *J* = 7.5 Hz, 1H), 10.62 (s, 1H); APCI-MS (*m/z*) 527 (M+H)<sup>+</sup>.

#### Example 137

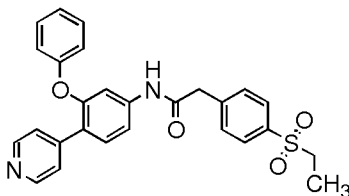
*N*-[3-(3-Cyanophenoxy)-4-(5,6-difluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide



The title compound was prepared by the reaction of Intermediate 86 (100 mg, 0.309 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (70 mg, 0.309 mmol) using EDCI (72 mg, 0.371 mmol), HOBt (50 mg, 0.414 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 46 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 3.27 (q, *J* = 7.6 Hz, 2H), 3.85 (s, 2H), 7.42 (d, *J* = 8.4 Hz, 1H), 7.55-7.64 (m, 5H), 7.66-7.75 (m, 2H), 7.85 (d, *J* = 6.9 Hz, 3H), 8.14 (s, 2H), 10.62 (s, 1H); APCI-MS (*m/z*) 534 (M+H)<sup>+</sup>.

#### Example 138

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-phenoxy-4-(pyridin-4-yl)phenyl]acetamide

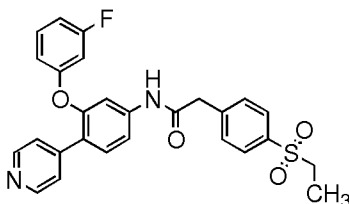


The title compound was prepared by the reaction of Intermediate 87 (57 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.07 (t, *J* = 5.4 Hz, 3H), 3.25 (q, *J* = 5.4 Hz, 2H), 3.76 (s, 2H), 6.98 (t, *J* = 6.0 Hz, 2H), 7.01 (t, *J* = 5.4 Hz, 1H), 7.30-7.40 (m, 3H), 7.45-7.56 (m, 6H), 7.81 (d, *J* = 6.0 Hz, 2H), 8.55 (d, *J* = 6.0 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 473.44 (M+H)<sup>+</sup>.

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#### Example 139

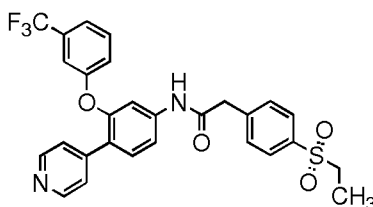
2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(pyridin-4-yl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 88 (60 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (49 mg, 0.256 mmol), HOBt (38 mg, 0.286 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 32 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 5.7 Hz, 3H), 3.21-3.30 (m, 2H), 3.80 (s, 2H), 6.78-6.97 (m, 3H), 7.33-7.46 (m, 2H), 7.47-7.60 (m, 6H), 7.83 (d, *J* = 8.7 Hz, 2H), 8.55 (d, *J* = 5.1 Hz, 2H), 10.51 (s, 1H); APCI-MS (*m/z*) 491 (M+H)<sup>+</sup>.

## Example 140

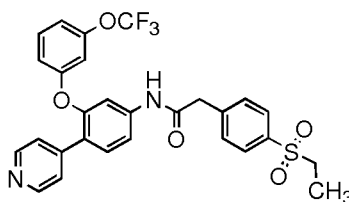
2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-4-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl}acetamide



The title compound was prepared by the reaction of Intermediate 89 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 55 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 6.9 Hz, 2H), 3.79 (s, 2H), 7.27 (d, *J* = 7.5 Hz, 1H), 7.34-7.40 (m, 2H), 7.48 (s, 2H), 7.52-7.59 (m, 6H), 7.82 (d, *J* = 7.8 Hz, 2H), 8.54 (br s, 2H), 10.51 (s, 1H); APCI-MS (*m/z*) 541 (M+H)<sup>+</sup>.

## Example 141

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-4-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl}acetamide

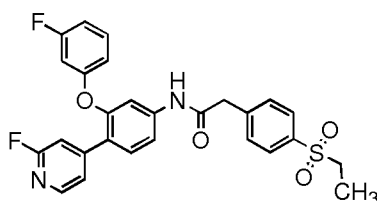


The title compound was prepared by the reaction of Intermediate 90 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 55 mg of off product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.80

(s, 2H), 6.95-7.01 (m, 2H), 7.09 (d,  $J = 7.5$  Hz, 1H), 7.44 (d,  $J = 8.4$  Hz, 2H), 7.50-7.58 (m, 6H), 7.82 (d,  $J = 7.8$  Hz, 2H), 8.55 (br s, 2H), 10.52 (s, 1H); APCI-MS ( $m/z$ ) 557 (M+H)<sup>+</sup>.

## Example 142

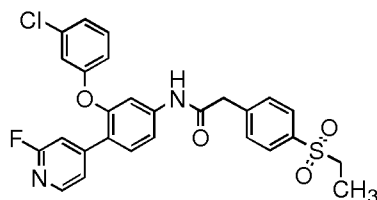
- 5 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(2-fluoropyridin-4-yl)phenyl]acetamide



- The title compound was prepared by the reaction of Intermediate 91 (100 mg, 0.335 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (76 mg, 0.335 mmol) using EDCI (85 mg, 0.449 mmol), HOBt (54 mg, 0.402 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 32 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t,  $J = 7.8$  Hz, 3H), 3.26 (q,  $J = 7.2$  Hz, 2H), 3.80 (s, 2H), 6.88 (d,  $J = 8.7$  Hz, 1H), 6.99 (d,  $J = 8.4$  Hz, 2H), 7.32 (s, 1H), 7.39 (br s, 2H), 7.55-7.61 (m, 5H), 7.83 (d,  $J = 8.4$  Hz, 2H), 8.22 (br s, 1H), 10.52 (s, 1H); APCI-MS ( $m/z$ ) 509 (M+H)<sup>+</sup>.

## Example 143

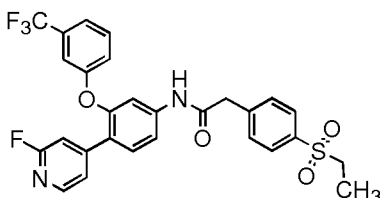
- N*-[3-(3-Chlorophenoxy)-4-(2-fluoropyridin-4-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide



- 20 The title compound was prepared by the reaction of Intermediate 92 (100 mg, 0.317 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (70 mg, 0.317 mmol) using EDCI (72 mg, 0.381 mmol), HOBt (57 mg, 0.425 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 28 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t,  $J = 7.5$  Hz, 3H), 3.26 (q,  $J = 7.2$  Hz, 2H), 3.79 (s, 2H), 6.99 (d,  $J = 8.4$  Hz, 1H), 7.16 (s, 1H), 7.21 (d,  $J = 8.7$  Hz, 1H), 7.33-7.42 (m, 3H), 7.53-7.64 (m, 5H), 7.83 (d,  $J = 7.8$  Hz, 2H), 8.23 (br s, 1H), 10.52 (s, 1H); APCI-MS ( $m/z$ ) 526 (M+H)<sup>+</sup>.

## Example 144

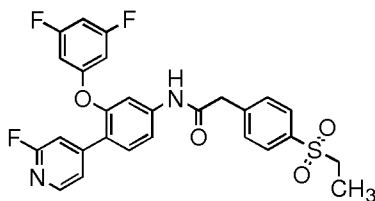
2-[4-(Ethylsulfonyl)phenyl]-N-{4-(2-fluoropyridin-4-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide



- 5 The title compound was prepared by the reaction of Intermediate 93 (100 mg, 0.287 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (65 mg, 0.287 mmol) using EDCI (65 mg, 0.344 mmol), HOBt (51 mg, 0.384 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 7.30-7.36 (m, 3H), 7.42 (s, 1H), 7.51-7.63 (m, 7H), 7.82 (t, *J* = 8.4 Hz, 2H), 8.22 (br s, 1H), 10.52 (s, 1H); APCI-MS (*m/z*) 559 (M+H)<sup>+</sup>.
- 10

## Example 145

N-[3-(3,5-Difluorophenoxy)-4-(2-fluoropyridin-4-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide

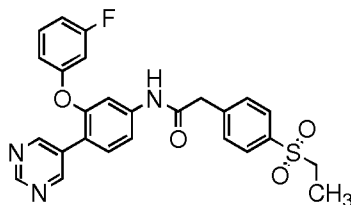


- 15 The title compound was prepared by the reaction of Intermediate 94 (90 mg, 0.284 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (64 mg, 0.284 mmol) using EDCI (65 mg, 0.341 mmol), HOBt (51 mg, 0.381 mmol) in dichloromethane (10 ml) as per the process described in Example 1 to yield 33 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.09 (t, *J* = 7.2 Hz, 3H), 3.27 (q, *J* = 7.2 Hz, 2H), 3.81 (s, 2H), 6.82 (d, *J* = 7.8 Hz, 2H), 7.02 (t, *J* = 7.4 Hz, 1H), 7.31 (s, 1H), 7.45-7.51 (m, 3H), 7.56-7.65 (m, 3H), 7.83 (d, *J* = 7.8 Hz, 2H), 8.23 (br s, 1H), 10.56 (s, 1H); APCI-MS (*m/z*) 527 (M+H)<sup>+</sup>.
- 20

## Example 146

- 25 2-[4-(Ethylsulfonyl)phenyl]-N-[3-(3-fluorophenoxy)-4-(pyrimidin-5-yl)phenyl]acetamide



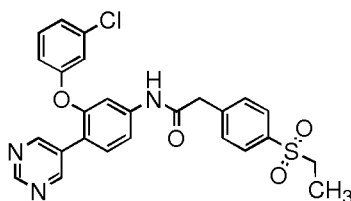


The title compound was prepared by the reaction of Intermediate 95 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (61 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.8 Hz, 3H), 3.26 (q, *J* = 7.8 Hz, 2H), 3.80 (s, 2H), 6.86 (d, *J* = 8.4 Hz, 1H), 6.93-6.99 (m, 2H), 7.37-7.42 (m, 2H), 7.55-7.63 (m, 4H), 7.83 (d, *J* = 8.4 Hz, 2H), 8.96 (s, 2H), 9.10 (s, 1H), 10.51 (s, 1H); APCI-MS (*m/z*) 492 (M+H)<sup>+</sup>.

10

## Example 147

*N*-[3-(3-Chlorophenoxy)-4-(pyrimidin-5-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide



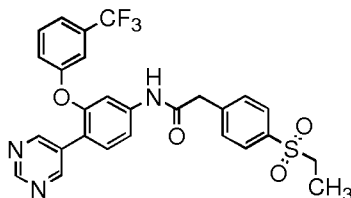
The title compound was prepared by the reaction of Intermediate 96 (50 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (65 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 40 mg of product as off white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.8 Hz, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.80 (s, 2H), 7.00 (d, *J* = 8.7 Hz, 1H), 7.17-7.23 (m, 2H), 7.35-7.41 (m, 2H), 7.56-7.63 (m, 4H), 7.83 (d, *J* = 8.1 Hz, 2H), 8.97 (s, 2H), 9.11 (s, 1H), 10.51 (s, 1H); APCI-MS (*m/z*) 508 (M+H)<sup>+</sup>.

20

## Example 148

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyrimidin-5-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide

25

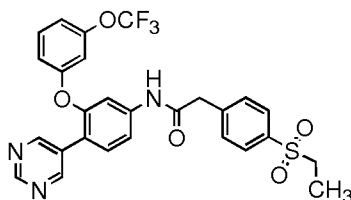


The title compound was prepared by the reaction of Intermediate 97 (72 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 20 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.2 Hz, 3H), 3.26 (q, *J* = 6.9 Hz, 2H), 3.79 (s, 2H), 7.31-7.37 (m, 2H), 7.44 (s, 1H), 7.50 (d, *J* = 7.2 Hz, 1H), 7.55-7.65 (m, 5H), 7.82 (d, *J* = 8.7 Hz, 2H), 8.98 (s, 2H), 9.10 (s, 1H), 10.51 (s, 1H); APCI-MS (*m/z*) 542 (M+H)<sup>+</sup>.

10

## Example 149

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyrimidin-5-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide



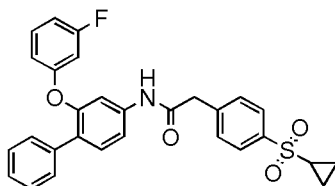
15

The title compound was prepared by the reaction of Intermediate 98 (76 mg, 0.219 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.219 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (39 mg, 0.293 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 45 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.27 (q, *J* = 7.8 Hz, 2H), 3.80 (s, 2H), 7.03-7.14 (m, 3H), 7.43-7.50 (m, 2H), 7.56-7.64 (m, 4H), 7.83 (d, *J* = 7.8 Hz, 2H), 8.96 (s, 2H), 9.10 (s, 1H), 10.52 (s, 1H); APCI-MS (*m/z*) 558 (M+H)<sup>+</sup>.

20

## Example 150

2-[4-(Cyclopropylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)biphenyl-4-yl]acetamide



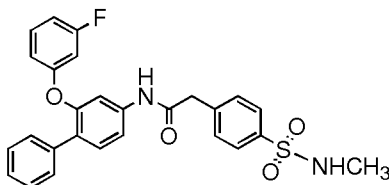
25

The title compound was prepared by the reaction of Intermediate 7 (58 mg, 0.208 mmol) with [4-(cyclopropylsulfonyl)phenyl]acetic acid (50 mg, 0.208 mmol) using

EDCI (47 mg, 0.249 mmol), HOBt (44 mg, 0.326 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 42 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.00-1.10 (m, 4H), 2.81-2.90 (m, 1H), 3.79 (s, 2H), 6.71-6.80 (m, 3H), 7.25-7.40 (m, 6H), 7.48 (d, *J* = 7.8 Hz, 3H), 7.56 (d, *J* = 8.4 Hz, 2H), 7.84 (d, *J* = 8.4 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 500 (M+H)<sup>+</sup>.

## Example 151

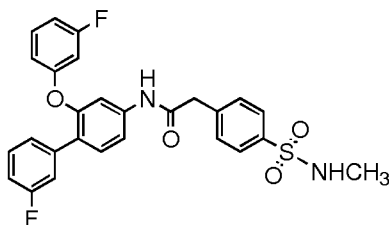
*N*-[2-(3-Fluorophenoxy)biphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 7 (61 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 55 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.39 (d, *J* = 4.8 Hz, 3H), 3.75 (s, 2H), 6.74-6.79 (m, 2H), 6.83-6.89 (m, 1H), 7.27-7.38 (m, 6H), 7.41-7.53 (m, 6H), 7.72 (d, *J* = 8.4 Hz, 2H), 10.43 (s, 1H); APCI-MS (*m/z*) 491 (M+H)<sup>+</sup>.

## Example 152

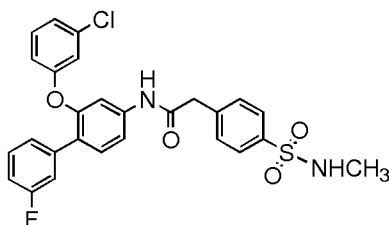
*N*-[3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 21 (50 mg, 0.168 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (38 mg, 0.168 mmol) using EDCI (38 mg, 0.202 mmol), HOBt (30 mg, 0.225 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 27 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.39 (d, *J* = 4.8 Hz, 3H), 3.75 (s, 2H), 6.74-6.95 (m, 3H), 7.09-7.16 (m, 1H), 7.25-7.46 (m, 6H), 7.51 (d, *J* = 7.8 Hz, 4H), 7.72 (d, *J* = 8.4 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 509 (M+H)<sup>+</sup>.

## Example 153

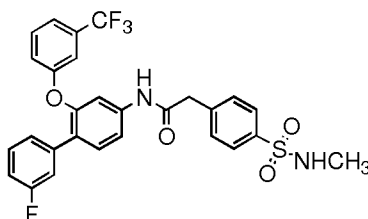
*N*-[2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 23 (30 mg, 0.095 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (22 mg, 0.095 mmol) using EDCI (22 mg, 0.114 mmol), HOBt (17 mg, 0.128 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 24 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.39 (d, *J* = 6.3 Hz, 3H), 3.75 (s, 2H), 6.93 (d, *J* = 6.6 Hz, 1H), 7.06 (s, 1H), 7.14 (d, *J* = 8.4 Hz, 2H), 7.29-7.45 (m, 6H), 7.45-7.55 (m, 4H), 7.71 (d, *J* = 8.4 Hz, 2H), 10.46 (s, 1H); APCI-MS (*m/z*) 525 (M+H)<sup>+</sup>.

#### Example 154

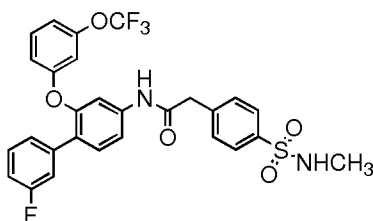
*N*-{3'-Fluoro-2-[3-(trifluoromethyl)phenoxy]biphenyl-4-yl}-2-[4-(methylsulfamoyl)phenyl] acetamide



The title compound was prepared by the reaction of Intermediate 26 (76 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (40 mg, 0.294 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 32 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.39 (d, *J* = 4.8 Hz, 3H), 3.75 (s, 2H), 7.11 (br s, 1H), 7.23 (d, *J* = 7.8 Hz, 1H), 7.29-7.34 (m, 3H), 7.39-7.42 (m, 4H), 7.44-7.56 (m, 5H), 7.71 (d, *J* = 8.4 Hz, 2H), 10.45 (s, 1H); APCI-MS (*m/z*) 559 (M+H)<sup>+</sup>.

#### Example 155

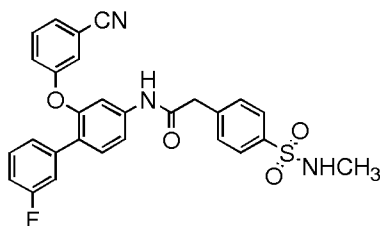
*N*-{3'-Fluoro-2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-yl}-2-[4-(methylsulfamoyl)phenyl] acetamide



The title compound was prepared by the reaction of Intermediate 27 (79 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (40 mg, 0.293 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 56 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.37 (d, *J* = 4.8 Hz, 3H), 3.74 (s, 2H), 6.92 (br s, 2H), 7.02-7.09 (m, 2H), 7.25-7.34 (m, 3H), 7.37-7.44 (m, 3H), 7.50 (br s, 4H), 7.70 (d, *J* = 8.4 Hz, 2H), 10.44 (s, 1H); APCI-MS (*m/z*) 575 (M+H)<sup>+</sup>.

#### Example 156

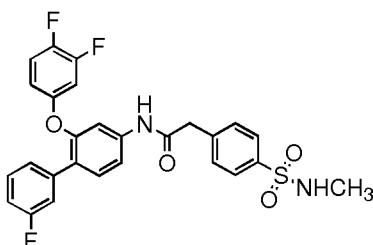
*N*-[2-(3-Cyanophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 28 (66 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 15 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.39 (d, *J* = 6.3 Hz, 3H), 3.76 (s, 2H), 7.12 (t, *J* = 6.0 Hz, 1H), 7.25-7.44 (m, 7H), 7.47-7.57 (m, 6H), 7.72 (d, *J* = 8.4 Hz, 2H), 10.47 (s, 1H); APCI-MS (*m/z*) 516.11 (M+H)<sup>+</sup>.

Example 157

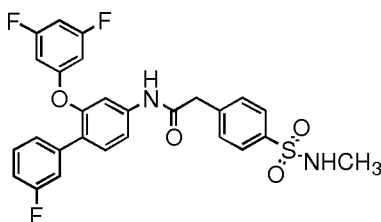
*N*-[2-(3,4-Difluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide



The title compound was prepared by the reaction of Intermediate 58 (69 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (40 mg, 0.294 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 42 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.39 (d, *J* = 4.8 Hz, 3H), 3.75 (s, 2H), 6.84 (br s, 1H), 7.11-7.17 (m, 2H), 7.34 (br s, 3H), 7.39-7.44 (m, 3H), 7.48-7.53 (m, 4H), 7.72 (d, *J* = 7.8 Hz, 2H), 10.42 (s, 1H); APCI-MS (*m/z*) 527 (M+H)<sup>+</sup>.

## Example 158

*N*-[2-(3,5-Difluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide

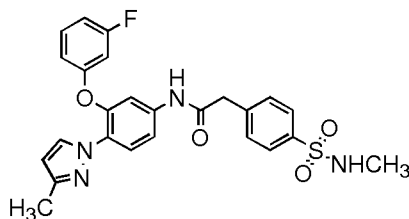


The title compound was prepared by the reaction of Intermediate 59 (69 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (40 mg, 0.294 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 51 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.39 (d, *J* = 5.1 Hz, 3H), 3.77 (s, 2H), 6.71 (d, *J* = 7.8 Hz, 2H), 6.92-6.99 (m, 1H), 7.14-7.20 (m, 1H), 7.29-7.34 (m, 2H), 7.38-7.46 (m, 3H), 7.49-7.55 (m, 4H), 7.72 (d, *J* = 7.8 Hz, 2H), 10.49 (s, 1H); APCI-MS (*m/z*) 527 (M+H)<sup>+</sup>.

20

## Example 159

*N*-[3-(3-Fluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(methylsulfamoyl)phenyl] acetamide

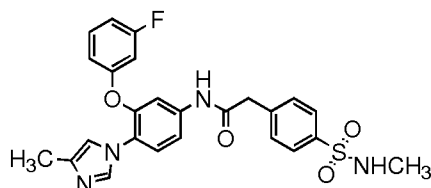


The title compound was prepared by the reaction of Intermediate 101 (61 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (39 mg, 0.292 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H

NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  2.20 (s, 3H), 3.38 (s, 3H), 3.75 (s, 2H), 6.21 (s, 1H), 6.83 (d, *J* = 7.2 Hz, 1H), 6.95 (br s, 2H), 7.41 (br s, 2H), 7.47-7.52 (m, 4H), 7.70 (br s, 3H), 7.95 (s, 1H), 10.46 (s, 1H); APCI-MS (*m/z*) 495 (M+H)<sup>+</sup>.

#### Example 160

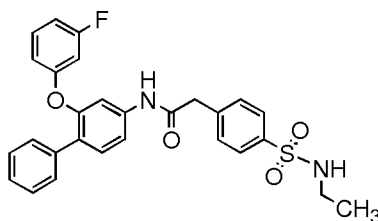
- 5 *N*-[3-(3-Fluorophenoxy)-4-(4-methyl-1*H*-imidazol-1-yl)phenyl]-2-[4-(methylsulfamoyl)phenyl] acetamide



- The title compound was prepared by the reaction of Intermediate 129 (61 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (49 mg, 0.258 mmol), HOBt (38 mg, 0.288 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 30 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  2.09 (s, 3H), 2.39 (d, *J* = 4.8 Hz, 3H), 3.75 (s, 2H), 6.86 (d, *J* = 8.4 Hz, 1H), 6.94-6.99 (m, 2H), 7.12 (s, 1H), 7.37-7.43 (m, 3H), 7.48-7.53 (m, 4H), 7.70 (br s, 1H), 7.74 (d, *J* = 8.4 Hz, 2H), 10.48 (s, 1H); APCI-MS (*m/z*) 495 (M+H)<sup>+</sup>.
- 10  
15

#### Example 161

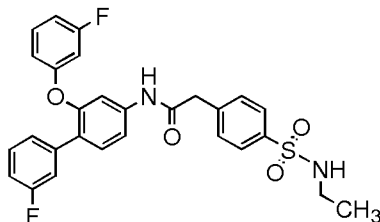
- 2-[4-(Ethylsulfamoyl)phenyl]-*N*-[2-(3-fluorophenoxy)biphenyl-4-yl]acetamide



- The title compound was prepared by the reaction of Intermediate 7 (57 mg, 0.205 mmol) with [4-(ethylsulfamoyl)phenyl]acetic acid (50 mg, 0.205 mmol) using EDCI (47 mg, 0.246 mmol), HOBt (33 mg, 0.275 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 50 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>)  $\delta$  0.96 (t, *J* = 5.7 Hz, 3H), 2.70-2.79 (m, 2H), 3.75 (s, 2H), 6.71-6.93 (m, 3H), 7.24-7.55 (m, 12H), 7.73 (d, *J* = 8.7 Hz, 2H), 10.42 (s, 1H); APCI-MS (*m/z*) 505 (M+H)<sup>+</sup>.
- 20  
25

#### Example 162

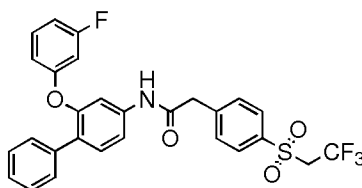
2-[4-(Ethylsulfamoyl)phenyl]-*N*-[3'-fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide



The title compound was prepared by the reaction of Intermediate 21 (61 mg, 0.205 mmol) with [4-(ethylsulfamoyl)phenyl]acetic acid (50 mg, 0.205 mmol) using EDCI (47 mg, 0.246 mmol), HOBt (37 mg, 0.275 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 44 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 0.96 (t, *J* = 7.5 Hz, 3H), 2.69-2.79 (m, 2H), 3.75 (s, 2H), 6.73-6.96 (m, 3H), 7.09-7.16 (m, 1H), 7.24-7.45 (m, 5H), 7.49-7.56 (m, 5H), 7.73 (d, *J* = 8.4 Hz, 2H), 10.44 (s, 1H); APCI-MS (*m/z*) 523 (M+H)<sup>+</sup>.

#### Example 163

*N*-[2-(3-Fluorophenoxy)biphenyl-4-yl]-2-{4-[(2,2,2-trifluoroethyl)sulfonyl]phenyl}acetamide

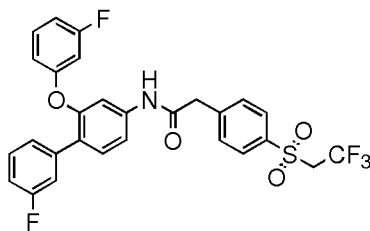


The title compound was prepared by the reaction of Intermediate 7 (60 mg, 0.228 mmol) with {4-[(2,2,2-trifluoroethyl)sulfonyl]phenyl}acetic acid (50 mg, 0.228 mmol) using EDCI (50 mg, 0.262 mmol), HOBt (40 mg, 0.297 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 29 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 3.81 (s, 2H), 4.94 (q, *J* = 9.6 Hz, 2H), 6.70-6.90 (m, 3H), 7.25-7.47 (m, 5H), 7.49 (d, *J* = 7.5 Hz, 4H), 7.61 (d, *J* = 8.4 Hz, 2H), 7.90 (d, *J* = 8.4 Hz, 2H), 10.46 (s, 1H); ESI-MS (*m/z*) 544 (M+H)<sup>+</sup>.

#### Example 164

*N*-[3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-{4-[(2,2,2-trifluoroethyl)sulfonyl]phenyl}acetamide



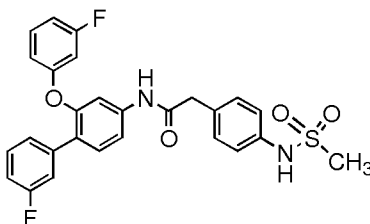


The title compound was prepared by the reaction of Intermediate 21 (52 mg, 0.177 mmol) with {4-[(2,2,2-trifluoroethyl)sulfonyl]phenyl}acetic acid (50 mg, 0.177 mmol) using EDCI (40 mg, 0.210 mmol), HOBt (31 mg, 0.234 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 24 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 3.81 (s, 2H), 4.93 (q, *J* = 6.3 Hz, 2H), 6.73-6.96 (m, 3H), 7.09-7.15 (m, 1H), 7.25-7.32 (m, 5H), 7.50 (s, 2H), 7.60 (d, *J* = 6.0 Hz, 2H), 7.90 (d, *J* = 6.0 Hz, 2H), 10.47 (s, 1H); ESI-MS (*m/z*) 562.31 (M+H)<sup>+</sup>.

10

## Example 165

*N*-[3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-{4-[(methylsulfonyl)amino]phenyl} acetamide

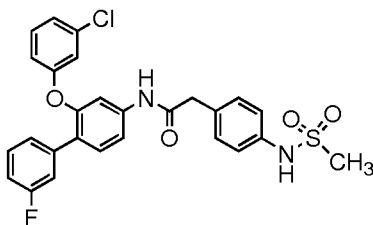


The title compound was prepared by the reaction of Intermediate 21 (50 mg, 0.168 mmol) with {4-[(methylsulfonyl)amino]phenyl}acetic acid (38 mg, 0.168 mmol) using EDCI (38 mg, 0.202 mmol), HOBt (30 mg, 0.225 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 29 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.95 (s, 3H), 3.57 (s, 2H), 6.78 (d, *J* = 8.4 Hz, 1H), 6.81-6.95 (m, 2H), 7.14 (d, *J* = 8.1 Hz, 3H), 7.19-7.25 (m, 2H), 7.28 (d, *J* = 12.0 Hz, 2H), 7.32-7.40 (m, 3H), 7.49 (s, 2H), 9.67 (s, 1H), 10.36 (s, 1H); APCI-MS (*m/z*) 509 (M+H)<sup>+</sup>.

20

## Example 166

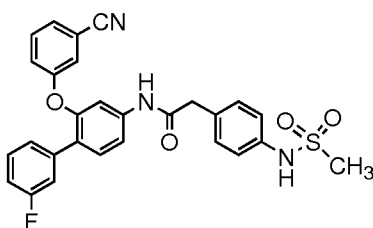
*N*-[2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-{4-[(methylsulfonyl)amino]phenyl} acetamide



The title compound was prepared by the reaction of Intermediate 23 (40 mg, 0.127 mmol) with {4-[(methylsulfonyl)amino]phenyl}acetic acid (29 mg, 0.127 mmol) using EDCI (29 mg, 0.153 mmol), HOBt (23 mg, 0.171 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 18 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.95 (s, 3H), 3.58 (s, 2H), 6.93 (d, *J* = 5.7 Hz, 1H), 7.06 (s, 1H), 7.14 (d, *J* = 5.7 Hz, 4H), 7.19-7.40 (m, 7H), 7.50 (s, 2H), 9.68 (s, 1H), 10.36 (s, 1H); APCI-MS (*m/z*) 525 (M+H)<sup>+</sup>.

#### Example 167

10 *N*-[2-(3-Cyanophenoxy)-3'-fluorobiphenyl-4-yl]-2-{4-[(methylsulfonyl)amino]phenyl}acetamide

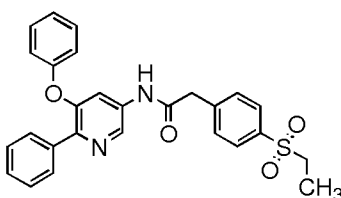


The title compound was prepared by the reaction of Intermediate 28 (66 mg, 0.218 mmol) with {4-[(methylsulfonyl)amino]phenyl}acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBt (20 mg, 0.153 mmol) in dichloromethane (5 ml) as per the process described in Example 1 to yield 15 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.95 (s, 3H), 3.58 (s, 2H), 7.14 (d, *J* = 7.2 Hz, 3H), 7.16-7.43 (m, 7H), 7.45-7.59 (m, 5H), 9.68 (s, 1H), 10.37 (s, 1H); APCI-MS (*m/z*) 516 (M+H)<sup>+</sup>.

20

#### Example 168

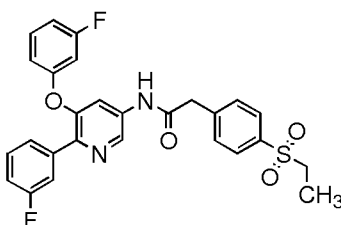
2-[4-(Ethylsulfonyl)phenyl]-*N*-(5-phenoxy-6-phenylpyridin-3-yl)acetamide



The title compound was prepared by the reaction of Intermediate 146 (44 mg, 0.169 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (50 mg, 0.169 mmol) using EDCI (39 mg, 0.202 mmol), HOBt (32 mg, 0.236 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 36 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.5 Hz, 3H), 3.27 (q, *J* = 6.9 Hz, 2H), 3.82 (s, 2H), 7.07 (d, *J* = 8.1 Hz, 2H), 7.19 (t, *J* = 6.9 Hz, 1H), 7.31-7.45 (m, 5H), 7.57 (d, *J* = 8.1 Hz, 2H), 7.75 (s, 1H), 7.83 (d, *J* = 8.4 Hz, 2H), 7.90 (d, *J* = 8.4 Hz, 2H), 8.65 (s, 1H), 10.66 (s, 1H); APCI-MS (*m/z*) 473 (M+H)<sup>+</sup>.

## Example 169

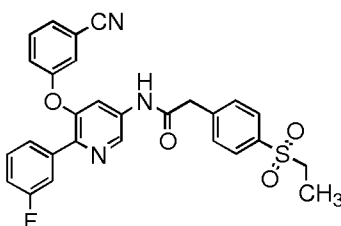
2-[4-(Ethylsulfonyl)phenyl]-*N*-[5-(3-fluorophenoxy)-6-(3-fluorophenyl)pyridin-3-yl]acetamide



The title compound was prepared by the reaction of Intermediate 147 (100 mg, 0.3352 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (76 mg, 0.335 mmol) using EDCI (77 mg, 0.402 mmol), HOBt (60 mg, 0.449 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 42 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.3 Hz, 3H), 3.27 (q, *J* = 6.3 Hz, 2H), 3.83 (s, 2H), 6.93 (d, *J* = 6.6 Hz, 1H), 7.00-7.09 (m, 2H), 7.20 d, *J* = 6.6 Hz, 1H), 7.39-7.49 (m, 4H), 7.57 (d, *J* = 6.6 Hz, 1H), 7.63 (d, *J* = 6.6 Hz, 1H), 7.74 (d, *J* = 6.9 Hz, 1H), 7.79-7.86 (m, 2H), 8.68 (s, 1H), 10.72 (s, 1H); APCI-MS (*m/z*) 509.29 (M+H)<sup>+</sup>.

## Example 170

*N*-[5-(3-Cyanophenoxy)-6-(3-fluorophenyl)pyridin-3-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide

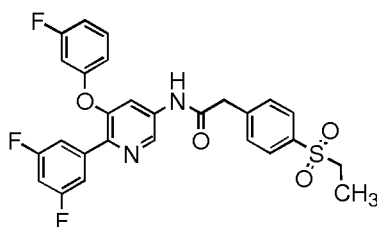


The title compound was prepared by the reaction of Intermediate 148 (100 mg, 0.327 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (75 mg, 0.327 mmol) using EDCI

(75 mg, 0.393 mmol), HOBt (59 mg, 0.438 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 27 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.6 Hz, 3H), 3.27 (q, *J* = 7.2 Hz, 2H), 3.84 (s, 2H), 7.21 (br s, 1H), 7.46 (br s, 2H), 7.56-7.66 (m, 4H), 7.68-7.74 (m, 4H), 7.79-7.85 (m, 2H), 8.70 (s, 1H), 10.73 (s, 1H); APCI-MS (*m/z*) 516 (M+H)<sup>+</sup>.

## Example 171

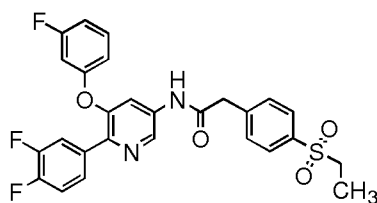
*N*-[6-(3,5-Difluorophenyl)-5-(3-fluorophenoxy)pyridin-3-yl]-2-[4-(ethylsulfonyl)phenyl] acetamide



The title compound was prepared by the reaction of Intermediate 149 (75 mg, 0.237 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (54 mg, 0.237 mmol) using EDCI (54 mg, 0.284 mmol), HOBt (43 mg, 0.317 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 25 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 3.26 (q, *J* = 7.5 Hz, 2H), 3.83 (s, 2H), 6.96 (d, *J* = 8.1 Hz, 1H), 7.06-7.12 (m, 2H), 7.27 (t, *J* = 8.4 Hz, 1H), 7.41-7.47 (m, 1H), 7.55-7.60 (m, 4H), 7.83 (d, *J* = 8.4 Hz, 3H), 8.68 (s, 1H), 10.74 (s, 1H); APCI-MS (*m/z*) 527 (M+H)<sup>+</sup>.

## Example 172

*N*-[6-(3,4-Difluorophenyl)-5-(3-fluorophenoxy)pyridin-3-yl]-2-[4-(ethylsulfonyl)phenyl] acetamide



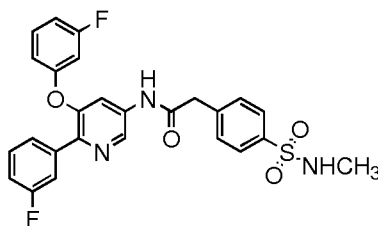
The title compound was prepared by the reaction of Intermediate 150 (50 mg, 0.158 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (36 mg, 0.158 mmol) using EDCI (36 mg, 0.189 mmol), HOBt (28 mg, 0.212 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 19 mg of product as white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.83 (s, 2H), 6.87 (d, *J* = 7.8 Hz, 1H), 6.93 (d, *J* = 8.1 Hz, 1H), 7.01-7.09 (m, 2H), 7.31 (t, *J* =

8.4 Hz, 1H), 7.40-7.48 (m, 1H), 7.51-7.63 (m, 3H), 7.72-7.84 (m, 3H), 8.67 (s, 1H), 10.71 (s, 1H); APCI-MS ( $m/z$ ) 527 (M+H)<sup>+</sup>.

### Example 173

*N*-[5-(3-Fluorophenoxy)-6-(3-fluorophenyl)pyridin-3-yl]-2-[4-

5 (methylsulfamoyl)phenyl] acetamide



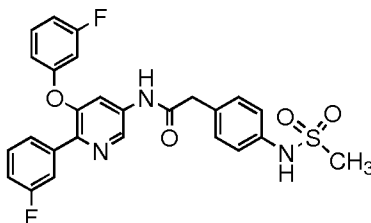
The title compound was prepared by the reaction of Intermediate 147 (69 mg, 0.218 mmol) with [4-(methylsulfamoyl)phenyl]acetic acid (50 mg, 0.218 mmol) using EDCI (50 mg, 0.261 mmol), HOBT (40 mg, 0.292 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 24 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.39 (d, *J* = 5.1 Hz, 3H), 3.80 (s, 2H), 6.91 (d, *J* = 7.5 Hz, 1H), 7.01-7.07 (m, 2H), 7.21 (br s, 1H), 7.40-7.45 (m, 3H), 7.51 (d, *J* = 7.8 Hz, 2H), 7.64-7.73 (m, 4H), 7.82 (s, 1H), 8.68 (s, 1H), 10.71 (s, 1H); APCI-MS ( $m/z$ ) 510 (M+H)<sup>+</sup>.

15

### Example 174

*N*-[5-(3-Fluorophenoxy)-6-(3-fluorophenyl)pyridin-3-yl]-2-{4-

{(methylsulfonyl)amino}phenyl} acetamide

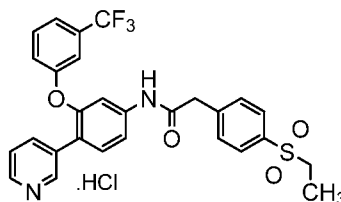


The title compound was prepared by the reaction of Intermediate 147 (61 mg, 0.205 mmol) with {4-[(methylsulfonyl)amino]phenyl}acetic acid (50 mg, 0.205 mmol) using EDCI (48 mg, 0.245 mmol), HOBT (37 mg, 0.275 mmol) in dichloromethane (4 ml) as per the process described in Example 1 to yield 54 mg of product as off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 2.95 (s, 3H), 3.62 (s, 2H), 6.91 (d, *J* = 8.4 Hz, 1H), 7.01-7.07 (m, 2H), 7.14 (d, *J* = 8.1 Hz, 2H), 7.21 (br s, 1H), 7.25 (d, *J* = 8.1 Hz, 2H), 7.39-7.50 (m, 2H), 7.65 (d, *J* = 8.4 Hz, 1H), 7.74 (d, *J* = 7.2 Hz, 1H), 7.82 (br s, 1H), 8.68 (s, 1H), 9.68 (s, 1H), 10.61 (s, 1H); APCI-MS ( $m/z$ ) 510 (M+H)<sup>+</sup>.

25

## Example 175

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide hydrochloride



5 Step 1: 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide

The title compound was prepared by the reaction of Intermediate 73 (130 mg, 0.392 mmol) with [4-(ethylsulfonyl)phenyl]acetic acid (89 mg, 0.393 mmol) using EDCI (90 mg, 0.472 mmol), HOBt (71 mg, 0.527 mmol) in dichloromethane (5 ml) as per  
10 the process described in Example 1 to yield 150 mg of free base as a white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 7.8 Hz, 3H), 3.26 (q, *J* = 7.2 Hz, 2H), 3.79 (s, 2H), 7.26 (d, *J* = 8.1 Hz, 1H), 7.33 (s, 1H), 7.37-7.46 (m, 3H), 7.54-7.59 (m, 5H), 7.83 (d, *J* = 8.1 Hz, 2H), 7.92 (d, *J* = 9.0 Hz, 1H), 8.47 (br s, 1H), 8.69 (s, 1H), 10.49 (s, 1H); APCI-MS (*m/z*) 541 (M+H)<sup>+</sup>.

15 Step 2: 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide hydrochloride: The free base 145 mg (0.268 mmol) was dissolved in EtOAc (2.0 mL), cooled to 0 °C and 12 % HCl in EtOAc (2.0 mL) was added. The mixture was stirred at room temperature under nitrogen atmosphere for 1 h. The solvent was evaporated under reduced pressure and the residue was dried under  
20 vacuum to give 148 mg of title compound as an off-white solid. <sup>1</sup>H NMR (300 MHz, DMSO-*d*<sub>6</sub>) δ 1.08 (t, *J* = 6.9 Hz, 3H), 3.27 (q, *J* = 7.2 Hz, 2H), 3.81 (s, 2H), 7.34 (m, 2H), 7.47 (s, 1H), 7.51-7.67 (m, 7H), 7.82 (d, *J* = 2.6 Hz, 2H), 7.91 (br s, 1H, D<sub>2</sub>O exchangeable), 8.55 (br s, 1H), 8.75 (br s, 1H), 9.02 (s, 1H), 10.72 (br s, 1H, D<sub>2</sub>O exchangeable); APCI-MS (*m/z*) 541 (M+H)<sup>+</sup>.

25

## Pharmacological Activity

### Biological Assay

The illustrative examples of the present patent application were screened for ROR gamma modulator activity using the TR-FRET assay by Lantha Screen as described in  
5 *JBC* **2011**, 286, 26: 22707-10; *Drug Metabolism and Disposition* **2009**, 37, 10: 2069-78.

#### TR-FRET assay for ROR gamma:

The assay is based on the principle that binding of the agonist to the ROR gamma causes a conformational change around helix 12 in the ligand binding domain,  
10 resulting in higher affinity for the co-activator peptide. ROR gamma being constitutively active, the Fluorescein-D22 co-activator peptide used in the assay is recruited in the absence of a ligand. Binding of the co-activator peptide, causes an increase in the TR-FRET signal while binding of an antagonist decreases the recruitment of the co-activator peptide, causing a decrease in the TR-FRET signal  
15 compared to control with no compound. The assay was performed using a two step procedure, pre-incubation step with the compound followed by the detection step on addition of the anti-GST tagged terbium (Tb) and fluorescein tagged fluorophores as the acceptor.

Test compounds or reference compounds such as T0901317 (Calbiochem)  
20 were dissolved in dimethylsulfoxide (DMSO) to prepare 10.0 mM stock solution and diluted suitably to get the desired concentration. Final concentration of DMSO in the reaction was 4% (v/v). Assay mixture was prepared by mixing 10nM of the GST-tagged ROR gamma ligand binding domain (LBD) in the assay buffer containing 25 mM HEPES, 100 mM NaCl, 5mM DTT and 0.01% BSA with or without the desired  
25 concentration of the compound. The reaction was incubated at 22°C for 1hr. The pre-incubation step was terminated by addition of the detection mixture containing 300nM Fluorescein-D22 co-activator peptide and 10nM lantha screen Tb-anti GST antibody into the reaction mixture. After shaking for 5 minutes the reaction was further incubated for 2 hr at room temperature and read at 4°C on an Infinite F500  
30 reader as per the kit instructions (Invitrogen). The inhibition of test compound is calculated based on the TR-FRET ratio of 520/495. The activity was calculated as a percent of control reaction. IC<sub>50</sub> values were calculated from dose response curve by nonlinear regression analysis using GraphPad Prism software.

The compounds prepared were tested using the above assay procedure and the results obtained are given in Table 6. Percentage inhibition at concentrations of 1.0  $\mu\text{M}$  and 10.0  $\mu\text{M}$  are given in the table along with  $\text{IC}_{50}$  (nM) details for selected examples. The compounds prepared were tested using the above assay procedure and were found to have  $\text{IC}_{50}$  less than 1000nM, preferably less than 500nM, more preferably less than 100nM or most preferably less than 50nM.

The  $\text{IC}_{50}$  (nM) values of the compounds are set forth in Table 6 wherein "A" refers to an  $\text{IC}_{50}$  value of less than 50 nM, "B" refers to  $\text{IC}_{50}$  value in range of 50.01 to 100.0 nM. "C" refers to  $\text{IC}_{50}$  value in range of 100.01 to 500.0 nM and "D" refers to  $\text{IC}_{50}$  values more than 500 nM.

Table 6: In-vitro screening results of compounds of present invention

Sr. no.	Example No.	% inhibition at		$\text{IC}_{50}$ (nM)
		1 $\mu\text{M}$	10 $\mu\text{M}$	
1.	Example 1	89.55	93.15	C
2.	Example 2	85.17	92.52	C
3.	Example 3	80.24	90.13	C
4.	Example 4	76.94	83.18	C
5.	Example 5	91.90	94.44	A
6.	Example 6	83.49	92.16	A
7.	Example 7	84.61	93.02	C
8.	Example 8	81.55	75.30	A
9.	Example 9	74.56	84.31	C
10.	Example 10	71.95	89.14	C
11.	Example 11	91.73	95.16	A
12.	Example 12	84.35	91.46	B
13.	Example 13	94.62	94.61	A
14.	Example 14	81.35	94.05	C
15.	Example 15	79.00	94.99	C
16.	Example 16	50.37	72.27	-
17.	Example 17	81.34	78.83	B
18.	Example 18	89.17	92.94	B
19.	Example 19	40.15	71.74	-



Sr. no.	Example No.	% inhibition at		IC <sub>50</sub> (nM)
		1 $\mu$ M	10 $\mu$ M	
20.	Example 20	45.49	67.06	-
21.	Example 21	54.65	72.61	-
22.	Example 22	68.12	68.35	-
23.	Example 23	70.81	88.35	C
24.	Example 24	71.17	83.47	B
25.	Example 25	87.38	94.35	A
26.	Example 26	83.73	90.81	A
27.	Example 27	82.12	83.04	A
28.	Example 28	76.83	87.74	A
29.	Example 29	71.55	84.20	B
30.	Example 30	86.68	83.67	B
31.	Example 31	74.78	86.03	C
32.	Example 32	59.56	87.20	D
33.	Example 33	88.86	97.00	A
34.	Example 34	75.64	92.88	A
35.	Example 35	76.58	79.20	B
36.	Example 36	75.30	90.40	B
37.	Example 37	66.35	82.14	C
38.	Example 38	68.76	82.35	B
39.	Example 39	41.90	54.87	-
40.	Example 40	76.15	86.64	B
41.	Example 41	61.69	64.87	-
42.	Example 42	41.25	54.74	-
43.	Example 43	77.22	87.05	B
44.	Example 44	65.14	79.08	C
45.	Example 45	43.12	72.61	-
46.	Example 46	81.05	70.43	B
47.	Example 47	76.23	87.86	B
48.	Example 48	73.95	79.66	B
49.	Example 49	71.89	73.38	B

Sr. no.	Example No.	% inhibition at		IC <sub>50</sub> (nM)
		1 $\mu$ M	10 $\mu$ M	
50.	Example 50	61.18	72.59	-
51.	Example 51	63.01	72.26	-
52.	Example 52	68.07	82.52	B
53.	Example 53	54.64	66.81	-
54.	Example 54	62.34	73.54	-
55.	Example 55	61.01	79.67	C
56.	Example 56	39.13	73.65	-
57.	Example 57	59.49	69.62	C
58.	Example 58	83.68	65.11	A
59.	Example 59	81.25	71.53	A
60.	Example 60	85.52	65.32	A
61.	Example 61	69.79	74.69	B
62.	Example 62	76.93	85.16	B
63.	Example 63	74.57	89.39	A
64.	Example 64	75.65	81.20	B
65.	Example 65	62.94	76.40	-
66.	Example 66	59.27	85.84	-
67.	Example 67	82.02	85.50	A
68.	Example 68	84.78	91.43	A
69.	Example 69	75.12	83.08	A
70.	Example 70	82.92	94.13	B
71.	Example 71	55.59	84.32	-
72.	Example 72	84.57	81.37	A
73.	Example 73	86.31	80.95	A
74.	Example 74	70.56	84.24	-
75.	Example 75	76.21	95.83	B
76.	Example 76	57.75	88.04	-
77.	Example 77	83.21	89.70	A
78.	Example 78	73.98	90.47	B
79.	Example 79	60.59	83.46	-

Sr. no.	Example No.	% inhibition at		IC <sub>50</sub> (nM)
		1 $\mu$ M	10 $\mu$ M	
80.	Example 80	76.99	92.66	A
81.	Example 81	55.76	76.29	-
82.	Example 82	81.45	94.80	A
83.	Example 83	38.55	81.94	-
84.	Example 84	60.54	78.61	C
85.	Example 85	28.85	71.59	-
86.	Example 86	56.15	80.59	-
87.	Example 87	64.97	86.90	C
88.	Example 88	66.90	94.25	-
89.	Example 89	60.79	88.19	-
90.	Example 90	81.95	91.26	B
91.	Example 91	69.43	93.21	C
92.	Example 92	75.77	90.31	C
93.	Example 93	78.23	95.98	B
94.	Example 94	85.66	95.97	B
95.	Example 95	72.53	92.46	C
96.	Example 96	82.34	96.19	A
97.	Example 97	50.94	84.35	-
98.	Example 98	64.32	87.89	-
99.	Example 99	62.26	87.34	-
100.	Example 100	71.06	93.67	C
101.	Example 101	69.46	92.97	C
102.	Example 102	19.89	40.53	-
103.	Example 103	28.89	53.11	-
104.	Example 104	43.68	85.83	-
105.	Example 105	53.34	89.47	C
106.	Example 106	63.99	88.87	-
107.	Example 107	62.45	87.10	C
108.	Example 108	80.18	92.92	A
109.	Example 109	24.79	72.83	-

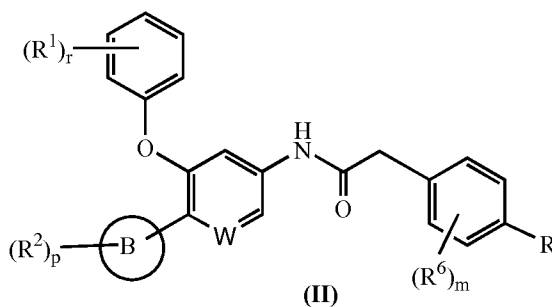
Sr. no.	Example No.	% inhibition at		IC <sub>50</sub> (nM)
		1 $\mu$ M	10 $\mu$ M	
110.	Example 110	47.25	73.86	-
111.	Example 111	55.32	83.38	-
112.	Example 112	30.22	80.83	-
113.	Example 113	42.37	80.81	-
114.	Example 114	32.48	72.30	-
115.	Example 115	44.82	80.38	
116.	Example 116	50.02	78.05	-
117.	Example 117	51.37	87.88	-
118.	Example 118	37.12	65.89	-
119.	Example 119	42.48	71.93	-
120.	Example 120	52.09	82.80	-
121.	Example 121	30.23	69.52	-
122.	Example 122	81.77	96.15	C
123.	Example 123	73.14	94.24	C
124.	Example 124	80.09	94.95	A
125.	Example 125	65.40	92.97	-
126.	Example 126	73.32	86.05	C
127.	Example 127	68.33	89.64	-
128.	Example 128	66.79	93.42	-
129.	Example 129	58.64	82.57	-
130.	Example 130	87.78	85.83	A
131.	Example 131	84.30	89.47	A
132.	Example 132	87.73	95.07	A
133.	Example 133	88.15	93.09	B
134.	Example 134	87.84	92.15	B
135.	Example 135	84.66	88.40	B
136.	Example 136	89.52	70.67	A
137.	Example 137	91.79	71.88	A
138.	Example 138	58.75	79.77	-
139.	Example 139	68.66	90.02	D

Sr. no.	Example No.	% inhibition at		IC <sub>50</sub> (nM)
		1 $\mu$ M	10 $\mu$ M	
140.	Example 140	44.82	71.97	-
141.	Example 141	53.64	72.20	-
142.	Example 142	64.22	83.45	C
143.	Example 143	65.69	79.61	C
144.	Example 144	65.65	74.19	C
145.	Example 145	70.41	83.00	C
146.	Example 146	41.24	81.24	D
147.	Example 147	52.98	82.50	-
148.	Example 148	64.16	90.63	-
149.	Example 149	56.91	86.74	-
150.	Example 150	35.89	67.59	-
151.	Example 151	86.02	94.84	B
152.	Example 152	90.40	93.79	B
153.	Example 153	86.31	95.53	B
154.	Example 154	76.94	93.68	B
155.	Example 155	83.16	95.60	A
156.	Example 156	80.31	82.20	C
157.	Example 157	80.84	92.35	C
158.	Example 158	80.09	93.69	A
159.	Example 159	68.87	82.99	C
160.	Example 160	63.59	87.22	D
161.	Example 161	80.07	97.70	C
162.	Example 162	76.63	91.81	D
163.	Example 163	88.00	89.76	C
164.	Example 164	76.21	88.42	C
165.	Example 165	71.27	96.26	D
166.	Example 166	30.13	85.93	-
167.	Example 167	22.05	63.93	-
168.	Example 168	77.63	94.38	C
169.	Example 169	86.27	87.04	B

Sr. no.	Example No.	% inhibition at		IC <sub>50</sub> (nM)
		1 $\mu$ M	10 $\mu$ M	
170.	Example 170	79.63	73.28	C
171.	Example 171	69.85	88.91	C
172.	Example 172	84.42	75.94	B
173.	Example 173	63.69	94.59	D
174.	Example 174	10.97	67.07	-

WHAT IS CLAIMED IS:

1. A compound of formula (II)



or a pharmaceutically acceptable salt thereof,

wherein,

Ring B is selected from C<sub>6-14</sub>aryl, 5-14 membered heteroaryl and 3-15 membered heterocyclyl;

W is selected from CR<sup>5</sup> and N;

R is selected from -S(O)<sub>2</sub>-R<sup>7</sup>, -S-R<sup>7</sup>, -S(O)-R<sup>7</sup>, -S(O)<sub>2</sub>NR<sup>a</sup>R<sup>b</sup> and -NR<sup>d</sup>S(O)<sub>2</sub>-R<sup>8</sup>;

each occurrence of R<sup>1</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;

each occurrence of R<sup>2</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;

each occurrence of R<sup>5</sup> is independently selected from hydrogen, halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy and haloC<sub>1-8</sub>alkyl;

each occurrence of R<sup>6</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy and haloC<sub>1-8</sub>alkyl;

each occurrence of R<sup>7</sup> is independently selected from C<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl and haloC<sub>1-8</sub>alkyl;

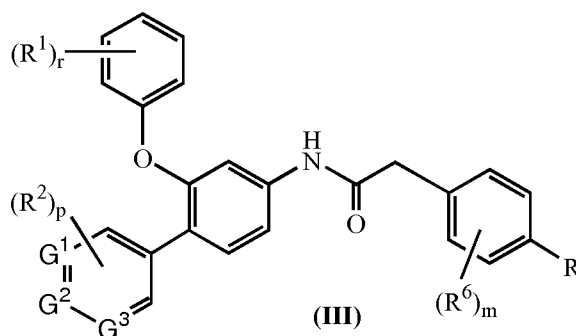
each occurrence of R<sup>8</sup> is independently selected from C<sub>1-8</sub>alkyl and C<sub>3-12</sub>cycloalkyl;

each occurrence of R<sup>a</sup> and R<sup>b</sup>, which may be the same or different, are independently selected from hydrogen and C<sub>1-8</sub>alkyl;

each occurrence of R<sup>d</sup> is independently selected from hydrogen and C<sub>1-8</sub>alkyl;

each occurrence of R<sup>x</sup> and R<sup>y</sup>, which may be the same or different, are independently selected from hydrogen and C<sub>1-8</sub>alkyl;

- 'm' is an integer ranging from 0 to 4, both inclusive;  
 'p' is an integer ranging from 0 to 5, both inclusive; and  
 'r' is an integer ranging from 0 to 5, both inclusive.
- The compound according to claim 1, wherein W is CH or N.
  - The compound according to claim 1 or 2, wherein ring B is phenyl, pyridin-3-yl, pyridin-4-yl, pyrimidin-5-yl, 1*H*-pyrazol-1-yl, 1*H*-imidazol-1-yl, 1*H*-1,2,4-triazol-1-yl, 1,3-oxazol-2-yl or 1,2,4-oxadiazol-3-yl.
  - The compound according to any one of claims 1 to 3, wherein R<sup>1</sup> is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub>.
  - The compound according to any one of claims 1 to 4, wherein R<sup>2</sup> is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> or OCF<sub>3</sub>.
  - The compound according to any one of claims 1 to 5, wherein R is -S(O)<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>-cyclopropyl, -S(O)<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>, -S(O)<sub>2</sub>NHCH<sub>3</sub>, -S(O)<sub>2</sub>NHCH<sub>2</sub>CH<sub>3</sub> or -NHS(O)<sub>2</sub>CH<sub>3</sub>.
  - The compound according to claim 1, wherein  
 W is N or CH;  
 ring B is phenyl, pyridin-3-yl, pyridin-4-yl, pyrimidin-5-yl, 1*H*-pyrazol-1-yl, 1*H*-imidazol-1-yl, 1*H*-1,2,4-triazol-1-yl, 1,3-oxazol-2-yl or 1,2,4-oxadiazol-3-yl;  
 R<sup>1</sup> is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub>;  
 R<sup>2</sup> is independently CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> or OCF<sub>3</sub>;  
 R is -S(O)<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>-cyclopropyl, -S(O)<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>, -S(O)<sub>2</sub>NHCH<sub>3</sub>, -S(O)<sub>2</sub>NHCH<sub>2</sub>CH<sub>3</sub> or -NHS(O)<sub>2</sub>CH<sub>3</sub>;  
 'r' is 0, 1 or 2;  
 'p' is 0, 1, 2 or 3;  
 R<sup>6</sup> is methyl and 'm' is 0.
  - A compound of the formula (III)



or a pharmaceutically acceptable salt thereof,



wherein,

$G^1$ ,  $G^2$  and  $G^3$ , which may be same or different, are each independently selected from CH and N; with a proviso that  $G^1$ ,  $G^2$  and  $G^3$  are not N simultaneously;

R is selected from  $-S(O)_2-R^7$ ,  $-S(O)_2NR^aR^b$  and  $-NR^dS(O)_2-R^8$ ;

each occurrence of  $R^1$  is independently selected from halogen, cyano, hydroxyl,  $C_{1-8}$ alkyl,  $C_{1-8}$ alkoxy, halo $C_{1-8}$ alkyl, halo $C_{1-8}$ alkoxy, hydroxy $C_{1-8}$ alkyl and  $NR^xR^y$ ;

each occurrence of  $R^2$  is independently selected from halogen, cyano, hydroxyl,  $C_{1-8}$ alkyl,  $C_{1-8}$ alkoxy, halo $C_{1-8}$ alkyl, halo $C_{1-8}$ alkoxy, hydroxy $C_{1-8}$ alkyl and  $NR^xR^y$ ;

each occurrence of  $R^6$  is independently selected from halogen, cyano, hydroxyl,  $C_{1-8}$ alkyl,  $C_{1-8}$ alkoxy and halo $C_{1-8}$ alkyl;

each occurrence of  $R^7$  is independently  $C_{1-8}$ alkyl,  $C_{3-12}$ cycloalkyl and halo $C_{1-8}$ alkyl;

each occurrence of  $R^8$  is independently selected from  $C_{1-8}$ alkyl and  $C_{3-12}$ cycloalkyl;

each occurrence of  $R^a$  and  $R^b$ , which may be the same or different, are independently selected from hydrogen and  $C_{1-8}$ alkyl;

each occurrence of  $R^d$  is independently selected from hydrogen and  $C_{1-8}$ alkyl;

each occurrence of  $R^x$  and  $R^y$ , which may be the same or different, are independently selected from hydrogen and  $C_{1-8}$ alkyl;

'm' is an integer ranging from 0 to 3, both inclusive;

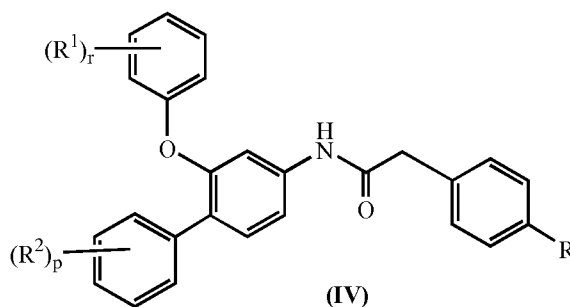
'p' is an integer ranging from 0 to 3, both inclusive; and

'r' is an integer ranging from 0 to 3, both inclusive.

9. The compound according to claim 8, wherein  $G^1$  is N or CH,  $G^2$  is CH and  $G^3$  is N or CH.
10. The compound according to claim 8, wherein  $G^1$  is CH,  $G^2$  is N and  $G^3$  is CH.
11. The compound according to any one of claims 8 to 10, wherein each occurrence of  $R^1$  is independently CN, F, Cl,  $CH_3$ ,  $CF_3$ ,  $OCH_3$ ,  $OCHF_2$ ,  $OCF_3$  or  $N(CH_3)_2$ .
12. The compound according to any one of claims 8 to 11, wherein 'r' is 1 or 2.
13. The compound according to any one of claims 8 to 12, wherein each occurrence of  $R^2$  is independently CN, F, Cl,  $CH_3$ ,  $CF_3$ ,  $OCH_3$ ,  $OCHF_2$  or  $OCF_3$ .
14. The compound according to any one of claims 8 to 13, wherein 'p' is 1, 2 or 3.

15. The compound according to any one of claims 8 to 14, wherein R is -  
 $\text{S(O)}_2\text{CH}_3$ ,  $-\text{S(O)}_2\text{CH}_2\text{CH}_3$ ,  $-\text{S(O)}_2$ -cyclopropyl,  $-\text{S(O)}_2\text{CH}_2\text{CF}_3$ ,  $-\text{S(O)}_2\text{NHCH}_3$ , -  
 $\text{S(O)}_2\text{NHCH}_2\text{CH}_3$  or  $-\text{NHS(O)}_2\text{CH}_3$ .
16. The compound according to claim 8, wherein  
 $\text{G}^1$  is N or CH;  
 $\text{G}^2$  is CH;  
 $\text{G}^3$  is N or CH;  
 $\text{R}^1$  is independently CN, F, Cl,  $\text{CH}_3$ ,  $\text{CF}_3$ ,  $\text{OCH}_3$ ,  $\text{OCHF}_2$ ,  $\text{OCF}_3$  or  $\text{N}(\text{CH}_3)_2$ ;  
 $\text{R}^2$  is independently CN, F, Cl,  $\text{CH}_3$ ,  $\text{CF}_3$ ,  $\text{OCH}_3$ ,  $\text{OCHF}_2$  or  $\text{OCF}_3$ ;  
R is  $-\text{S(O)}_2\text{CH}_3$ ,  $-\text{S(O)}_2\text{CH}_2\text{CH}_3$ ,  $-\text{S(O)}_2$ -cyclopropyl,  $-\text{S(O)}_2\text{CH}_2\text{CF}_3$ , -  
 $\text{S(O)}_2\text{NHCH}_3$ ,  $-\text{S(O)}_2\text{NHCH}_2\text{CH}_3$  or  $-\text{NHS(O)}_2\text{CH}_3$ ;  
‘r’ is 0, 1 or 2;  
‘p’ is 0, 1, 2 or 3;  
 $\text{R}^6$  is methyl and ‘m’ is 0.
17. The compound according to claim 8, wherein  
 $\text{G}^1$  is CH;  
 $\text{G}^2$  is CH or N;  
 $\text{G}^3$  is CH;  
 $\text{R}^1$  is independently CN, F, Cl,  $\text{CH}_3$ ,  $\text{CF}_3$ ,  $\text{OCH}_3$ ,  $\text{OCHF}_2$ ,  $\text{OCF}_3$  or  $\text{N}(\text{CH}_3)_2$ ;  
 $\text{R}^2$  is independently CN, F, Cl,  $\text{CH}_3$ ,  $\text{CF}_3$ ,  $\text{OCH}_3$ ,  $\text{OCHF}_2$  or  $\text{OCF}_3$ ;  
R is  $-\text{S(O)}_2\text{CH}_3$ ,  $-\text{S(O)}_2\text{CH}_2\text{CH}_3$ ,  $-\text{S(O)}_2$ -cyclopropyl,  $-\text{S(O)}_2\text{CH}_2\text{CF}_3$ , -  
 $\text{S(O)}_2\text{NHCH}_3$ ,  $-\text{S(O)}_2\text{NHCH}_2\text{CH}_3$  or  $-\text{NHS(O)}_2\text{CH}_3$ ;  
‘r’ is 0, 1 or 2;  
‘p’ is 0, 1, 2 or 3;  
 $\text{R}^6$  is methyl and ‘m’ is 0.

18. A compound of the formula (IV)



or a pharmaceutically acceptable salt thereof,

wherein,

each occurrence of R<sup>1</sup> is independently selected from CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub>, OCF<sub>3</sub> and N(CH<sub>3</sub>)<sub>2</sub>;

each occurrence of R<sup>2</sup> is independently selected from CN, F, Cl, CH<sub>3</sub>, CF<sub>3</sub>, OCH<sub>3</sub>, OCHF<sub>2</sub> and OCF<sub>3</sub>;

R is -S(O)<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>-cyclopropyl, -S(O)<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>, -S(O)<sub>2</sub>NHCH<sub>3</sub>, -S(O)<sub>2</sub>NHCH<sub>2</sub>CH<sub>3</sub> or -NHS(O)<sub>2</sub>CH<sub>3</sub>;

'r' is 0, 1 or 2; and

'p' is 0, 1, 2 or 3.

19. A compound selected from

*N*-[2-(3-Fluorophenoxy)biphenyl-4-yl]-2-[4-(methylsulfonyl)phenyl]acetamide;

*N*-[3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(methylsulfonyl)phenyl]acetamide;

*N*-[2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfonyl)phenyl]acetamide;

*N*-[2-(3-Cyanophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-(2-phenoxybiphenyl-4-yl)acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-(3'-fluoro-2-phenoxybiphenyl-4-yl)acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-(4'-fluoro-2-phenoxybiphenyl-4-yl)acetamide;

*N*-(3'-Chloro-2-phenoxybiphenyl-4-yl)-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-(4'-Chloro-2-phenoxybiphenyl-4-yl)-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(2-fluorophenoxy)biphenyl-4-yl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)biphenyl-4-yl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(4-fluorophenoxy)biphenyl-4-yl]acetamide;

*N*-[2-(3-Chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2-(4-Chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{2-[3-(trifluoromethyl)phenoxy]biphenyl-4-yl}acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-yl}acetamide;

*N*-[2-(3-Cyanophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2-(3,4-Difluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-3'-methylbiphenyl-4-yl]acetamide;

*N*-[2-(3-Chlorophenoxy)-3'-methylbiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3'-methyl-2-[3-(trifluoromethyl)phenoxy]biphenyl-4-yl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3'-methyl-2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-yl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2'-fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3'-fluoro-2-(3-methylphenoxy)biphenyl-4-yl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3'-fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide;

*N*-[2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3'-fluoro-2-(3-methoxyphenoxy)biphenyl-4-yl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3'-fluoro-2-[3-(trifluoromethyl)phenoxy]biphenyl-4-yl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3'-fluoro-2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-yl} acetamide;

*N*-[2-(3-Cyanophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3'-fluoro-2-(4-fluorophenoxy)biphenyl-4-yl]acetamide;

*N*-[2-(4-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[4'-fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide;

*N*-[2-(3-Chlorophenoxy)-4'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2-(3-Cyanophenoxy)-4'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[4'-fluoro-2-(4-fluorophenoxy)biphenyl-4-yl]acetamide;

*N*-[2-(4-Chlorophenoxy)-4'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2'-Chloro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Chloro-2-(2-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Chloro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Chloro-2-(4-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Chloro-2-(2-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Chloro-2-(3-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Chloro-2-(4-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Chloro-2-(2-cyanophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Chloro-2-(3-cyanophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[4'-Chloro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[4'-Chloro-2-(3-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[4'-Chloro-2-(3-cyanophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[4'-Chloro-2-(4-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[4'-Chloro-2-(4-chlorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-2'-methoxybiphenyl-4-yl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-3'-(trifluoromethyl)biphenyl-4-yl] acetamide;

*N*-[3'-(Difluoromethoxy)-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-2'-(trifluoromethoxy)biphenyl-4-yl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)-3'-(trifluoromethoxy)biphenyl-4-yl] acetamide;

*N*-[2'-Cyano-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3'-Cyano-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2-(3-Chlorophenoxy)-3'-cyanobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[4'-Cyano-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2-(3-Chlorophenoxy)-4'-cyanobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2-(3,4-Difluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2-(3,5-Difluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2-(3-Chloro-4-fluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2',3'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[2',5'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3',4'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

*N*-[3',5'-Difluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

- N*-[2-(3-Chlorophenoxy)-3',4'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- N*-[2-(3-Chlorophenoxy)-3',5'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- N*-[2-(3-Chlorophenoxy)-2',5'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- N*-[2-(3-Cyanophenoxy)-3',4'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- N*-[2-(3-Cyanophenoxy)-3',5'-difluorobiphenyl-4-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3',4',5'-trifluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide;
- 2-[4-(Cyclopropylsulfonyl)phenyl]-*N*-[2-(3-fluorophenoxy)biphenyl-4-yl]acetamide;
- N*-[2-(3-Fluorophenoxy)biphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide;
- N*-[3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide;
- N*-[2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide;
- N*-{3'-Fluoro-2-[3-(trifluoromethyl)phenoxy]biphenyl-4-yl}-2-[4-(methylsulfamoyl)phenyl] acetamide;
- N*-{3'-Fluoro-2-[3-(trifluoromethoxy)phenoxy]biphenyl-4-yl}-2-[4-(methylsulfamoyl)phenyl] acetamide;
- N*-[2-(3-Cyanophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide;
- N*-[2-(3,4-Difluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide;
- N*-[2-(3,5-Difluorophenoxy)-3'-fluorobiphenyl-4-yl]-2-[4-(methylsulfamoyl)phenyl]acetamide;
- 2-[4-(Ethylsulfamoyl)phenyl]-*N*-[2-(3-fluorophenoxy)biphenyl-4-yl]acetamide;
- 2-[4-(Ethylsulfamoyl)phenyl]-*N*-[3'-fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]acetamide;

*N*-[2-(3-Fluorophenoxy)biphenyl-4-yl]-2-{4-[(2,2,2-trifluoroethyl)sulfonyl]phenyl}acetamide;

*N*-[3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-{4-[(2,2,2-trifluoroethyl)sulfonyl]phenyl}acetamide;

*N*-[3'-Fluoro-2-(3-fluorophenoxy)biphenyl-4-yl]-2-{4-[(methylsulfonyl)amino]phenyl}acetamide;

*N*-[2-(3-Chlorophenoxy)-3'-fluorobiphenyl-4-yl]-2-{4-[(methylsulfonyl)amino]phenyl}acetamide;

*N*-[2-(3-Cyanophenoxy)-3'-fluorobiphenyl-4-yl]-2-{4-[(methylsulfonyl)amino]phenyl}acetamide;

and pharmaceutically acceptable salts thereof.

20. A compound selected from

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(pyridin-3-yl)phenyl]acetamide;

*N*-[3-(3-Chlorophenoxy)-4-(pyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl}acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl}acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(2-fluoropyridin-3-yl)phenyl]acetamide;

*N*-[3-(3-Chlorophenoxy)-4-(2-fluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-fluoropyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl}acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-fluoropyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl}acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(6-fluoropyridin-3-yl)phenyl]acetamide;

*N*-[3-(3-Chlorophenoxy)-4-(6-fluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide;



- 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(6-fluoropyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(6-fluoropyridin-3-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide;
- N*-[3-(3,4-Difluorophenoxy)-4-(6-fluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- N*-[3-(3,5-Difluorophenoxy)-4-(6-fluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;
- N*-[4-(5,6-Difluoropyridin-3-yl)-3-(3-fluorophenoxy)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;
- N*-[3-(3-Cyanophenoxy)-4-(5,6-difluoropyridin-3-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-phenoxy-4-(pyridin-4-yl)phenyl]acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(pyridin-4-yl)phenyl]acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-4-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-4-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(2-fluoropyridin-4-yl)phenyl]acetamide;
- N*-[3-(3-Chlorophenoxy)-4-(2-fluoropyridin-4-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-fluoropyridin-4-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide;
- N*-[3-(3,5-Difluorophenoxy)-4-(2-fluoropyridin-4-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(pyrimidin-5-yl)phenyl]acetamide;
- N*-[3-(3-Chlorophenoxy)-4-(pyrimidin-5-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyrimidin-5-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyrimidin-5-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide;  
and pharmaceutically acceptable salts thereof.

21. A compound selected from

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(1*H*-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-methylphenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide;

*N*-[3-(3-Chlorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-methoxyphenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(3-methyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethyl)phenoxy] phenyl} acetamide;

*N*-{3-[3-(Difluoromethoxy)phenoxy]-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl}-2-[4-(ethylsulfonyl) phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(3-methyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy] phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(3-methyl-1*H*-pyrazol-1-yl)-3-[4-(trifluoromethoxy)phenoxy] phenyl} acetamide;

*N*-[3-(3-Cyanophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

*N*-{3-[3-(Dimethylamino)phenoxy]-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl}-2-[4-(ethylsulfonyl) phenyl]acetamide;

*N*-[3-(3,4-Difluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

*N*-[3-(3,5-Difluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl) phenyl]acetamide;

*N*-[3-(3-Chloro-4-fluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl) phenyl]acetamide;

*N*-[3-(3-Chloro-5-fluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl) phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3-(3-fluorophenoxy)-4-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl] phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-methylphenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl] acetamide;

*N*-[3-(3-Chlorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethyl)phenoxy] phenyl} acetamide;

*N*-{3-[3-(Difluoromethoxy)phenoxy]-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl}-2-[4-(ethylsulfonyl) phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy] phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-pyrazol-1-yl)-3-[4-(trifluoromethoxy)phenoxy] phenyl} acetamide;

*N*-[3-(3-Cyanophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

*N*-[3-(3,4-Difluorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

*N*-[3-(3,5-Difluorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

*N*-[3-(3-Chloro-5-fluorophenoxy)-4-(4-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl) phenyl]acetamide;

*N*-[4-(3,5-Dimethyl-1*H*-pyrazol-1-yl)-3-(3-fluorophenoxy)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

*N*-[3-(3-Chlorophenoxy)-4-(3,5-dimethyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

*N*-{4-(3,5-Dimethyl-1*H*-pyrazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy]phenyl}-2-[4-(ethylsulfonyl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(4-methyl-1*H*-imidazol-1-yl)phenyl] acetamide;

*N*-[3-(3-Chlorophenoxy)-4-(4-methyl-1*H*-imidazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-imidazol-1-yl)-3-[3-(trifluoromethyl)phenoxy] phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-imidazol-1-yl)-3-[3-(trifluoromethoxy) phenoxy]phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(4-methyl-1*H*-imidazol-1-yl)-3-[4-(trifluoromethoxy) phenoxy]phenyl} acetamide;

*N*-[3-(3-Cyanophenoxy)-4-(4-methyl-1*H*-imidazol-1-yl)phenyl]-2-[4-(ethylsulfonyl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(2-methyl-1*H*-imidazol-1-yl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-methyl-1*H*-imidazol-1-yl)-3-[3-(trifluoromethyl)phenoxy] phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(2-methyl-1*H*-imidazol-1-yl)-3-[3-(trifluoromethoxy) phenoxy]phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(1*H*-1,2,4-triazol-1-yl)phenyl]acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(1*H*-1,2,4-triazol-1-yl)-3-[3-(trifluoromethoxy)phenoxy] phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(3-methyl-1*H*-1,2,4-triazol-1-yl)-3-[3-(trifluoromethoxy) phenoxy]phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(5-methyl-1,3-oxazol-2-yl)-3-[3-(trifluoromethoxy)phenoxy] phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-[3-(3-fluorophenoxy)-4-(5-methyl-1,2,4-oxadiazol-3-yl)phenyl] acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(5-methyl-1,2,4-oxadiazol-3-yl)-3-[3-(trifluoromethyl) phenoxy]phenyl} acetamide;

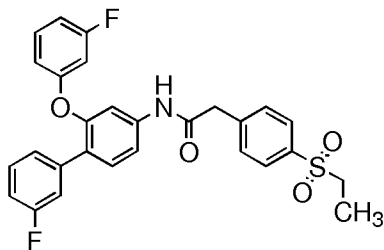
2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(5-methyl-1,2,4-oxadiazol-3-yl)-3-[3-(trifluoromethoxy) phenoxy]phenyl} acetamide;

2-[4-(Ethylsulfonyl)phenyl]-*N*-{3-(3-fluorophenoxy)-4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl} acetamide;

*N*-[3-(3-Fluorophenoxy)-4-(3-methyl-1*H*-pyrazol-1-yl)phenyl]-2-[4-(methylsulfamoyl)phenyl] acetamide;

- N*-[3-(3-Fluorophenoxy)-4-(4-methyl-1*H*-imidazol-1-yl)phenyl]-2-[4-(methylsulfamoyl)phenyl] acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-(5-phenoxy-6-phenylpyridin-3-yl)acetamide;
- 2-[4-(Ethylsulfonyl)phenyl]-*N*-[5-(3-fluorophenoxy)-6-(3-fluorophenyl)pyridin-3-yl]acetamide;
- N*-[5-(3-Cyanophenoxy)-6-(3-fluorophenyl)pyridin-3-yl]-2-[4-(ethylsulfonyl)phenyl]acetamide;
- N*-[6-(3,5-Difluorophenyl)-5-(3-fluorophenoxy)pyridin-3-yl]-2-[4-(ethylsulfonyl)phenyl] acetamide;
- N*-[6-(3,4-Difluorophenyl)-5-(3-fluorophenoxy)pyridin-3-yl]-2-[4-(ethylsulfonyl)phenyl] acetamide;
- N*-[5-(3-Fluorophenoxy)-6-(3-fluorophenyl)pyridin-3-yl]-2-[4-(methylsulfamoyl)phenyl] acetamide;
- N*-[5-(3-Fluorophenoxy)-6-(3-fluorophenyl)pyridin-3-yl]-2-{4-[(methylsulfonyl)amino]phenyl} acetamide;
- and pharmaceutically acceptable salts thereof.

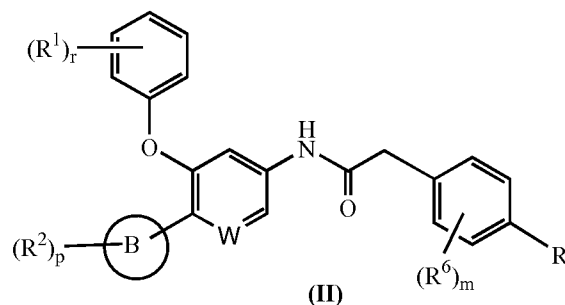
22. A compound 2-[4-(Ethylsulfonyl)phenyl]-*N*-{4-(pyridin-3-yl)-3-[3-(trifluoromethyl)phenoxy]phenyl} acetamide hydrochloride.
23. A compound of the formula



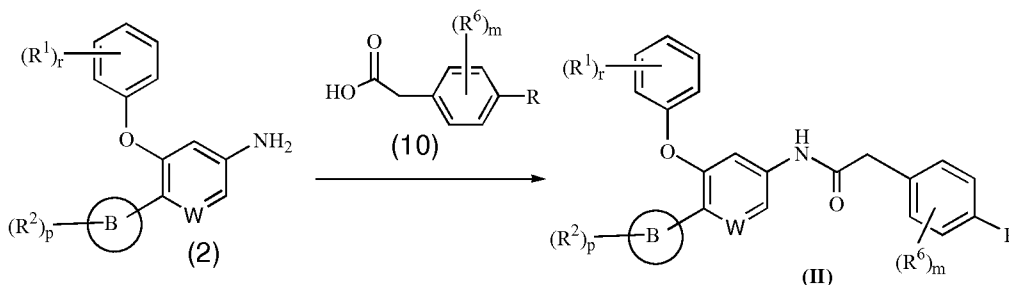
or a pharmaceutically acceptable salt thereof.

24. A pharmaceutical composition comprising a compound according to any one of claims 1 to 23 and a pharmaceutically acceptable excipient.
25. The pharmaceutical composition according to claim 24, wherein the pharmaceutically acceptable excipient is a carrier or diluent.
26. A method of treating a ROR $\gamma$ t mediated disease, disorder or syndrome in a subject comprising administering an effective amount of a compound according to any one of claims 1 to 23.
27. The method according to claim 26, wherein the disease is an inflammatory or autoimmune disease.

28. The method according to claim 27, wherein said inflammatory or autoimmune disease is selected from the group consisting of rheumatoid arthritis, psoriasis, chronic obstructive pulmonary disease (COPD), asthma, multiple sclerosis, colitis, ulcerative colitis and inflammatory bowel disease.
29. The method according to claim 26, wherein the disease, disorder, syndrome or condition is pain, chronic pain, acute pain, inflammatory pain, arthritic pain, neuropathic pain, post-operative pain, surgical pain, visceral pain, dental pain, premenstrual pain, central pain, cancer pain, pain due to burns, migraine or cluster headaches, nerve injury, neuritis, neuralgias, poisoning, ischemic injury, interstitial cystitis, viral, parasitic or bacterial infection, post-traumatic injury, or pain associated with irritable bowel syndrome.
30. The method according to claim 26, wherein the disease, disorder, syndrome or condition is chronic obstructive pulmonary disease (COPD), asthma, bronchospasm, or cough.
31. A method of treatment of disease, disorder, syndrome or condition selected from the group consisting of chronic obstructive pulmonary disease (COPD), asthma, cough, pain, inflammatory pain, chronic pain, acute pain, arthritis, osteoarthritis, multiple sclerosis, rheumatoid arthritis, colitis, ulcerative colitis and inflammatory bowel disease comprising administering a compound according to any one of claims 1 to 23.
32. A process for preparing a compound of formula (II)



or a pharmaceutically acceptable salt thereof, which comprises: reacting a compound of formula (2) with a compound of formula (10) to form a compound of formula (II)



wherein,

Ring B is selected from C<sub>6-14</sub>aryl, 5-14 membered heteroaryl and 3-15 membered heterocyclyl;

W is selected from CR<sup>5</sup> and N;

R is selected from -S(O)<sub>2</sub>-R<sup>7</sup>, -S-R<sup>7</sup>, -S(O)-R<sup>7</sup>, -S(O)<sub>2</sub>NR<sup>a</sup>R<sup>b</sup> and -NR<sup>d</sup>S(O)<sub>2</sub>-R<sup>8</sup>;

each occurrence of R<sup>1</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;

each occurrence of R<sup>2</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy, haloC<sub>1-8</sub>alkyl, haloC<sub>1-8</sub>alkoxy, hydroxyC<sub>1-8</sub>alkyl and NR<sup>x</sup>R<sup>y</sup>;

each occurrence of R<sup>5</sup> is independently selected from hydrogen, halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy and haloC<sub>1-8</sub>alkyl;

each occurrence of R<sup>6</sup> is independently selected from halogen, cyano, hydroxyl, C<sub>1-8</sub>alkyl, C<sub>1-8</sub>alkoxy and haloC<sub>1-8</sub>alkyl;

each occurrence of R<sup>7</sup> is independently selected from C<sub>1-8</sub>alkyl, C<sub>3-12</sub>cycloalkyl and haloC<sub>1-8</sub>alkyl;

each occurrence of R<sup>8</sup> is independently selected from C<sub>1-8</sub>alkyl and C<sub>3-12</sub>cycloalkyl;

each occurrence of R<sup>a</sup> and R<sup>b</sup>, which may be the same or different, are independently selected from hydrogen and C<sub>1-8</sub>alkyl;

each occurrence of R<sup>d</sup> is independently selected from hydrogen and C<sub>1-8</sub>alkyl;

each occurrence of R<sup>x</sup> and R<sup>y</sup>, which may be the same or different, are independently selected from hydrogen and C<sub>1-8</sub>alkyl;

'm' is an integer ranging from 0 to 4, both inclusive;

'p' is an integer ranging from 0 to 5, both inclusive; and

'r' is an integer ranging from 0 to 5, both inclusive.

33. The process according to claim 32, wherein a compound of formula (2) is converted to a compound of formula (II) in the presence of a solvent selected from DCM, THF and DMF.
34. The process according to claim 32 or 33, wherein a compound of formula (2) is converted to compound of formula (II) using a coupling agent.
35. The process according to claim 34, wherein the said coupling agent is 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide (EDCI) and 1-hydroxybenzotriazole (HOBt).