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(71) Applicant: **BASF SE** [DE/DE]; Carl-Bosch-Strasse 38, 67056 Ludwigshafen am Rhein (DE).

(72) Inventors: **TERTERYAN-SEISER, Violeta**; Feldbergstrasse 18, 68163 Mannheim (DE). **GRAMMENOS, Wassilios**; Alexander-Fleming-Str. 13, 67071 Ludwigshafen (DE). **WIEBE, Christine**; Dammstrasse 31, 68169 Mannheim (DE). **KRETSCHMER, Manuel**; 1801 16th St. NW, Apt. 611, Washington D.C., 20009 (US). **CRAIG, Ian Robert**; Carl-Bosch-Strasse 70, 67063 Ludwigshafen (DE). **ESCRIBANO CUESTA, Ana**; L8, 5, 68161 Mannheim (DE). **FEHR, Marcus**; Hermann-Langlotz-Str. 22, 67346 Speyer (DE). **MENTZEL, Tobias**; Gartenstrasse 4, 67354 Roemerberg (DE). **QUINTERO PALOMAR, Maria Angelica**; Tullastrasse 19, 68161 Mannheim (DE). **GROTE, Thomas**; Im Hoehnhausen 18, 67157 Wachenheim (DE). **CAMBEIS, Erica**; Breslauer Strasse 19, 67258 Hessheim (DE). **MUELLER, Bernd**; Stockinger Str. 7, 67227 Frankenthal (DE). **LOHMANN, Jan Klaas**; Muehltorstr 2a, 67245 Lambsheim (DE). **WINTER, Christian**; Eschenbachstr. 42, 67063 Ludwigshafen (DE).

(74) Agent: **BASF IP ASSOCIATION**; BASF SE, G-FLP - C006, 67056 Ludwigshafen (DE).

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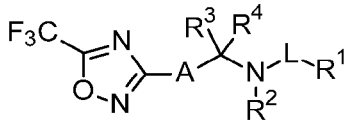
(54) Title: SUBSTITUTED OXADIAZOLES FOR COMBATING PHYTOPATHOGENIC FUNGI



(I)

(57) Abstract: The present invention relates to novel trifluoromethyloxadiazoles of the formula I, or an N-oxide and/or their agriculturally useful salts and to their use for controlling phytopathogenic fungi; to a method for combating phytopathogenic harmful fungi, which process comprises treating the fungi or the plants, the soil or seeds to be protected against fungal attack, with an effective amount of at least one compound of the formula I, or an N-oxide, or an agriculturally acceptable salt thereof; to a process for preparing compounds of the formula I; to intermediate compounds of the formula II.a for the preparation of compounds of the formula I; to agrochemical compositions comprising at least one compound of the formula I; and to agrochemical compositions further comprising seeds.

Substituted oxadiazoles for combating phytopathogenic fungi

The present invention relates to novel trifluoromethyloxadiazoles of the formula I, or an N-oxide and/or their agriculturally useful salts and to their use for controlling phytopathogenic fungi; to a method for combating phytopathogenic harmful fungi, which process comprises treating the fungi or the plants, the soil or seeds to be protected against fungal attack, with an effective amount of at least one compound of the formula I, or an N-oxide, or an agriculturally acceptable salt thereof; to a process for preparing compounds of the formula I; to intermediate compounds of the formula II.a for the preparation of compounds of the formula I; to agrochemical compositions comprising at least one compound of the formula I; and to agrochemical compositions further comprising seeds.

EP 276432 A2 relates to 3-phenyl-5-trifluoromethyloxadiazole derivatives and to their use to combat phytopathogenic microorganisms. WO 2015/185485 A1 describes similar derivatives of trifluoromethyloxadiazoles and their use to combat phytopathogenic microorganisms.

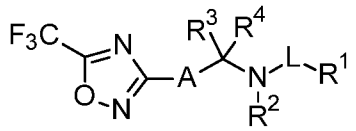
WO 97/30047 A1 describes certain trifluoromethyloxadiazole analogues with fungicidal activity, wherein the trifluoromethyloxadiazole group and an amide functional group are attached to a phenyl ring in an *ortho*-relationship.

The Chemical Abstracts database reveals the structure of certain oxadiazoles, namely 5-ethyl-2,4-dimethyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide (CAS 932742-84-2), 5-ethyl-2-methyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide (CAS 932742-82-0), 4-chloro-2,5-dimethyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide (CAS 932742-80-8), 4-bromo-5-ethyl-2-methyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl] pyrazole-3-carboxamide (CAS 932742-77-3) and 4-chloro-5-ethyl-2-methyl-N-[[4-[5-(trifluoro-methyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide (CAS 932742-72-8).

Intermediate compound [4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methanamine is described in WO 2013/066839 A2 (CAS Registry number 510771-81-0).

In many cases, in particular at low application rates, the fungicidal activity of known fungicidal compounds is unsatisfactory. Based on this, it was an objective of the present invention to provide compounds having improved activity and/or a broader activity spectrum against phytopathogenic fungi. This objective is achieved by the oxadiazoles of the formula I and/or their agriculturally useful salts for controlling phytopathogenic fungi.

Accordingly, the present invention relates to compounds of the formula I, or the N-oxides, or the agriculturally acceptable salts thereof



I,

wherein:

A is phenyl or a 5- or 6-membered aromatic heterocycle, wherein the ring member atoms of the aromatic heterocycles include besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein the phenyl ring or the aromatic

heterocycles are unsubstituted or substituted with 1, 2, 3 or 4 identical or different groups R^A; wherein

R^A is halogen, cyano, NO_2, OH, SH, NH_2, diC_1-C_6-alkylamino, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_1-C_6-alkylthio, C_1-C_6-alkylsulfinyl, C_1-C_6-alkylsulfonyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkoxy; and wherein any of the aliphatic and cyclic moieties are unsubstituted or substituted with 1, 2, 3 or 4 identical or different groups R^a; wherein

R^a is halogen, cyano, NO_2, OH, SH, NH_2, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_1-C_6-haloalkylthio or C_3-C_8-cycloalkyl or C_1-C_4-alkoxy-C_1-C_4-alkyl;

L is -(C=O)-, -(C=S)- or -$S(=O)_p$-;

p is 0, 1 or 2;

R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, phenyl-C_1-C_4-alkyl, heteroaryl-C_1-C_4-alkyl, phenyl, naphthyl or a 3- to 10-membered saturated, partially unsaturated or aromatic mono- or bicyclic heterocycle, wherein the ring member atoms of said mono- or bicyclic heterocycle include besides carbon atoms further 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms and wherein 1 or 2 carbon ring member atoms of the heterocycle may be replaced by 1 or 2 groups independently selected from -C(=O)- and -C(=S)-; and wherein the heteroaryl group in heteroaryl-C_1-C_4-alkyl is a 5- or 6-membered aromatic heterocycle, wherein the ring member atoms of the heterocyclic ring include besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the above-mentioned aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3 or up to the maximum possible number of identical or different groups R^{1a}; wherein

R^{1a} is halogen, oxo, cyano, NO_2, OH, SH, NH_2, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_1-C_6-haloalkylthio, C_3-C_8-cycloalkyl, -$NHSO_2$-C_1-C_4-alkyl, (C=O)-C_1-C_4-alkyl, C(=O)-C_1-C_4-alkoxy, C_1-C_6-alkylsulfonyl, hydroxyC_1-C_4-alkyl, C(=O)-NH_2, C(=O)-NH(C_1-C_4-alkyl), C_1-C_4-alkylthio-C_1-C_4-alkyl, aminoC_1-C_4-alkyl, C_1-C_4-alkylamino-C_1-C_4-alkyl, diC_1-C_4-alkylamino-C_1-C_4-alkyl, aminocarbonyl-C_1-C_4-alkyl or C_1-C_4-alkoxy-C_1-C_4-alkyl.

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_3-C_8-cycloalkyl-C_1-C_6-alkyl, phenyl-C_1-C_4-alkyl, phenyl, C(=O)-C_1-C_6-alkyl or C(=O)-C_1-C_6-alkoxy; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3 or up to the maximum possible number of identical or different groups R^{1a};

R^3, R^4 independently of each other are selected from the group consisting of hydrogen, halogen, cyano, C_1-C_4-alkyl, C_1-C_4-alkenyl, C_1-C_4-alkynyl and C_1-C_4-haloalkyl;

or R^3 and R^4 together with the carbon atom to which they are bound form a 3- to 7- membered carbocycle or a saturated 3- to 6-membered heterocycle, wherein the heterocycle includes beside carbon atoms 1, 2 or 3 heteroatoms independently selected from N-R^N, S, -S(=O)-, -$S(=O)_2$- and O as ring member atoms; wherein

R^N is H, C_1-C_6-alkyl, SO_2CH_3, $SO_2C_6H_4CH_3$ or SO_2-aryl;

and wherein one or two CH_2 groups of the carbocycle or heterocycle may be replaced by one or two groups independently selected from the group of -C(=O)- and -C(=S)-;

and wherein the carbocycle, the heterocycle and aryl is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{3a}; wherein

R^{3a} is halogen, cyano, NO_2, OH, SH, NH_2, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_1-C_6-haloalkylthio, C_3-C_8-cycloalkyl, $NHSO_2$-C_1-C_4-alkyl, (C=O)-C_1-C_4-alkyl, C(=O)-C_1-C_4-alkoxy or C_1-C_6-alkylsulfonyl;

with the exception of 5-ethyl-2,4-dimethyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide, 5-ethyl-2-methyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-,4-chloro-2,5-dimethyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide, 4-bromo-5-ethyl-2-methyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide and 4-chloro-5-ethyl-2-methyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide.

Agriculturally acceptable salts of the compounds of the formula I encompass especially the salts of those cations or the acid addition salts of those acids whose cations and anions, respectively, have no adverse effect on the fungicidal action of the compounds I. Suitable cations are thus in particular the ions of the alkali metals, preferably sodium and potassium, of the alkaline earth metals, preferably calcium, magnesium and barium, of the transition metals, preferably manganese, copper, zinc and iron, and also the ammonium ion which, if desired, may be substituted with one to four C_1-C_4-alkyl substituents and/or one phenyl or benzyl substituent, preferably diisopropylammonium, tetramethylammonium, tetrabutylammonium, trimethylbenzylammonium, furthermore phosphonium ions, sulfonium ions, preferably tri(C_1-C_4-alkyl)sulfonium, and sulfoxonium ions, preferably tri(C_1-C_4-alkyl)sulfoxonium.
Anions of acceptable acid addition salts are primarily chloride, bromide, fluoride, hydrogensulfate, sulfate, dihydrogenphosphate, hydrogenphosphate, phosphate, nitrate, bicarbonate, carbonate, hexafluorosilicate, hexafluorophosphate, benzoate, and the anions of C_1-C_4-alkanoic acids, preferably formate, acetate, propionate and butyrate. They can be formed by reacting a compound I with an acid of the corresponding anion, preferably of hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid or nitric acid.
Compounds of the formula I can exist as one or more stereoisomers. The various stereoisomers include enantiomers, diastereomers, atropisomers arising from restricted rotation about a single bond of asymmetric groups and geometric isomers. They also form part of the subject matter of the present invention. One skilled in the art will appreciate that one stereoisomer may be more active and/or may exhibit beneficial effects when enriched relative to the other stereoisomer(s) or when separated from the other stereoisomer(s). Additionally, the skilled artisan knows how to separate, enrich, and/or to selectively prepare said stereoisomers. The compounds of the invention may be present as a mixture of stereoisomers, e.g. a racemate, individual stereoisomers, or as an optically active form.

Compounds of the formula I can be present in different crystal modifications whose biological activity may differ. They also form part of the subject matter of the present invention.

In respect of the variables, the embodiments of the intermediates obtained during preparation of compounds I correspond to the embodiments of the compounds of formula I. The term " compounds I" refers to compounds of formula I.

In the definitions of the variables given above, collective terms are used which are generally representative for the substituents in question. The term "C_n-C_m" indicates the number of carbon atoms possible in each case in the substituent or substituent moiety in question.

The moieties having two ore more possibilities to be attached apply following:

The moieties having no brackets in the name are bonded via the last moiety e.g. heteroaryl-C_1-C_4-alkyl is bonded via C_1-C_4-alkyl. etc.

The moieties having brackets in the name are bonded via the first moiety e.g. C(=O)-C_1-C_6-alkyl is bonded via C=O, etc.

The term "halogen" refers to fluorine, chlorine, bromine and iodine.

The term "C_1-C_6-alkyl" refers to a straight-chained or branched saturated hydrocarbon group having 1 to 6 carbon atoms, for example methyl, ethyl, propyl, 1-methylethyl, butyl, 1-methylpropyl, 2-methylpropyl, and 1,1-dimethylethyl.

The term "C_1-C_6-haloalkyl" refers to a straight-chained or branched alkyl group having 1 to 6 carbon atoms (as defined above), wherein some or all of the hydrogen atoms in these groups may be replaced by halogen atoms as mentioned above, for example chloromethyl, bromomethyl, dichloromethyl, trichloromethyl, fluoromethyl, difluoromethyl, trifluoromethyl, chlorofluoromethyl, dichlorofluoromethyl, chlorodifluoromethyl, 1-chloroethyl, 1-bromoethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 2-chloro-2-fluoroethyl, 2-chloro-2,2-difluoroethyl, 2,2-dichloro-2-fluoroethyl, 2,2,2-trichloroethyl and pentafluoroethyl, 2-fluoropropyl, 3-fluoropropyl, 2,2-difluoropropyl, 2,3-difluoropropyl, 2-chloropropyl, 3-chloropropyl, 2,3-dichloropropyl, 2-bromopropyl, 3-bromopropyl, 3,3,3-trifluoropropyl, 3,3,3-trichloropropyl, CH_2-C_2F_5, CF_2-C_2F_5, $CF(CF_3)_2$, 1-(fluoromethyl)-2-fluoroethyl, 1-(chloromethyl)-2-chloroethyl, 1-(bromomethyl)-2-bromoethyl, 4-fluorobutyl, 4-chlorobutyl, 4-bromobutyl or nonafluorobutyl.

The term "C_1-C_6-alkoxy" refers to a straight-chain or branched alkyl group having 1 to 6 carbon atoms (as defined above) which is bonded via an oxygen, at any position in the alkyl group, for example methoxy, ethoxy, n-propoxy, 1-methylethoxy, butoxy, 1-methylpropoxy, 2-methylpropoxy or 1,1-dimethylethoxy.

The term "C_1-C_6-haloalkoxy" refers to a C_1-C_6-alkoxy group as defined above, wherein some or all of the hydrogen atoms may be replaced by halogen atoms as mentioned above, for example, OCH_2F, $OCHF_2$, OCF_3, OCH_2Cl, $OCHCl_2$, $OCCl_3$, chlorofluoromethoxy, dichlorofluoromethoxy, chlorodifluoromethoxy, 2-fluoroethoxy, 2-chloroethoxy, 2-bromoethoxy, 2-iodoethoxy, 2,2-difluoroethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2-fluoroethoxy, 2-chloro-2,2-difluoroethoxy, 2,2-dichloro-2-fluoroethoxy, 2,2,2-trichloroethoxy, OC_2F_5, 2-fluoropropoxy, 3-fluoropropoxy, 2,2-difluoropropoxy, 2,3-difluoropropoxy, 2-chloropropoxy, 3-chloropropoxy, 2,3-dichloropropoxy, 2-bromopropoxy, 3-bromopropoxy, 3,3,3-trifluoropropoxy, 3,3,3-trichloropropoxy, OCH_2-C_2F_5, OCF_2-C_2F_5, 1-(CH_2F)-2-fluoroethoxy, 1-(CH_2Cl)-2-chloroethoxy, 1-(CH_2Br)-2-bromoethoxy, 4-fluorobutoxy, 4-chlorobutoxy, 4-bromobutoxy or nonafluorobutoxy.

The terms "phenyl-C_1-C_4-alkyl or heteroaryl-C_1-C_4-alkyl" refer to alkyl having 1 to 4 carbon

atoms (as defined above), wherein one hydrogen atom of the alkyl radical is replaced by a phenyl or hetereoaryl radical respectively.

The term "C_1-C_4-alkoxy-C_1-C_4-alkyl" refers to alkyl having 1 to 4 carbon atoms (as defined above), wherein one hydrogen atom of the alkyl radical is replaced by a C_1-C_4-alkoxy group (as defined above). Likewise, the term "C_1-C_4-alkylthio-C_1-C_4-alkyl" refers to alkyl having 1 to 4 carbon atoms (as defined above), wherein one hydrogen atom of the alkyl radical is replaced by a C_1-C_4-alkylthio group.

The term "C_1-C_6-alkylthio" as used herein refers to straight-chain or branched alkyl groups having 1 to 6 carbon atoms (as defined above) bonded via a sulfur atom. Accordingly, the term "C_1-C_6-haloalkylthio" as used herein refers to straight-chain or branched haloalkyl group having 1 to 6 carbon atoms (as defined above) bonded through a sulfur atom, at any position in the haloalkyl group.

The term "C_1-C_6-alkylsulfinyl" refers to straight-chain or branched alkyl groups having 1 to 6 carbon atoms (as defined above) bonded through a –S(=O)- moiety, at any position in the alkyl group, for example methylsulfinyl and ethylsulfinyl, and the like. Accordingly, the term "C_1-C_6-haloalkylsulfinyl" refers to straight-chain or branched haloalkyl group having 1 to 6 carbon atoms (as defined above), bonded through a –S(=O)- moiety, at any position in the haloalkyl group.

The term "C_1-C_6-alkylsulfonyl" refers to straight-chain or branched alkyl groups having 1 to 6 carbon atoms (as defined above), bonded through a $–S(=O)_2$- moiety, at any position in the alkyl group, for example methylsulfonyl. Accordingly, the term "C_1-C_6-haloalkylsulfonyl" refers to straight-chain or branched haloalkyl group having 1 to 6 carbon atoms (as defined above), bonded through a $–S(=O)_2$- moiety, at any position in the haloalkyl group.

The term "C_3-C_8-cycloalkyl-C_1-C_6-alkyl" refers to alkyl having 1 to 6 carbon atoms, wherein one hydrogen atom of the alkyl radical is replaced by a C_3-C_8-cycloalkyl group.

The term "hydroxyC_1-C_4-alkyl" refers to alkyl having 1 to 4 carbon atoms, wherein one hydrogen atom of the alkyl radical is replaced by a OH group.

The term "aminoC_1-C_4-alkyl" refers to alkyl having 1 to 4 carbon atoms, wherein one hydrogen atom of the alkyl radical is replaced by a NH_2 group.

The term "diC_1-C_6-alkylamino" refers to an amino group, which is substituted with two residues independently selected from the group that is defined by the term C_1-C_6-alkyl.

The term "C_1-C_4-alkylamino-C_1-C_4-alkyl" refers to refers to alkyl having 1 to 4 carbon atoms (as defined above), wherein one hydrogen atom of the alkyl radical is replaced by a C_1-C_4-alkyl-NH- group which is bound through the nitrogen. Likewise the term "diC_1-C_4-alkylamino-C_1-C_4-alkyl" refers to refers to alkyl having 1 to 4 carbon atoms (as defined above), wherein one hydrogen atom of the alkyl radical is replaced by a $(C_1$-C_4-alkyl$)_2$N- group which is bound through the nitrogen.

The term "aminocarbonyl-C_1-C_4-alkyl" refers to alkyl having 1 to 4 carbon atoms, wherein one hydrogen atom of the alkyl radical is replaced by a $–(C=O)-NH_2$ group.

The term "C_2-C_6-alkenyl" refers to a straight-chain or branched unsaturated hydrocarbon radical having 2 to 6 carbon atoms and a double bond in any position, such as ethenyl, 1-propenyl, 2-propenyl (allyl), 1-methylethenyl, 1-butenyl, 2-butenyl, 3-butenyl, 1-methyl-1-propenyl, 2-methyl-1-propenyl, 1-methyl-2-propenyl, 2-methyl-2-propenyl.

The term "C_2-C_6-alkynyl" refers to a straight-chain or branched unsaturated hydrocarbon radical having 2 to 6 carbon atoms and containing at least one triple bond, such as ethynyl, 1-propynyl,

2-propynyl (propargyl), 1-butynyl, 2-butynyl, 3-butynyl, 1-methyl-2-propynyl.

The term "C_3-C_8-cycloalkyl" refers to monocyclic saturated hydrocarbon radicals having 3 to 8 carbon ring members such as cyclopropyl (C_3H_5), cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl or cyclooctyl.

The term "C_3-C_8-cycloalkyloxy" refers to a cycloalkyl radical having 3 to 8 carbon atoms (as defined above), which is bonded via an oxygen.

The term "C(=O)-C_1-C_4-alkyl" refers to a radical which is attached through the carbon atom of the-C(=O)-group as indicated by the number valence of the carbon atom.

The term "aliphatic" refers to compounds or radicals composed of carbon and hydrogen and which are non-aromatic compounds. An alicyclic compound or radical is an organic compound that is both aliphatic and cyclic. They contain one or more all-carbon rings which may be either saturated or unsaturated, but do not have aromatic character.

The terms "cyclic moiety" or "cyclic group"refer to a radical which is an alicyclic ring or an aromatic ring, such as, for example, phenyl or heteroaryl.

The term "and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a}" refers to aliphatic groups, cyclic groups and groups, which contain an aliphatic and a cyclic moiety in one group, such as in, for example, phenyl-C_1-C_4-alkyl; therefore a group which contains an aliphatic and a cyclic moiety both of these moieties may be substituted or unsubstituted independently of each other.

The term "aryl" refers to aromatic monocyclic or polycyclic ring systems which may or may not include, besides carbon atoms, 1, 2, 3 or 4 heteroatoms independently selected from the group consisting of N, O and S.

The term "heteroaryl" refers to aromatic monocyclic or polycyclic ring systems incuding besides carbon atoms, 1, 2, 3 or 4 heteroatoms independently selected from the group consisting of N, O and S.

The term "phenyl" refers to an aromatic ring systems incuding six carbon atoms (commonly referred to as benzene ring). In association with the group A the term "phenyl" is to be interpreted as a benzene ring or phenylene ring, which is attached to both, the oxadiazole moiety and the -S(=O)$_p$- group.

The term "3- to 10-membered saturated, partially unsaturated or aromatic mono- or bicyclic heterocycle, wherein the ring member atoms of said mono- or bicyclic heterocycle include besides carbon atoms further 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms", is to be understood as meaning both, aromatic mono- and bicyclic heteroaromatic ring systems, and also saturated and partially unsaturated heterocycles, for example:

a 3- or 4-membered saturated heterocycle which contains 1 or 2 heteroatoms from the group consisting of N, O and S as ring members such as oxirane, aziridine, thiirane, oxetane, azetidine, thiethane, [1,2]dioxetane, [1,2]dithietane, [1,2]diazetidine;

and a 5- or 6-membered saturated or partially unsaturated heterocycle which contains 1, 2 or 3 heteroatoms from the group consisting of N, O and S as ring members such as 2-tetrahydrofuranyl, 3-tetrahydrofuranyl, 2-tetrahydrothienyl, 3-tetrahydrothienyl, 2-pyrrolidinyl, 3-pyrrolidinyl, 3-isoxazolidinyl, 4-isoxazolidinyl, 5-isoxazolidinyl, 3-isothiazolidinyl, 4-isothiazolidinyl, 5-isothiazolidinyl, 3-pyrazolidinyl, 4-pyrazolidinyl, 5-pyrazolidinyl, 2-oxazolidinyl, 4-oxazolidinyl,

5-oxazolidinyl, 2-thiazolidinyl, 4-thiazolidinyl, 5-thiazolidinyl, 2-imidazolidinyl, 4-imidazolidinyl, 1,2,4-oxadiazolidin-3-yl, 1,2,4-oxadiazolidin-5-yl, 1,2,4-thiadiazolidin-3-yl, 1,2,4-thiadiazolidin-5-yl, 1,2,4-triazolidin-3-yl, 1,3,4-oxadiazolidin-2-yl, 1,3,4-thiadiazolidin-2-yl, 1,3,4-triazolidin-2-yl, 2,3-dihydrofur-2-yl, 2,3-dihydrofur-3-yl, 2,4-dihydrofur-2-yl, 2,4-dihydrofur-3-yl, 2,3-dihydrothien-2-yl, 2,3-dihydrothien-3-yl, 2,4-dihydrothien-2-yl, 2,4-dihydrothien-3-yl, 2-pyrrolin-2-yl, 2-pyrrolin-3-yl, 3-pyrrolin-2-yl, 3-pyrrolin-3-yl, 2-isoxazolin-3-yl, 3-isoxazolin-3-yl, 4-isoxazolin-3-yl, 2-isoxazolin-4-yl, 3-isoxazolin-4-yl, 4-isoxazolin-4-yl, 2-isoxazolin-5-yl, 3-isoxazolin-5-yl, 4-isoxazolin-5-yl, 2-isothiazolin-3-yl, 3-isothiazolin-3-yl, 4-isothiazolin-3-yl, 2-isothiazolin-4-yl, 3-isothiazolin-4-yl, 4-isothiazolin-4-yl, 2-isothiazolin-5-yl, 3-isothiazolin-5-yl, 4-isothiazolin-5-yl, 2,3-dihydropyrazol-1-yl, 2,3-dihydropyrazol-2-yl, 2,3-dihydropyrazol-3-yl, 2,3-dihydropyrazol-4-yl, 2,3-dihydropyrazol-5-yl, 3,4-dihydropyrazol-1-yl, 3,4-dihydropyrazol-3-yl, 3,4-dihydropyrazol-4-yl, 3,4-dihydropyrazol-5-yl, 4,5-dihydropyrazol-1-yl, 4,5-dihydropyrazol-3-yl, 4,5-dihydropyrazol-4-yl, 4,5-dihydropyrazol-5-yl, 2,3-dihydrooxazol-2-yl, 2,3-dihydrooxazol-3-yl, 2,3-dihydrooxazol-4-yl, 2,3-dihydrooxazol-5-yl, 3,4-dihydrooxazol-2-yl, 3,4-dihydrooxazol-3-yl, 3,4-dihydrooxazol-4-yl, 3,4-dihydrooxazol-5-yl, 3,4-dihydrooxazol-2-yl, 3,4-dihydrooxazol-3-yl, 3,4-dihydrooxazol-4-yl, 2-piperidinyl, 3-piperidinyl, 4-piperidinyl, 1,3–dioxan–5–yl, 2-tetrahydropyranyl, 4-tetrahydropyranyl, 2-tetrahydrothienyl, 3-hexahydropyridazinyl, 4-hexahydropyridazinyl, 2-hexahydropyrimidinyl, 4-hexahydropyrimidinyl, 5-hexahydropyrimidinyl, 2-piperazinyl, 1,3,5-hexahydrotriazin-2-yl and 1,2,4-hexahydrotriazin-3-yl and also the corresponding –ylidene radicals; and

a 7-membered saturated or partially unsaturated heterocycle such as tetra- and hexahydroazepinyl, such as 2,3,4,5-tetrahydro[1H]azepin-1-,-2-,-3-,-4-,-5-,-6- or-7-yl, 3,4,5,6-tetrahydro[2H]azepin-2-,-3-,-4-,-5-,-6- or-7-yl, 2,3,4,7-tetrahydro[1H]azepin-1-,-2-,-3-,-4-,-5-,-6-or-7-yl, 2,3,6,7-tetrahydro[1H]azepin-1-,-2-,-3-,-4-,-5-,-6- or-7-yl, hexahydroazepin-1-,-2-,-3- or-4-yl, tetra- and hexahydrooxepinyl such as 2,3,4,5-tetrahydro[1H]oxepin-2-,-3-,-4-,-5-,-6- or-7-yl, 2,3,4,7-tetrahydro[1H]oxepin-2-,-3-,-4-,-5-,-6- or-7-yl, 2,3,6,7-tetrahydro[1H]oxepin-2-, -3-,-4-,-5-,-6- or-7-yl, hexahydroazepin-1-,-2-,-3- or-4-yl, tetra- and hexahydro-1,3-diazepinyl, tetra- and hexahydro-1,4-diazepinyl, tetra- and hexahydro-1,3-oxazepinyl, tetra- and hexahydro-1,4-oxazepinyl, tetra- and hexahydro-1,3-dioxepinyl, tetra- and hexahydro-1,4-dioxepinyl and the corresponding -ylidene radicals; and

the term “5- or 6-membered heteroaryl” or the term ”5- or 6-membered aromatic heterocycle” refer to aromatic ring systems incuding besides carbon atoms, 1, 2, 3 or 4 heteroatoms independently selected from the group consisting of N, O and S, for example, a 5-membered heteroaryl such as pyrrol-1-yl, pyrrol-2-yl, pyrrol-3-yl, thien-2-yl, thien-3-yl, furan-2-yl, furan-3-yl, pyrazol-1-yl, pyrazol-3-yl, pyrazol-4-yl, pyrazol-5-yl, imidazol-1-yl, imidazol-2-yl, imidazol-4-yl, imidazol-5-yl, oxazol-2-yl, oxazol-4-yl, oxazol-5-yl, isoxazol-3-yl, isoxazol-4-yl, isoxazol-5-yl, thiazol-2-yl, thiazol-4-yl, thiazol-5-yl, isothiazol-3-yl, isothiazol-4-yl, isothiazol-5-yl, 1,2,4-triazolyl-1-yl, 1,2,4-triazol-3-yl 1,2,4-triazol-5-yl, 1,2,4-oxadiazol-3-yl, 1,2,4-oxadiazol-5-yl and 1,2,4-thiadiazol-3-yl, 1,2,4-thiadiazol-5-yl; or

a 6-membered heteroaryl, such as pyridin-2-yl, pyridin-3-yl, pyridin-4-yl, pyridazin-3-yl, pyridazin-4-yl, pyrimidin-2-yl, pyrimidin-4-yl, pyrimidin-5-yl, pyrazin-2-yl and 1,3,5-triazin-2-yl and 1,2,4-triazin-3-yl.

In respect of the variables, the embodiments of the intermediates of the formula II.a correspond

to the embodiments of the compounds I. Preference is given to those compounds I and, where applicable, also to compounds of all sub-formulae and intermediate compounds provided herein, e. g. formulae (I.1) to (I.8) and compounds of the formula I.A, I.B, I.C, I.D, I.E, I.F, I.G, I.H; I.J, I.K, I.L, I.M, I.N, I.O, I.P, I.Q, I.R, I.S, I.T, I.U and I.V, wherein variables such as R^1, R^2, R^3, R^4, L, A, R^A, R^a, R^{1a}, R^N, R^{3a} and p have independently of each other or more preferably in combination (any possible combination of 2 or more substituents as defined herein) the following meanings:

In one aspect of the invention A is phenyl which is unsubstituted or substituted with 1, 2, 3 or 4 identical or different groups R^A as defined or preferably defined herein and wherein the group $-CR^3R^4-$ is attached to the phenyl ring in *para*-position with regard to the trifluoromethyloxadiazole group.

In a further aspect of the invention A is phenyl which is substituted with 1 or 2 identical or different groups R^A as defined or preferably defined herein and wherein the group $-CR^3R^4-$ is attached to the phenyl ring in *para*-position with regard to the trifluoromethyloxadiazole group.

In another aspect of the invention A is phenyl which is unsubstituted and wherein the group $-CR^3R^4-$ is attached to the phenyl ring in *para*-position with regard to the trifluoromethyloxadiazole group.

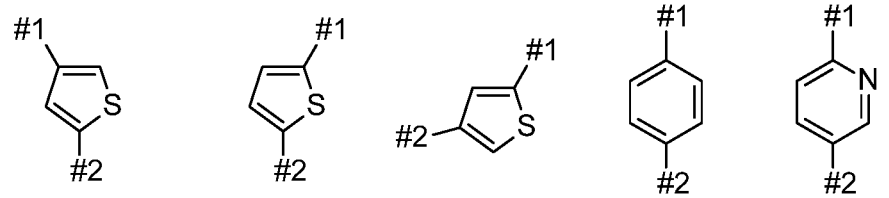
In one embodiment A is a 6-membered aromatic heterocycle, wherein the ring member atoms of the aromatic heterocycle include besides carbon atoms 1 or 2 nitrogen atoms as ring member atoms; and wherein the aromatic heterocycle is unsubstituted or substituted with 1 or 2 identical or different groups R^A as defined or preferably defined herein; particularly R^A is chlorine, fluorine or methyl.

In a further embodiment A is a 6-membered aromatic heterocycle, wherein the ring member atoms of the aromatic heterocycle include besides carbon atoms 1 or 2 nitrogen atoms as ring member atoms; and wherein the aromatic heterocycle is unsubstituted or substituted with 1 or 2 identical or different groups R^A as defined or preferably defined herein; particularly R^A is chlorine, fluorine or methyl; and wherein the group $-CR^3R^4-$ is attached to the 6-membered aromatic heterocycle in *para*-position with regard to the trifluoromethyloxadiazole group.

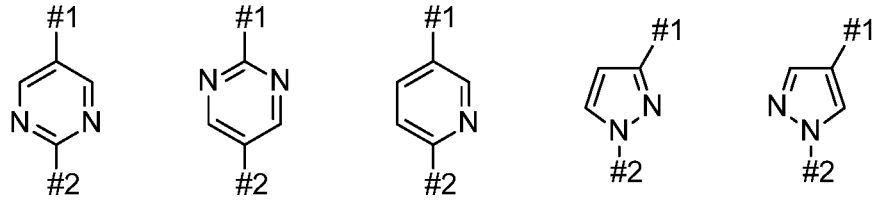
In a further preferred embodiment A is a 5-membered aromatic heterocycle, in particular a thiophene ring, more particularly a 2,5-thiophenyl ring, wherein the ring member atoms of the heterocycle include besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein the cyclic groups A are unsubstituted or substituted with 1 or 2 identical or different groups R^A as defined or preferably defined herein; particularly R^A is chlorine, fluorine or methyl.

In a further preferred embodiment A is a 5-membered aromatic heterocycle, wherein the ring member atoms of the heterocycle include besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein the cyclic groups A are unsubstituted.

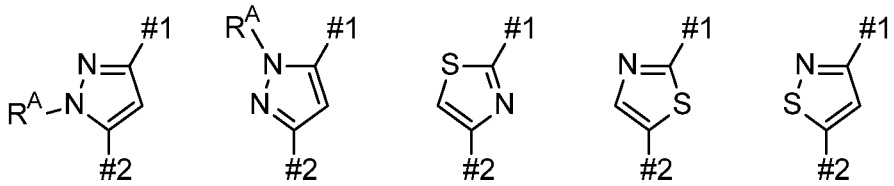
In one embodiment the invention relates to compounds of the formula I, wherein the cyclic moiety A is defined as in subformulae (A.1) to (A.29),



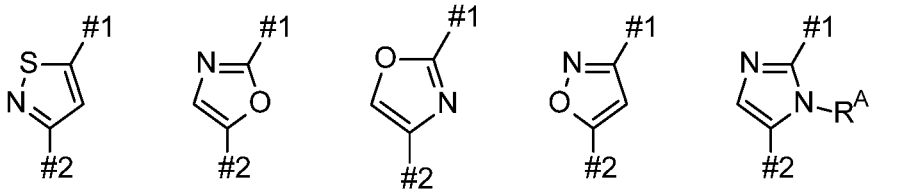
(A.1) (A.2) (A.3) (A.4) (A.5)



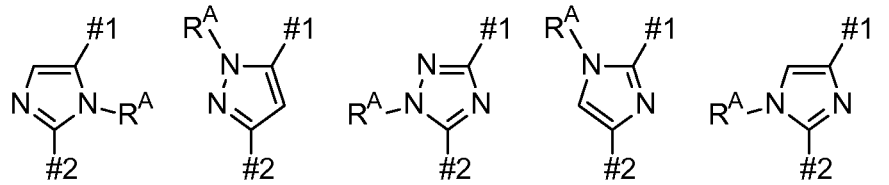
(A.6) (A.7) (A.8) (A.9) (A.10)



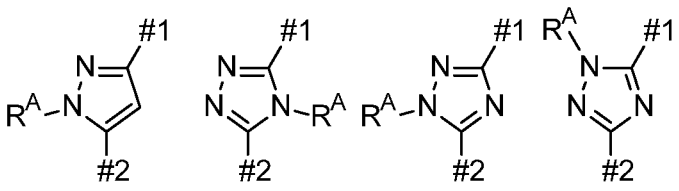
(A.11) (A.12) (A.13) (A.14) (A.15)



(A.16) (A.17) (A.18) (A.19) (A.20)



(A.21) (A.22) (A.23) (A.24) (A.25)

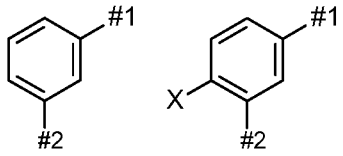


(A.26) (A.27) (A.28) (A.29)

wherein #1 denotes the position which is bound to the trifluoromethyloxadiazole moiety and #2 denotes the position, which is connected to the -CR^3R^4- group of compounds of the formula I; and wherein the cyclic moiety A is unsubstituted or substituted with 1 or 2 identical or different

groups R^A and wherein R^A is as defined or preferably defined herein. In another embodiment the cyclic moieties A as defined in any one of subformulae (A.1) to (A.29) is unsubstituted or substituted with 1 or 2 identical or different groups R^A; and wherein R^A is chlorine, fluorine or methyl. In a preferred embodiment the cyclic moiety A as defined in any one of subformulae (A.1) to (A.29) is unsubstituted.

In another aspect the invention relates to compounds of the formula I, wherein the cyclic moiety A is defined as in subformulae (A.30) or (A.31),



(A.30) (A.31)

wherein #1 denotes the position which is bound to the trifluoromethyloxadiazole moiety and #2 denotes the position, which is connected to the $-CR^3R^4-$ group of compounds of the formula I; wherein X in (A.31) is halogen or methyl; and wherein the cyclic moiety (A.30) or (A.31) is unsubstituted or substituted with 1 or 2 groups R^A, and wherein R^A is as defined or preferably defined herein. Preferably the cyclic moiety (A.30) or (A.31) is unsubstituted or substituted with 1 or 2 identical or different radicals selected from the group consisting of fluorine, chlorine or methyl.

In a preferred embodiment of the invention R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_2-C_6-alkenyl, C_2-C_6-alkynyl or C_3-C_8-cycloalkyl; and wherein any of the aliphatic and cyclic moieties are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^a as defined or preferably defined herein.

In another preferred embodiment of the invention R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_2-C_6-alkenyl, C_2-C_6-alkynyl or C_3-C_8-cycloalkyl; and wherein any of the the aliphatic and cyclic moieties are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups selected from halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy and C_3-C_8-cycloalkyl; in particular fluorine.

More preferably R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy or C_1-C_6-haloalkoxy; in particular halogen, C_1-C_6-alkyl; more particularly chlorine, fluorine or C_1-C_6-alkyl. In a more preferable embodiment R^A is chlorine, fluorine or methyl.

R^a according to the invention is halogen, cyano, NO_2, OH, SH, NH_2, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_1-C_6-haloalkylthio or C_3-C_8-cycloalkyl. In a preferred embodiment of the invention R^a is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy or C_3-C_8-cycloalkyl. More preferably R^a is halogen, in particular fluorine.

According to the invention L is -C(=O)-, -C(=S)- or $-S(=O)_p-$, wherein p is 0, 1 or 2. In one embodiment L is $-S(=O)_p-$, wherein p is 0, 1 or 2; preferably p is 2. In a preferred embodiment L is -C(=O)- or -C(=S)-, in particular L is -C(=O)-.

In one embodiment R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl,

phenyl-C_1-C_4-alkyl, heteroaryl-C_1-C_4-alkyl, phenyl, naphthyl or heteroaryl; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle, wherein the aromatic heterocycle includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In another embodiment R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, phenyl or heteroaryl; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle, wherein the aromatic heterocycle includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In a further aspect of the invention R^1 is phenyl-C_1-C_4-alkyl, heteroaryl-C_1-C_4-alkyl, phenyl or heteroaryl; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle wherein the aromatic heterocycle includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In a further aspect of the invention R^1 is phenyl or heteroaryl; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle wherein the aromatic heterocycle includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one aspect of the invention R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl C_2-C_6-alkenyl or C_2-C_6-alkynyl,; and wherein any of the cyclic or aliphatic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl. In another aspect of the invention R^1 is C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8- cycloalkenyl; and wherein any of the cyclic or aliphatic groups are unsubstituted.

In one aspect of the invention R^1 is C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl or C_2-C_6-alkynyl ; and wherein any of the cyclic or aliphatic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl. In another aspect of the invention R^1 is C_2-C_6-alkenyl, C_2-C_6-alkynyl or C_3-C_8-cycloalkenyl; and wherein any of the cyclic or aliphatic groups are unsubstituted.

In one aspect of the invention R^1 is C_3-C_8-cycloalkyl; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl. In another aspect of the invention R^1 is C_3-C_8-cycloalkyl; and wherein any of the cyclic groups are unsubstituted.

In one aspect of the invention R^1 is C_3-C_8-cycloalkenyl; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or

different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl. In another aspect of the invention R^1 is C_3-C_8-cycloalkenyl; and wherein any of the cyclic groups are unsubstituted.

In one aspect of the invention R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_2-C_6-alkenyl, ethynyl, propargyl, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy or C_3-C_8-cycloalkyl; more preferably halogen, in particular R^{1a} is fluorine.
In a preferred aspect of the invention R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, ethynyl, propargyl or C_3-C_8-cycloalkyl; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different radicals selected from the group consisting of halogen or C_1-C_6-alkyl, in particular fluorine.
In a further preferred aspect of the invention R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl.
In one embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl.
In a preferred embodiment R^2 is hydrogen, methyl, ethyl, iso-propyl, cyclopropyl, cyclopropyl-CH_2- or allyl.
In another preferred aspect of the invention R^2 is hydrogen, methy or ethyl.

In one embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl; and R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, phenyl-C_1-C_4-alkyl, heteroaryl-C_1-C_4-alkyl, phenyl or heteroaryl; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle, wherein the ring includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the aliphatic or cyclic groups in R^1 or R^2 are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein; in particular R^{1a} is halogen or C_1-C_6-alkyl.
In one embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl; and R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl or phenyl; and wherein any of the aliphatic or cyclic groups in R^1 or R^2 are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein; in particular R^{1a} is halogen or C_1-C_6-alkyl.
In one embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkyl-C_1-C_4-alkyl; preferably hydrogen, methyl, ethyl, iso-propyl, cyclopropyl, cyclopropyl-CH_2- or allyl; and R^1 is phenyl or a 5- or 6-membered aromatic heterocycle, wherein the ring member atoms of the heterocyclic ring include besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy or C_1-C_6-haloalkoxy.

In one embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl; preferably hydrogen, methyl, ethyl, iso-propyl, cyclopropyl, cyclopropyl-CH_2- or allyl; and R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl or C_2-C_6-alkynyl; and wherein any of the cyclic or aliphatic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkyl-C_1-C_4-alkyl; preferably hydrogen, methyl, ethyl, iso-propyl, cyclopropyl, cyclopropyl-CH_2- or allyl; and R^1 is C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl or C_2-C_6-alkynyl; and wherein any of the cyclic or aliphatic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkyl-C_1-C_4-alkyl; preferably hydrogen, methyl, ethyl, iso-propyl, cyclopropyl, cyclopropyl-CH_2- or allyl; and R^1 is C_3-C_8-cycloalkyl or C_3-C_8-cycloalkenyl; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In yet another embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkyl-C_1-C_4-alkyl; preferably hydrogen, methyl, ethyl, iso-propyl, cyclopropyl, cyclopropyl-CH_2- or allyl; and R^1 is C_3-C_8-cycloalkyl; and wherein the cycloalkyl group in R^1 is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different radicals selected from halogen or C_1-C_6-alkyl.

In one embodiment R^2 is hydrogen or C_1-C_4-alkyl; preferably hydrogen, methyl or ethyl; and R^1 is C_3-C_8-cycloalkyl; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one embodiment R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkyl-C_1-C_4-alkyl; preferably hydrogen, methyl, ethyl, iso-propyl, cyclopropyl, cyclopropyl-CH_2- or allyl; and R^1 is C_3-C_8-cycloalkenyl; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In still another aspect of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is bound form a saturated or partially unsaturated 3- to 6-membered heterocycle, wherein the heterocycle includes beside one nitrogen atom, L and one or more carbon atoms no further heteroatoms or one additional heteroatom selected from N, O and S as ring a member atom; and wherein the heterocycle is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein; and wherein one or two CH_2 groups of the heterocycle may be replaced by one or two groups independently selected from the group of -$S(O)_2$-, -C(=O)- and -C(=S)-, preferably -C(=O)-.

In yet another aspect of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is

bound form a saturated or partially unsaturated 3- to 6-membered heterocycle, wherein the heterocycle includes beside one nitrogen atom, L and one or more carbon atoms no further heteroatoms; and wherein the heterocycle is unsubstituted; and wherein one or two CH_2 groups of the heterocycle may be replaced by one or two groups independently selected from the group of $-S(O)_2-$, -C(=O)- and -C(=S)-, preferably -C(=O)-.

In a further aspect of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is bound form a saturated or partially unsaturated 5- or 6-membered heterocycle, wherein the heterocycle includes beside one nitrogen atom, L and one or more carbon atoms no further heteroatoms; and wherein L is -C(=O)- or $-S(O)_2-$.

In one special preferred embodiment of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is bound form a azetidin-2-one ring, which is unsubstituted or substituted with 1, 2 or 3 identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one special preferred embodiment of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is bound form a pyrrolidin-2-one ring, which is unsubstituted or substituted with 1, 2 or 3 identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one special preferred embodiment of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is bound form a piperidine-2-one ring, which is unsubstituted or substituted with 1, 2 or 3 identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one special preferred embodiment of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is bound form an azepan-2-one ring, which is unsubstituted or substituted with 1, 2 or 3 identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one special preferred embodiment of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is bound, and wherein L is $-S(=O)_2-$, form an 1,2-thiazolidine-1,1-dioxide ring, which is unsubstituted or substituted with 1, 2, 3 or 4 identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one special preferred embodiment of the invention R^1 and R^2 together with L and the nitrogen to which R^2 is bound, and wherein L is $-S(=O)_2-$, form an 1,2-thiazinane-1,1-dioxide ring, which is unsubstituted or substituted with 1, 2, 3 or 4 identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl.

In one embodiment of the invention R^{1a} is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy or C_1-C_6-haloalkoxy. In another preferred aspect of the invention R^{1a} is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy or C_1-C_6-haloalkoxy. In another preferred aspect of the invention R^{1a} is fluorine, chlorine, cyano, methyl, methoxy, trifluoromethyl, trifluoromethoxy, difluoromethyl or difluoromethoxy. In a more preferred aspect of the invention R^{1a} is halogen or C_1-C_6-alkyl; particularly fluorine, chlorine or methyl.

In one embodiment the invention relates to compounds of the formula I, wherein R^3 and R^4 independently of each other are hydrogen, halogen, C_1-C_6-alkyl or C_1-C_6-haloalkyl; or R^3 and R^4 together with the carbon atom to which they are bound form a vinyl group or a saturated

monocyclic 3- to 5-membered heterocycle or carbocycle, wherein the heterocycle includes beside one or more carbon atoms no heteroatoms or 1 or 2 heteroatoms independently selected from N, O and S as ring member atoms; and wherein the vinyl group, the heterocycle or the carbocycle is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{3a}; wherein R^{3a} is halogen, cyano or C_1-C_2-alkyl.

In another embodiment the invention relates to compounds of the formula I, wherein R^3 and R^4 are both fluorine; or R^3 and R^4 together with the carbon atom to which they are bound form a vinyl group or a 3- or 4-membered carbocylic ring; and wherein the vinyl group or the carbocylic ring is unsubstituted; or R^3 and R^4 together with the carbon atom to which they are bound form a saturated 3-membered heterocycle; wherein the heterocycle includes beside two carbon atoms one heteroatom selected from N, O and S as ring member atoms; and wherein the heterocycle is unsubstituted.

In a further embodiment R^3 and R^4 are independently of each other hydrogen, fluorine, methyl or trifluoromethyl; or R^3 and R^4 together with the carbon atom to which they are bound form a vinyl group or a 3-membered carbocylic ring and wherein the vinyl group or the carbocylic ring is unsubstituted.

In another aspect R^3 and R^4 together with the carbon atom to which they are bound form vinyl group or a cyclopropyl group, wherein the vinyl group or the cyclopropyl group is unsubstituted.

In another aspect R^3 and R^4 are both hydrogen.

In a further aspect R^3 and R^4 are both fluorine.

In yet another aspect R^3 and R^4 are both methyl.

In still another aspect R^3 is hydrogen and R^4 is methyl.

In one embodiment R^3 and R^4 are both trifluoromethyl.

In one embodiment R^{3a} is halogen, cyano or C_1-C_2-alkyl. In a preferred embodiment R^{3a} is fluorine, chlorine, cyano or methyl, in particular fluorine.

In a further embodiment the invention relates to compounds (I.1) of formula I, or the N-oxides, or the agriculturally acceptable salts thereof, wherein:

A is selected from the group consisting of subformulae (A.1) to (A.31), which is unsubstituted or substituted with 1 or 2 identical or different groups R^A; wherein

R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkoxy; and wherein the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^a; wherein

R^a is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy or C_3-C_8-cycloalkyl;

L is -C(=O)-, -C(=S)- or -$S(=O)_p$-;

p is 0, 1 or 2;

R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, phenyl-C_1-C_4-alkyl, heteroaryl-C_1-C_4-alkyl, phenyl, naphthyl or heteroaryl; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle, wherein the ring includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and

wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein; and

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, ethynyl, propargyl or C_3-C_8-cycloalkyl;

R^3, R^4 independently of each other are hydrogen, halogen, cyano, C_1-C_6-alkyl or C_1-C_6-haloalkyl; particularly both are hydrogen; or

R^3 and R^4 together with the carbon atom to which they are bound form a vinyl group or a saturated monocyclic 3- to 5-membered heterocycle or carbocycle, wherein the heterocycle includes beside carbon atoms 1 or 2 heteroatoms independently selected from N, O and S as ring member atoms; and wherein the vinyl group, the heterocycle or the carbocycle is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{3a}; wherein

R^{3a} is halogen, cyano or C_1-C_2-alkyl.

In a further embodiment the invention relates to compounds (I.1), wherein A is (A.2). In a further embodiment the invention relates to compounds (I.1), wherein A is (A.2), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.1), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.1), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.1), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is $-S(=O)_2-$.

In another embodiment the invention relates to compounds (I.1), wherein A is (A.4) or (A.30). In a further embodiment the invention relates to compounds (I.1), wherein A is (A.4) or (A.30), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.1), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.1), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.1), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is $-S(=O)_2-$.

In a further embodiment the invention relates to compounds (I.2) of formula I, or the N-oxides, or the agriculturally acceptable salts thereof, wherein:

A is selected from the group consisting of subformulae (A.1) to (A.31), which is unsubstituted or substituted with 1 or 2 identical or different groups R^A; wherein

R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkoxy; and wherein the aliphatic and cyclic moieties are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^a; wherein

R^a is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy or C_3-C_8-cycloalkyl;

L is -C(=O)-, -C(=S)- or $-S(=O)_p-$;

p is 0, 1 or 2;

R^1 is phenyl-C_1-C_4-alkyl, heteroaryl-C_1-C_4-alkyl, phenyl, naphthyl or heteroaryl; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle wherein the aromatic heterocycle includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined or preferably defined herein, in particular R^{1a} is halogen or C_1-C_6-alkyl; and

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, ethynyl, propargyl or C_3-C_8-cycloalkyl;

R^3, R^4 independently of each other are hydrogen, halogen, cyano, C_1-C_6-alkyl or C_1-C_6-haloalkyl; particularly both are hydrogen; or

R^3 and R^4 together with the carbon atom to which they are bound form a vinyl group or a saturated monocyclic 3- to 5-membered heterocycle or carbocycle, wherein the heterocycle includes beside carbon atoms 1 or 2 heteroatoms independently selected from N, O and S as ring member atoms; and wherein the vinyl group, the heterocycle or the carbocycle is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{3a}; wherein

R^{3a} is halogen, cyano or C_1-C_2-alkyl.

In a further embodiment the invention relates to compounds (I.2), wherein A is (A.2). In a further embodiment the invention relates to compounds (I.2), wherein A is (A.2), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.2), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.2), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.2), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -$S(=O)_2$-.

In another embodiment the invention relates to compounds (I.2), wherein A is (A.4) or (A.30). In a further embodiment the invention relates to compounds (I.2), wherein A is (A.4) or (A.30), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.2), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.2), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.2), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -$S(=O)_2$-.

In a further embodiment the invention relates to compounds (I.3) of formula I, or the N-oxides, or the agriculturally acceptable salts thereof, wherein:

A is selected from the group consisting of subformulae (A.1) to (A.31), which is unsubstituted or substituted with 1 or 2 identical or different groups R^A; wherein

R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy or C_1-C_6-haloalkoxy;

L is -C(=O)-, -C(=S)- or -$S(=O)_p$-;

p is 0, 1 or 2;

R^1 is phenyl or a 5- or 6-membered aromatic heterocycle; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle; and wherein the heteroaromatic moiety includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups selected from the group consisting of halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy and C_1-C_6-haloalkoxy;

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, ethynyl, propargyl or C_3-C_8-cycloalkyl;

R^3, R^4 independently of each other are hydrogen, halogen, cyano, C_1-C_6-alkyl or C_1-C_6-haloalkyl; particularly both are hydrogen; or

R^3 and R^4 together with the carbon atom to which they are bound form a vinyl group or a saturated monocyclic 3- to 5-membered heterocycle or carbocycle, wherein the heterocycle includes beside carbon atoms 1 or 2 heteroatoms independently selected from N, O and S as ring member atoms; and wherein the vinyl group, the heterocycle or the carbocycle is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{3a}; wherein

R^{3a} is halogen, cyano or C_1-C_2-alkyl.

In a further embodiment the invention relates to compounds (I.3), wherein A is (A.2). In a further embodiment the invention relates to compounds (I.3), wherein A is (A.2), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.3), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.3), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.3), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -$S(=O)_2$-.

In another embodiment the invention relates to compounds (I.3), wherein A is (A.4) or (A.30). In a further embodiment the invention relates to compounds (I.3), wherein A is (A.4) or (A.30), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.3), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.3), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.3), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -$S(=O)_2$-.

In a further embodiment the invention relates to compounds (I.4) of formula I, or the N-oxides, or the agriculturally acceptable salts thereof, wherein:

A is selected from the group consisting of subformulae (A.1) to (A.31), which is unsubstituted or substituted with 1 or 2 identical or different groups R^A; wherein

R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy or C_1-C_6-haloalkoxy;

L is -C(=O)-, -C(=S)- or -$S(=O)_p$-;

p is 0, 1 or 2;

R^1 is phenyl or a 5- or 6-membered aromatic heterocycle; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle; and wherein the heteroaromatic moiety includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups selected from the group consisting of halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy and C_1-C_6-haloalkoxy;

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, ethynyl, propargyl or C_3-C_8-cycloalkyl; and

R^3, R^4 independently of each other are hydrogen, halogen, cyano, C_1-C_6-alkyl or C_1-C_6-haloalkyl; particularly both are hydrogen.

In a further embodiment the invention relates to compounds (I.4), wherein A is (A.2). In a further embodiment the invention relates to compounds (I.4), wherein A is (A.2), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.4), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.4), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.4), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -$S(=O)_2$-.

In another embodiment the invention relates to compounds (I.4), wherein A is (A.4) or (A.30). In a further embodiment the invention relates to compounds (I.4), wherein A is (A.4) or (A.30), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.4), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.4), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.4), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -$S(=O)_2$-.

In yet another embodiment the invention relates to compounds (I.5) of formula I, or the N-oxides, or the agriculturally acceptable salts thereof, wherein:

A is selected from the group consisting of subformulae (A.1) to (A.31), which is unsubstituted or substituted with 1 or 2 identical or different groups R^A; wherein

R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_1-C_6-alkylthio, C_1-C_6-alkylsulfinyl, C_1-C_6-alkylsulfonyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkoxy; and wherein the aliphatic and cyclic moieties are unsubstituted or substituted with 1, 2, 3 or 4 or up to the maximum possible number of identical or different groups R^a; wherein

R^a is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-alkoxy or C_3-C_8-cycloalkyl;

L is -C(=O)-, -C(=S)- or -$S(=O)_p$-;

p is 0, 1 or 2;

R^1 is C_3-C_8-cycloalkyl or C_3-C_8-cycloalkenyl; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of

identical or different groups selected from the group consisting of halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy and C_1-C_6-haloalkoxy;

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, ethynyl, propargyl or C_3-C_8-cycloalkyl;

R^3, R^4 independently of each other are hydrogen, halogen, cyano, C_1-C_6-alkyl or C_1-C_6-haloalkyl; particularly both are hydrogen; or

R^3 and R^4 together with the carbon atom to which they are bound form a vinyl group or a saturated monocyclic 3- to 5-membered heterocycle or carbocycle, wherein the heterocycle includes beside carbon atoms 1 or 2 heteroatoms independently selected from N, O and S as ring member atoms; and wherein the vinyl group, the heterocycle or the carbocycle is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{3a}; wherein

R^{3a} is halogen, cyano or C_1-C_2-alkyl.

In a further embodiment the invention relates to compounds (I.5), wherein A is (A.2). In a further embodiment the invention relates to compounds (I.5), wherein A is (A.2), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.2), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.5), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.5), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -$S(=O)_2$-.

In another embodiment the invention relates to compounds (I.5), wherein A is (A.4) or (A.30). In a further embodiment the invention relates to compounds (I.5), wherein A is (A.4) or (A.30), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.5), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.5), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.5), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -$S(=O)_2$-.

In a further embodiment the invention relates to compounds (I.6) of formula I, or the N-oxides, or the agriculturally acceptable salts thereof, wherein:

A is selected from the group consisting of subformulae (A.1) to (A.31), which is unsubstituted or substituted with 1 or 2 identical or different groups R^A; wherein

R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy or C_1-C_6-haloalkoxy;

L is -C(=O)-, -C(=S)- or -$S(=O)_p$-;

p is 0, 1 or 2;

R^1 is C_3-C_8-cycloalkyl or C_3-C_8-cycloalkenyl; and wherein any of the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups selected from the group consisting of halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy and C_1-C_6-haloalkoxy;

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, ethynyl, propargyl or C_3-C_8-cycloalkyl;

R^3, R^4 independently of each other are hydrogen, halogen, cyano, C_1-C_6-alkyl or C_1-C_6-haloalkyl; particularly both are hydrogen.

In a further embodiment the invention relates to compounds (I.6), wherein A is (A.2). In a further embodiment the invention relates to compounds (I.6), wherein A is (A.2), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.6), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.6), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.6), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is $-S(=O)_2-$.

In another embodiment the invention relates to compounds (I.6), wherein A is (A.4) or (A.30). In a further embodiment the invention relates to compounds (I.6), wherein A is (A.4) or (A.30), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.6), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.6), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.6), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is $-S(=O)_2-$.

In still another embodiment the invention relates to compounds (I.7) of formula I, or the N-oxides, or the agriculturally acceptable salts thereof, wherein:

A is selected from the group consisting of subformulae (A.1) to (A.31), which is unsubstituted or substituted with 1 or 2 identical or different groups R^A; wherein

R^A is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy or C_1-C_6-haloalkoxy;

L is -C(=O)-, -C(=S)- or $-S(=O)_p-$;

p is 0, 1 or 2;

R^1 is C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl or C_2-C_6-alkynyl; and wherein the aliphatic and the cyclic groups are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups selected from the group consisting of halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy and C_1-C_6-haloalkoxy; and

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, ethynyl, propargyl or C_3-C_8-cycloalkyl;

R^3 and R^4 are both hydrogen; or R^3 and R^4 are both fluorine; or R^3 and R^4 are both methyl; or R^3 is hydrogen and R^4 is methyl; or R^3 and R^4 are both trifluoromethyl; or R^3 and R^4 together with the carbon atom to which they are bound form a 3- or 4-membered carbocylic ring and wherein the carbocylic ring is unsubstituted; or R^3 and R^4 together with the carbon atom to which they are bound form a saturated 3-membered heterocycle; wherein the heterocycle includes beside two carbon atoms one heteroatom selected from N, O and S as ring member atoms; and wherein the heterocycle is unsubstituted.

In a further embodiment the invention relates to compounds (I.7), wherein A is (A.2). In a further embodiment the invention relates to compounds (I.7), wherein A is (A.2), and wherein A is substituted with 1 group RA as defined or preferably defined herein; and wherein L is -C(=O)-. In

yet another embodiment the invention relates to compounds (I.7), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.7), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.7), wherein A is (A.2), and wherein A is unsubstituted; and wherein L is $-S(=O)_2-$.

In another embodiment the invention relates to compounds (I.7), wherein A is (A.4). In a further embodiment the invention relates to compounds (I.7), wherein A is (A.4) or (A.30), and wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.7), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.7), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.7), wherein A is (A.4) or (A.30), and wherein A is unsubstituted; and wherein L is $-S(=O)_2-$.

In a further embodiment the invention relates to compounds (I.8) of formula I, or the N-oxides, or the agriculturally acceptable salts thereof, wherein:

A is the subformula (A.4) or (A.30), which is unsubstituted or substituted with 1 or 2 identical or different groups R^A; wherein

R^A is chlorine, fluorine or methyl;

L is -C(=O)-, -C(=S)- or $-S(=O)_p-$;

p is 0, 1 or 2;

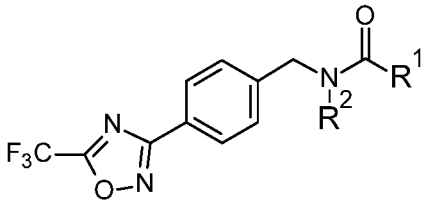
R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl or phenyl; and wherein any of the aliphatic or cyclic groups in R^1 or R^2 are unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different radicals selected from the group consisting of halogen or C_1-C_6-alkyl;

R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl;

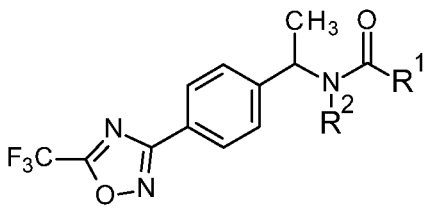
R^3 and R^4 are independently of each other hydrogen, fluorine, methyl or trifluoromethyl; or R^3 and R^4 together with the carbon atom to which they are bound form a 3-membered carbocylic ring and wherein the carbocylic ring is unsubstituted.

In a further embodiment the invention relates to compounds (I.8), wherein A is substituted with 1 group R^A as defined or preferably defined herein; and wherein L is -C(=O)-. In yet another embodiment the invention relates to compounds (I.8), wherein A is unsubstituted; and wherein L is -C(=O)-. In a further embodiment the invention relates to compounds (I.8), wherein A is unsubstituted; and wherein L is -C(=S)-. In a further embodiment the invention relates to compounds (I.8), wherein A is unsubstituted; and wherein L is $-S(=O)_2-$.

According to one embodiment, the present invention relates to compounds of the formula I.A, I.B, I.C, I.D, I.E, I.F, I.G, I.H; I.J, I.K, I.L, I.M, I.N, I.O, I.P, I.Q, I.R, I.S, I.T, I.U and I.V,



I.A



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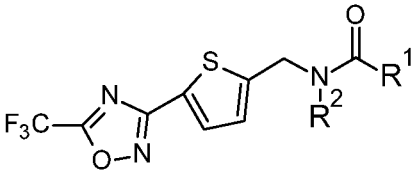
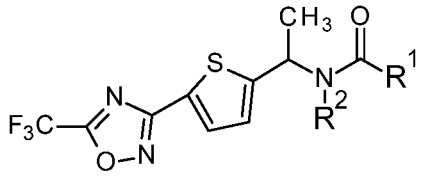


I.C



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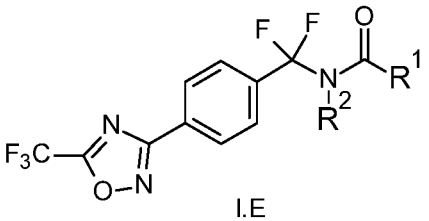

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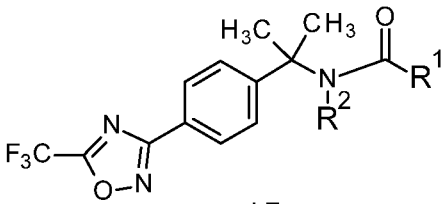
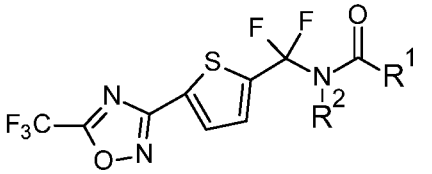
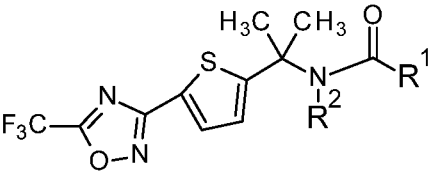


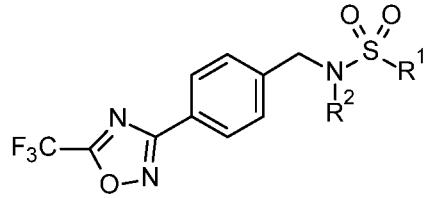
I.F



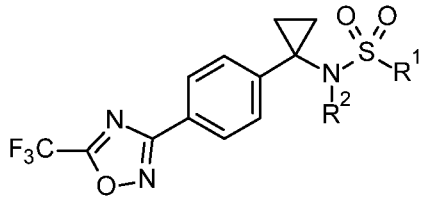
I.G



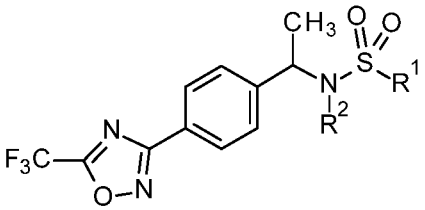
I.H



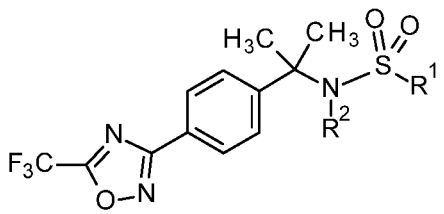
I.J



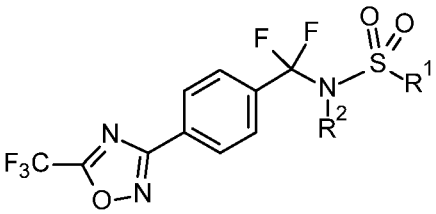
I.K



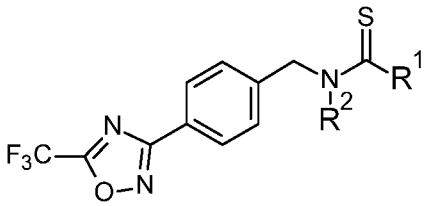
I.L



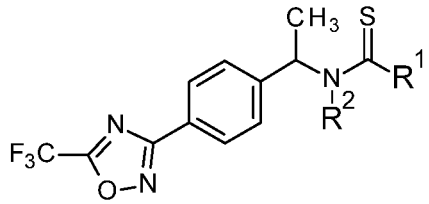
I.M



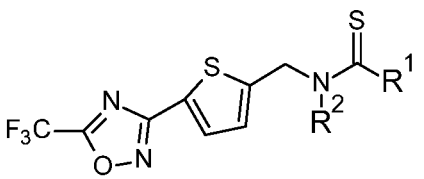
I.N



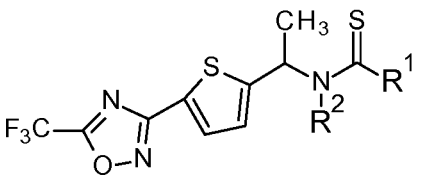
I.O



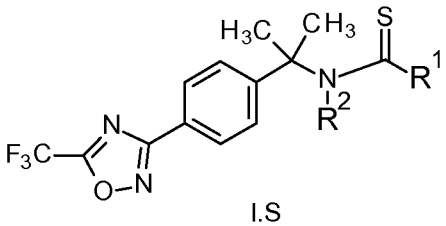
I.P



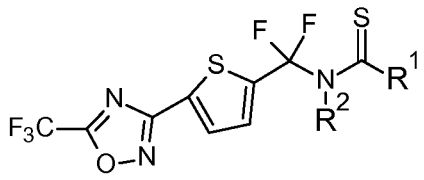
I.Q



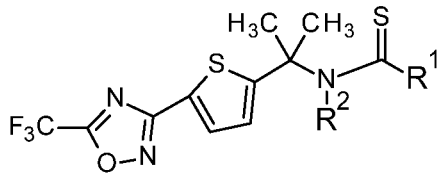
I.R



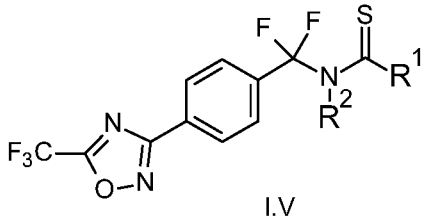
I.S



I.T



I.U



I.V

or to their use for controlling phytopathogenic fungi. Here, the variables R^1 and R^2 are as defined elsewhere herein for formula I, or as defined as being preferred for formula I.

Preference is given to the compounds I used according to the invention and to the compounds according to the invention compiled in Tables 1 to 21 below. The groups mentioned for a substituent in the tables are furthermore per se, independently of the combination in which they are mentioned, a particularly preferred aspect of the substituent in question.

Table 1 : Compounds of the formula I.A, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.A.A-1 to I.A.A-948). This means, for example, that a compound of formula I.A, wherein R^1 is cyclobutyl and R^2 is hydrogen (corresponding to the definition A-4 in Table A) is named I.A.A-4.

Table 2 : Compounds of the formula I.B, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.B.A-1 to I.B.A- 948). This means, for example, that a compound of formula I.B, wherein R^1 is 2-F-phenyl and R^2 is hydrogen (corresponding to the definition A-18 in Table A) is named I.B.A-18.

Table 3 : Compounds of the formula I.C, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.C.A-1 to I.C.A- 948)

Table 4 : Compounds of the formula I.D, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.D.A-1 to I.D.A- 948).

Table 5 : Compounds of the formula I.E, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.E.A-1 to I.E.A- 948).

Table 6 : Compounds of the formula I.F, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.F.A-1 to I.F.A- 948).

Table 7 : Compounds of the formula I.G, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.G.A-1 to I.G.A- 948).

Table 8 : Compounds of the formula I.H, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.H.A-1 to I.H.A- 948).

Table 9 Compounds of the formula I.J, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.J.A-1 to I.J.A- 948).

Table 10 Compounds of the formula I.K, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.K.A-1 to I.K.A- 948).

Table 11 Compounds of the formula I.L, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.L.A-1 to I.L.A- 948).

Table 12 Compounds of the formula I.M, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.M.A-1 to I.M.A- 948).

Table 13 Compounds of the formula I.N, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.N.A-1 to I.N.A- 948).

Table 14 : Compounds of the formula I.O, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.O.A-1 to I.O.A-948).

Table 15 : Compounds of the formula I.P, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.P.A-1 to I.P.A-948).

Table 16 : Compounds of the formula I.Q, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.Q.A-1 to I.Q.A-948).

Table 17 : Compounds of the formula I.R, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.R.A-1 to I.R.A-948).

Table 18 : Compounds of the formula I.S, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.S.A-1 to I.S.A-948).

Table 19 : Compounds of the formula I.T, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.T.A-1 to I.T.A-948).

Table 20 : Compounds of the formula I.U, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.U.A-1 to I.U.A-948).

Table 21 : Compounds of the formula I.V, in which R^1 and R^2 for each individual compound corresponds in each case to one line A-1 to A-948 of Table A (compounds I.V.A-1 to I.V.A-948).

Table A:

No	R^2	R^1
A-1	H	allyl
A-2	H	propargyl
A-3	H	cyclopropyl
A-4	H	cylobutyl
A-5	H	1-methyl-cyclopropyl
A-6	H	cylopentyl
A-7	H	cyclohexyl
A-8	H	cycloheptyl
A-9	H	cyclopent-1-enyl
A-10	H	cyclopent-2-enyl
A-11	H	cyclohex-1-enyl
A-12	H	cyclohex-2-enyl
A-13	H	cyclohex-3-enyl
A-14	H	phenyl
A-15	H	2-pyridyl
A-16	H	3-pyridyl

No	R^2	R^1
A-17	H	4-pyridyl
A-18	H	2-F-phenyl
A-19	H	3-F-phenyl
A-20	H	4-F-phenyl
A-21	H	2-Cl-phenyl
A-22	H	3-Cl-phenyl
A-23	H	4-Cl-phenyl
A-24	H	2-methyl-phenyl
A-25	H	3-methyl-phenyl
A-26	H	4-methyl-phenyl
A-27	H	2-ethyl-phenyl
A-28	H	3-ethyl-phenyl
A-29	H	4-ethyl-phenyl
A-30	H	2-isopropyl-phenyl
A-31	H	3-isopropyl-phenyl
A-32	H	4-isopropyl-phenyl

No	R^2	R^1
A-33	H	2-(2,2,2-trifluoroethyl)-phenyl
A-34	H	3-(2,2,2-trifluoroethyl)-phenyl
A-35	H	4-(2,2,2-trifluoroethyl)-phenyl
A-36	H	2-trifluoromethyl-phenyl
A-37	H	3-trifluoromethyl-phenyl
A-38	H	4-trifluoromethyl-phenyl
A-39	H	2-methoxy-phenyl
A-40	H	3-methoxy-phenyl
A-41	H	4-methoxy-phenyl
A-42	H	2-trifluoromethoxy-phenyl
A-43	H	3-trifluoromethoxy-phenyl
A-44	H	4-trifluoromethoxy-phenyl
A-45	H	2-difluoromethoxy-phenyl
A-46	H	3-difluoromethoxy-phenyl
A-47	H	4-difluoromethoxy-phenyl
A-48	H	2-cyano-phenyl
A-49	H	3-cyano-phenyl
A-50	H	4-cyano-phenyl
A-51	H	2,3-difluoro-phenyl
A-52	H	2,4-difluoro-phenyl
A-53	H	2,5-difluoro-phenyl
A-54	H	2,6-difluoro-phenyl
A-55	H	2,3-dichloro-phenyl
A-56	H	2,4-dichloro-phenyl
A-57	H	2,5-dichloro-phenyl
A-58	H	2,6-dichloro-phenyl
A-59	H	2-F-3-Cl-phenyl
A-60	H	2-F-4-Cl-phenyl
A-61	H	2-F-5-Cl-phenyl

No	R^2	R^1
A-62	H	2-F-6-Cl-phenyl
A-63	H	3-F-4-Cl-phenyl
A-64	H	3-F-5-Cl-phenyl
A-65	H	2-Cl-3-F-phenyl
A-66	H	2-Cl-4-F-phenyl
A-67	H	2-Cl-5-F-phenyl
A-68	H	3-Cl-4-F-phenyl
A-69	H	2-F-3-methyl-phenyl
A-70	H	2-F-4-methyl-phenyl
A-71	H	2-F-5-methyl-phenyl
A-72	H	2-F-6-methyl-phenyl
A-73	H	3-F-4-methyl-phenyl
A-74	H	3-F-5-methyl-phenyl
A-75	H	2-methyl-3-F-phenyl
A-76	H	2-methyl-4-F-phenyl
A-77	H	2-methyl-5-F-phenyl
A-78	H	3-methyl-4-F-phenyl
A-79	H	2-F-3-CF_3-phenyl
A-80	H	2-F-4-CF_3-phenyl
A-81	H	2-F-5-CF_3-phenyl
A-82	H	2-F-6-CF_3-phenyl
A-83	H	3-F-4-CF_3-phenyl
A-84	H	3-F-5-CF_3-phenyl
A-85	H	2-CF_3-3-F-phenyl
A-86	H	2-CF_3-4-F-phenyl
A-87	H	2-CF_3-5-F-phenyl
A-88	H	3-CF_3-4-F-phenyl
A-89	H	2-F-3-OMe-phenyl
A-90	H	2-F-4-OMe-phenyl
A-91	H	2-F-5-OMe-phenyl
A-92	H	2-F-6-OMe-phenyl
A-93	H	3-F-4-OMe-phenyl
A-94	H	3-F-5-OMe-phenyl
A-95	H	2-OMe-3-F-phenyl
A-96	H	2-OMe-4-F-phenyl
A-97	H	2-OMe-5-F-phenyl
A-98	H	3-OMe-4-F-phenyl
A-99	H	2-Cl-3-methyl-phenyl
A-100	H	2-Cl-4-methyl-phenyl
A-101	H	2-Cl-5-methyl-phenyl

No	R^2	R^1
A-102	H	2-Cl-6-methyl-phenyl
A-103	H	3-Cl-4-methyl-phenyl
A-104	H	3-Cl-5-methyl-phenyl
A-105	H	2-methyl-3-Cl-phenyl
A-106	H	2-methyl-4-Cl-phenyl
A-107	H	2-methyl-5-Cl-phenyl
A-108	H	3-methyl-4-Cl-phenyl
A-109	H	2-Cl-3-CF_3-phenyl
A-110	H	2-Cl-4-CF_3-phenyl
A-111	H	2-Cl-5-CF_3-phenyl
A-112	H	2-Cl-6-CF_3-phenyl
A-113	H	3-Cl-4-CF_3-phenyl
A-114	H	3-Cl-5-CF_3-phenyl
A-115	H	2-CF_3-3-Cl-phenyl
A-116	H	2-CF_3-4-Cl-phenyl
A-117	H	2-CF_3-5-Cl-phenyl
A-118	H	3-CF_3-4-Cl-phenyl
A-119	H	2-Cl-3-OMe-phenyl
A-120	H	2-Cl-4-OMe-phenyl
A-121	H	2-Cl-5-OMe-phenyl
A-122	H	2-Cl-6-OMe-phenyl
A-123	H	3-Cl-4-OMe-phenyl
A-124	H	3-Cl-5-OMe-phenyl
A-125	H	2-OMe-3-Cl-phenyl
A-126	H	2-OMe-4-Cl-phenyl
A-127	H	2-OMe-5-Cl-phenyl
A-128	H	3-OMe-4-Cl-phenyl
A-129	H	CH_2-cyclopropyl
A-130	H	CH_2-cyclopentyl
A-131	H	CH_2-cyclohexyl
A-132	H	benzyl
A-133	CH_3	allyl
A-134	CH_3	propargyl
A-135	CH_3	cyclopropyl
A-136	CH_3	cylobutyl
A-137	CH_3	1-methyl-cyclopropyl
A-138	CH_3	cylopentyl
A-139	CH_3	cyclohexyl
A-140	CH_3	cycloheptyl
A-141	CH_3	cyclopent-1-enyl
A-142	CH_3	cyclopent-2-enyl
A-143	CH_3	cyclohex-1-enyl
A-144	CH_3	cyclohex-2-enyl
A-145	CH_3	cyclohex-3-enyl
A-146	CH_3	phenyl
A-147	CH_3	2-pyridyl
A-148	CH_3	3-pyridyl
A-149	CH_3	4-pyridyl
A-150	CH_3	2-F-phenyl
A-151	CH_3	3-F-phenyl
A-152	CH_3	4-F-phenyl
A-153	CH_3	2-Cl-phenyl
A-154	CH_3	3-Cl-phenyl
A-155	CH_3	4-Cl-phenyl
A-156	CH_3	2-methyl-phenyl
A-157	CH_3	3-methyl-phenyl
A-158	CH_3	4-methyl-phenyl
A-159	CH_3	2-ethyl-phenyl
A-160	CH_3	3-ethyl-phenyl
A-161	CH_3	4-ethyl-phenyl
A-162	CH_3	2-isopropyl-phenyl
A-163	CH_3	3-isopropyl-phenyl
A-164	CH_3	4-isopropyl-phenyl
A-165	CH_3	2-(2,2,2-trifluoroethyl)-phenyl
A-166	CH_3	3-(2,2,2-trifluoroethyl)-phenyl
A-167	CH_3	4-(2,2,2-trifluoroethyl)-phenyl
A-168	CH_3	2-trifluoromethyl-phenyl
A-169	CH_3	3-trifluoromethyl-phenyl
A-170	CH_3	4-trifluoromethyl-phenyl
A-171	CH_3	2-methoxy-phenyl
A-172	CH_3	3-methoxy-phenyl
A-173	CH_3	4-methoxy-phenyl
A-174	CH_3	2-trifluoromethoxy-phenyl

No	R^2	R^1
A-175	CH_3	3-trifluoromethoxy-phenyl
A-176	CH_3	4-trifluoromethoxy-phenyl
A-177	CH_3	2-difluoromethoxy-phenyl
A-178	CH_3	3-difluoromethoxy-phenyl
A-179	CH_3	4-difluoromethoxy-phenyl
A-180	CH_3	2-cyano-phenyl
A-181	CH_3	3-cyano-phenyl
A-182	CH_3	4-cyano-phenyl
A-183	CH_3	2,3-difluoro-phenyl
A-184	CH_3	2,4-difluoro-phenyl
A-185	CH_3	2,5-difluoro-phenyl
A-186	CH_3	2,6-difluoro-phenyl
A-187	CH_3	2,3-dichloro-phenyl
A-188	CH_3	2,4-dichloro-phenyl
A-189	CH_3	2,5-dichloro-phenyl
A-190	CH_3	2,6-dichloro-phenyl
A-191	CH_3	2-F-3-Cl-phenyl
A-192	CH_3	2-F-4-Cl-phenyl
A-193	CH_3	2-F-5-Cl-phenyl
A-194	CH_3	2-F-6-Cl-phenyl
A-195	CH_3	3-F-4-Cl-phenyl
A-196	CH_3	3-F-5-Cl-phenyl
A-197	CH_3	2-Cl-3-F-phenyl
A-198	CH_3	2-Cl-4-F-phenyl
A-199	CH_3	2-Cl-5-F-phenyl
A-200	CH_3	3-Cl-4-F-phenyl
A-201	CH_3	2-F-3-methyl-phenyl
A-202	CH_3	2-F-4-methyl-phenyl
A-203	CH_3	2-F-5-methyl-phenyl
A-204	CH_3	2-F-6-methyl-phenyl
A-205	CH_3	3-F-4-methyl-phenyl
A-206	CH_3	3-F-5-methyl-phenyl
A-207	CH_3	2-methyl-3-F-phenyl
A-208	CH_3	2-methyl-4-F-phenyl
A-209	CH_3	2-methyl-5-F-phenyl

No	R^2	R^1
A-210	CH_3	3-methyl-4-F-phenyl
A-211	CH_3	2-F-3-CF_3-phenyl
A-212	CH_3	2-F-4-CF_3-phenyl
A-213	CH_3	2-F-5-CF_3-phenyl
A-214	CH_3	2-F-6-CF_3-phenyl
A-215	CH_3	3-F-4-CF_3-phenyl
A-216	CH_3	3-F-5-CF_3-phenyl
A-217	CH_3	2-CF_3-3-F-phenyl
A-218	CH_3	2-CF_3-4-F-phenyl
A-219	CH_3	2-CF_3-5-F-phenyl
A-220	CH_3	3-CF_3-4-F-phenyl
A-221	CH_3	2-F-3-OMe-phenyl
A-222	CH_3	2-F-4-OMe-phenyl
A-223	CH_3	2-F-5-OMe-phenyl
A-224	CH_3	2-F-6-OMe-phenyl
A-225	CH_3	3-F-4-OMe-phenyl
A-226	CH_3	3-F-5-OMe-phenyl
A-227	CH_3	2-OMe-3-F-phenyl
A-228	CH_3	2-OMe-4-F-phenyl
A-229	CH_3	2-OMe-5-F-phenyl
A-230	CH_3	3-OMe-4-F-phenyl
A-231	CH_3	2-Cl-3-methyl-phenyl
A-232	CH_3	2-Cl-4-methyl-phenyl
A-233	CH_3	2-Cl-5-methyl-phenyl
A-234	CH_3	2-Cl-6-methyl-phenyl
A-235	CH_3	3-Cl-4-methyl-phenyl
A-236	CH_3	3-Cl-5-methyl-phenyl
A-237	CH_3	2-methyl-3-Cl-phenyl
A-238	CH_3	2-methyl-4-Cl-phenyl
A-239	CH_3	2-methyl-5-Cl-phenyl
A-240	CH_3	3-methyl-4-Cl-phenyl
A-241	CH_3	2-Cl-3-CF_3-phenyl
A-242	CH_3	2-Cl-4-CF_3-phenyl
A-243	CH_3	2-Cl-5-CF_3-phenyl
A-244	CH_3	2-Cl-6-CF_3-phenyl
A-245	CH_3	3-Cl-4-CF_3-phenyl
A-246	CH_3	3-Cl-5-CF_3-phenyl
A-247	CH_3	2-CF_3-3-Cl-phenyl
A-248	CH_3	2-CF_3-4-Cl-phenyl
A-249	CH_3	2-CF_3-5-Cl-phenyl

No	R^2	R^1
A-250	CH_3	3-CF_3-4-Cl-phenyl
A-251	CH_3	2-Cl-3-OMe-phenyl
A-252	CH_3	2-Cl-4-OMe-phenyl
A-253	CH_3	2-Cl-5-OMe-phenyl
A-254	CH_3	2-Cl-6-OMe-phenyl
A-255	CH_3	3-Cl-4-OMe-phenyl
A-256	CH_3	3-Cl-5-OMe-phenyl
A-257	CH_3	2-OMe-3-Cl-phenyl
A-258	CH_3	2-OMe-4-Cl-phenyl
A-259	CH_3	2-OMe-5-Cl-phenyl
A-260	CH_3	3-OMe-4-Cl-phenyl
A-261	CH_3	CH_2-cyclopropyl
A-262	CH_3	CH_2-cyclopentyl
A-263	CH_3	CH_2-cyclohexyl
A-264	CH_3	benzyl
A-265	CH_2CH_3	allyl
A-266	CH_2CH_3	propargyl
A-267	CH_2CH_3	cyclopropyl
A-268	CH_2CH_3	cylobutyl
A-269	CH_2CH_3	1-methyl-cyclopropyl
A-270	CH_2CH_3	cylopentyl
A-271	CH_2CH_3	cyclohexyl
A-272	CH_2CH_3	cycloheptyl
A-273	CH_2CH_3	cyclopent-1-enyl
A-274	CH_2CH_3	cyclopent-2-enyl
A-275	CH_2CH_3	cyclohex-1-enyl
A-276	CH_2CH_3	cyclohex-2-enyl
A-277	CH_2CH_3	cyclohex-3-enyl
A-278	CH_2CH_3	phenyl
A-279	CH_2CH_3	2-pyridyl
A-280	CH_2CH_3	3-pyridyl
A-281	CH_2CH_3	4-pyridyl
A-282	CH_2CH_3	2-F-phenyl
A-283	CH_2CH_3	3-F-phenyl
A-284	CH_2CH_3	4-F-phenyl
A-285	CH_2CH_3	2-Cl-phenyl
A-286	CH_2CH_3	3-Cl-phenyl
A-287	CH_2CH_3	4-Cl-phenyl
A-288	CH_2CH_3	2-methyl-phenyl
A-289	CH_2CH_3	3-methyl-phenyl
A-290	CH_2CH_3	4-methyl-phenyl
A-291	CH_2CH_3	2-ethyl-phenyl
A-292	CH_2CH_3	3-ethyl-phenyl
A-293	CH_2CH_3	4-ethyl-phenyl
A-294	CH_2CH_3	2-isopropyl-phenyl
A-295	CH_2CH_3	3-isopropyl-phenyl
A-296	CH_2CH_3	4-isopropyl-phenyl
A-297	CH_2CH_3	2-(2,2,2-trifluoroethyl)-phenyl
A-298	CH_2CH_3	3-(2,2,2-trifluoroethyl)-phenyl
A-299	CH_2CH_3	4-(2,2,2-trifluoroethyl)-phenyl
A-300	CH_2CH_3	2-trifluoromethyl-phenyl
A-301	CH_2CH_3	3-trifluoromethyl-phenyl
A-302	CH_2CH_3	4-trifluoromethyl-phenyl
A-303	CH_2CH_3	2-methoxy-phenyl
A-304	CH_2CH_3	3-methoxy-phenyl
A-305	CH_2CH_3	4-methoxy-phenyl
A-306	CH_2CH_3	2-trifluoromethoxy-phenyl
A-307	CH_2CH_3	3-trifluoromethoxy-phenyl
A-308	CH_2CH_3	4-trifluoromethoxy-phenyl
A-309	CH_2CH_3	2-difluoromethoxy-phenyl
A-310	CH_2CH_3	3-difluoromethoxy-phenyl
A-311	CH_2CH_3	4-difluoromethoxy-phenyl
A-312	CH_2CH_3	2-cyano-phenyl
A-313	CH_2CH_3	3-cyano-phenyl
A-314	CH_2CH_3	4-cyano-phenyl
A-315	CH_2CH_3	2,3-difluoro-phenyl
A-316	CH_2CH_3	2,4-difluoro-phenyl
A-317	CH_2CH_3	2,5-difluoro-phenyl
A-318	CH_2CH_3	2,6-difluoro-phenyl

No	R^2	R^1
A-319	CH_2CH_3	2,3-dichloro-phenyl
A-320	CH_2CH_3	2,4-dichloro-phenyl
A-321	CH_2CH_3	2,5-dichloro-phenyl
A-322	CH_2CH_3	2,6-dichloro-phenyl
A-323	CH_2CH_3	2-F-3-Cl-phenyl
A-324	CH_2CH_3	2-F-4-Cl-phenyl
A-325	CH_2CH_3	2-F-5-Cl-phenyl
A-326	CH_2CH_3	2-F-6-Cl-phenyl
A-327	CH_2CH_3	3-F-4-Cl-phenyl
A-328	CH_2CH_3	3-F-5-Cl-phenyl
A-329	CH_2CH_3	2-Cl-3-F-phenyl
A-330	CH_2CH_3	2-Cl-4-F-phenyl
A-331	CH_2CH_3	2-Cl-5-F-phenyl
A-332	CH_2CH_3	3-Cl-4-F-phenyl
A-333	CH_2CH_3	2-F-3-methyl-phenyl
A-334	CH_2CH_3	2-F-4-methyl-phenyl
A-335	CH_2CH_3	2-F-5-methyl-phenyl
A-336	CH_2CH_3	2-F-6-methyl-phenyl
A-337	CH_2CH_3	3-F-4-methyl-phenyl
A-338	CH_2CH_3	3-F-5-methyl-phenyl
A-339	CH_2CH_3	2-methyl-3-F-phenyl
A-340	CH_2CH_3	2-methyl-4-F-phenyl
A-341	CH_2CH_3	2-methyl-5-F-phenyl
A-342	CH_2CH_3	3-methyl-4-F-phenyl
A-343	CH_2CH_3	2-F-3-CF_3-phenyl
A-344	CH_2CH_3	2-F-4-CF_3-phenyl
A-345	CH_2CH_3	2-F-5-CF_3-phenyl
A-346	CH_2CH_3	2-F-6-CF_3-phenyl
A-347	CH_2CH_3	3-F-4-CF_3-phenyl
A-348	CH_2CH_3	3-F-5-CF_3-phenyl
A-349	CH_2CH_3	2-CF_3-3-F-phenyl
A-350	CH_2CH_3	2-CF_3-4-F-phenyl
A-351	CH_2CH_3	2-CF_3-5-F-phenyl
A-352	CH_2CH_3	3-CF_3-4-F-phenyl
A-353	CH_2CH_3	2-F-3-OMe-phenyl
A-354	CH_2CH_3	2-F-4-OMe-phenyl
A-355	CH_2CH_3	2-F-5-OMe-phenyl
A-356	CH_2CH_3	2-F-6-OMe-phenyl
A-357	CH_2CH_3	3-F-4-OMe-phenyl
A-358	CH_2CH_3	3-F-5-OMe-phenyl

No	R^2	R^1
A-359	CH_2CH_3	2-OMe-3-F-phenyl
A-360	CH_2CH_3	2-OMe-4-F-phenyl
A-361	CH_2CH_3	2-OMe-5-F-phenyl
A-362	CH_2CH_3	3-OMe-4-F-phenyl
A-363	CH_2CH_3	2-Cl-3-methyl-phenyl
A-364	CH_2CH_3	2-Cl-4-methyl-phenyl
A-365	CH_2CH_3	2-Cl-5-methyl-phenyl
A-366	CH_2CH_3	2-Cl-6-methyl-phenyl
A-367	CH_2CH_3	3-Cl-4-methyl-phenyl
A-368	CH_2CH_3	3-Cl-5-methyl-phenyl
A-369	CH_2CH_3	2-methyl-3-Cl-phenyl
A-370	CH_2CH_3	2-methyl-4-Cl-phenyl
A-371	CH_2CH_3	2-methyl-5-Cl-phenyl
A-372	CH_2CH_3	3-methyl-4-Cl-phenyl
A-373	CH_2CH_3	2-Cl-3-CF_3-phenyl
A-374	CH_2CH_3	2-Cl-4-CF_3-phenyl
A-375	CH_2CH_3	2-Cl-5-CF_3-phenyl
A-376	CH_2CH_3	2-Cl-6-CF_3-phenyl
A-377	CH_2CH_3	3-Cl-4-CF_3-phenyl
A-378	CH_2CH_3	3-Cl-5-CF_3-phenyl
A-379	CH_2CH_3	2-CF_3-3-Cl-phenyl
A-380	CH_2CH_3	2-CF_3-4-Cl-phenyl
A-381	CH_2CH_3	2-CF_3-5-Cl-phenyl
A-382	CH_2CH_3	3-CF_3-4-Cl-phenyl
A-383	CH_2CH_3	2-Cl-3-OMe-phenyl
A-384	CH_2CH_3	2-Cl-4-OMe-phenyl
A-385	CH_2CH_3	2-Cl-5-OMe-phenyl
A-386	CH_2CH_3	2-Cl-6-OMe-phenyl
A-387	CH_2CH_3	3-Cl-4-OMe-phenyl
A-388	CH_2CH_3	3-Cl-5-OMe-phenyl
A-389	CH_2CH_3	2-OMe-3-Cl-phenyl
A-390	CH_2CH_3	2-OMe-4-Cl-phenyl
A-391	CH_2CH_3	2-OMe-5-Cl-phenyl
A-392	CH_2CH_3	3-OMe-4-Cl-phenyl
A-393	CH_2CH_3	CH_2-cyclopropyl
A-394	CH_2CH_3	CH_2-cyclopentyl
A-395	CH_2CH_3	CH_2-cyclohexyl
A-396	CH_2CH_3	benzyl
A-397	iso-propyl	allyl
A-398	iso-propyl	propargyl

No	R^2	R^1
A-399	iso-propyl	cyclopropyl
A-400	iso-propyl	cylobutyl
A-401	iso-propyl	1-methyl-cyclopropyl
A-402	iso-propyl	cylopentyl
A-403	iso-propyl	cyclohexyl
A-404	iso-propyl	cycloheptyl
A-405	iso-propyl	cyclopent-1-enyl
A-406	iso-propyl	cyclopent-2-enyl
A-407	iso-propyl	cyclohex-1-enyl
A-408	iso-propyl	cyclohex-2-enyl
A-409	iso-propyl	cyclohex-3-enyl
A-410	iso-propyl	phenyl
A-411	iso-propyl	2-pyridyl
A-412	iso-propyl	3-pyridyl
A-413	iso-propyl	4-pyridyl
A-414	iso-propyl	2-F-phenyl
A-415	iso-propyl	3-F-phenyl
A-416	iso-propyl	4-F-phenyl
A-417	iso-propyl	2-Cl-phenyl
A-418	iso-propyl	3-Cl-phenyl
A-419	iso-propyl	4-Cl-phenyl
A-420	iso-propyl	2-methyl-phenyl
A-421	iso-propyl	3-methyl-phenyl
A-422	iso-propyl	4-methyl-phenyl
A-423	iso-propyl	2-ethyl-phenyl
A-424	iso-propyl	3-ethyl-phenyl
A-425	iso-propyl	4-ethyl-phenyl
A-426	iso-propyl	2-isopropyl-phenyl
A-427	iso-propyl	3-isopropyl-phenyl
A-428	iso-propyl	4-isopropyl-phenyl
A-429	iso-propyl	2-(2,2,2-trifluoroethyl)-phenyl
A-430	iso-propyl	3-(2,2,2-trifluoroethyl)-phenyl
A-431	iso-propyl	4-(2,2,2-trifluoroethyl)-phenyl
A-432	iso-propyl	2-trifluoromethyl-phenyl
A-433	iso-propyl	3-trifluoromethyl-phenyl
A-434	iso-propyl	4-trifluoromethyl-phenyl
A-435	iso-propyl	2-methoxy-phenyl
A-436	iso-propyl	3-methoxy-phenyl
A-437	iso-propyl	4-methoxy-phenyl
A-438	iso-propyl	2-trifluoromethoxy-phenyl
A-439	iso-propyl	3-trifluoromethoxy-phenyl
A-440	iso-propyl	4-trifluoromethoxy-phenyl
A-441	iso-propyl	2-difluoromethoxy-phenyl
A-442	iso-propyl	3-difluoromethoxy-phenyl
A-443	iso-propyl	4-difluoromethoxy-phenyl
A-444	iso-propyl	2-cyano-phenyl
A-445	iso-propyl	3-cyano-phenyl
A-446	iso-propyl	4-cyano-phenyl
A-447	iso-propyl	2,3-difluoro-phenyl
A-448	iso-propyl	2,4-difluoro-phenyl
A-449	iso-propyl	2,5-difluoro-phenyl
A-450	iso-propyl	2,6-difluoro-phenyl
A-451	iso-propyl	2,3-dichloro-phenyl
A-452	iso-propyl	2,4-dichloro-phenyl
A-453	iso-propyl	2,5-dichloro-phenyl
A-454	iso-propyl	2,6-dichloro-phenyl
A-455	iso-propyl	2-F-3-Cl-phenyl
A-456	iso-propyl	2-F-4-Cl-phenyl
A-457	iso-propyl	2-F-5-Cl-phenyl
A-458	iso-propyl	2-F-6-Cl-phenyl
A-459	iso-propyl	3-F-4-Cl-phenyl
A-460	iso-propyl	3-F-5-Cl-phenyl
A-461	iso-propyl	2-Cl-3-F-phenyl
A-462	iso-propyl	2-Cl-4-F-phenyl
A-463	iso-propyl	2-Cl-5-F-phenyl
A-464	iso-propyl	3-Cl-4-F-phenyl
A-465	iso-propyl	2-F-3-methyl-phenyl
A-466	iso-propyl	2-F-4-methyl-phenyl
A-467	iso-propyl	2-F-5-methyl-phenyl

No	R^2	R^1
A-468	iso-propyl	2-F-6-methyl-phenyl
A-469	iso-propyl	3-F-4-methyl-phenyl
A-470	iso-propyl	3-F-5-methyl-phenyl
A-471	iso-propyl	2-methyl-3-F-phenyl
A-472	iso-propyl	2-methyl-4-F-phenyl
A-473	iso-propyl	2-methyl-5-F-phenyl
A-474	iso-propyl	3-methyl-4-F-phenyl
A-475	iso-propyl	2-F-3-CF_3-phenyl
A-476	iso-propyl	2-F-4-CF_3-phenyl
A-477	iso-propyl	2-F-5-CF_3-phenyl
A-478	iso-propyl	2-F-6-CF_3-phenyl
A-479	iso-propyl	3-F-4-CF_3-phenyl
A-480	iso-propyl	3-F-5-CF_3-phenyl
A-481	iso-propyl	2-CF_3-3-F-phenyl
A-482	iso-propyl	2-CF_3-4-F-phenyl
A-483	iso-propyl	2-CF_3-5-F-phenyl
A-484	iso-propyl	3-CF_3-4-F-phenyl
A-485	iso-propyl	2-F-3-OMe-phenyl
A-486	iso-propyl	2-F-4-OMe-phenyl
A-487	iso-propyl	2-F-5-OMe-phenyl
A-488	iso-propyl	2-F-6-OMe-phenyl
A-489	iso-propyl	3-F-4-OMe-phenyl
A-490	iso-propyl	3-F-5-OMe-phenyl
A-491	iso-propyl	2-OMe-3-F-phenyl
A-492	iso-propyl	2-OMe-4-F-phenyl
A-493	iso-propyl	2-OMe-5-F-phenyl
A-494	iso-propyl	3-OMe-4-F-phenyl
A-495	iso-propyl	2-Cl-3-methyl-phenyl
A-496	iso-propyl	2-Cl-4-methyl-phenyl
A-497	iso-propyl	2-Cl-5-methyl-phenyl
A-498	iso-propyl	2-Cl-6-methyl-phenyl
A-499	iso-propyl	3-Cl-4-methyl-phenyl
A-500	iso-propyl	3-Cl-5-methyl-phenyl
A-501	iso-propyl	2-methyl-3-Cl-phenyl
A-502	iso-propyl	2-methyl-4-Cl-phenyl
A-503	iso-propyl	2-methyl-5-Cl-phenyl
A-504	iso-propyl	3-methyl-4-Cl-phenyl
A-505	iso-propyl	2-Cl-3-CF_3-phenyl
A-506	iso-propyl	2-Cl-4-CF_3-phenyl
A-507	iso-propyl	2-Cl-5-CF_3-phenyl
A-508	iso-propyl	2-Cl-6-CF_3-phenyl
A-509	iso-propyl	3-Cl-4-CF_3-phenyl
A-510	iso-propyl	3-Cl-5-CF_3-phenyl
A-511	iso-propyl	2-CF_3-3-Cl-phenyl
A-512	iso-propyl	2-CF_3-4-Cl-phenyl
A-513	iso-propyl	2-CF_3-5-Cl-phenyl
A-514	iso-propyl	3-CF_3-4-Cl-phenyl
A-515	iso-propyl	2-Cl-3-OMe-phenyl
A-516	iso-propyl	2-Cl-4-OMe-phenyl
A-517	iso-propyl	2-Cl-5-OMe-phenyl
A-518	iso-propyl	2-Cl-6-OMe-phenyl
A-519	iso-propyl	3-Cl-4-OMe-phenyl
A-520	iso-propyl	3-Cl-5-OMe-phenyl
A-521	iso-propyl	2-OMe-3-Cl-phenyl
A-522	iso-propyl	2-OMe-4-Cl-phenyl
A-523	iso-propyl	2-OMe-5-Cl-phenyl
A-524	iso-propyl	3-OMe-4-Cl-phenyl
A-525	iso-propyl	CH_2-cyclopropyl
A-526	iso-propyl	CH_2-cyclopentyl
A-527	iso-propyl	CH_2-cyclohexyl
A-528	iso-propyl	benzyl
A-529	allyl	allyl
A-530	allyl	propargyl
A-531	allyl	cyclopropyl
A-532	allyl	cylobutyl
A-533	allyl	1-methyl-cyclopropyl
A-534	allyl	cylopentyl
A-535	allyl	cyclohexyl
A-536	allyl	cycloheptyl
A-537	allyl	cyclopent-1-enyl
A-538	allyl	cyclopent-2-enyl
A-539	allyl	cyclohex-1-enyl
A-540	allyl	cyclohex-2-enyl
A-541	allyl	cyclohex-3-enyl
A-542	allyl	phenyl
A-543	allyl	2-pyridyl
A-544	allyl	3-pyridyl
A-545	allyl	4-pyridyl
A-546	allyl	2-F-phenyl
A-547	allyl	3-F-phenyl

No	R^2	R^1
A-548	allyl	4-F-phenyl
A-549	allyl	2-Cl-phenyl
A-550	allyl	3-Cl-phenyl
A-551	allyl	4-Cl-phenyl
A-552	allyl	2-methyl-phenyl
A-553	allyl	3-methyl-phenyl
A-554	allyl	4-methyl-phenyl
A-555	allyl	2-ethyl-phenyl
A-556	allyl	3-ethyl-phenyl
A-557	allyl	4-ethyl-phenyl
A-558	allyl	2-isopropyl-phenyl
A-559	allyl	3-isopropyl-phenyl
A-560	allyl	4-isopropyl-phenyl
A-561	allyl	2-(2,2,2-trifluoroethyl)-phenyl
A-562	allyl	3-(2,2,2-trifluoroethyl)-phenyl
A-563	allyl	4-(2,2,2-trifluoroethyl)-phenyl
A-564	allyl	2-trifluoromethyl-phenyl
A-565	allyl	3-trifluoromethyl-phenyl
A-566	allyl	4-trifluoromethyl-phenyl
A-567	allyl	2-methoxy-phenyl
A-568	allyl	3-methoxy-phenyl
A-569	allyl	4-methoxy-phenyl
A-570	allyl	2-trifluoromethoxy-phenyl
A-571	allyl	3-trifluoromethoxy-phenyl
A-572	allyl	4-trifluoromethoxy-phenyl
A-573	allyl	2-difluoromethoxy-phenyl
A-574	allyl	3-difluoromethoxy-phenyl
A-575	allyl	4-difluoromethoxy-phenyl
A-576	allyl	2-cyano-phenyl
A-577	allyl	3-cyano-phenyl
A-578	allyl	4-cyano-phenyl
A-579	allyl	2,3-difluoro-phenyl
A-580	allyl	2,4-difluoro-phenyl
A-581	allyl	2,5-difluoro-phenyl
A-582	allyl	2,6-difluoro-phenyl
A-583	allyl	2,3-dichloro-phenyl
A-584	allyl	2,4-dichloro-phenyl
A-585	allyl	2,5-dichloro-phenyl
A-586	allyl	2,6-dichloro-phenyl
A-587	allyl	2-F-3-Cl-phenyl
A-588	allyl	2-F-4-Cl-phenyl
A-589	allyl	2-F-5-Cl-phenyl
A-590	allyl	2-F-6-Cl-phenyl
A-591	allyl	3-F-4-Cl-phenyl
A-592	allyl	3-F-5-Cl-phenyl
A-593	allyl	2-Cl-3-F-phenyl
A-594	allyl	2-Cl-4-F-phenyl
A-595	allyl	2-Cl-5-F-phenyl
A-596	allyl	3-Cl-4-F-phenyl
A-597	allyl	2-F-3-methyl-phenyl
A-598	allyl	2-F-4-methyl-phenyl
A-599	allyl	2-F-5-methyl-phenyl
A-600	allyl	2-F-6-methyl-phenyl
A-601	allyl	3-F-4-methyl-phenyl
A-602	allyl	3-F-5-methyl-phenyl
A-603	allyl	2-methyl-3-F-phenyl
A-604	allyl	2-methyl-4-F-phenyl
A-605	allyl	2-methyl-5-F-phenyl
A-606	allyl	3-methyl-4-F-phenyl
A-607	allyl	2-F-3-CF_3-phenyl
A-608	allyl	2-F-4-CF_3-phenyl
A-609	allyl	2-F-5-CF_3-phenyl
A-610	allyl	2-F-6-CF_3-phenyl
A-611	allyl	3-F-4-CF_3-phenyl
A-612	allyl	3-F-5-CF_3-phenyl
A-613	allyl	2-CF_3-3-F-phenyl
A-614	allyl	2-CF_3-4-F-phenyl
A-615	allyl	2-CF_3-5-F-phenyl
A-616	allyl	3-CF_3-4-F-phenyl

No	R^2	R^1
A-617	allyl	2-F-3-OMe-phenyl
A-618	allyl	2-F-4-OMe-phenyl
A-619	allyl	2-F-5-OMe-phenyl
A-620	allyl	2-F-6-OMe-phenyl
A-621	allyl	3-F-4-OMe-phenyl
A-622	allyl	3-F-5-OMe-phenyl
A-623	allyl	2-OMe-3-F-phenyl
A-624	allyl	2-OMe-4-F-phenyl
A-625	allyl	2-OMe-5-F-phenyl
A-626	allyl	3-OMe-4-F-phenyl
A-627	allyl	2-Cl-3-methyl-phenyl
A-628	allyl	2-Cl-4-methyl-phenyl
A-629	allyl	2-Cl-5-methyl-phenyl
A-630	allyl	2-Cl-6-methyl-phenyl
A-631	allyl	3-Cl-4-methyl-phenyl
A-632	allyl	3-Cl-5-methyl-phenyl
A-633	allyl	2-methyl-3-Cl-phenyl
A-634	allyl	2-methyl-4-Cl-phenyl
A-635	allyl	2-methyl-5-Cl-phenyl
A-636	allyl	3-methyl-4-Cl-phenyl
A-637	allyl	2-Cl-3-CF_3-phenyl
A-638	allyl	2-Cl-4-CF_3-phenyl
A-639	allyl	2-Cl-5-CF_3-phenyl
A-640	allyl	2-Cl-6-CF_3-phenyl
A-641	allyl	3-Cl-4-CF_3-phenyl
A-642	allyl	3-Cl-5-CF_3-phenyl
A-643	allyl	2-CF_3-3-Cl-phenyl
A-644	allyl	2-CF_3-4-Cl-phenyl
A-645	allyl	2-CF_3-5-Cl-phenyl
A-646	allyl	3-CF_3-4-Cl-phenyl
A-647	allyl	2-Cl-3-OMe-phenyl
A-648	allyl	2-Cl-4-OMe-phenyl
A-649	allyl	2-Cl-5-OMe-phenyl
A-650	allyl	2-Cl-6-OMe-phenyl
A-651	allyl	3-Cl-4-OMe-phenyl
A-652	allyl	3-Cl-5-OMe-phenyl
A-653	allyl	2-OMe-3-Cl-phenyl
A-654	allyl	2-OMe-4-Cl-phenyl
A-655	allyl	2-OMe-5-Cl-phenyl
A-656	allyl	3-OMe-4-Cl-phenyl

No	R^2	R^1
A-657	allyl	CH_2-cyclopropyl
A-658	allyl	CH_2-cyclopentyl
A-659	allyl	CH_2-cyclohexyl
A-660	allyl	benzyl
A-661	cyclopropyl	allyl
A-662	cyclopropyl	propargyl
A-663	cyclopropyl	cyclopropyl
A-664	cyclopropyl	cylobutyl
A-665	cyclopropyl	1-methyl-cyclopropyl
A-666	cyclopropyl	cylopentyl
A-667	cyclopropyl	cyclohexyl
A-668	cyclopropyl	cycloheptyl
A-669	cyclopropyl	cyclopent-1-enyl
A-670	cyclopropyl	cyclopent-2-enyl
A-671	cyclopropyl	cyclohex-1-enyl
A-672	cyclopropyl	cyclohex-2-enyl
A-673	cyclopropyl	cyclohex-3-enyl
A-674	cyclopropyl	phenyl
A-675	cyclopropyl	2-pyridyl
A-676	cyclopropyl	3-pyridyl
A-677	cyclopropyl	4-pyridyl
A-678	cyclopropyl	2-F-phenyl
A-679	cyclopropyl	3-F-phenyl
A-680	cyclopropyl	4-F-phenyl
A-681	cyclopropyl	2-Cl-phenyl
A-682	cyclopropyl	3-Cl-phenyl
A-683	cyclopropyl	4-Cl-phenyl
A-684	cyclopropyl	2-methyl-phenyl
A-685	cyclopropyl	3-methyl-phenyl
A-686	cyclopropyl	4-methyl-phenyl
A-687	cyclopropyl	2-ethyl-phenyl
A-688	cyclopropyl	3-ethyl-phenyl
A-689	cyclopropyl	4-ethyl-phenyl
A-690	cyclopropyl	2-isopropyl-phenyl
A-691	cyclopropyl	3-isopropyl-phenyl
A-692	cyclopropyl	4-isopropyl-phenyl
A-693	cyclopropyl	2-(2,2,2-trifluoroethyl)-phenyl
A-694	cyclopropyl	3-(2,2,2-trifluoroethyl)-phenyl

No	R^2	R^1
A-695	cyclopropyl	4-(2,2,2-trifluoroethyl)-phenyl
A-696	cyclopropyl	2-trifluoromethyl-phenyl
A-697	cyclopropyl	3-trifluoromethyl-phenyl
A-698	cyclopropyl	4-trifluoromethyl-phenyl
A-699	cyclopropyl	2-methoxy-phenyl
A-700	cyclopropyl	3-methoxy-phenyl
A-701	cyclopropyl	4-methoxy-phenyl
A-702	cyclopropyl	2-trifluoromethoxy-phenyl
A-703	cyclopropyl	3-trifluoromethoxy-phenyl
A-704	cyclopropyl	4-trifluoromethoxy-phenyl
A-705	cyclopropyl	2-difluoromethoxy-phenyl
A-706	cyclopropyl	3-difluoromethoxy-phenyl
A-707	cyclopropyl	4-difluoromethoxy-phenyl
A-708	cyclopropyl	2-cyano-phenyl
A-709	cyclopropyl	3-cyano-phenyl
A-710	cyclopropyl	4-cyano-phenyl
A-711	cyclopropyl	2,3-difluoro-phenyl
A-712	cyclopropyl	2,4-difluoro-phenyl
A-713	cyclopropyl	2,5-difluoro-phenyl
A-714	cyclopropyl	2,6-difluoro-phenyl
A-715	cyclopropyl	2,3-dichloro-phenyl
A-716	cyclopropyl	2,4-dichloro-phenyl
A-717	cyclopropyl	2,5-dichloro-phenyl
A-718	cyclopropyl	2,6-dichloro-phenyl
A-719	cyclopropyl	2-F-3-Cl-phenyl
A-720	cyclopropyl	2-F-4-Cl-phenyl
A-721	cyclopropyl	2-F-5-Cl-phenyl
A-722	cyclopropyl	2-F-6-Cl-phenyl
A-723	cyclopropyl	3-F-4-Cl-phenyl
A-724	cyclopropyl	3-F-5-Cl-phenyl
A-725	cyclopropyl	2-Cl-3-F-phenyl

No	R^2	R^1
A-726	cyclopropyl	2-Cl-4-F-phenyl
A-727	cyclopropyl	2-Cl-5-F-phenyl
A-728	cyclopropyl	3-Cl-4-F-phenyl
A-729	cyclopropyl	2-F-3-methyl-phenyl
A-730	cyclopropyl	2-F-4-methyl-phenyl
A-731	cyclopropyl	2-F-5-methyl-phenyl
A-732	cyclopropyl	2-F-6-methyl-phenyl
A-733	cyclopropyl	3-F-4-methyl-phenyl
A-734	cyclopropyl	3-F-5-methyl-phenyl
A-735	cyclopropyl	2-methyl-3-F-phenyl
A-736	cyclopropyl	2-methyl-4-F-phenyl
A-737	cyclopropyl	2-methyl-5-F-phenyl
A-738	cyclopropyl	3-methyl-4-F-phenyl
A-739	cyclopropyl	2-F-3-CF_3-phenyl
A-740	cyclopropyl	2-F-4-CF_3-phenyl
A-741	cyclopropyl	2-F-5-CF_3-phenyl
A-742	cyclopropyl	2-F-6-CF_3-phenyl
A-743	cyclopropyl	3-F-4-CF_3-phenyl
A-744	cyclopropyl	3-F-5-CF_3-phenyl
A-745	cyclopropyl	2-CF_3-3-F-phenyl
A-746	cyclopropyl	2-CF_3-4-F-phenyl
A-747	cyclopropyl	2-CF_3-5-F-phenyl
A-748	cyclopropyl	3-CF_3-4-F-phenyl
A-749	cyclopropyl	2-F-3-OMe-phenyl
A-750	cyclopropyl	2-F-4-OMe-phenyl
A-751	cyclopropyl	2-F-5-OMe-phenyl
A-752	cyclopropyl	2-F-6-OMe-phenyl
A-753	cyclopropyl	3-F-4-OMe-phenyl
A-754	cyclopropyl	3-F-5-OMe-phenyl
A-755	cyclopropyl	2-OMe-3-F-phenyl
A-756	cyclopropyl	2-OMe-4-F-phenyl
A-757	cyclopropyl	2-OMe-5-F-phenyl
A-758	cyclopropyl	3-OMe-4-F-phenyl
A-759	cyclopropyl	2-Cl-3-methyl-phenyl
A-760	cyclopropyl	2-Cl-4-methyl-phenyl
A-761	cyclopropyl	2-Cl-5-methyl-phenyl
A-762	cyclopropyl	2-Cl-6-methyl-phenyl
A-763	cyclopropyl	3-Cl-4-methyl-phenyl
A-764	cyclopropyl	3-Cl-5-methyl-phenyl
A-765	cyclopropyl	2-methyl-3-Cl-phenyl

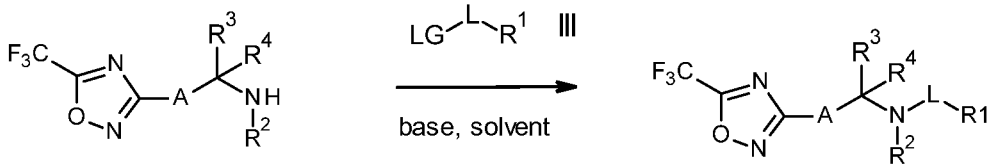
No	R^2	R^1
A-766	cyclopropyl	2-methyl-4-Cl-phenyl
A-767	cyclopropyl	2-methyl-5-Cl-phenyl
A-768	cyclopropyl	3-methyl-4-Cl-phenyl
A-769	cyclopropyl	2-Cl-3-CF_3-phenyl
A-770	cyclopropyl	2-Cl-4-CF_3-phenyl
A-771	cyclopropyl	2-Cl-5-CF_3-phenyl
A-772	cyclopropyl	2-Cl-6-CF_3-phenyl
A-773	cyclopropyl	3-Cl-4-CF_3-phenyl
A-774	cyclopropyl	3-Cl-5-CF_3-phenyl
A-775	cyclopropyl	2-CF_3-3-Cl-phenyl
A-776	cyclopropyl	2-CF_3-4-Cl-phenyl
A-777	cyclopropyl	2-CF_3-5-Cl-phenyl
A-778	cyclopropyl	3-CF_3-4-Cl-phenyl
A-779	cyclopropyl	2-Cl-3-OMe-phenyl
A-780	cyclopropyl	2-Cl-4-OMe-phenyl
A-781	cyclopropyl	2-Cl-5-OMe-phenyl
A-782	cyclopropyl	2-Cl-6-OMe-phenyl
A-783	cyclopropyl	3-Cl-4-OMe-phenyl
A-784	cyclopropyl	3-Cl-5-OMe-phenyl
A-785	cyclopropyl	2-OMe-3-Cl-phenyl
A-786	cyclopropyl	2-OMe-4-Cl-phenyl
A-787	cyclopropyl	2-OMe-5-Cl-phenyl
A-788	cyclopropyl	3-OMe-4-Cl-phenyl
A-789	cyclopropyl	CH_2-cyclopropyl
A-790	cyclopropyl	CH_2-cyclopentyl
A-791	cyclopropyl	CH_2-cyclohexyl
A-792	cyclopropyl	benzyl
A-793	cyclopropyl-CH_2-	allyl
A-794	cyclopropyl-CH_2-	propargyl
A-795	cyclopropyl-CH_2-	cyclopropyl
A-796	cyclopropyl-CH_2-	cylobutyl
A-797	cyclopropyl-CH_2-	1-methyl-cyclopropyl
A-798	cyclopropyl-CH_2-	cylopentyl
A-799	cyclopropyl-CH_2-	cyclohexyl
A-800	cyclopropyl-CH_2-	cycloheptyl
A-801	cyclopropyl-CH_2-	cyclopent-1-enyl
A-802	cyclopropyl-CH_2-	cyclopent-2-enyl
A-803	cyclopropyl-CH_2-	cyclohex-1-enyl
A-804	cyclopropyl-CH_2-	cyclohex-2-enyl
A-805	cyclopropyl-CH_2-	cyclohex-3-enyl
A-806	cyclopropyl-CH_2-	phenyl
A-807	cyclopropyl-CH_2-	2-pyridyl
A-808	cyclopropyl-CH_2-	3-pyridyl
A-809	cyclopropyl-CH_2-	4-pyridyl
A-810	cyclopropyl-CH_2-	2-F-phenyl
A-811	cyclopropyl-CH_2-	3-F-phenyl
A-812	cyclopropyl-CH_2-	4-F-phenyl
A-813	cyclopropyl-CH_2-	2-Cl-phenyl
A-814	cyclopropyl-CH_2-	3-Cl-phenyl
A-815	cyclopropyl-CH_2-	4-Cl-phenyl
A-816	cyclopropyl-CH_2-	2-methyl-phenyl
A-817	cyclopropyl-CH_2-	3-methyl-phenyl
A-818	cyclopropyl-CH_2-	4-methyl-phenyl

No	R^2	R^1
A-819	cyclopropyl-CH_2-	2-ethyl-phenyl
A-820	cyclopropyl-CH_2-	3-ethyl-phenyl
A-821	cyclopropyl-CH_2-	4-ethyl-phenyl
A-822	cyclopropyl-CH_2-	2-isopropyl-phenyl
A-823	cyclopropyl-CH_2-	3-isopropyl-phenyl
A-824	cyclopropyl-CH_2-	4-isopropyl-phenyl
A-825	cyclopropyl-CH_2-	2-(2,2,2-trifluoroethyl)-phenyl
A-826	cyclopropyl-CH_2-	3-(2,2,2-trifluoroethyl)-phenyl
A-827	cyclopropyl-CH_2-	4-(2,2,2-trifluoroethyl)-phenyl
A-828	cyclopropyl-CH_2-	2-trifluoromethyl-phenyl
A-829	cyclopropyl-CH_2-	3-trifluoromethyl-phenyl
A-830	cyclopropyl-CH_2-	4-trifluoromethyl-phenyl
A-831	cyclopropyl-CH_2-	2-methoxy-phenyl
A-832	cyclopropyl-CH_2-	3-methoxy-phenyl
A-833	cyclopropyl-CH_2-	4-methoxy-phenyl
A-834	cyclopropyl-CH_2-	2-trifluoromethoxy-phenyl
A-835	cyclopropyl-CH_2-	3-trifluoromethoxy-phenyl
A-836	cyclopropyl-CH_2-	4-trifluoromethoxy-phenyl
A-837	cyclopropyl-CH_2-	2-difluoromethoxy-phenyl
A-838	cyclopropyl-CH_2-	3-difluoromethoxy-phenyl
A-839	cyclopropyl-CH_2-	4-difluoromethoxy-phenyl
A-840	cyclopropyl-CH_2-	2-cyano-phenyl
A-841	cyclopropyl-CH_2-	3-cyano-phenyl
A-842	cyclopropyl-CH_2-	4-cyano-phenyl
A-843	cyclopropyl-CH_2-	2,3-difluoro-phenyl
A-844	cyclopropyl-CH_2-	2,4-difluoro-phenyl
A-845	cyclopropyl-CH_2-	2,5-difluoro-phenyl
A-846	cyclopropyl-CH_2-	2,6-difluoro-phenyl
A-847	cyclopropyl-CH_2-	2,3-dichloro-phenyl
A-848	cyclopropyl-CH_2-	2,4-dichloro-phenyl
A-849	cyclopropyl-CH_2-	2,5-dichloro-phenyl
A-850	cyclopropyl-CH_2-	2,6-dichloro-phenyl
A-851	cyclopropyl-CH_2-	2-F-3-Cl-phenyl
A-852	cyclopropyl-CH_2-	2-F-4-Cl-phenyl
A-853	cyclopropyl-CH_2-	2-F-5-Cl-phenyl
A-854	cyclopropyl-CH_2-	2-F-6-Cl-phenyl
A-855	cyclopropyl-CH_2-	3-F-4-Cl-phenyl
A-856	cyclopropyl-CH_2-	3-F-5-Cl-phenyl
A-857	cyclopropyl-CH_2-	2-Cl-3-F-phenyl
A-858	cyclopropyl-CH_2-	2-Cl-4-F-phenyl

No	R^2	R^1
A-859	cyclopropyl-CH_2-	2-Cl-5-F-phenyl
A-860	cyclopropyl-CH_2-	3-Cl-4-F-phenyl
A-861	cyclopropyl-CH_2-	2-F-3-methyl-phenyl
A-862	cyclopropyl-CH_2-	2-F-4-methyl-phenyl
A-863	cyclopropyl-CH_2-	2-F-5-methyl-phenyl
A-864	cyclopropyl-CH_2-	2-F-6-methyl-phenyl
A-865	cyclopropyl-CH_2-	3-F-4-methyl-phenyl
A-866	cyclopropyl-CH_2-	3-F-5-methyl-phenyl
A-867	cyclopropyl-CH_2-	2-methyl-3-F-phenyl
A-868	cyclopropyl-CH_2-	2-methyl-4-F-phenyl
A-869	cyclopropyl-CH_2-	2-methyl-5-F-phenyl
A-870	cyclopropyl-CH_2-	3-methyl-4-F-phenyl
A-871	cyclopropyl-CH_2-	2-F-3-CF_3-phenyl
A-872	cyclopropyl-CH_2-	2-F-4-CF_3-phenyl
A-873	CH_2-cyclopropyl	2-F-5-CF_3-phenyl
A-874	cyclopropyl-CH_2-	2-F-6-CF_3-phenyl
A-875	cyclopropyl-CH_2-	3-F-4-CF_3-phenyl
A-876	cyclopropyl-CH_2-	3-F-5-CF_3-phenyl
A-877	cyclopropyl-CH_2-	2-CF_3-3-F-phenyl
A-878	cyclopropyl-CH_2-	2-CF_3-4-F-phenyl
A-879	cyclopropyl-CH_2-	2-CF_3-5-F-phenyl
A-880	cyclopropyl-CH_2-	3-CF_3-4-F-phenyl
A-881	cyclopropyl-CH_2-	2-F-3-OMe-phenyl
A-882	cyclopropyl-CH_2-	2-F-4-OMe-phenyl
A-883	cyclopropyl-CH_2-	2-F-5-OMe-phenyl
A-884	cyclopropyl-CH_2-	2-F-6-OMe-phenyl
A-885	cyclopropyl-CH_2-	3-F-4-OMe-phenyl
A-886	cyclopropyl-CH_2-	3-F-5-OMe-phenyl
A-887	cyclopropyl-CH_2-	2-OMe-3-F-phenyl
A-888	cyclopropyl-CH_2-	2-OMe-4-F-phenyl
A-889	cyclopropyl-CH_2-	2-OMe-5-F-phenyl
A-890	cyclopropyl-CH_2-	3-OMe-4-F-phenyl
A-891	cyclopropyl-CH_2-	2-Cl-3-methyl-phenyl
A-892	cyclopropyl-CH_2-	2-Cl-4-methyl-phenyl
A-893	cyclopropyl-CH_2-	2-Cl-5-methyl-phenyl
A-894	cyclopropyl-CH_2-	2-Cl-6-methyl-phenyl
A-895	cyclopropyl-CH_2-	3-Cl-4-methyl-phenyl
A-896	cyclopropyl-CH_2-	3-Cl-5-methyl-phenyl
A-897	cyclopropyl-CH_2-	2-methyl-3-Cl-phenyl
A-898	cyclopropyl-CH_2-	2-methyl-4-Cl-phenyl

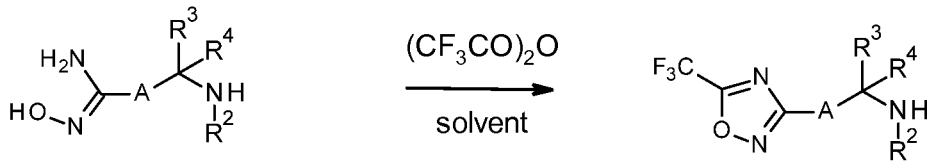
No	R^2	R^1
A-899	cyclopropyl-CH_2-	2-methyl-5-Cl-phenyl
A-900	cyclopropyl-CH_2-	3-methyl-4-Cl-phenyl
A-901	cyclopropyl-CH_2-	2-Cl-3-CF_3-phenyl
A-902	cyclopropyl-CH_2-	2-Cl-4-CF_3-phenyl
A-903	cyclopropyl-CH_2-	2-Cl-5-CF_3-phenyl
A-904	cyclopropyl-CH_2-	2-Cl-6-CF_3-phenyl
A-905	cyclopropyl-CH_2-	3-Cl-4-CF_3-phenyl
A-906	cyclopropyl-CH_2-	3-Cl-5-CF_3-phenyl
A-907	cyclopropyl-CH_2-	2-CF_3-3-Cl-phenyl
A-908	cyclopropyl-CH_2-	2-CF_3-4-Cl-phenyl
A-909	cyclopropyl-CH_2-	2-CF_3-5-Cl-phenyl
A-910	cyclopropyl-CH_2-	3-CF_3-4-Cl-phenyl
A-911	cyclopropyl-CH_2-	2-Cl-3-OMe-phenyl
A-912	cyclopropyl-CH_2-	2-Cl-4-OMe-phenyl
A-913	cyclopropyl-CH_2-	2-Cl-5-OMe-phenyl
A-914	cyclopropyl-CH_2-	2-Cl-6-OMe-phenyl
A-915	cyclopropyl-CH_2-	3-Cl-4-OMe-phenyl
A-916	cyclopropyl-CH_2-	3-Cl-5-OMe-phenyl
A-917	cyclopropyl-CH_2-	2-OMe-3-Cl-phenyl
A-918	cyclopropyl-CH_2-	2-OMe-4-Cl-phenyl
A-919	cyclopropyl-CH_2-	2-OMe-5-Cl-phenyl
A-920	cyclopropyl-CH_2-	3-OMe-4-Cl-phenyl
A-921	cyclopropyl-CH_2-	CH_2-cyclopropyl
A-922	cyclopropyl-CH_2-	CH_2-cyclopentyl
A-923	cyclopropyl-CH_2-	CH_2-cyclohexyl
A-924	cyclopropyl-CH_2-	benzyl
A-925	phenyl	cyclopropyl
A-926	phenyl	cylobutyl
A-927	phenyl	1-methyl-cyclopropyl
A-928	phenyl	cylopentyl
A-929	phenyl	cyclohexyl
A-930	phenyl	cycloheptyl
A-931	phenyl	cyclopent-1-enyl
A-932	phenyl	cyclopent-2-enyl
A-933	phenyl	cyclohex-1-enyl
A-934	phenyl	cyclohex-2-enyl
A-935	phenyl	cyclohex-3-enyl
A-936	benzyl	cyclopropyl
A-937	benzyl	cylobutyl
A-938	benzyl	1-methyl-cyclopropyl
A-939	benzyl	cylopentyl
A-940	benzyl	cyclohexyl
A-941	benzyl	cycloheptyl
A-942	benzyl	cyclopent-1-enyl
A-943	benzyl	cyclopent-2-enyl
A-944	benzyl	cyclohex-1-enyl
A-945	benzyl	cyclohex-2-enyl
A-946	benzyl	cyclohex-3-enyl
A-947	R^1 and R^2 together with L and the nitrogen to which R^2 is bound form a pyrrolidin-2-one ring	
A-948	R^1 and R^2 together with L and the nitrogen to which R^2 is bound form a piperidin-2-one ring	

The compounds of the formula I can be prepared according to methods or in analogy to methods that are described in the prior art. The synthesis takes advantage of starting materials that are commercially available or may be prepared according to conventional procedures starting from readily available compounds. For example, compounds of the formula I can be prepared by reacting of oxadiazole amine II with compounds of type III (for example acetic chloride or anhydride, LG = chlorine or acetate) in an organic solvent and in the presence of a base. Alternatively compound I can be obtained by reacting of compound II with the corresponding acid III (LG = OH) using peptide coupling reaction conditions such as EDCI and HOBt (for precedents see for example Bioorganic & Medicinal Chemistry Letters, 20(15), 4550-4554; 2010).



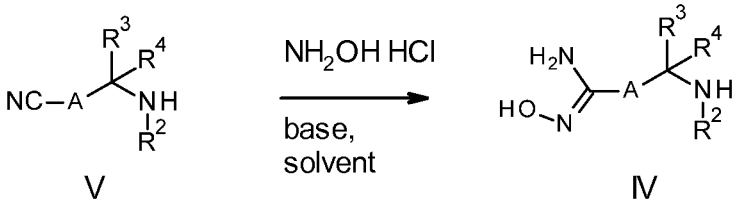
II I

Compounds of the formula II can be prepared by reacting amidoximes of type IV with trifluoroacetic anhydride in an organic solvent, preferably an ethereal solvent at temperatures between 0 °C and 100 °C, preferably at room temperature, as previously described in WO2013/008162.



IV II

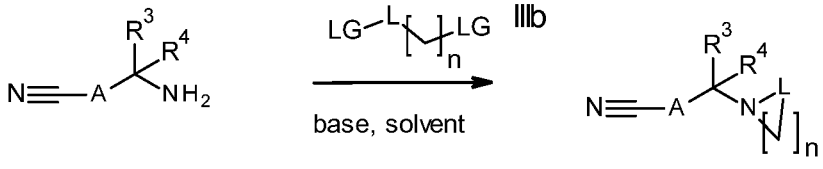
A skilled person will recognize that compounds of type IV can be accessed by treating nitriles of type V with hydroxylamine (or its HCl salt) in an organic solvent and in the presence of a base (for precedents see for example WO2009/074950, WO2006/013104, EP1932843).



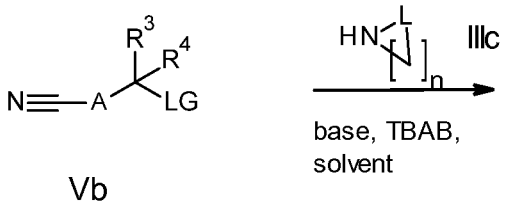
V IV

Compounds V are either commercially available or can be accessed through methods that are known to a person skilled in the art.

Compounds of the formula I, wherein R^1 and R^2 together with L and the nitrogen form a saturated 3- or 6-membered heterocycle, and wherein the heterocycle includes beside one nitrogen atom, L and one or more carbon atoms no further heteroatoms, can be synthesized from compounds of the formula VI by using the same procedure described above for the synthesis of compounds of the formula II starting from compounds of the formula V.



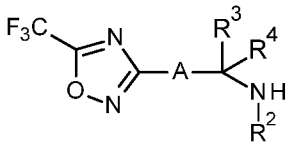
V VI



Vb

Compounds of formula VI can be prepared by two alternative methods starting from compounds of the formula V or Vb, which are reacted in an organic solvent in the presence of a base with compounds of the formula IIIb or IIIc, respectively, wherein n is 1, 2, 3 or 4, and wherein LG is independently selected from the group of leaving groups as defined for compounds of the formula III above. Both, compounds IIIb and IIIc, are either commercially available or may be prepared according to conventional procedures starting from readily available compounds. For both reactions NaH is the preferred base and DMF the preferred solvent.

In one aspect the invention relates to a process for preparing compounds of the formula I, which comprises the process step of reacting an amine compound of the formula II



II,

wherein the variables A, R^2, R^3 and R^4 are as defined or preferably defined herein for compounds of the formula I, under basic conditions with a carboxylic acid derivative of the formula III,

$$LG\text{-}L\text{-}R^1 \qquad III,$$

wherein L and R^1 are as defined or preferably defined herein for compounds of the formula I; and wherein LG is a leaving group selected from the group consisting of chlorine, bromine, fluorine, azide and the group -O-L-R^1, wherein the variables R^1 and L are as defined or preferably defined herein for compounds of the formula III.

Preferably the group LG in compounds of the formula III is chlorine or the group -O-L-R^1, wherein the variables R^1 and L are as defined or preferably defined herein for compounds of the formula III; more preferably, if LG is the group -O-L-R^1, the two groups -L-R^1 in compounds of the formula III are identical.

Preferably the group L in compounds of the formula III is -C(=O)-.

Generally, the reaction is carried out at temperatures of from 0 °C to 140 °C, preferably from 0 °C to 80 °C, in an inert organic solvent in presence of a base.

Suitable organic solvents include, for example, ketones (e.g., acetone, ethyl methyl ketone, nitrites (e.g., acetonitrile and propionitrile), ethers (e.g., dioxane and THF), DMF, hydrocarbons (e.g., toluene and o-, m- and p-xylene), and DMSO. Halogenated aliphatic hydrocarbons such as methylene chloride, carbon tetrachloride, 1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichloropropane; aliphatic hydrocarbons such as n-pentane, n-hexane, n-heptane, cyclohexane; aromatic hydrocarbons such as toluene, o-, m- and p-xylene; halogenated hydrocarbons such as chlorobenzene, dichlorobenzene. Solvents like methylene chloride, 1,1-dichloroethane, 1,2-dichloroethane, chlorobenzene, toluene, n-hexane and n-heptane are being especially

preferred. It is also possible to use mixtures of the solvents mentioned. These organic solvents can be used alone or as mixtures thereof.

Suitable bases are, in general, inorganic compounds such as alkali metal and alkaline earth metal oxides such as lithium oxide, sodium oxide, potassium oxide and calcium oxide; alkaline metal hydroxides (e.g., sodium hydroxide, potassium hydroxide); alkali metal and alkaline earth metal phosphates such as lithium phosphate, sodium phosphate, potassium phosphate and calcium phosphate; alkali metal and alkaline earth metal hydrides such as lithium hydride, sodium hydride, potassium hydride and calcium hydride; alkali metal and alkaline earth metal carbonates such as lithium carbonate, potassium carbonate, calcium carbonate, caesium carbonate and sodium hydrogen carbonate; tertiary amines such as trimethylamine, triethylamine, tributylamine, diisopropylethylamine and NMP, pyridine, substituted pyridines such as collidine, lutidine and 4 dimethylaminopyridine, and also bicyclic amines.

Particular preference is given to potassium carbonate, calcium carbonate, sodium hydrogen carbonate, trimethylamine and NMP.

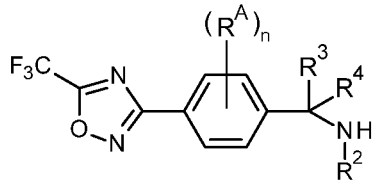
The bases are generally employed in equimolar amounts, in excess, or, if appropriate, as solvent. The amount of base is typically 1.1 to 5.0 molar equivalents relative to 1 mole of compounds II.

The starting materials are generally reacted with one another in equimolar amounts. In terms of yields, it may be advantageous to employ an excess of compound III, based on 1.1 to 2.5 equivalents, preferred 1.1 to 1.5 equivalents relative to 1 mole of compound II.

If necessary, this reaction may be carried out in the presence of a phase-transfer catalyst or metal halide. The phase-transfer catalysts include, for example, quaternary ammonium salts [e.g. tetraalkylammonium halides (e. g. tetrabutylammonium chloride, tetrabutylammonium bromide, etc.), tetraalkylammonium hydrosulfates (e. g. tetrabutylammonium hydrosulfate, etc.), etc.], amines (e. g. tris(3,6-dioxaheptyl)amine, etc.), etc. The amount of the phase-transfer catalyst to be used is 0.01 to 1 mol, preferably 0.05 to 0.5 mol, per mol of the compound II.

Another embodiment of the invention relates to intermediate compounds of the formula II, wherein the variables A, R^2, R^3 and R^4 are as defined or preferably defined herein for compounds of the formula I; preferably A is phenyl; and with the exception of [4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methanamine.

Preferably the invention relates to intermediate compounds of the formula II.a



II.a,

wherein n is 0, 1 or 2 and wherein the variables R^A, R^2, R^3 and R^4 are as defined or preferably defined herein for compounds of the formula I, with the exception of [4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methanamine.

In a further embodiment the invention relates to intermediate compounds of the formula II.a, wherein n is 0; R^3 and R^4 independently of each other are hydrogen, halogen, C_1-C_6-alkyl or C_1-C_6-haloalkyl; or R^3 and R^4 together with the carbon atom to which they are bound form a cyclopropyl ring. In particular R^3 and R^4 are hydrogen; and R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-

alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl; with the exception of [4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methanamine.

In a further embodiment the invention relates to intermediate compounds of the formula II.a, wherein n is 0; R^3 and R^4 independently of each other are hydrogen, halogen, C_1-C_6-alkyl or C_1-C_6-haloalkyl; or R^3 and R^4 together with the carbon atom to which they are bound form a cyclopropyl ring; in particular R^3 and R^4 are hydrogen; and R^2 is C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl.

Especially preferred intermediates are compounds of the formula II.a, wherein n is 0; R^3 and R^4 are hydrogen; and R^2 is methyl, ethyl, *n*-propyl, *iso*-propyl, *n*-butyl, 1-methylpropyl, 2-methylpropyl, *tert*-butyl, cyclopropyl, cyclopropyl-CH_2-, allyl or propargyl.

The compounds of the formula I or compositions comprising said compounds according to the invention and the mixtures comprising said compounds and compositions, respectively, are suitable as fungicides. They are distinguished by an outstanding effectiveness against a broad spectrum of phytopathogenic fungi, including soil-borne fungi, which derive especially from the following classes or are closely related to any of them: *Ascomycota (Ascomycetes)*, for example, but not limited to the genus Cocholiobolus, Colletotrichum, Fusarium, Microdochium, Penicillium, Phoma, Magnaporte, Zymoseptoria, and Pseudocercosporella; *Basdiomycota (Basidiomycetes)*, for example, but not limited to the genus Phakospora, Puccinia, Rhizoctonia, Sphacelotheca, Tilletia, Typhula, and Ustilago; *Chytridiomycota (Chytridiomycetes)*, for example, but not limited to the genus Chytridiales, and Synchytrium; *Deuteromycetes* (syn. Fungi imperfecti), for example, but not limited to the genus *Ascochyta, Diplodia, Erysiphe, Fusarium, Phomopsis, and Pyrenophora; Peronosporomycetes* (syn. Oomycetes), for example but not limited to the genus Peronospora, Pythium, Phytophthora; *Plasmodiophoromycetes*, for example but not limited to the genus Plasmodiophora; *Zygomycetes*, for example, but not limited to the genus Rhizopus.

Some of the compounds of the formula I and the compositions according to the invention are systemically effective and they can be used in crop protection as foliar fungicides, fungicides for seed dressing and soil fungicides. Moreover, they are suitable for controlling harmful fungi, which inter alia occur in wood or roots of plants.

The compounds I and the compositions according to the invention are particularly important in the control of a multitude of phytopathogenic fungi on various cultivated plants, such as cereals, e. g. wheat, rye, barley, triticale, oats or rice; beet, e. g. sugar beet or fodder beet; fruits, such as pomes, stone fruits or soft fruits, e. g. apples, pears, plums, peaches, almonds, cherries, strawberries, raspberries, blackberries or gooseberries; leguminous plants, such as lentils, peas, alfalfa or soybeans; oil plants, such as rape, mustard, olives, sunflowers, coconut, cocoa beans, castor oil plants, oil palms, ground nuts or soybeans; cucurbits, such as squashes, cucumber or melons; fiber plants, such as cotton, flax, hemp or jute; citrus fruit, such as oranges, lemons, grapefruits or mandarins; vegetables, such as spinach, lettuce, asparagus, cabbages, carrots, onions, tomatoes, potatoes, cucurbits or paprika; lauraceous plants, such as avocados, cinnamon or camphor; energy and raw material plants, such as corn, soybean, rape, sugar cane or oil palm; corn; tobacco; nuts; coffee; tea; bananas; vines (table grapes and grape juice grape vines); hop; turf; sweet leaf (also called Stevia); natural rubber plants or ornamental and forestry plants, such as flowers, shrubs, broad-leaved trees or evergreens, e. g. conifers;

and on the plant propagation material, such as seeds, and the crop material of these plants.

Preferably, compounds I and compositions thereof, respectively are used for controlling a multitude of fungi on field crops, such as potatoes sugar beets, tobacco, wheat, rye, barley, oats, rice, corn, cotton, soybeans, rape, legumes, sunflowers, coffee or sugar cane; fruits; vines; ornamentals; or vegetables, such as cucumbers, tomatoes, beans or squashes.

The term "plant propagation material" is to be understood to denote all the generative parts of the plant such as seeds and vegetative plant material such as cuttings and tubers (e. g. potatoes), which can be used for the multiplication of the plant. This includes seeds, roots, fruits, tubers, bulbs, rhizomes, shoots, sprouts and other parts of plants, including seedlings and young plants, which are to be transplanted after germination or after emergence from soil. These young plants may also be protected before transplantation by a total or partial treatment by immersion or pouring.

Preferably, treatment of plant propagation materials with compounds I and compositions thereof, respectively, is used for controlling a multitude of fungi on cereals, such as wheat, rye, barley and oats; rice, corn, cotton and soybeans.

The term "cultivated plants" is to be understood as including plants which have been modified by mutagenesis or genetic engineering in order to provide a new trait to a plant or to modify an already present trait.

The compounds I and compositions thereof, respectively, are particularly suitable for controlling the following plant diseases:

Albugo spp. (white rust) on ornamentals, vegetables (e. g. *A. candida*) and sunflowers (e. g. *A. tragopogonis*); *Alternaria* spp. (Alternaria leaf spot) on vegetables, rape (*A. brassicola* or *brassicae*), sugar beets (*A. tenuis*), fruits, rice, soybeans, potatoes (e. g. *A. solani* or *A. alternata*), tomatoes (e. g. *A. solani* or *A. alternata*) and wheat; *Aphanomyces* spp. on sugar beets and vegetables; *Ascochyta* spp. on cereals and vegetables, e. g. *A. tritici* (anthracnose) on wheat and *A. hordei* on barley; *Bipolaris* and *Drechslera* spp. (teleomorph: *Cochliobolus* spp.), e. g. Southern leaf blight (*D. maydis)* or Northern leaf blight (*B. zeicola*) on corn, e. g. spot blotch (*B. sorokiniana*) on cereals and e. g. *B. oryzae* on rice and turfs; *Blumeria* (formerly *Erysiphe*) *graminis* (powdery mildew) on cereals (e. g. on wheat or barley); *Botrytis cinerea* (teleomorph: *Botryotinia fuckeliana*: grey mold) on fruits and berries (e. g. strawberries), vegetables (e. g. lettuce, carrots, celery and cabbages), rape, flowers, vines, forestry plants and wheat; *Bremia lactucae* (downy mildew) on lettuce; *Ceratocystis* (syn. *Ophiostoma*) spp. (rot or wilt) on broad-leaved trees and evergreens, e. g. *C. ulmi* (Dutch elm disease) on elms; *Cercospora* spp. (Cercospora leaf spots) on corn (e. g. Gray leaf spot: *C. zeae-maydis*), rice, sugar beets (e. g. *C. beticola*), sugar cane, vegetables, coffee, soybeans (e. g. *C. sojina* or *C. kikuchii*) and rice; *Cladosporium* spp. on tomatoes (e. g. *C. fulvum*: leaf mold) and cereals, e. g. *C. herbarum* (black ear) on wheat; *Claviceps purpurea* (ergot) on cereals; *Cochliobolus* (anamorph: *Helminthosporium* of *Bipolaris*) spp. (leaf spots) on corn (*C. carbonum*), cereals (e. g. *C. sativus*, anamorph: *B. sorokiniana*) and rice (e. g. *C. miyabeanus*, anamorph: *H. oryzae*); *Colletotrichum* (teleomorph: *Glomerella*) spp. (anthracnose) on cotton (e. g. *C. gossypii*), corn (e. g. *C. graminicola:* Anthracnose stalk rot), soft fruits, potatoes (e. g. *C. coccodes*: black dot), beans (e. g. *C. lindemuthianum*) and soybeans (e. g. *C. truncatum* or *C. gloeosporioides*); *Corticium* spp., e. g. *C. sasakii* (sheath blight) on rice; *Corynespora cassiicola* (leaf spots) on soybeans and ornamentals; *Cycloconium* spp., e. g. *C. oleaginum* on olive trees;

Cylindrocarpon spp. (e. g. fruit tree canker or young vine decline, teleomorph: *Nectria* or *Neonectria* spp.) on fruit trees, vines (e. g. *C. liriodendri*, teleomorph: *Neonectria liriodendri*: Black Foot Disease) and ornamentals; *Dematophora* (teleomorph: *Rosellinia*) *necatrix* (root and stem rot) on soybeans; *Diaporthe* spp., e. g. *D. phaseolorum* (damping off) on soybeans; *Drechslera* (syn. *Helminthosporium*, teleomorph: *Pyrenophora*) spp. on corn, cereals, such as barley (e. g. *D. teres*, net blotch) and wheat (e. g. *D. tritici-repentis*: tan spot), rice and turf; Esca (dieback, apoplexy) on vines, caused by *Formitiporia* (syn. *Phellinus*) *punctata*, *F. mediterranea*, *Phaeomoniella chlamydospora* (earlier *Phaeoacremonium chlamydosporum*), *Phaeoacremonium aleophilum* and/or *Botryosphaeria obtusa*; *Elsinoe* spp. on pome fruits (*E. pyri*), soft fruits (*E. veneta*: anthracnose) and vines (*E. ampelina*: anthracnose); *Entyloma oryzae* (leaf smut) on rice; *Epicoccum* spp. (black mold) on wheat; *Erysiphe* spp. (powdery mildew) on sugar beets (*E. betae*), vegetables (e. g. *E. pisi*), such as cucurbits (e. g. *E. cichoracearum*), cabbages, rape (e. g. *E. cruciferarum*); *Eutypa lata* (Eutypa canker or dieback, anamorph: *Cytosporina lata*, syn. *Libertella blepharis*) on fruit trees, vines and ornamental woods; *Exserohilum* (syn. *Helminthosporium*) spp. on corn (e. g. *E. turcicum*); *Fusarium* (teleomorph: *Gibberella*) spp. (wilt, root or stem rot) on various plants, such as *F. graminearum* or *F. culmorum* (root rot, scab or head blight) on cereals (e. g. wheat or barley), *F. oxysporum* on tomatoes, *F. solani* (f. sp. *glycines* now syn. *F. virguliforme*) and *F. tucumaniae* and *F. brasiliense* each causing sudden death syndrome on soybeans, and *F. verticillioides* on corn; *Gaeumannomyces graminis* (take-all) on cereals (e. g. wheat or barley) and corn; *Gibberella* spp. on cereals (e. g. *G. zeae*) and rice (e. g. *G. fujikuroi*: Bakanae disease); *Glomerella cingulata* on vines, pome fruits and other plants and *G. gossypii* on cotton; Grainstaining complex on rice; *Guignardia bidwellii* (black rot) on vines; *Gymnosporangium* spp. on rosaceous plants and junipers, e. g. *G. sabinae* (rust) on pears; *Helminthosporium* spp. (syn. *Drechslera*, teleomorph: *Cochliobolus*) on corn, cereals and rice; *Hemileia* spp., e. g. *H. vastatrix* (coffee leaf rust) on coffee; *Isariopsis clavispora* (syn. *Cladosporium vitis*) on vines; *Macrophomina phaseolina* (syn. *phaseoli*) (root and stem rot) on soybeans and cotton; *Microdochium* (syn. *Fusarium*) *nivale* (pink snow mold) on cereals (e. g. wheat or barley); *Microsphaera diffusa* (powdery mildew) on soybeans; *Monilinia* spp., e. g. *M. laxa*, *M. fructicola* and *M. fructigena* (bloom and twig blight, brown rot) on stone fruits and other rosaceous plants; *Mycosphaerella* spp. on cereals, bananas, soft fruits and ground nuts, such as e. g. *M. graminicola* (anamorph: *Septoria tritici*, Septoria blotch) on wheat or *M. fijiensis* (black Sigatoka disease) on bananas; *Peronospora* spp. (downy mildew) on cabbage (e. g. *P. brassicae*), rape (e. g. *P. parasitica*), onions (e. g. *P. destructor*), tobacco (*P. tabacina*) and soybeans (e. g. *P. manshurica*); *Phakopsora pachyrhizi* and *P. meibomiae* (soybean rust) on soybeans; *Phialophora* spp. e. g. on vines (e. g. *P. tracheiphila* and *P. tetraspora*) and soybeans (e. g. *P. gregata*: stem rot); *Phoma lingam* (root and stem rot) on rape and cabbage and *P. betae* (root rot, leaf spot and damping-off) on sugar beets; *Phomopsis* spp. on sunflowers, vines (e. g. *P. viticola*: can and leaf spot) and soybeans (e. g. stem rot: *P. phaseoli*, teleomorph: *Diaporthe phaseolorum*); *Physoderma maydis* (brown spots) on corn; *Phytophthora* spp. (wilt, root, leaf, fruit and stem root) on various plants, such as paprika and cucurbits (e. g. *P. capsici*), soybeans (e. g. *P. megasperma*, syn. *P. sojae*), potatoes and tomatoes (e. g. *P. infestans*: late blight) and broad-leaved trees (e. g. *P. ramorum*: sudden oak death); *Plasmodiophora brassicae* (club root) on cabbage, rape, radish and other plants; *Plasmopara* spp., e. g. *P. viticola* (grapevine downy

mildew) on vines and *P. halstedii* on sunflowers; *Podosphaera* spp. (powdery mildew) on rosaceous plants, hop, pome and soft fruits, e. g. *P. leucotricha* on apples; *Polymyxa* spp., e. g. on cereals, such as barley and wheat (*P. graminis*) and sugar beets (*P. betae*) and thereby transmitted viral diseases; *Pseudocercosporella herpotrichoides* (eyespot, teleomorph: *Tapesia yallundae*) on cereals, e. g. wheat or barley; *Pseudoperonospora* (downy mildew) on various plants, e. g. *P. cubensis* on cucurbits or *P. humili* on hop; *Pseudopezicula tracheiphila* (red fire disease or ‚rotbrenner', anamorph: *Phialophora*) on vines; *Puccinia* spp. (rusts) on various plants, e. g. *P. triticina* (brown or leaf rust), *P. striiformis* (stripe or yellow rust), *P. hordei* (dwarf rust), *P. graminis* (stem or black rust) or *P. recondita* (brown or leaf rust) on cereals, such as e. g. wheat, barley or rye, *P. kuehnii* (orange rust) on sugar cane and *P. asparagi* on asparagus; *Pyrenophora* (anamorph: *Drechslera*) *tritici-repentis* (tan spot) on wheat or *P. teres* (net blotch) on barley; *Pyricularia* spp., e. g. *P. oryzae* (teleomorph: *Magnaporthe grisea*, rice blast) on rice and *P. grisea* on turf and cereals; *Pythium* spp. (damping-off) on turf, rice, corn, wheat, cotton, rape, sunflowers, soybeans, sugar beets, vegetables and various other plants (e. g. *P. ultimum* or *P. aphanidermatum*); *Ramularia* spp., e. g. *R. collo-cygni* (Ramularia leaf spots, Physiological leaf spots) on barley and *R. beticola* on sugar beets; *Rhizoctonia* spp. on cotton, rice, potatoes, turf, corn, rape, potatoes, sugar beets, vegetables and various other plants, e. g. *R. solani* (root and stem rot) on soybeans, *R. solani* (sheath blight) on rice or *R. cerealis* (Rhizoctonia spring blight) on wheat or barley; *Rhizopus stolonifer* (black mold, soft rot) on strawberries, carrots, cabbage, vines and tomatoes; *Rhynchosporium secalis* (scald) on barley, rye and triticale; *Sarocladium oryzae* and *S. attenuatum* (sheath rot) on rice; *Sclerotinia* spp. (stem rot or white mold) on vegetables and field crops, such as rape, sunflowers (e. g. *S. sclerotiorum*) and soybeans (e. g. *S. rolfsii* or *S. sclerotiorum*); *Septoria* spp. on various plants, e. g. *S. glycines* (brown spot) on soybeans, *S. tritici* (Septoria blotch) on wheat and *S.* (syn. *Stagonospora*) nodorum (Stagonospora blotch) on cereals; *Uncinula* (syn. *Erysiphe*) *necator* (powdery mildew, anamorph: *Oidium tuckeri*) on vines; *Setospaeria* spp. (leaf blight) on corn (e. g. *S. turcicum*, syn. *Helminthosporium turcicum*) and turf; *Sphacelotheca* spp. (smut) on corn, (e. g. *S. reiliana*: head smut), sorghum und sugar cane; *Sphaerotheca fuliginea* (powdery mildew) on cucurbits; *Spongospora subterranea* (powdery scab) on potatoes and thereby transmitted viral diseases; *Stagonospora* spp. on cereals, e. g. *S. nodorum* (Stagonospora blotch, teleomorph: *Leptosphaeria* [syn. *Phaeosphaeria*] *nodorum*) on wheat; *Synchytrium endobioticum* on potatoes (potato wart disease); *Taphrina* spp., e. g. *T. deformans* (leaf curl disease) on peaches and *T. pruni* (plum pocket) on plums; *Thielaviopsis* spp. (black root rot) on tobacco, pome fruits, vegetables, soybeans and cotton, e. g. *T. basicola* (syn. *Chalara elegans*); *Tilletia* spp. (common bunt or stinking smut) on cereals, such as e. g. *T. tritici* (syn. *T. caries*, wheat bunt) and *T. controversa* (dwarf bunt) on wheat; *Typhula incarnata* (grey snow mold) on barley or wheat; *Urocystis* spp., e. g. *U. occulta* (stem smut) on rye; *Uromyces* spp. (rust) on vegetables, such as beans (e. g. *U. appendiculatus*, syn. *U. phaseoli*) and sugar beets (e. g. *U. betae*); *Ustilago* spp. (loose smut) on cereals (e. g. *U. nuda* and *U. avaenae*), corn (e. g. *U. maydis*: corn smut) and sugar cane; *Venturia* spp. (scab) on apples (e. g. *V. inaequalis*) and pears; and *Verticillium* spp. (wilt) on various plants, such as fruits and ornamentals, vines, soft fruits, vegetables and field crops, e. g. *V. dahliae* on strawberries, rape, potatoes and tomatoes.

In a preferred embodiment the compounds I and compositions thereof, respectively, are particularly suitable for controlling the following plant diseases: *Puccinia* spp. (rusts) on various

plants, for example, but not limited to *P. triticina* (brown or leaf rust), *P. striiformis* (stripe or yellow rust), *P. hordei* (dwarf rust), *P. graminis* (stem or black rust) or *P. recondita* (brown or leaf rust) on cereals, such as e. g. wheat, barley or rye and *Phakopsoraceae* spp. on various plants, in particular *Phakopsora pachyrhizi* and *P. meibomiae* (soybean rust) on soybeans.

The compounds I and compositions thereof, respectively, are also suitable for controlling harmful fungi in the protection of stored products or harvest and in the protection of materials. The term "protection of materials" is to be understood to denote the protection of technical and non-living materials, such as adhesives, glues, wood, paper and paperboard, textiles, leather, paint dispersions, plastics, cooling lubricants, fiber or fabrics, against the infestation and destruction by harmful microorganisms, such as fungi and bacteria. As to the protection of wood and other materials, the particular attention is paid to the following harmful fungi: Ascomycetes such as *Ophiostoma* spp., *Ceratocystis* spp., *Aureobasidium pullulans*, *Sclerophoma* spp., *Chaetomium* spp., *Humicola* spp., *Petriella* spp., *Trichurus* spp.; Basidiomycetes such as *Coniophora* spp., *Coriolus* spp., *Gloeophyllum* spp., *Lentinus* spp., *Pleurotus* spp., *Poria* spp., *Serpula* spp. and *Tyromyces* spp., Deuteromycetes such as *Aspergillus* spp., *Cladosporium* spp., *Penicillium* spp., *Trichoderma* spp., *Alternaria* spp., *Paecilomyces* spp. and Zygomycetes such as *Mucor* spp., and in addition in the protection of stored products and harvest the following yeast fungi are worthy of note: *Candida* spp. and *Saccharomyces cerevisae*.

The method of treatment according to the invention can also be used in the field of protecting stored products or harvest against attack of fungi and microorganisms. According to the present invention, the term "stored products" is understood to denote natural substances of plant or animal origin and their processed forms, which have been taken from the natural life cycle and for which long-term protection is desired. Stored products of crop plant origin, such as plants or parts thereof, for example stalks, leafs, tubers, seeds, fruits or grains, can be protected in the freshly harvested state or in processed form, such as pre-dried, moistened, comminuted, ground, pressed or roasted, which process is also known as post-harvest treatment. Also falling under the definition of stored products is timber, whether in the form of crude timber, such as construction timber, electricity pylons and barriers, or in the form of finished articles, such as furniture or objects made from wood. Stored products of animal origin are hides, leather, furs, hairs and the like. The combinations according the present invention can prevent disadvantageous effects such as decay, discoloration or mold. Preferably "stored products" is understood to denote natural substances of plant origin and their processed forms, more preferably fruits and their processed forms, such as pomes, stone fruits, soft fruits and citrus fruits and their processed forms.

The compounds of formula I can be present in different crystal modifications whose biological activity may differ. They are likewise subject matter of the present invention.

The compounds I are employed as such or in form of compositions by treating the fungi or the plants, plant propagation materials, such as seeds, soil, surfaces, materials or rooms to be protected from fungal attack with a fungicidally effective amount of the active substances. The application can be carried out both before and after the infection of the plants, plant propagation materials, such as seeds, soil, surfaces, materials or rooms by the fungi.

Plant propagation materials may be treated with compounds I as such or a composition comprising at least one compound I prophylactically either at or before planting or transplanting.

The invention also relates to agrochemical compositions comprising an auxiliary and at least

one compound I according to the invention.

An agrochemical composition comprises a fungicidally effective amount of a compound I. The term "effective amount" denotes an amount of the composition or of the compounds I, which is sufficient for controlling harmful fungi on cultivated plants or in the protection of materials and which does not result in a substantial damage to the treated plants. Such an amount can vary in a broad range and is dependent on various factors, such as the fungal species to be controlled, the treated cultivated plant or material, the climatic conditions and the specific compound I used.

The compounds I, their N-oxides and salts can be converted into customary types of agrochemical compositions, e. g. solutions, emulsions, suspensions, dusts, powders, pastes, granules, pressings, capsules, and mixtures thereof. Examples for composition types are suspensions (e. g. SC, OD, FS), emulsifiable concentrates (e. g. EC), emulsions (e. g. EW, EO, ES, ME), capsules (e. g. CS, ZC), pastes, pastilles, wettable powders or dusts (e. g. WP, SP, WS, DP, DS), pressings (e. g. BR, TB, DT), granules (e. g. WG, SG, GR, FG, GG, MG), insecticidal articles (e. g. LN), as well as gel formulations for the treatment of plant propagation materials such as seeds (e. g. GF). These and further compositions types are defined in the “Catalogue of pesticide formulation types and international coding system”, Technical Monograph No. 2, 6th Ed. May 2008, CropLife International.

The compositions are prepared in a known manner, such as described by Mollet and Grubemann, Formulation technology, Wiley VCH, Weinheim, 2001; or Knowles, New developments in crop protection product formulation, Agrow Reports DS243, T&F Informa, London, 2005.

Suitable auxiliaries are solvents, liquid carriers, solid carriers or fillers, surfactants, dispersants, emulsifiers, wetters, adjuvants, solubilizers, penetration enhancers, protective colloids, adhesion agents, thickeners, humectants, repellents, attractants, feeding stimulants, compatibilizers, bactericides, anti-freezing agents, anti-foaming agents, colorants, tackifiers and binders.

Suitable solvents and liquid carriers are water and organic solvents, such as mineral oil fractions of medium to high boiling point, e. g. kerosene, diesel oil; oils of vegetable or animal origin; aliphatic, cyclic and aromatic hydrocarbons, e. g. toluene, paraffin, tetrahydronaphthalene, alkylated naphthalenes; alcohols, e. g. ethanol, propanol, butanol, benzyl alcohol, cyclohexanol; glycols; DMSO; ketones, e. g. cyclohexanone; esters, e. g. lactates, carbonates, fatty acid esters, gamma-butyrolactone; fatty acids; phosphonates; amines; amides, e. g. N-methyl pyrrolidone, fatty acid dimethyl amides; and mixtures thereof.

Suitable solid carriers or fillers are mineral earths, e. g. silicates, silica gels, talc, kaolins, limestone, lime, chalk, clays, dolomite, diatomaceous earth, bentonite, calcium sulfate, magnesium sulfate, magnesium oxide; polysaccharides, e. g. cellulose, starch; fertilizers, e. g. ammonium sulfate, ammonium phosphate, ammonium nitrate, ureas; products of vegetable origin, e. g. cereal meal, tree bark meal, wood meal, nutshell meal, and mixtures thereof.

Suitable surfactants are surface-active compounds, such as anionic, cationic, nonionic and amphoteric surfactants, block polymers, polyelectrolytes, and mixtures thereof. Such surfactants can be used as emulsifier, dispersant, solubilizer, wetter, penetration enhancer, protective colloid, or adjuvant. Examples of surfactants are listed in McCutcheon’s, Vol.1: Emulsifiers &

Detergents, McCutcheon's Directories, Glen Rock, USA, 2008 (International Ed. or North American Ed.).

Suitable anionic surfactants are alkali, alkaline earth or ammonium salts of sulfonates, sulfates, phosphates, carboxylates, and mixtures thereof. Examples of sulfonates are alkylaryl sulfonates, diphenyl sulfonates, alpha-olefin sulfonates, lignin sulfonates, sulfonates of fatty acids and oils, sulfonates of ethoxylated alkylphenols, sulfonates of alkoxylated arylphenols, sulfonates of condensed naphthalenes, sulfonates of dodecyl- and tridecylbenzenes, sulfonates of naphthalenes and alkyl naphthalenes, sulfosuccinates or sulfosuccinamates. Examples of sulfates are sulfates of fatty acids and oils, of ethoxylated alkylphenols, of alcohols, of ethoxylated alcohols, or of fatty acid esters. Examples of phosphates are phosphate esters. Examples of carboxylates are alkyl carboxylates, and carboxylated alcohol or alkylphenol ethoxylates.

Suitable nonionic surfactants are alkoxylates, N-substituted fatty acid amides, amine oxides, esters, sugar-based surfactants, polymeric surfactants, and mixtures thereof. Examples of alkoxylates are compounds such as alcohols, alkylphenols, amines, amides, arylphenols, fatty acids or fatty acid esters which have been alkoxylated with 1 to 50 equivalents. Ethylene oxide and/or propylene oxide may be employed for the alkoxylation, preferably ethylene oxide. Examples of N-substituted fatty acid amides are fatty acid glucamides or fatty acid alkanolamides. Examples of esters are fatty acid esters, glycerol esters or monoglycerides. Examples of sugar-based surfactants are sorbitans, ethoxylated sorbitans, sucrose and glucose esters or alkylpolyglucosides. Examples of polymeric surfactants are home- or copolymers of vinyl pyrrolidone, vinyl alcohols, or vinyl acetate.

Suitable cationic surfactants are quaternary surfactants, for example quaternary ammonium compounds with one or two hydrophobic groups, or salts of long-chain primary amines. Suitable amphoteric surfactants are alkylbetains and imidazolines. Suitable block polymers are block polymers of the A-B or A-B-A type comprising blocks of polyethylene oxide and polypropylene oxide, or of the A-B-C type comprising alkanol, polyethylene oxide and polypropylene oxide. Suitable polyelectrolytes are polyacids or polybases. Examples of polyacids are alkali salts of polyacrylic acid or polyacid comb polymers. Examples of polybases are polyvinyl amines or polyethylene amines.

Suitable adjuvants are compounds, which have a negligible or even no pesticidal activity themselves, and which improve the biological performance of the compound I on the target. Examples are surfactants, mineral or vegetable oils, and other auxiliaries. Further examples are listed by Knowles, Adjuvants and additives, Agrow Reports DS256, T&F Informa UK, 2006, chapter 5.

Suitable thickeners are polysaccharides (e. g. xanthan gum, carboxymethyl cellulose), inorganic clays (organically modified or unmodified), polycarboxylates, and silicates.

Suitable bactericides are bronopol and isothiazolinone derivatives such as alkylisothiazolinones and benzisothiazolinones.

Suitable anti-freezing agents are ethylene glycol, propylene glycol, urea and glycerin.

Suitable anti-foaming agents are silicones, long chain alcohols, and salts of fatty acids.

Suitable colorants (e. g. in red, blue, or green) are pigments of low water solubility and water-soluble dyes. Examples are inorganic colorants (e. g. iron oxide, titan oxide, iron hexacyanoferrate) and organic colorants (e. g. alizarin-, azo- and phthalocyanine colorants).

Suitable tackifiers or binders are polyvinyl pyrrolidones, polyvinyl acetates, polyvinyl alcohols, polyacrylates, biological or synthetic waxes, and cellulose ethers.

Examples for composition types and their preparation are:

i) Water-soluble concentrates (SL, LS)

10-60 wt% of a compound I and 5-15 wt% wetting agent (e. g. alcohol alkoxylates) are dissolved in water and/or in a water-soluble solvent (e. g. alcohols) ad 100 wt%. The active substance dissolves upon dilution with water.

ii) Dispersible concentrates (DC)

5-25 wt% of a compound I and 1-10 wt% dispersant (e. g. polyvinyl pyrrolidone) are dissolved in organic solvent (e. g. cyclohexanone) ad 100 wt%. Dilution with water gives a dispersion.

iii) Emulsifiable concentrates (EC)

15-70 wt% of a compound I and 5-10 wt% emulsifiers (e. g. calcium dodecylbenzenesulfonate and castor oil ethoxylate) are dissolved in water-insoluble organic solvent (e. g. aromatic hydrocarbon) ad 100 wt%. Dilution with water gives an emulsion.

iv) Emulsions (EW, EO, ES)

5-40 wt% of a compound I and 1-10 wt% emulsifiers (e. g. calcium dodecylbenzenesulfonate and castor oil ethoxylate) are dissolved in 20-40 wt% water-insoluble organic solvent (e. g. aromatic hydrocarbon). This mixture is introduced into water ad 100 wt% by means of an emulsifying machine and made into a homogeneous emulsion. Dilution with water gives an emulsion.

v) Suspensions (SC, OD, FS)

In an agitated ball mill, 20-60 wt% of a compound I are comminuted with addition of 2-10 wt% dispersants and wetting agents (e. g. sodium lignosulfonate and alcohol ethoxylate), 0.1-2 wt% thickener (e. g. xanthan gum) and water ad 100 wt% to give a fine active substance suspension. Dilution with water gives a stable suspension of the active substance. For FS type composition up to 40 wt% binder (e. g. polyvinyl alcohol) is added.

vi) Water-dispersible granules and water-soluble granules (WG, SG)

50-80 wt% of a compound I are ground finely with addition of dispersants and wetting agents (e. g. sodium lignosulfonate and alcohol ethoxylate) ad 100 wt% and prepared as water-dispersible or water-soluble granules by means of technical appliances (e. g. extrusion, spray tower, fluidized bed). Dilution with water gives a stable dispersion or solution of the active substance.

vii) Water-dispersible powders and water-soluble powders (WP, SP, WS)

50-80 wt% of a compound I are ground in a rotor-stator mill with addition of 1-5 wt% dispersants (e. g. sodium lignosulfonate), 1-3 wt% wetting agents (e. g. alcohol ethoxylate) and solid carrier (e. g. silica gel) ad 100 wt%. Dilution with water gives a stable dispersion or solution of the active substance.

viii) Gel (GW, GF)

In an agitated ball mill, 5-25 wt% of a compound I are comminuted with addition of 3-10 wt% dispersants (e. g. sodium lignosulfonate), 1-5 wt% thickener (e. g. carboxymethyl cellulose) and water ad 100 wt% to give a fine suspension of the active substance. Dilution with water gives a stable suspension of the active substance.

ix) Microemulsion (ME)

5-20 wt% of a compound I are added to 5-30 wt% organic solvent blend (e. g. fatty acid

dimethyl amide and cyclohexanone), 10-25 wt% surfactant blend (e. g. alcohol ethoxylate and arylphenol ethoxylate), and water ad 100 %. This mixture is stirred for 1 h to produce spontaneously a thermodynamically stable microemulsion.

x) Microcapsules (CS)

An oil phase comprising 5-50 wt% of a compound I, 0-40 wt% water insoluble organic solvent (e. g. aromatic hydrocarbon), 2-15 wt% acrylic monomers (e. g. methylmethacrylate, methacrylic acid and a di- or triacrylate) are dispersed into an aqueous solution of a protective colloid (e. g. polyvinyl alcohol). Radical polymerization results in the formation of poly(meth)acrylate microcapsules. Alternatively, an oil phase comprising 5-50 wt% of a compound I according to the invention, 0-40 wt% water insoluble organic solvent (e. g. aromatic hydrocarbon), and an isocyanate monomer (e. g. diphenylmethene-4,4'-diisocyanatae) are dispersed into an aqueous solution of a protective colloid (e. g. polyvinyl alcohol). The addition of a polyamine (e. g. hexamethylenediamine) results in the formation of polyurea microcapsules. The monomers amount to 1-10 wt%. The wt% relate to the total CS composition.

xi) Dustable powders (DP, DS)

1-10 wt% of a compound I are ground finely and mixed intimately with solid carrier (e. g. finely divided kaolin) ad 100 wt%.

xii) Granules (GR, FG)

0.5-30 wt% of a compound I is ground finely and associated with solid carrier (e. g. silicate) ad 100 wt%. Granulation is achieved by extrusion, spray-drying or fluidized bed.

xiii) Ultra-low volume liquids (UL)

1-50 wt% of a compound I are dissolved in organic solvent (e. g. aromatic hydrocarbon) ad 100 wt%.

The compositions types i) to xiii) may optionally comprise further auxiliaries, such as 0.1-1 wt% bactericides, 5-15 wt% anti-freezing agents, 0.1-1 wt% anti-foaming agents, and 0.1-1 wt% colorants.

The agrochemical compositions generally comprise between 0.01 and 95%, preferably between 0.1 and 90%, more preferably between 1 and 70%, and in particular between 10 and 60%, by weight of active substance. The active substances are employed in a purity of from 90% to 100%, preferably from 95% to 100% (according to NMR spectrum).

For the purposes of treatment of plant propagation materials, particularly seeds, solutions for seed treatment (LS), Suspoemulsions (SE), flowable concentrates (FS), powders for dry treatment (DS), water-dispersible powders for slurry treatment (WS), water-soluble powders (SS), emulsions (ES), emulsifiable concentrates (EC), and gels (GF) are usually employed. The compositions in question give, after two-to-tenfold dilution, active substance concentrations of from 0.01 to 60% by weight, preferably from 0.1 to 40%, in the ready-to-use preparations. Application can be carried out before or during sowing. Methods for applying compound I and compositions thereof, respectively, onto plant propagation material, especially seeds, include dressing, coating, pelleting, dusting, and soaking as well as in-furrow application methods. Preferably, compound I or the compositions thereof, respectively, are applied on to the plant propagation material by a method such that germination is not induced, e. g. by seed dressing, pelleting, coating and dusting.

When employed in plant protection, the amounts of active substances applied are, depending on the kind of effect desired, from 0.001 to 2 kg per ha, preferably from 0.005 to 2 kg per ha, more preferably from 0.05 to 0.9 kg per ha, and in particular from 0.1 to 0.75 kg per ha.

In treatment of plant propagation materials such as seeds, e. g. by dusting, coating or drenching seed, amounts of active substance of from 0.1 to 1000 g, preferably from 1 to 1000 g, more preferably from 1 to 100 g and most preferably from 5 to 100 g, per 100 kilogram of plant propagation material (preferably seeds) are generally required.

When used in the protection of materials or stored products, the amount of active substance applied depends on the kind of application area and on the desired effect. Amounts customarily applied in the protection of materials are 0.001 g to 2 kg, preferably 0.005 g to 1 kg, of active substance per cubic meter of treated material.

Various types of oils, wetters, adjuvants, fertilizer, or micronutrients, and further pesticides (e. g. herbicides, insecticides, fungicides, growth regulators, safeners, biopesticides) may be added to the active substances or the compositions comprising them as premix or, if appropriate not until immediately prior to use (tank mix). These agents can be admixed with the compositions according to the invention in a weight ratio of 1:100 to 100:1, preferably 1:10 to 10:1.

A pesticide is generally a chemical or biological agent (such as pestidal active ingredient, compound, composition, virus, bacterium, antimicrobial or disinfectant) that through its effect deters, incapacitates, kills or otherwise discourages pests. Target pests can include insects, plant pathogens, weeds, mollusks, birds, mammals, fish, nematodes (roundworms), and microbes that destroy property, cause nuisance, spread disease or are vectors for disease. The term “pesticide” includes also plant growth regulators that alter the expected growth, flowering, or reproduction rate of plants; defoliants that cause leaves or other foliage to drop from a plant, usually to facilitate harvest; desiccants that promote drying of living tissues, such as unwanted plant tops; plant activators that activate plant physiology for defense of against certain pests; safeners that reduce unwanted herbicidal action of pesticides on crop plants; and plant growth promoters that affect plant physiology e.g. to increase plant growth, biomass, yield or any other quality parameter of the harvestable goods of a crop plant.

The user applies the composition according to the invention usually from a predosage device, a knapsack sprayer, a spray tank, a spray plane, or an irrigation system. Usually, the agrochemical composition is made up with water, buffer, and/or further auxiliaries to the desired application concentration and the ready-to-use spray liquor or the agrochemical composition according to the invention is thus obtained. Usually, 20 to 2000 liters, preferably 50 to 400 liters, of the ready-to-use spray liquor are applied per hectare of agricultural useful area.

According to one embodiment, individual components of the composition according to the invention such as parts of a kit or parts of a binary or ternary mixture may be mixed by the user himself in a spray tank or any other kind of vessel used for applications (e. g. seed treater drums, seed pelleting machinery, knapsack sprayer) and further auxiliaries may be added, if appropriate.

Consequently, one embodiment of the invention is a kit for preparing a usable pesticidal composition, the kit comprising a) a composition comprising component 1) as defined herein and at least one auxiliary; and b) a composition comprising component 2) as defined herein and at least one auxiliary; and optionally c) a composition comprising at least one auxiliary and optionally a further active component 3) as defined herein.

Mixing the compounds I or the compositions comprising them in the use form as fungicides with other fungicides results in many cases in an expansion of the fungicidal spectrum of activity being obtained or in a prevention of fungicide resistance development. Furthermore, in many cases, synergistic effects are obtained.

The following list of pesticides II (e. g. pesticidally-active substances and biopesticides), in conjunction with which the compounds I can be used, is intended to illustrate the possible combinations but does not limit them:

A) Respiration inhibitors: Inhibitors of complex III at Q_o site: azoxystrobin (A.1.1), coumethoxystrobin (A.1.2), coumoxystrobin (A.1.3), dimoxystrobin (A.1.4), enestroburin (A.1.5), fenaminstrobin (A.1.6), fenoxystrobin/flufenoxystrobin (A.1.7), fluoxastrobin (A.1.8), kresoxim-methyl (A.1.9), mandestrobin (A.1.10), metominostrobin (A.1.11), orysastrobin (A.1.12), picoxystrobin (A.1.13), pyraclostrobin (A.1.14), pyrametostrobin (A.1.15), pyraoxystrobin (A.1.16), trifloxystrobin (A.1.17), 2-(2-(3-(2,6-dichlorophenyl)-1-methyl-allylideneaminooxymethyl)-phenyl)-2-methoxyimino-N-methyl-acetamide (A.1.18), pyribencarb (A.1.19), triclopyricarb/chlorodincarb (A.1.20), famoxadone (A.1.21), fenamidone (A.1.21), methyl-*N*-[2-[(1,4-dimethyl-5-phenyl-pyrazol-3-yl)oxylmethyl]phenyl]-N-methoxy-carbamate (A.1.22), 1-[3-chloro-2-[[1-(4-chlorophenyl)-1H-pyrazol-3-yl]oxymethyl]phenyl]-4-methyl-tetrazol-5-one (A.1.23), 1-[3-bromo-2-[[1-(4-chlorophenyl)pyrazol-3-yl]oxymethyl]phenyl]-4-methyl-tetrazol-5-one (A.1.24), 1-[2-[[1-(4-chlorophenyl)pyrazol-3-yl]oxymethyl]-3-methyl-phenyl]-4-methyl-tetrazol-5-one (A.1.25), 1-[2-[[1-(4-chlorophenyl)pyrazol-3-yl]oxymethyl]-3-fluoro-phenyl]-4-methyl-tetrazol-5-one (A.1.26), 1-[2-[[1-(2,4-dichlorophenyl)pyrazol-3-yl]oxymethyl]-3-fluoro-phenyl]-4-methyl-tetrazol-5-one (A.1.27), 1-[2-[[4-(4-chlorophenyl)thiazol-2-yl]oxymethyl]-3-methyl-phenyl]-4-methyl-tetrazol-5-one (A.1.28), 1-[3-chloro-2-[[4-(p-tolyl)thiazol-2-yl]oxymethyl]phenyl]-4-methyl-tetrazol-5-one (A.1.29), 1-[3-cyclopropyl-2-[[2-methyl-4-(1-methylpyrazol-3-yl)phenoxy]-methyl]phenyl]-4-methyl-tetrazol-5-one (A.1.30), 1-[3-(difluoromethoxy)-2-[[2-methyl-4-(1-methylpyrazol-3-yl)phenoxy]methyl]phenyl]-4-methyl-tetrazol-5-one (A.1.31), 1-methyl-4-[3-methyl-2-[[2-methyl-4-(1-methylpyrazol-3-yl)phenoxy]methyl]phenyl]tetrazol-5-one (A.1.32), 1-methyl-4-[3-methyl-2-[[1-[3-(trifluoromethyl)phenyl]-ethylideneamino]oxymethyl]phenyl]tetrazol-5-one (A.1.33), (*Z*,2*E*)-5-[1-(2,4-dichlorophenyl)pyrazol-3-yl]-oxy-2-methoxyimino-*N*,3-dimethyl-pent-3-enamide (A.1.34), (*Z*,2*E*)-5-[1-(4-chlorophenyl)pyrazol-3-yl]oxy-2-methoxyimino-*N*,3-dimethyl-pent-3-enamide (A.1.35), pyriminostrobin (A.1.36), bifujunzhi (A.1.37), 2-(ortho-((2,5-dimethylphenyl-oxymethylen)phenyl)-3-methoxy-acrylic acid methylester (A.1.38).

Inhibitors of complex III at Q_i site: cyazofamid (A.2.1), amisulbrom (A.2.2), [(6S,7R,8R)-8-benzyl-3-[(3-hydroxy-4-methoxy-pyridine-2-carbonyl)amino]-6-methyl-4,9-dioxo-1,5-dioxonan-7-yl] 2-methylpropanoate (A.2.3), fenpicoxamid (A.2.4), [(6S,7R,8R)-8-benzyl-3-[[4-methoxy-3-(propanoyloxymethoxy)pyridine-2-carbonyl]amino]-6-methyl-4,9-dioxo-1,5-dioxonan-7-yl] 2-methylpropanoate (A.2.5).

Inhibitors of complex II: benodanil (A.3.1), benzovindiflupyr (A.3.2), bixafen (A.3.3), boscalid (A.3.4), carboxin (A.3.5), fenfuram (A.3.6), fluopyram (A.3.7), flutolanil (A.3.8), fluxapyroxad (A.3.9), furametpyr (A.3.10), isofetamid (A.3.11), isopyrazam (A.3.12), mepronil (A.3.13), oxycarboxin (A.3.14), penflufen (A.3.15), penthiopyrad (A.3.16), 3-(difluoromethyl)-N-methoxy-1-methyl-N-[1-methyl-2-(2,4,6-trichlorophenyl)ethyl]pyrazole-4-carboxamide (A.3.17), N-[2-(3,4-difluorophenyl)phenyl]-3-(trifluoromethyl)pyrazine-2-carboxamide (A.3.18), sedaxane (A.3.19), tecloftalam (A.3.20), thifluzamide (A.3.21), 3-(difluoromethyl)-1-methyl-N-(1,1,3-trimethylindan-

4-yl)pyrazole-4-carboxamide (A.3.22), 3-(trifluoromethyl)-1-methyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide (A.3.23), 1,3-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide (A.3.24), 3-(trifluoromethyl)-1,5-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide (A.3.25), 1,3,5-trimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide (A.3.26), 3-(difluoromethyl)-1,5-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide (A.3.27), 3-(difluoromethyl)-N-(7-fluoro-1,1,3-trimethyl-indan-4-yl)-1-methyl-pyrazole-4-carboxamide (A.3.28), methyl (E)-2-[2-[(5-cyano-2-methyl-phenoxy)methyl]phenyl]-3-methoxy-prop-2-enoate (A.3.30), N-[(5-chloro-2-isopropyl-phenyl)methyl]-N-cyclopropyl-3-(difluoromethyl)-5 fluoro-1-methyl-pyrazole-4-carboxamide (A.3.31), 2-(difluoromethyl)-N-(1,1,3-trimethyl-indan-4-yl)pyridine-3-carboxamide (A.3.32), 2-(difluoromethyl)-N-[(3R)-1,1,3-trimethylindan-4-yl]pyridine-3-carboxamide (A.3.33), 2-(difluoromethyl)-N-(3-ethyl-1,1-dimethyl-indan-4-yl)¬pyridine-3-carboxamide (A.3.34), 2-(difluoromethyl)-N-[(3R)-3-ethyl-1,1-dimethyl-indan-4-yl]¬pyridine-3-carboxamide (A.3.35), 2-(difluoromethyl)-N-(1,1-dimethyl-3-propyl-indan-4-yl)¬py¬ridine-3-carboxamide (A.3.36), 2-(difluoromethyl)-N-[(3R)-1,1-dimethyl-3-propyl-indan-4-yl]¬pyridine-3-carboxamide (A.3.37), 2-(difluoromethyl)-N-(3-isobutyl-1,1-dimethyl-indan-4-yl)¬pyridine-3-carboxamide (A.3.38), 2-(difluoromethyl)-N-[(3R)-3-isobutyl-1,1-dimethyl-indan-4 yl]pyridine-3-carboxamide (A.3.39).

Other respiration inhibitors: diflumetorim (A.4.1); nitrophenyl derivates: binapacryl (A.4.2), dinobuton (A.4.3), dinocap (A.4.4), fluazinam (A.4.5), meptyldinocap (A.4.6), ferimzone (A.4.7); organometal compounds: fentin salts, e. g. fentin-acetate (A.4.8), fentin chloride (A.4.9) or fentin hydroxide (A.4.10); ametoctradin (A.4.11); silthiofam (A.4.12).

B) Sterol biosynthesis inhibitors (SBI fungicides)

C14 demethylase inhibitors: triazoles: azaconazole (B.1.1), bitertanol (B.1.2), bromuconazole (B.1.3), cyproconazole (B.1.4), difenoconazole (B.1.5), diniconazole (B.1.6), diniconazole-M (B.1.7), epoxiconazole (B.1.8), fenbuconazole (B.1.9), fluquinconazole (B.1.10), flusilazole (B.1.11), flutriafol (B.1.12), hexaconazole (B.1.13), imibenconazole (B.1.14), ipconazole (B.1.15), metconazole (B.1.17), myclobutanil (B.1.18), oxpoconazole (B.1.19), paclobutrazole (B.1.20), penconazole (B.1.21), propiconazole (B.1.22), prothioconazole (B.1.23), simeconazole (B.1.24), tebuconazole (B.1.25), tetraconazole (B.1.26), triadimefon (B.1.27), triadimenol (B.1.28), triticonazole (B.1.29), uniconazole (B.1.30), 1-[*rel*-(2*S*;3*R*)-3-(2-chlorophenyl)-2-(2,4-difluorophenyl)-oxiranylmethyl]-5-thiocyanato-1H-[1,2,4]triazole (B.1.31), 2-[*rel*-(2*S*;3*R*)-3-(2-chlorophenyl)-2-(2,4-difluorophenyl)-oxiranylmethyl]-2H-[1,2,4]triazole-3-thiol (B.1.32), 2-[2-chloro-4-(4-chlorophenoxy)phenyl]-1-(1,2,4-triazol-1-yl)pentan-2-ol (B.1.33), 1-[4-(4-chlorophenoxy)-2-(trifluoromethyl)phenyl]-1-cyclopropyl-2-(1,2,4-triazol-1-yl)ethanol (B.1.34), 2-[4-(4-chlorophenoxy)-2-(trifluoromethyl)phenyl]-1-(1,2,4-triazol-1-yl)butan-2-ol (B.1.35), 2-[2-chloro-4-(4-chlorophenoxy)phenyl]-1-(1,2,4-triazol-1-yl)butan-2-ol (B.1.36), ipfentrifluconazole (B.1.37), mefentrifluconazole (B.1.38), 2-[2-chloro-4-(4-chlorophenoxy)phenyl]-3-methyl-1-(1,2,4-triazol-1-yl)butan-2-ol (B.1.39), 2-[4-(4-chlorophenoxy)-2-(trifluoromethyl)phenyl]-1-(1,2,4-triazol-1-yl)pentan-2-ol (B.1.40), 2-[4-(4-fluorophenoxy)-2-(trifluoromethyl)phenyl]-1-(1,2,4-triazol-1-yl)propan-2-ol (B.1.41), 2-[2-chloro-4-(4-chlorophenoxy)phenyl]-1-(1,2,4-triazol-1-yl)pent-3-yn-2-ol (B.1.42), 2-(chloromethyl)-2-methyl-5-(p-tolylmethyl)-1-(1,2,4-triazol-1-ylmethyl)cyclopentanol (B.1.43); imidazoles: imazalil (B.1.44), pefurazoate (B.1.45), prochloraz (B.1.46), triflumizol (B.1.47); pyrimidines, pyridines and piperazines: fenarimol (B.1.49), pyrifenox (B.1.50), triforine (B.1.51), [3-(4-chloro-2-fluoro-

phenyl)-5-(2,4-difluorophenyl)isoxazol-4-yl]-(3-pyridyl)methanol (B.1.52).

Delta14-reductase inhibitors: aldimorph (B.2.1), dodemorph (B.2.2), dodemorph-acetate (B.2.3), fenpropimorph (B.2.4), tridemorph (B.2.5), fenpropidin (B.2.6), piperalin (B.2.7), spiroxamine (B.2.8).

Inhibitors of 3-keto reductase: fenhexamid (B.3.1).

Other Sterol biosynthesis inhibitors: chlorphenomizole (B.4.1).

C) Nucleic acid synthesis inhibitors

Phenylamides or acyl amino acid fungicides: benalaxyl (C.1.1), benalaxyl-M (C.1.2), kiralaxyl (C.1.3), metalaxyl (C.1.4), metalaxyl-M (C.1.5), ofurace (C.1.6), oxadixyl (C.1.7).

Other nucleic acid synthesis inhibitors: hymexazole (C.2.1), octhilinone (C.2.2), oxolinic acid (C.2.3), bupirimate (C.2.4), 5-fluorocytosine (C.2.5), 5-fluoro-2-(p-tolylmethoxy)pyrimidin-4-amine (C.2.6), 5-fluoro-2-(4-fluorophenylmethoxy)pyrimidin-4-amine (C.2.7), 5-fluoro-2-(4-chlorophenylmethoxy)pyrimidin-4 amine (C.2.8).

D) Inhibitors of cell division and cytoskeleton

Tubulin inhibitors: benomyl (D.1.1), carbendazim (D.1.2), fuberidazole (D1.3), thiabendazole (D.1.4), thiophanate-methyl (D.1.5), 3-chloro-4-(2,6-difluorophenyl)-6-methyl-5-phenyl-pyridazine (D.1.6), 3-chloro-6-methyl-5-phenyl-4-(2,4,6-trifluorophenyl)pyridazine (D.1.7), N-ethyl-2-[(3-ethynyl-8-methyl-6-quinolyl)oxy]butanamide (D.1.8), N-ethyl-2-[(3-ethynyl-8-methyl-6-quinolyl)oxy]-2-methylsulfanyl-acetamide (D.1.9), 2-[(3-ethynyl-8-methyl-6-quinolyl)oxy]-N-(2-fluoroethyl)butanamide (D.1.10), 2-[(3-ethynyl-8-methyl-6-quinolyl)oxy]-N-(2-fluoroethyl)-2-methoxy-acetamide (D.1.11), 2-[(3-ethynyl-8-methyl-6-quinolyl)oxy]-N-propyl-butanamide (D.1.12), 2-[(3-ethynyl-8-methyl-6-quinolyl)oxy]-2-methoxy-N-propyl-acetamide (D.1.13), 2-[(3-ethynyl-8-methyl-6-quinolyl)oxy]-2-methylsulfanyl-N-propyl-acetamide (D.1.14), 2-[(3-ethynyl-8-methyl-6-quinolyl)oxy]-N-(2-fluoroethyl)-2-methylsulfanyl-acetamide (D.1.15), 4-(2-bromo-4-fluoro-phenyl)-N-(2-chloro-6-fluoro-phenyl)-2,5-dimethyl-pyrazol-3-amine (D.1.16).

Other cell division inhibitors: diethofencarb (D.2.1), ethaboxam (D.2.2), pencycuron (D.2.3), fluopicolide (D.2.4), zoxamide (D.2.5), metrafenone (D.2.6), pyriofenone (D.2.7).

E) Inhibitors of amino acid and protein synthesis

Methionine synthesis inhibitors: cyprodinil (E.1.1), mepanipyrim (E.1.2), pyrimethanil (E.1.3).

Protein synthesis inhibitors: blasticidin-S (E.2.1), kasugamycin (E.2.2), kasugamycin hydrochloride-hydrate (E.2.3), mildiomycin (E.2.4), streptomycin (E.2.5), oxytetracyclin (E.2.6).

F) Signal transduction inhibitors

MAP / histidine kinase inhibitors: fluoroimid (F.1.1), iprodione (F.1.2), procymidone (F.1.3), vinclozolin (F.1.4), fludioxonil (F.1.5).

G protein inhibitors: quinoxyfen (F.2.1).

G) Lipid and membrane synthesis inhibitors

Phospholipid biosynthesis inhibitors: edifenphos (G.1.1), iprobenfos (G.1.2), pyrazophos (G.1.3), isoprothiolane (G.1.4).

Lipid peroxidation: dicloran (G.2.1), quintozene (G.2.2), tecnazene (G.2.3), tolclofos-methyl (G.2.4), biphenyl (G.2.5), chloroneb (G.2.6), etridiazole (G.2.7).

Phospholipid biosynthesis and cell wall deposition: dimethomorph (G.3.1), flumorph (G.3.2), mandipropamid (G.3.3), pyrimorph (G.3.4), benthiavalicarb (G.3.5), iprovalicarb (G.3.6), valifenalate (G.3.7).

Compounds affecting cell membrane permeability and fatty acides: propamocarb (G.4.1).

Inhibitors of oxysterol binding protein: oxathiapiprolin (G.5.1), 2-{3-[2-(1-{[3,5-bis(difluoromethyl-1H-pyrazol-1-yl]acetyl}piperidin-4-yl)-1,3-thiazol-4-yl]-4,5-dihydro-1,2-oxazol-5-yl}phenyl methanesulfonate (G.5.2), 2-{3-[2-(1-{[3,5-bis(difluoromethyl)-1H-pyrazol-1-yl]acetyl}piperidin-4-yl) 1,3-thiazol-4-yl]-4,5-dihydro-1,2-oxazol-5-yl}-3-chlorophenyl methanesulfonate (G.5.3), 4-[1-[2-[3-(difluoromethyl)-5-methyl-pyrazol-1-yl]acetyl]-4-piperidyl]-N-tetralin-1-yl-pyridine-2-carboxamide (G.5.4), 4-[1-[2-[3,5-bis(difluoromethyl)pyrazol-1-yl]acetyl]-4-piperidyl]-N-tetralin-1-yl-pyridine-2-carboxamide (G.5.5), 4-[1-[2-[3-(difluoromethyl)-5-(trifluoromethyl)pyrazol-1-yl]acetyl]-4-piperidyl]-N-tetralin-1-yl-pyridine-2-carboxamide (G.5.6), 4-[1-[2-[5-cyclopropyl-3-(difluoromethyl)pyrazol-1-yl]acetyl]-4-piperidyl]-N-tetralin-1-yl-pyridine-2-carboxamide (G.5.7), 4-[1-[2-[5-methyl-3-(trifluoromethyl)pyrazol-1-yl]acetyl]-4-piperidyl]-N-tetralin-1-yl-pyridine-2-carboxamide (G.5.8), 4-[1-[2-[5-(difluoromethyl)-3-(trifluoromethyl)pyrazol-1-yl]acetyl]-4-piperidyl]-N-tetralin-1-yl-pyridine-2-carboxamide (G.5.9), 4-[1-[2-[3,5-bis(trifluoromethyl)pyrazol-1-yl]acetyl]-4-piperidyl]-N-tetralin-1-yl-pyridine-2-carboxamide (G.5.10), (4-[1-[2-[5-cyclopropyl-3-(trifluoromethyl)pyrazol-1-yl]acetyl]-4-piperidyl]-N-tetralin-1-yl-pyridine-2-carboxamide (G.5.11).

H) Inhibitors with Multi Site Action

Inorganic active substances: Bordeaux mixture (H.1.1), copper (H.1.2), copper acetate (H.1.3), copper hydroxide (H.1.4), copper oxychloride (H.1.5), basic copper sulfate (H.1.6), sulfur (H.1.7).

Thio- and dithiocarbamates: ferbam (H.2.1), mancozeb (H.2.2), maneb (H.2.3), metam (H.2.4), metiram (H.2.5), propineb (H.2.6), thiram (H.2.7), zineb (H.2.8), ziram (H.2.9).

Organochlorine compounds: anilazine (H.3.1), chlorothalonil (H.3.2), captafol (H.3.3), captan (H.3.4), folpet (H.3.5), dichlofluanid (H.3.6), dichlorophen (H.3.7), hexachlorobenzene (H.3.8), pentachlorphenole (H.3.9) and its salts, phthalide (H.3.10), tolylfluanid (H.3.11).

Guanidines and others: guanidine (H.4.1), dodine (H.4.2), dodine free base (H.4.3), guazatine (H.4.4), guazatine-acetate (H.4.5), iminoctadine (H.4.6), iminoctadine-triacetate (H.4.7), iminoctadine-tris(albesilate) (H.4.8), dithianon (H.4.9), 2,6-dimethyl-1H,5H-[1,4]dithiino[2,3-c:5,6-c']dipyrrole-1,3,5,7(2H,6H)-tetraone (H.4.10).

I) Cell wall synthesis inhibitors

Inhibitors of glucan synthesis: validamycin (I.1.1), polyoxin B (I.1.2).

Melanin synthesis inhibitors: pyroquilon (I.2.1), tricyclazole (I.2.2), carpropamid (I.2.3), dicyclomet (I.2.4), fenoxanil (I.2.5).

J) Plant defence inducers

Acibenzolar-S-methyl (J.1.1), probenazole (J.1.2), isotianil (J.1.3), tiadinil (J.1.4), prohexadione-calcium (J.1.5); phosphonates: fosetyl (J.1.6), fosetyl-aluminum (J.1.7), phosphorous acid and its salts (J.1.8), potassium or sodium bicarbonate (J.1.9), 4-cyclopropyl-N-(2,4-dimethoxyphenyl)thiadiazole-5-carboxamide (J.1.10), calcium phosphonate (J.1.11), potassium phosphonate (J.1.12).

K) Unknown mode of action

Bronopol (K.1.1), chinomethionat (K.1.2), cyflufenamid (K.1.3), cymoxanil (K.1.4), dazomet (K.1.5), debacarb (K.1.6), diclocymet (K.1.7), diclomezine (K.1.8), difenzoquat (K.1.9), difenzoquat-methylsulfate (K.1.10), diphenylamin (K.1.11), fenitropan (K.1.12), fenpyrazamine (K.1.13), flumetover (K.1.14), flusulfamide (K.1.15), flutianil (K.1.16), harpin (K.1.17), methasulfocarb (K.1.18), nitrapyrin (K.1.19), nitrothal-isopropyl (K.1.20), tolprocarb (K.1.21), oxin-

copper (K.1.22), proquinazid (K.1.23), tebufloquin (K.1.24), tecloftalam (K.1.25), triazoxide (K.1.26), N'-(4-(4-chloro-3-trifluoromethyl-phenoxy)-2,5-dimethyl-phenyl)-N-ethyl-N-methyl formamidine (K.1.27), N'-(4-(4-fluoro-3-trifluoromethyl-phenoxy)-2,5-dimethyl-phenyl)-N-ethyl-N-methyl formamidine (K.1.28), N'-[4-[[3-[(4-chlorophenyl)methyl]-1,2,4-thiadiazol-5-yl]oxy]-2,5-dimethyl-phenyl]-N-ethyl-N-methyl-formamidine (K.1.29), N'-(5-bromo-6-indan-2-yloxy-2-methyl-3-pyridyl)-N-ethyl-N-methyl-formamidine (K.1.30), N'-[5-bromo-6-[1-(3,5-difluorophenyl)ethoxy]-2-methyl-3-pyridyl]-N-ethyl-N-methyl-formamidine (K.1.31), N'-[5-bromo-6-(4-isopropylcyclohexoxy)-2-methyl-3-pyridyl]-N-ethyl-N-methyl-formamidine (K.1.32), N'-[5-bromo-2-methyl-6-(1-phenylethoxy)-3-pyridyl]-N-ethyl-N-methyl-formamidine (K.1.33), N'-(2-methyl-5-trifluoromethyl-4-(3-trimethylsilanyl-propoxy)-phenyl)-N-ethyl-N-methyl formamidine (K.1.34), N'-(5-difluoromethyl-2-methyl-4-(3-trimethylsilanyl-propoxy)-phenyl)-N-ethyl-N-methyl formamidine (K.1.35), 2-(4-chloro-phenyl)-N-[4-(3,4-dimethoxy-phenyl)-isoxazol-5-yl]-2-prop-2-ynyloxy-acetamide (K.1.36), 3-[5-(4-chloro-phenyl)-2,3-dimethyl-isoxazolidin-3-yl]-pyridine (pyrisoxazole) (K.1.37), 3-[5-(4-methylphenyl)-2,3-dimethyl-isoxazolidin-3 yl]-pyridine (K.1.38), 5-chloro-1-(4,6-dimethoxy-pyrimidin-2-yl)-2-methyl-1H-benzoimidazole (K.1.39), ethyl (Z)-3-amino-2-cyano-3-phenyl-prop-2-enoate (K.1.40), picarbutrazox (K.1.41), pentyl N-[6-[[(Z)-[(1-methyltetrazol-5-yl)-phenyl-methylene]amino]oxymethyl]-2-pyridyl]carbamate (K.1.42), but-3-ynyl N-[6-[[(Z)-[(1-methyltetrazol-5-yl)-phenyl-methylene]amino]oxymethyl]-2-pyridyl]carbamate (K.1.43), 2-[2-[(7,8-difluoro-2-methyl-3-quinolyl)oxy]-6-fluoro-phenyl]propan-2-ol (K.1.44), 2-[2-fluoro-6-[(8-fluoro-2-methyl-3-quinolyl)oxy]phen-yl]propan-2-ol (K.1.45), 3-(5-fluoro-3,3,4,4-tetramethyl-3,4-dihydroisoquinolin-1-yl)quinoline (K.1.46), quinofumelin (K.1.47), 3-(4,4,5-trifluoro-3,3-dimethyl-3,4-dihydroisoquinolin-1-yl)quinoline (K.1.48), 9-fluoro-2,2-dimethyl-5-(3-quinolyl)-3H-1,4-benzoxazepine (K.1.49), 2-(6-benzyl-2-pyridyl)quinazoline (K.1.50), 2-[6-(3-fluoro-4-methoxy-phenyl)-5-methyl-2-pyridyl]quinazoline (K.1.51), dichlobentiazox (K.1.52), N'-(2,5-dimethyl-4-phenoxy-phenyl)-N-ethyl-N-methyl-formamidine (K.1.53).

M) Growth regulators

abscisic acid (M.1.1), amidochlor, ancymidol, 6-benzylaminopurine, brassinolide, butralin, chlormequat, chlormequat chloride, choline chloride, cyclanilide, daminozide, dikegulac, dimethipin, 2,6-dimethylpuridine, ethephon, flumetralin, flurprimidol, fluthiacet, forchlorfenuron, gibberellic acid, inabenfide, indole-3-acetic acid , maleic hydrazide, mefluidide, mepiquat, mepiquat chloride, naphthaleneacetic acid, N-6-benzyladenine, paclobutrazol, prohexadione, prohexadione-calcium, prohydrojasmon, thidiazuron, triapenthenol, tributyl phosphorotrithioate, 2,3,5-tri-iodobenzoic acid , trinexapac-ethyl and uniconazole;

N) Herbicides from classes N.1 to N.15

N.1 Lipid biosynthesis inhibitors: alloxydim (N.1.1), alloxydim-sodium (N.1.2), butroxydim (N.1.3), clethodim (N.1.4), clodinafop (N.1.5), clodinafop-propargyl (N.1.6), cycloxydim (N.1.7), cyhalofop (N.1.8), cyhalofop-butyl (N.1.9), diclofop(N.1.10), diclofop-methyl (N.1.11), fenoxaprop (N.1.12), fenoxaprop-ethyl (N.1.13), fenoxaprop-P (N.1.14), fenoxaprop-P-ethyl (N.1.15), fluazifop (N.1.16), fluazifop-butyl (N.1.17), fluazifop-P (N.1.18), fluazifop-P-butyl (N.1.19), haloxyfop (N.1.20), haloxyfop-methyl (N.1.21), haloxyfop-P (N.1.22), haloxyfop-P-methyl (N.1.23), metamifop (N.1.24), pinoxaden (N.1.25), profoxydim (N.1.26), propaquizafop (N.1.27), quizalofop (N.1.28), quizalofop-ethyl (N.1.29), quizalofop-tefuryl (N.1.30), quizalofop-P (N.1.31), quizalofop-P-ethyl (N.1.32), quizalofop-P-tefuryl (N.1.33), sethoxydim (N.1.34), tepraloxydim (N.1.35), tralkoxydim (N.1.36), 4-(4'-chloro-4-cyclo¬propyl-2'-fluoro[1,1'-biphenyl]-

3-yl)-5-hydroxy-2,2,6,6-tetramethyl-2H-pyran-3(6H)-one ((N.1.37) CAS 1312337-72-6); 4-(2',4'-dichloro-4-cyclopropyl[1,1'-biphenyl]-3-yl)-5-hydroxy-2,2,6,6-tetramethyl-2H-pyran-3(6H)-one ((N.1.38) CAS 1312337-45-3); 4-(4'-chloro-4-ethyl-2'-fluoro[1,1'-biphenyl]-3-yl)-5-hydroxy-2,2,6,6-tetramethyl-2H-pyran-3(6H)-one ((N.1.39) CAS 1033757-93-5); 4-(2',4'-Dichloro-4-ethyl[1,1'-biphenyl]-3-yl)-2,2,6,6-tetramethyl-2H-pyran-3,5(4H,6H)-dione ((N.1.40) CAS 1312340-84-3); 5-(acetyloxy)-4-(4'-chloro-4-cyclopropyl-2'-fluoro[1,1'-biphenyl]-3-yl)-3,6-dihydro-2,2,6,6-tetramethyl-2H-pyran-3-one ((N.1.41) CAS 1312337-48-6); 5-(acetyloxy)-4-(2´,4'-dichloro-4-cyclopropyl- [1,1'-biphenyl]-3-yl)-3,6-dihydro-2,2,6,6-tetramethyl-2H-pyran-3-one (N.1.42); 5-(acetyloxy)-4-(4'-chloro-4-ethyl-2'-fluoro[1,1'-biphenyl]-3-yl)-3,6-dihydro-2,2,6,6-tetramethyl-2H-pyran-3-one ((N.1.43) CAS 1312340-82-1); 5-(acetyloxy)-4-(2',4'-dichloro-4-ethyl[1,1'-biphenyl]-3-yl)-3,6-dihydro-2,2,6,6-tetramethyl-2H-pyran-3-one ((N.1.44) CAS 1033760-55-2); 4-(4'-chloro-4-cyclopropyl-2'-fluoro[1,1'-biphenyl]-3-yl)-5,6-dihydro-2,2,6,6-tetramethyl-5-oxo-2H-pyran-3-yl carbonic acid methyl ester ((N.1.45) CAS 1312337-51-1); 4-(2´,4'-dichloro -4-cyclopropyl- [1,1'-biphenyl]-3-yl)-5,6-dihydro-2,2,6,6-tetramethyl-5-oxo-2H-pyran-3-yl carbonic acid methyl ester (N.1.46); 4-(4'-chloro-4-ethyl-2'-fluoro[1,1'-biphenyl]-3-yl)-5,6-dihydro-2,2,6,6-tetramethyl-5-oxo-2H-pyran-3-yl carbonic acid methyl ester ((N.1.47) CAS 1312340-83-2); 4-(2',4'-dichloro-4-ethyl¬[1,1'-biphenyl]-3-yl)-5,6-dihydro-2,2,6,6-tetramethyl-5-oxo-2H-pyran-3-yl carbonic acid methyl ester ((N.1.48) CAS 1033760-58-5); benfuresate (N.1.49), butylate (N.1.50), cycloate (N.1.51), dalapon (N.1.52), dimepiperate (N.1.53), EPTC (N.1.54), esprocarb (N.1.55), ethofumesate (N.1.56), flupropanate (N.1.57), molinate (N.1.58), orbencarb (N.1.59), pebulate (N.1.60), prosulfocarb (N.1.61), TCA (N.1.62), thiobencarb (N.1.63), tiocarbazil (N.1.64), triallate (N.1.65) and vernolate (N.1.66);

N.2 ALS inhibitors: amidosulfuron (N.2.1), azimsulfuron (N.2.2), bensulfuron (N.2.3), bensulfuron-methyl (N.2.4), chlorimuron (N.2.5), chlorimuron-ethyl (N.2.6), chlorsulfuron (N.2.7), cinosulfuron (N.2.8), cyclosulfamuron (N.2.9), ethametsulfuron (N.2.10), ethametsulfuron-methyl (N.2.11), ethoxysulfuron (N.2.12), flazasulfuron (N.2.13), flucetosulfuron (N.2.14), flupyrsulfuron (N.2.15), flupyrsulfuron-methyl-sodium (N.2.16), foramsulfuron (N.2.17), halosulfuron (N.2.18), halosulfuron-methyl (N.2.19), imazosulfuron (N.2.20), iodosulfuron (N.2.21), iodosulfuron-methyl-sodium (N.2.22), iofensulfuron (N.2.23), iofensulfuron-sodium (N.2.24), mesosulfuron (N.2.25), metazosulfuron (N.2.26), metsulfuron (N.2.27), metsulfuron-methyl (N.2.28), nicosulfuron (N.2.29), orthosulfamuron (N.2.30), oxasulfuron (N.2.31), primisulfuron (N.2.32), primisulfuron-methyl (N.2.33), propyrisulfuron (N.2.34), prosulfuron (N.2.35), pyrazosulfuron (N.2.36), pyrazosulfuron-ethyl (N.2.37), rimsulfuron (N.2.38), sulfometuron (N.2.39), sulfometuron-methyl (N.2.40), sulfosulfuron (N.2.41), thifensulfuron (N.2.42), thifensulfuron-methyl (N.2.43), triasulfuron (N.2.44), tribenuron (N.2.45), tribenuron-methyl (N.2.46), trifloxysulfuron (N.2.47), triflusulfuron (N.2.48), triflusulfuron-methyl (N.2.49), tritosulfuron (N.2.50), imazamethabenz (N.2.51), imazamethabenz-methyl (N.2.52), imazamox (N.2.53), imazapic (N.2.54), imazapyr (N.2.55), imazaquin (N.2.56), imazethapyr (N.2.57); cloransulam (N.2.58), cloransulam-methyl (N.2.59), diclosulam (N.2.60), flumetsulam (N.2.61), florasulam (N.2.62), metosulam (N.2.63), penoxsulam (N.2.64), pyrimisulfan (N.2.65) and pyroxsulam (N.2.66); bispyribac (N.2.67), bispyribac-sodium (N.2.68), pyribenzoxim (N.2.69), pyriftalid (N.2.70), pyriminobac (N.2.71), pyriminobac-methyl (N.2.72), pyrithiobac (N.2.73),

pyrithiobac-sodium (N.2.74), 4-[[[2-[(4,6-dimethoxy-2-pyrimidinyl)oxy]phenyl]methyl]amino]-benzoic acid-1-methyl¬ethyl ester ((N.2.75) CAS 420138-41-6), 4-[[[2-[(4,6-dimethoxy-2-pyrimidinyl)oxy]phenyl]¬methyl]amino]-benzoic acid propyl ester ((N.2.76) CAS 420138-40-5), N-(4-bromophenyl)-2-[(4,6-dimethoxy-2-pyrimidinyl)oxy]benzenemethanamine ((N.2.77) CAS 420138-01-8); flucarbazone (N.2.78), flucarbazone-sodium (N.2.79), propoxycarbazone (N.2.80), propoxycarbazone-sodium (N.2.81), thiencarbazone (N.2.82), thiencarbazone-methyl (N.2.83), triafamone (N.2.84);

N.3 Photosynthesis inhibitors: amicarbazone (N.3.1); chlorotriazine (N.3.2); ametryn (N.3.3), atrazine (N.3.4), chloridazone (N.3.5), cyanazine (N.3.6), desmetryn (N.3.7), dimethametryn (N.3.8),hexazinone (N.3.9), metribuzin (N.3.10), prometon (N.3.11), prometryn (N.3.12), propazine (N.3.13), simazine (N.3.14), simetryn (N.3.15), terbumeton (N.3.16), terbuthylazin (N.3.17), terbutryn (N.3.18), trietazin (N.3.19); chlorobromuron (N.3.20), chlorotoluron (N.3.21), chloroxuron (N.3.22), dimefuron (N.3.23), diuron (N.3.24), fluometuron (N.3.25), isoproturon (N.3.26), isouron (N.3.27), linuron (N.3.28), metamitron (N.3.29), methabenzthiazuron (N.3.30), metobenzuron (N.3.31), metoxuron (N.3.32), monolinuron (N.3.33), neburon (N.3.34), siduron (N.3.35), tebuthiuron (N.3.36), thiadiazuron (N.3.37), desmedipham (N.3.38), karbutilat (N.3.39), phenmedipham (N.3.40), phenmedipham-ethyl (N.3.41), bromofenoxim (N.3.42), bromoxynil (N.3.43) and its salts and esters, ioxynil (N.3.44) and its salts and esters, bromacil (N.3.45), lenacil (N.3.46), terbacil (N.3.47), bentazon (N.3.48), bentazon-sodium (N.3.49), pyridate (N.3.50), pyridafol (N.3.51), pentanochlor (N.3.52), propanil (N.3.53); diquat (N.3.54), diquat-dibromide (N.3.55), paraquat (N.3.56), paraquat-dichloride (N.3.57), paraquat-dimetilsulfate (N.3.58);

N.4 protoporphyrinogen-IX oxidase inhibitors: acifluorfen (N.4.1), acifluorfen-sodium (N.4.2), azafenidin (N.4.3), bencarbazone (N.4.4), benzfendizone (N.4.5), bifenox (N.4.6), butafenacil (N.4.7), carfentrazone (N.4.8), carfentrazone-ethyl (N.4.9), chlormethoxyfen (N.4.10), cinidon-ethyl (N.4.11), fluazolate (N.4.12), flufenpyr (N.4.13), flufenpyr-ethyl (N.4.14), flumiclorac (N.4.15), flumiclorac-pentyl (N.4.16), flumioxazin (N.4.17), fluoroglycofen (N.4.18), fluoroglycofen-ethyl (N.4.19), fluthiacet (N.4.20), fluthiacet-methyl (N.4.21), fomesafen (N.4.22), halosafen (N.4.23), lactofen (N.4.24), oxadiargyl (N.4.25), oxadiazon (N.4.26), oxyfluorfen (N.4.27), pentoxazone (N.4.28), profluazol (N.4.29), pyraclonil (N.4.30), pyraflufen (N.4.31), pyraflufen-ethyl (N.4.32), saflufenacil (N.4.33), sulfentrazone (N.4.34), thidiazimin (N.4.35), tiafenacil (N.4.36), trifludimoxazin (N.4.37), ethyl [3-[2-chloro-4-fluoro-5-(1-methyl-6-trifluoromethyl-2,4-dioxo-1,2,3,4-tetrahydropyrimidin-3-yl)phenoxy]-2-pyridyloxy]acetate ((N.4.38) CAS 353292-31-6), N-ethyl-3-(2,6-dichloro-4-trifluoro-methylphenoxy)-5-methyl-1H-pyrazole-1-carboxamide ((N.4.39) CAS 452098-92-9), N tetrahydrofurfuryl-3-(2,6-dichloro-4-trifluoromethylphenoxy)-5-methyl-1H-pyrazole-1-carboxamide ((N.4.40) CAS 915396-43-9), N-ethyl-3-(2-chloro-6-fluoro-4-trifluoromethyl¬phenoxy)-5-methyl-1H-pyrazole-1-carboxamide ((N.4.41) CAS 452099-05-7), N tetrahydro¬furfuryl-3-(2-chloro-6-fluoro-4-trifluoro¬methylphenoxy)-5-methyl-1H-pyrazole-1-carboxamide ((N.4.42) CAS 452100-03-7), 3-[7-fluoro-3-oxo-4-(prop-2-ynyl)-3,4-dihydro-2H-benzo[1,4]oxazin-6-yl]-1,5-dimethyl-6-thioxo-[1,3,5]triazinan-2,4-dione ((N.4.43) CAS 451484-50-7), 2-(2,2,7-trifluoro-3-oxo-4-prop-2-ynyl-3,4-dihydro-2H-benzo[1,4]oxazin-6-yl)-4,5,6,7-tetrahydro-isoindole-1,3-dione ((N.4.44) CAS 1300118-96-0), 1-methyl-6-trifluoro¬methyl-3-(2,2,7-tri-fluoro-3-oxo-4-prop-2-ynyl-3,4-dihydro-2H-benzo[1,4]oxazin-6-yl)-1H-pyrimidine-2,4-dione ((N.4.45) CAS 1304113-05-0), methyl (E)-4-

[2-chloro-5-[4-chloro-5-(difluoromethoxy)-1H-methyl-pyrazol-3-yl]-4-fluoro-phenoxy]-3-methoxy-but-2-enoate ((N.4.46) CAS 948893-00-3), 3-[7-chloro-5-fluoro-2-(trifluoromethyl)-1H-benzimidazol-4-yl]-1-methyl-6-(trifluoromethyl)-1H-pyrimidine-2,4-dione ((N.4.47) CAS 212754-02-4);

N.5 Bleacher herbicides: beflubutamid (N.5.1), diflufenican (N.5.2), fluridone (N.5.3), flurochloridone (N.5.4), flurtamone (N.5.5), norflurazon (N.5.6), picolinafen (N.5.7), 4-(3-trifluoromethyl¬phenoxy)-2-(4-trifluoromethylphenyl)¬pyrimidine ((N.5.8) CAS 180608-33-7); benzobicyclon (N.5.9), benzofenap (N.5.10), bicyclopyrone (N.5.11), clomazone (N.5.12), fenquintrione (N.5.13), isoxaflutole (N.5.14), mesotrione (N.5.15), pyrasulfotole (N.5.16), pyrazolynate (N.5.17), pyrazoxyfen (N.5.18), sulcotrione (N.5.19), tefuryltrione (N.5.20), tembotrione (N.5.21), tolpyralate (N.5.22), topramezone (N.5.23); aclonifen (N.5.24), amitrole (N.5.25), flumeturon (N.5.26);

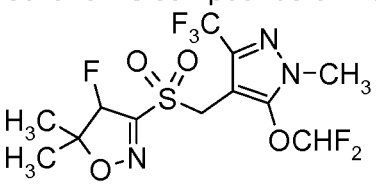
N.6 EPSP synthase inhibitors: glyphosate (N.6.1), glyphosate-isopropylammonium (N.6.2), glyposate-potassium (N.6.3), glyphosate-trimesium (sulfosate) (N.6.4);

N.7 Glutamine synthase inhibitors: bilanaphos (bialaphos) (N.7.1), bilanaphos-sodium (N.7.2), glufosinate (N.7.3), glufosinate-P (N.7.4), glufosinate-ammonium (N.7.5);

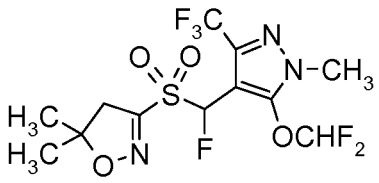
N.8 DHP synthase inhibitors: asulam (N.8.1);

N.9 Mitosis inhibitors: benfluralin (N.9.1), butralin (N.9.2), dinitramine (N.9.3), ethalfluralin (N.9.4), fluchloralin (N.9.5), oryzalin (N.9.6), pendimethalin (N.9.7), prodiamine (N.9.8), trifluralin (N.9.9); amiprophos (N.9.10), amiprophos-methyl (N.9.11), butamiphos (N.9.12); chlorthal (N.9.13), chlorthal-dimethyl (N.9.14), dithiopyr (N.9.15), thiazopyr (N.9.16), propyzamide (N.9.17), tebutam (N.9.18); carbetamide (N.9.19), chlorpropham (N.9.20), flamprop (N.9.21), flamprop-isopropyl (N.9.22), flamprop-methyl (N.9.23), flamprop-M-isopropyl (N.9.24), flamprop-M-methyl (N.9.25), propham (N.9.26);

N.10 VLCFA inhibitors: acetochlor (N.10.1), alachlor (N.10.2), butachlor (N.10.3), dimethachlor (N.10.4), dimethenamid (N.10.5), dimethenamid-P (N.10.6), metazachlor (N.10.7), metolachlor (N.10.8), metolachlor-S (N.10.9), pethoxamid (N.10.10), pretilachlor (N.10.11), propachlor (N.10.12), propisochlor (N.10.13), thenylchlor (N.10.14), flufenacet (N.10.15), mefenacet (N.10.16), diphenamid (N.10.17), naproanilide (N.10.18), napropamide (N.10.19), napropamide-M (N.10.20), fentrazamide (N.10.21), anilofos (N.10.22), cafenstrole (N.10.23), fenoxasulfone (N.10.24), ipfencarbazone (N.10.25), piperophos (N.10.26), pyroxasulfone (N.10.27), isoxazoline compounds of the formulae II.1, II.2, II.3, II.4, II.5, II.6, II.7, II.8 and II.9



II.1



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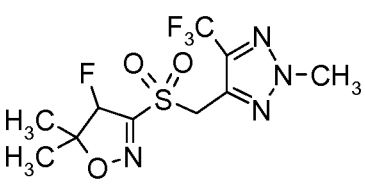

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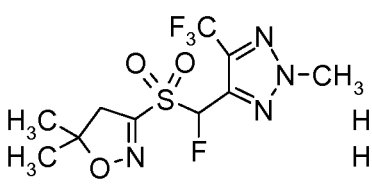

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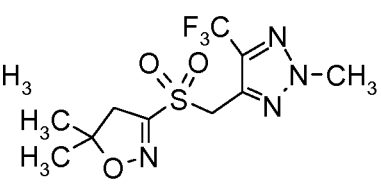

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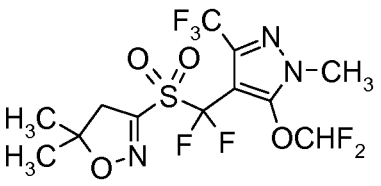
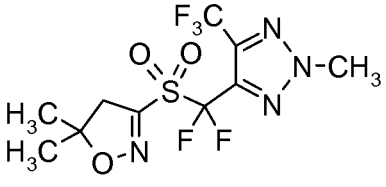
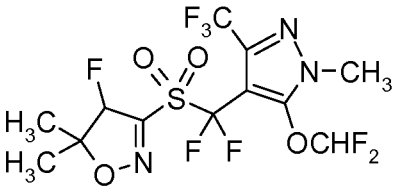


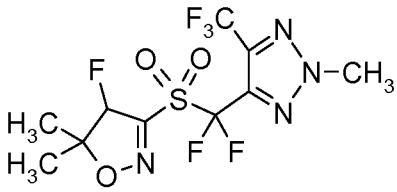
II.6



II.7



II.8



II.9

;

N.11 Cellulose biosynthesis inhibitors: chlorthiamid (N.11.1), dichlobenil (N.11.2), flupoxam (N.11.3), indaziflam (N.11.4), isoxaben (N.11.5), triaziflam (N.11.6), 1-cyclohexyl-5-pentafluorphenyloxy-14-[1,2,4,6]thiatriazin-3-ylamine ((N.11.7) CAS 175899-01-1);

N.12 Decoupler herbicides: dinoseb (N.12.1), dinoterb (N.12.2), DNOC (N.12.3) and its salts;

N.13 Auxinic herbicides: 2,4-D (N.13.1) and its salts and esters, clacyfos (N.13.2), 2,4-DB (N.13.3) and its salts and esters, aminocyclopyrachlor (N.13.4) and its salts and esters, aminopyralid (N.13.5) and its salts such as aminopyralid-dimethylammonium (N.13.6), aminopyralid-tris(2-hydroxypropyl)ammonium (N.13.7) and its esters, benazolin (N.13.8), benazolin-ethyl (N.13.9), chloramben (N.13.10) and its salts and esters, clomeprop (N.13.11), clopyralid (N.13.12) and its salts and esters, dicamba (N.13.13) and its salts and esters, dichlorprop (N.13.14) and its salts and esters, dichlorprop-P (N.13.15) and its salts and esters, fluroxypyr (N.13.16), fluroxypyr-butometyl (N.13.17), fluroxypyr-meptyl (N.13.18), halauxifen (N.13.) and its salts and esters (CAS 943832-60-8); MCPA (N.13.) and its salts and esters, MCPA-thioethyl (N.13.19), MCPB (N.13.20) and its salts and esters, mecoprop (N.13.21) and its salts and esters, mecoprop-P (N.13.22) and its salts and esters, picloram (N.13.23) and its salts and esters, quinclorac (N.13.24), quinmerac (N.13.25), TBA (2,3,6) (N.13.26) and its salts and esters, triclopyr (N.13.27) and its salts and esters, 4-amino-3-chloro-6-(4-chloro-2-fluoro-3-methoxyphenyl)-5-fluoropyridine-2-carboxylic acid (N.13.28), benzyl 4-amino-3-chloro-6-(4-chloro-2-fluoro-3-methoxyphenyl)-5-fluoropyridine-2-carboxylate ((N.13.29) CAS 1390661-72-9);

N.14 Auxin transport inhibitors: diflufenzopyr (N.14.1), diflufenzopyr-sodium (N.14.2), naptalam (N.14.3) and naptalam-sodium (N.14.4);

N.15 Other herbicides: bromobutide (N.15.1), chlorflurenol (N.15.2), chlorflurenol-methyl (N.15.3), cinmethylin (N.15.4), cumyluron (N.15.5), cyclopyrimorate ((N.15.6) CAS 499223-49-3) and its salts and esters, dalapon (N.15.7), dazomet (N.15.8), difenzoquat (N.15.9), difenzoquat-metilsulfate (N.15.10), dimethipin (N.15.11), DSMA (N.15.12), dymron (N.15.13), endothal (N.15.14) and its salts, etobenzanid (N.15.15), flurenol (N.15.16), flurenol-butyl (N.15.17), flurprimidol (N.15.18), fosamine (N.15.19), fosamine-ammonium (N.15.20), indanofan (N.15.21), maleic hydrazide (N.15.22), mefluidide (N.15.23), metam (N.15.24), methiozolin ((N.15.25) CAS 403640-27-7), methyl azide (N.15.26), methyl bromide (N.15.27), methyl-dymron (N.15.28), methyl iodide (N.15.29), MSMA (N.15.30), oleic acid (N.15.31), oxaziclomefone (N.15.32), pelargonic acid (N.15.33), pyributicarb (N.15.34), quinoclamine (N.15.35), tridiphane (N.15.36);

O) Insecticides from classes O.1 to O.29

O.1 Acetylcholine esterase (AChE) inhibitors: aldicarb (O.1.1), alanycarb (O.1.2), bendiocarb (O.1.3), benfuracarb (O.1.4), butocarboxim (O.1.5), butoxycarboxim (O.1.6), carbaryl (O.1.7), carbofuran (O.1.8), carbosulfan (O.1.9), ethiofencarb (O.1.10), fenobucarb (O.1.11), formetanate (O.1.12), furathiocarb (O.1.13), isoprocarb (O.1.14), methiocarb (O.1.15), methomyl (O.1.16), metolcarb (O.1.17), oxamyl (O.1.18), pirimicarb (O.1.19), propoxur (O.1.20), thiodicarb (O.1.21), thiofanox (O.1.22), trimethacarb (O.1.23), XMC (O.1.24), xylylcarb (O.1.25) and triazamate (O.1.26); acephate (O.1.27), azamethiphos (O.1.28), azinphos-ethyl (O.1.29), azinphosmethyl (O.1.30), cadusafos (O.1.31), chlorethoxyfos (O.1.32), chlorfenvinphos (O.1.33), chlormephos (O.1.34), chlorpyrifos (O.1.35), chlorpyrifos-methyl (O.1.36), coumaphos (O.1.37), cyanophos (O.1.38), demeton-S-methyl (O.1.39), diazinon (O.1.40), dichlorvos/ DDVP (O.1.41), dicrotophos (O.1.42), dimethoate (O.1.43), dimethylvinphos (O.1.44), disulfoton (O.1.45), EPN (O.1.46), ethion (O.1.47), ethoprophos (O.1.48), famphur (O.1.49), fenamiphos (O.1.50), fenitrothion (O.1.51), fenthion (O.1.52), fosthiazate (O.1.53), heptenophos (O.1.54), imicyafos (O.1.55), isofenphos (O.1.56), isopropyl O-(methoxyaminothio-phosphoryl) salicylate (O.1.57), isoxathion (O.1.58), malathion (O.1.59), mecarbam (O.1.60), methamidophos (O.1.61), methidathion (O.1.62), mevinphos (O.1.63), monocrotophos (O.1.64), naled (O.1.65), omethoate (O.1.66), oxydemeton-methyl (O.1.67), parathion (O.1.68), parathion-methyl (O.1.69), phenthoate (O.1.70), phorate (O.1.71), phosalone (O.1.72), phosmet (O.1.73), phosphamidon (O.1.74), phoxim (O.1.75), pirimiphos- methyl (O.1.76), profenofos (O.1.77), propetamphos (O.1.78), prothiofos (O.1.79), pyraclofos (O.1.80), pyridaphenthion (O.1.81), quinalphos (O.1.82), sulfotep (O.1.83), tebupirimfos (O.1.84), temephos (O.1.85), terbufos (O.1.86), tetrachlorvinphos (O.1.87), thiometon (O.1.88), triazophos (O.1.89), trichlorfon (O.1.90), vamidothion (O.1.91);

O.2 GABA-gated chloride channel antagonists: endosulfan (O.2.1), chlordane (O.2.2); ethiprole (O.2.3), fipronil (O.2.4), flufiprole (O.2.5), pyrafluprole (O.2.6), pyriprole (O.2.7);

O.3 Sodium channel modulators: acrinathrin (O.3.1), allethrin (O.3.2), d-cis-trans allethrin (O.3.3), d-trans allethrin (O.3.4), bifenthrin (O.3.5), bioallethrin (O.3.6), bioallethrin S-cylclopentenyl (O.3.7), bioresmethrin (O.3.8), cycloprothrin (O.3.9), cyfluthrin (O.3.10), beta-cyfluthrin (O.3.11), cyhalothrin (O.3.12), lambda-cyhalothrin (O.3.13), gamma-cyhalothrin (O.3.14), cypermethrin (O.3.15), alpha-cypermethrin (O.3.16), beta-cypermethrin (O.3.17), theta-cypermethrin (O.3.18), zeta-cypermethrin (O.3.19), cyphenothrin (O.3.20), deltamethrin (O.3.21), empenthrin (O.3.22), esfenvalerate (O.3.23), etofenprox (O.3.24), fenpropathrin (O.3.25), fenvalerate (O.3.26), flucythrinate (O.3.27), flumethrin (O.3.28), tau-fluvalinate (O.3.29), halfenprox (O.3.30), heptafluthrin (O.3.31), imiprothrin (O.3.32), meperfluthrin (O.3.33), metofluthrin (O.3.34), momfluorothrin (O.3.35), permethrin (O.3.36), phenothrin (O.3.37), prallethrin (O.3.38), profluthrin (O.3.39), pyrethrin (pyrethrum) (O.3.40), resmethrin (O.3.41), silafluofen (O.3.42), tefluthrin (O.3.43), tetramethylfluthrin (O.3.44), tetramethrin (O.3.45), tralomethrin (O.3.46) and transfluthrin (O.3.47); DDT (O.3.48), methoxychlor (O.3.49);

O.4 Nicotinic acetylcholine receptor agonists (nAChR): acetamiprid (O.4.1), clothianidin (O.4.2), cycloxaprid (O.4.3), dinotefuran (O.4.4), imidacloprid (O.4.5), nitenpyram (O.4.6), thiacloprid (O.4.7), thiamethoxam (O.4.8); (2E)-1-[(6-chloropyridin-3-yl)methyl]-N'-nitro-2-pentylidene-hydrazinecarboximidamide (O.4.9); 1-[(6-chloropyridin-3-yl)methyl]-7-methyl-8-nitro-5-propoxy-1,2,3,5,6,7-hexahydroimidazo[1,2-a]pyridine (O.4.10); nicotine (O.4.11);

O.5 Nicotinic acetylcholine receptor allosteric activators: spinosad (O.5.1), spinetoram (O.5.2);
O.6 Chloride channel activators: abamectin (O.6.1), emamectin benzoate (O.6.2), ivermectin (O.6.3), lepimectin (O.6.4), milbemectin (O.6.5);
O.7 Juvenile hormone mimics: hydroprene (O.7.1), kinoprene (O.7.2), methoprene (O.7.3); fenoxycarb (O.7.4), pyriproxyfen (O.7.5);
O.8 miscellaneous non-specific (multi-site) inhibitors: methyl bromide (O.8.1) and other alkyl halides; chloropicrin (O.8.2), sulfuryl fluoride (O.8.3), borax (O.8.4), tartar emetic (O.8.5);
O.9 Selective homopteran feeding blockers: pymetrozine (O.9.1), flonicamid (O.9.2);
O.10 Mite growth inhibitors: clofentezine (O.10.1), hexythiazox (O.10.2), diflovidazin (O.10.3); etoxazole (O.10.4);
O.11 Microbial disruptors of insect midgut membranes: the Bt crop proteins: Cry1Ab, Cry1Ac, Cry1Fa, Cry2Ab, mCry3A, Cry3Ab, Cry3Bb, Cry34/35Ab1;
O.12 Inhibitors of mitochondrial ATP synthase: diafenthiuron (O.12.1); azocyclotin (O.12.2), cyhexatin (O.12.3), fenbutatin oxide (O.12.4), propargite (O.12.5), tetradifon (O.12.6);
O.13 Uncouplers of oxidative phosphorylation via disruption of the proton gradient: chlorfenapyr (O.13.1), DNOC (O.13.2), sulfluramid (O.13.3);
O.14 Nicotinic acetylcholine receptor (nAChR) channel blockers: bensultap (O.14.1), cartap hydrochloride (O.14.2), thiocyclam (O.14.3), thiosultap sodium (O.14.4);
O.15 Inhibitors of the chitin biosynthesis type 0: bistrifluron (O.15.1), chlorfluazuron (O.15.2), diflubenzuron (O.15.3), flucycloxuron (O.15.4), flufenoxuron (O.15.5), hexaflumuron (O.15.6), lufenuron (O.15.7), novaluron (O.15.8), noviflumuron (O.15.9), teflubenzuron (O.15.10), triflumuron (O.15.11);
O.16 Inhibitors of the chitin biosynthesis type 1: buprofezin (O.16.1);
O.17 Moulting disruptors: cyromazine (O.17.1);
O.18 Ecdyson receptor agonists: methoxyfenozide (O.18.1), tebufenozide (O.18.2), halofenozide (O.18.3), fufenozide (O.18.4), chromafenozide (O.18.5);
O.19 Octopamin receptor agonists: amitraz (O.19.1);
O.20 Mitochondrial complex III electron transport inhibitors: hydramethylnon (O.20.1), acequinocyl (O.20.2), fluacrypyrim (O.20.3);
O.21 Mitochondrial complex I electron transport inhibitors: fenazaquin (O.21.1), fenpyroximate (O.21.2), pyrimidifen (O.21.3), pyridaben (O.21.4), tebufenpyrad (O.21.5), tolfenpyrad (O.21.6); rotenone (O.21.7);
O.22 Voltage-dependent sodium channel blockers: indoxacarb (O.22.1), metaflumizone (O.22.2), 2-[2-(4-cyanophenyl)-1-[3-(trifluoromethyl)phenyl]ethylidene]-N-[4-(difluoromethoxy)phenyl]-hydrazinecarboxamide (O.22.3), N-(3-chloro-2-methylphenyl)-2-[(4-chlorophenyl)-[4-[methyl(methylsulfonyl)amino]phenyl]methylene]-hydrazinecarboxamide (O.22.4);
O.23 Inhibitors of the of acetyl CoA carboxylase: spirodiclofen (O.23.1), spiromesifen (O.23.2), spirotetramat (O.23.3);
O.24 Mitochondrial complex IV electron transport inhibitors: aluminium phosphide (O.24.1), calcium phosphide (O.24.2), phosphine (O.24.3), zinc phosphide (O.24.4), cyanide (O.24.5);
O.25 Mitochondrial complex II electron transport inhibitors: cyenopyrafen (O.25.1), cyflumetofen (O.25.2);
O.26 Ryanodine receptor-modulators: flubendiamide (O.26.1), chlorantraniliprole (O.26.2),

cyantraniliprole (O.26.3), cyclaniliprole (O.26.4), tetraniliprole (O.26.5); (R)-3-chloro-N1-{2-methyl-4-[1,2,2,2 –tetrafluoro-1-(trifluoromethyl)ethyl]phenyl}-N2-(1-methyl-2-methylsulfonylethyl)phthalamide (O.26.6), (S)-3-chloro-N1-{2-methyl-4-[1,2,2,2–tetrafluoro-1-(trifluoromethyl)ethyl]phenyl}-N2-(1-methyl-2-methylsulfonylethyl)phthalamide (O.26.7), methyl-2-[3,5-dibromo-2-({[3-bromo-1-(3-chloropyridin-2-yl)-1H-pyrazol-5-yl]carbonyl}amino)benzoyl]-1,2-dimethylhydrazinecarboxylate (O.26.8); N-[4,6-dichloro-2-[(diethyl-lambda-4-sulfanylidene)-carbamoyl]-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide (O.26.9); N-[4-chloro-2-[(diethyl-lambda-4-sulfanylidene)carbamoyl]-6-methyl-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide (O.26.10); N-[4-chloro-2-[(di-2-propyl-lambda-4-sulfanylidene)carbamoyl]-6-methyl-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide (O.26.11); N-[4,6-dichloro-2-[(di-2-propyl-lambda-4-sulfanylidene)carbamoyl]-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide (O.26.12); N-[4,6-dibromo-2-[(diethyl-lambda-4-sulfanylidene)carbamoyl]-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide (O.26.13); N-[2-(5-amino-1,3,4-thiadiazol-2-yl)-4-chloro-6-methylphenyl]-3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxamide (O.26.14); 3-chloro-1-(3-chloro-2-pyridinyl)-N-[2,4-dichloro-6-[[(1-cyano-1-methylethyl)amino]carbonyl]phenyl]-1H-pyrazole-5-carboxamide (O.26.15); 3-bromo-N-[2,4-dichloro-6-(methylcarbamoyl)phenyl]-1-(3,5-dichloro-2-pyridyl)-1H-pyrazole-5-carboxamide (O.26.16); N-[4-chloro-2-[[(1,1-dimethylethyl)amino]carbonyl]-6-methylphenyl]-1-(3-chloro-2-pyridinyl)-3-(fluoromethoxy)-1H-pyrazole-5-carboxamide (O.26.17); cyhalodiamide (O.26.18);

O.27. insecticidal active compounds of unknown or uncertain mode of action: afidopyropen (O.27.1), afoxolaner (O.27.2), azadirachtin (O.27.3), amidoflumet (O.27.4), benzoximate (O.27.5), bifenazate (O.27.6), broflanilide (O.27.7), bromopropylate (O.27.8), chinomethionat (O.27.9), cryolite (O.27.10), dicloromezotiaz (O.27.11), dicofol (O.27.12), flufenerim (O.27.13), flometoquin (O.27.14), fluensulfone (O.27.15), fluhexafon (O.27.16), fluopyram (O.27.17), flupyradifurone (O.27.18), fluralaner (O.27.19), metoxadiazone (O.27.20), piperonyl butoxide (O.27.21), pyflubumide (O.27.22), pyridalyl (O.27.23), pyrifluquinazon (O.27.24), sulfoxaflor (O.27.25), tioxazafen (O.27.26), triflumezopyrim (O.27.27), 11-(4-chloro-2,6-dimethylphenyl)-12-hydroxy-1,4-dioxa-9-azadispiro[4.2.4.2]-tetradec-11-en-10-one (O.27.28), 3-(4'-fluoro-2,4-dimethylbiphenyl-3-yl)-4-hydroxy-8-oxa-1-azaspiro[4.5]dec-3-en-2-one (O.27.28), 1-[2-fluoro-4-methyl-5-[(2,2,2-trifluoroethyl)sulfinyl]phenyl]-3-(trifluoromethyl)-1H-1,2,4-triazole-5-amine (O.27.29), (E/Z)-N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide (O.27.31); (E/Z)-N-[1-[(6-chloro-5-fluoro-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide (O.27.32); (E/Z)-2,2,2-trifluoro-N-[1-[(6-fluoro-3-pyridyl)methyl]-2-pyridylidene]acetamide (O.27.33); (E/Z)-N-[1-[(6-bromo-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide (O.27.34); (E/Z)-N-[1-[1-(6-chloro-3-pyridyl)ethyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide (O.27.35); (E/Z)-N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2-difluoro-acetamide (O.27.36); (E/Z)-2-chloro-N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2-difluoro-acetamide (O.27.37); (E/Z)-N-[1-[(2-chloropyrimidin-5-yl)methyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide (O.27.38); (E/Z)-N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2,3,3,3-pentafluoro-propanamide (O.27.39); N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-thioacetamide (O.27.40); N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-N'-isopropyl-acetamidine (O.27.41); fluazaindolizine (O.27.42); 4-[5-(3,5-dichlorophenyl)-5-

(trifluoromethyl)-4H-isoxazol-3-yl]-2-methyl-N-(1-oxothietan-3-yl)benzamide (O.27.43); fluxametamide (O.27.44); 5-[3-[2,6-dichloro-4-(3,3-dichloroallyloxy)phenoxy]propoxy]-1H-pyrazole (O.27.45); 3-(benzoylmethylamino)-N-[2-bromo-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]-6-(trifluoromethyl)phenyl]-2-fluoro-benzamide (O.27.46); 3-(benzoylmethylamino)-2-fluoro-N-[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]-benzamide (O.27.47); N-[3-[[[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]phenyl]-N-methyl-benzamide (O.27.48); N-[3-[[[2-bromo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]-2-fluorophenyl]-4-fluoro-N-methyl-benzamide (O.27.49); 4-fluoro-N-[2-fluoro-3-[[[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]phenyl]-N-methyl-benzamide (O.27.50); 3-fluoro-N-[2-fluoro-3-[[[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6(trifluoromethyl)phenyl]amino]-carbonyl]phenyl]-N-methyl-benzamide (O.27.51); 2-chloro-N-[3-[[[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]phenyl]-3-pyridinecarboxamide (O.27.52); 4-cyano-N-[2-cyano-5-[[2,6-dibromo-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]phenyl]carbamoyl]phenyl]-2-methyl-benzamide (O.27.53); 4-cyano-3-[(4-cyano-2-methyl-benzoyl)amino]-N-[2,6-dichloro-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)-propyl]phenyl]-2-fluoro-benzamide (O.27.54); N-[5-[[2-chloro-6-cyano-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]phenyl]carbamoyl]-2-cyano-phenyl]-4-cyano-2-methyl-benzamide (O.27.55); N-[5-[[2-bromo-6-chloro-4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]carbamoyl]-2-cyano-phenyl]-4-cyano-2-methyl-benzamide (O.27.56); N-[5-[[2-bromo-6-chloro-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)-propyl]phenyl]carbamoyl]-2-cyano-phenyl]-4-cyano-2-methyl-benzamide (O.27.57); 4-cyano-N-[2-cyano-5-[[2,6-dichloro-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]phenyl]-carbamoyl]phenyl]-2-methyl-benzamide (O.27.58); 4-cyano-N-[2-cyano-5-[[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]carbamoyl]phenyl]-2-methyl-benzamide (O.27.59); N-[5-[[2-bromo-6-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]carbamoyl]-2-cyano-phenyl]-4-cyano-2-methyl-benzamide (O.27.60); 2-(1,3-dioxan-2-yl)-6-[2-(3-pyridinyl)-5-thiazolyl]-pyridine; 2-[6-[2-(5-fluoro-3-pyridinyl)-5-thiazolyl]-2-pyridinyl]-pyrimidine (O.27.61); 2-[6-[2-(3-pyridinyl)-5-thiazolyl]-2-pyridinyl]-pyrimidine (O.27.62); N-methylsulfonyl-6-[2-(3-pyridyl)thiazol-5-yl]pyridine-2-carboxamide (O.27.63); N-methylsulfonyl-6-[2-(3-pyridyl)thiazol-5-yl]pyridine-2-carboxamide (O.27.64); N-ethyl-N-[4-methyl-2-(3-pyridyl)thiazol-5-yl]-3-methylthio-propanamide (O.27.65); N-methyl-N-[4-methyl-2-(3-pyridyl)thiazol-5-yl]-3-methylthio-propanamide (O.27.66); N,2-dimethyl-N-[4-methyl-2-(3-pyridyl)thiazol-5-yl]-3-methylthio-propanamide (O.27.67); N-ethyl-2-methyl-N-[4-methyl-2-(3-pyridyl)thiazol-5-yl]-3-methylthio-propanamide (O.27.68); N-[4-chloro-2-(3-pyridyl)thiazol-5-yl]-N-ethyl-2-methyl-3-methylthio-propanamide (O.2769.); N-[4-chloro-2-(3-pyridyl)thiazol-5-yl]-N,2-dimethyl-3-methylthio-propanamide (O.27.70); N-[4-chloro-2-(3-pyridyl)thiazol-5-yl]-N-methyl-3-methylthio-propanamide (O.27.71); N-[4-chloro-2-(3-pyridyl)thiazol-5-yl]-N-ethyl-3-methylthio-propanamide (O.27.72); 1-[(6-chloro-3-pyridinyl)methyl]-1,2,3,5,6,7-hexahydro-5-methoxy-7-methyl-8-nitro-imidazo[1,2-a]pyridine (O.27.73); 1-[(6-chloropyridin-3-yl)methyl]-7-methyl-8-nitro-1,2,3,5,6,7-hexahydroimidazo[1,2-a]pyridin-5-ol (O.27.74); 1-isopropyl-N,5-dimethyl-N-pyridazin-4-yl-pyrazole-4-carboxamide (O.27.75); 1-(1,2-dimethylpropyl)-N-ethyl-5-methyl-N-pyridazin-4-yl-pyrazole-4-carboxamide

(O.27.76); N,5-dimethyl-N-pyridazin-4-yl-1-(2,2,2-trifluoro-1-methyl-ethyl)pyrazole-4-carboxamide (O.27.77); 1-[1-(1-cyanocyclopropyl)ethyl]-N-ethyl-5-methyl-N-pyridazin-4-yl-pyrazole-4-carboxamide (O.27.78); N-ethyl-1-(2-fluoro-1-methyl-propyl)-5-methyl-N-pyridazin-4-yl-pyrazole-4-carboxamide (O.27.79); 1-(1,2-dimethylpropyl)-N,5-dimethyl-N-pyridazin-4-yl-pyrazole-4-carboxamide (O.27.80); 1-[1-(1-cyanocyclopropyl)ethyl]-N,5-dimethyl-N-pyridazin-4-yl-pyrazole-4-carboxamide (O.27.81); N-methyl-1-(2-fluoro-1-methyl-propyl]-5-methyl-N-pyridazin-4-yl-pyrazole-4-carboxamide (O.27.82); 1-(4,4-difluorocyclohexyl)-N-ethyl-5-methyl-N-pyridazin-4-yl-pyrazole-4-carboxamide (O.27.83); 1-(4,4-difluorocyclohexyl)-N,5-dimethyl-N-pyridazin-4-yl-pyrazole-4-carboxamide (O.27.84), N-(1-methylethyl)-2-(3-pyridinyl)-2H-indazole-4-carboxamide (O.27.85); N-cyclopropyl-2-(3-pyridinyl)-2H-indazole-4-carboxamide (O.27.86); N-cyclohexyl-2-(3-pyridinyl)-2H-indazole-4-carboxamide (O.27.87); 2-(3-pyridinyl)-N-(2,2,2-trifluoroethyl)-2H-indazole-4-carboxamide (O.27.88); 2-(3-pyridinyl)-N-[(tetrahydro-2-furanyl)methyl]-2H-indazole-5-carboxamide (O.27.89); methyl 2-[[2-(3-pyridinyl)-2H-indazol-5-yl]carbonyl]hydrazinecarboxylate (O.27.90); N-[(2,2-difluorocyclopropyl)methyl]-2-(3-pyridinyl)-2H-indazole-5-carboxamide (O.27.91); N-(2,2-difluoropropyl)-2-(3-pyridinyl)-2H-indazole-5-carboxamide (O.27.92); 2-(3-pyridinyl)-N-(2-pyrimidinylmethyl)-2H-indazole-5-carboxamide (O.27.93); N-[(5-methyl-2-pyrazinyl)methyl]-2-(3-pyridinyl)-2H-indazole-5-carboxamide (O.27.94), N-[3-chloro-1-(3-pyridyl)pyrazol-4-yl]-N-ethyl-3-(3,3,3-trifluoropropylsulfanyl)-propanamide (O.27.95); N-[3-chloro-1-(3-pyridyl)pyrazol-4-yl]-N-ethyl-3-(3,3,3-trifluoropropylsulfinyl)propanamide (O.27.96); N-[3-chloro-1-(3-pyridyl)pyrazol-4-yl]-3-[(2,2-difluorocyclopropyl)methylsulfanyl]-N-ethyl-propanamide (O.27.97); N-[3-chloro-1-(3-pyridyl)pyrazol-4-yl]-3-[(2,2-difluorocyclopropyl)methylsulfinyl]-N-ethyl-propanamide (O.27.98); sarolaner (O.27.99), lotilaner (O.27.100).

The active substances referred to as component 2, their preparation and their activity e. g. against harmful fungi is known (cf.: http://www.alanwood.net/pesticides/); these substances are commercially available. The compounds described by IUPAC nomenclature, their preparation and their pesticidal activity are also known (cf. Can. J. Plant Sci. 48(6), 587-94, 1968; EP-A 141 317; EP-A 152 031; EP-A 226 917; EP-A 243 970; EP-A 256 503; EP-A 428 941; EP-A 532 022; EP-A 1 028 125; EP-A 1 035 122; EP-A 1 201 648; EP-A 1 122 244, JP 2002316902; DE 19650197; DE 10021412; DE 102005009458; US 3,296,272; US 3,325,503; WO 98/46608; WO 99/14187; WO 99/24413; WO 99/27783; WO 00/29404; WO 00/46148; WO 00/65913; WO 01/54501; WO 01/56358; WO 02/22583; WO 02/40431; WO 03/10149; WO 03/11853; WO 03/14103; WO 03/16286; WO 03/53145; WO 03/61388; WO 03/66609; WO 03/74491; WO 04/49804; WO 04/83193; WO 05/120234; WO 05/123689; WO 05/123690; WO 05/63721; WO 05/87772; WO 05/87773; WO 06/15866; WO 06/87325; WO 06/87343; WO 07/82098; WO 07/90624, WO 10/139271, WO 11/028657, WO 12/168188, WO 07/006670, WO 11/77514; WO 13/047749, WO 10/069882, WO 13/047441, WO 03/16303, WO 09/90181, WO 13/007767, WO 13/010862, WO 13/127704, WO 13/024009, WO 13/24010, WO 13/047441, WO 13/162072, WO 13/092224, WO 11/135833, CN 1907024, CN 1456054, CN 103387541, CN 1309897, WO 12/84812, CN 1907024, WO 09094442, WO 14/60177, WO 13/116251, WO 08/013622, WO 15/65922, WO 94/01546, EP 2865265, WO 07/129454, WO 12/165511, WO 11/081174, WO 13/47441).

The present invention furthermore relates to agrochemical compositions comprising a mixture of at least one compound I (component 1) and at least one further active substance useful for plant protection, e. g. selected from the groups A) to O) (component 2), in particular one further fungicide, e. g. one or more fungicide from the groups A) to K), as described above, and if desired one suitable solvent or solid carrier. Those mixtures are of particular interest, since many of them at the same application rate show higher efficiencies against harmful fungi. Furthermore, combating harmful fungi with a mixture of compounds I and at least one fungicide from groups A) to K), as described above, is more efficient than combating those fungi with individual compounds I or individual fungicides from groups A) to K).

By applying compounds I together with at least one active substance from groups A) to O) a synergistic effect can be obtained, i.e. more then simple addition of the individual effects is obtained (synergistic mixtures).

This can be obtained by applying the compounds I and at least one further active substance simultaneously, either jointly (e. g. as tank-mix) or seperately, or in succession, wherein the time interval between the individual applications is selected to ensure that the active substance applied first still occurs at the site of action in a sufficient amount at the time of application of the further active substance(s). The order of application is not essential for working of the present invention.

When applying compound I and a pesticide II sequentially the time between both applications may vary e. g. between 2 hours to 7 days. Also a broader range is possible ranging from 0.25 hour to 30 days, preferably from 0.5 hour to 14 days, particularly from 1 hour to 7 days or from 1.5 hours to 5 days, even more preferred from 2 hours to 1 day.

In the binary mixtures and compositions according to the invention the weight ratio of the component 1) and the component 2) generally depends from the properties of the active components used, usually it is in the range of from 1:10,000 to 10,000:1, often it is in the range of from 1:100 to 100:1, regularly in the range of from 1:50 to 50:1, preferably in the range of from 1:20 to 20:1, more preferably in the range of from 1:10 to 10:1, even more preferably in the range of from 1:4 to 4:1 and in particular in the range of from 1:2 to 2:1.

According to further embodiments of the binary mixtures and compositions, the weight ratio of the component 1) and the component 2) usually is in the range of from 1000:1 to 1:1, often in the range of from 100: 1 to 1:1, regularly in the range of from 50:1 to 1:1, preferably in the range of from 20:1 to 1:1, more preferably in the range of from 10:1 to 1:1, even more preferably in the range of from 4:1 to 1:1 and in particular in the range of from 2:1 to 1:1.

According to a further embodiments of the binary mixtures and compositions, the weight ratio of the component 1) and the component 2) usually is in the range of from 1:1 to 1:1000, often in the range of from 1:1 to 1:100, regularly in the range of from 1:1 to 1:50, preferably in the range of from 1:1 to 1:20, more preferably in the range of from 1:1 to 1:10, even more preferably in the range of from 1:1 to 1:4 and in particular in the range of from 1:1 to 1:2.

In the ternary mixtures, i.e. compositions according to the invention comprising the component 1) and component 2) and a compound III (component 3), the weight ratio of component 1) and component 2) depends from the properties of the active substances used, usually it is in the range of from 1:100 to 100:1, regularly in the range of from 1:50 to 50:1, preferably in the range of from 1:20 to 20:1, more preferably in the range of from 1:10 to 10:1 and in particular in the range of from 1:4 to 4:1, and the weight ratio of component 1) and component 3) usually it is in

the range of from 1:100 to 100:1, regularly in the range of from 1:50 to 50:1, preferably in the range of from 1:20 to 20:1, more preferably in the range of from 1:10 to 10:1 and in particular in the range of from 1:4 to 4:1.

Any further active components are, if desired, added in a ratio of from 20:1 to 1:20 to the component 1).

These ratios are also suitable for inventive mixtures applied by seed treatment.

Preference is also given to mixtures comprising as component 2) at least one active substance selected from inhibitors of complex III at Q_o site in group A), more preferably selected from compounds (A.1.1), (A.1.4), (A.1.8), (A.1.9), (A.1.10), (A.1.12), (A.1.13), (A.1.14), (A.1.17), (A.1.21), (A.1.24), (A.1.25), (A.1.26), (A.1.27), (A.1.30), (A.1.31), (A.1.32), (A.1.34) and (A.1.35); particularly selected from (A.1.1), (A.1.4), (A.1.8), (A.1.9), (A.1.13), (A.1.14), (A.1.17), (A.1.24), (A.1.25), (A.1.26), (A.1.27), (A.1.30), (A.1.31), (A.1.32), (A.1.34) and (A.1.35).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from inhibitors of complex III at Q_i site in group A), more preferably selected from compounds (A.2.1), (A.2.3) and (A.2.4); particularly selected from (A.2.3) and (A.2.4).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from inhibitors of complex II in group A), more preferably selected from compounds (A.3.2), (A.3.3), (A.3.4), (A.3.7), (A.3.9), (A.3.11), (A.3.12), (A.3.15), (A.3.16), (A.3.17), (A.3.18), (A.3.19), (A.3.20), (A.3.21), (A.3.22), (A.3.23), (A.3.24), (A.3.25), (A.3.27), (A.3.28), (A.3.29), (A.3.31), (A.3.32), (A.3.33), (A.3.34), (A.3.35), (A.3.36), (A.3.37), (A.3.38) and (A.3.39); particularly selected from (A.3.2), (A.3.3), (A.3.4), (A.3.7), (A.3.9), (A.3.12), (A.3.15), (A.3.17), (A.3.19), (A.3.22), (A.3.23), (A.3.24), (A.3.25), (A.3.27), (A.3.29), (A.3.31), (A.3.32), (A.3.33), (A.3.34), (A.3.35), (A.3.36), (A.3.37), (A.3.38) and (A.3.39).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from other respiration nhibitors in group A), more preferably selected from compounds (A.4.5) and (A.4.11); in particular (A.4.11).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from C14 demethylase inhibitors in group B), more preferably selected from compounds (B.1.4), (B.1.5), (B.1.8), (B.1.10), (B.1.11), (B.1.12), (B.1.13), (B.1.17), (B.1.18), (B.1.21), (B.1.22), (B.1.23), (B.1.25), (B.1.26), (B.1.29), (B.1.34), (B.1.37), (B.1.38), (B.1.43) and (B.1.46); particularly selected from (B.1.5), (B.1.8), (B.1.10), (B.1.17), (B.1.22), (B.1.23), (B.1.25), (B.1.33), (B.1.34), (B.1.37), (B.138), (B.1.43) and (B.1.46).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from Delta14-reductase inhibitors in group B), more preferably selected from compounds (B.2.4), (B.2.5), (B.2.6) and (B.2.8); in particular (B.2.4).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from phenylamides and acyl amino acid fungicides in group C), more preferably selected from compounds (C.1.1), (C.1.2), (C.1.4) and (C.1.5); particularly selected from (C.1.1) and (C.1.4).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from other nucleic acid synthesis inhibitors in group C), more preferably selected from compounds (C.2.6),(C.2.7) and (C.2.8).

Preference is also given to mixtures comprising as component 2) at least one active substance

selected from group D), more preferably selected from compounds (D.1.1), (D.1.2), (D.1.5), (D.2.4) and (D.2.6); particularly selected from (D.1.2), (D.1.5) and (D.2.6).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from group E), more preferably selected from compounds (E.1.1), (E.1.3), (E.2.2) and (E.2.3); in particular (E.1.3).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from group F), more preferably selected from compounds (F.1.2), (F.1.4) and (F.1.5).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from group G), more preferably selected from compounds (G.3.1), (G.3.3), (G.3.6), (G.5.1), (G.5.2), (G.5.3), (G.5.4), (G.5.5), G.5.6), G.5.7), (G.5.8), (G.5.9), (G.5.10) and (G.5.11); particularly selected from (G.3.1), (G.5.1), (G.5.2) and (G.5.3).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from group H), more preferably selected from compounds (H.2.2), (H.2.3), (H.2.5), (H.2.7), (H.2.8), (H.3.2), (H.3.4), (H.3.5), (H.4.9) and (H.4.10); particularly selected from (H.2.2), (H.2.5), (H.3.2), (H.4.9) and (H.4.10).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from group I), more preferably selected from compounds (I.2.2) and (I.2.5).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from group J), more preferably selected from compounds (J.1.2), (J.1.5), (J.1.8), (J.1.11) and (J.1.12); in particular (J.1.5).

Preference is also given to mixtures comprising as component 2) at least one active substance selected from group K), more preferably selected from compounds (K.1.41), (K.1.42), (K.1.44), (K.1.45), (K.1.47) and (K.1.49); particularly selected from (K.1.41), (K.1.44), (K.1.45), (K.1.47) and (K.1.49).

Accordingly, the present invention furthermore relates to mixtures comprising one compound of the formula I (component 1, a group represented by the expression “(I)”) and one pesticide II (component 2), wherein pesticide II is an active ingredients selected from the groups A) to O) defined above.

Further embodiments B-1 to B-729 listed in Table B below relate to mixtures comprising as active components one of the in the present specification individualized compounds of the formula I, which is selected from the group of compounds I.A.A-1 to I.A.A-948, I.B.A-1 to I.B.A-948, I.C.A-1 to I.C.A-948, I.D.A-1 to I.D.A-948, I.E.A-1 to I.E.A-948, I.F.A-1 to I.F.A-948, I.G.A-1 to I.G.A-948, I.H.A-1 to I.H.A-948, I.J.A-1 to I.J.A-948, I.K.A-1 to I.K.A-948, I.L.A-1 to I.L.A-948, I.M.A-1 to I.M.A-948, I.N.A-1 to I.N.A-948, I.O.A-1 to I.O.A-948, I.P.A-1 to I.P.A-948, I.Q.A-1 to I.Q.A-948, I.R.A-1 to I.R.A-948, I.S.A-1 to I.S.A-948, I.T.A-1 to I.T.A-948, I.U.A-1 to I.U.A-948 and I.V.A-1 to I.V.A-948 as defined in tables 1 to 21 (component 1, a group represented by the expression “(I)”) and one pesticide II selected from the groups A) to O) as defined herein (component 2, for example, (A.1.1) or azoxystrobin, in embodiment B-1).

Further embodiments B-1 to B-729 listed in Table B below relate to the mixtures comprising as active components one of the in the present specification individualized compounds of the formula I, which is selected from the group of compounds Ex-1 to Ex-33 of formula I as defined in Table I below (component 1, a group represented by the expression “(I)”) and one pesticide II selected from the groups A) to O) as defined herein (component 2, for example, (A.1.1) or

azoxystrobin, in embodiment B-1).

Preferably, the compositions described in Table B comprise the active components in synergistically effective amounts.

Table B:

B-1: (I)+(A.1.1), B-2: (I)+(A.1.2), B-3: (I)+(A.1.3), B-4: (I)+(A.1.4), B-5: (I)+(A.1.5), B-6: (I)+(A.1.6), B-7: (I)+(A.1.7), B-8: (I)+(A.1.8), B-9: (I)+(A.1.9), B-10: (I)+(A.1.10), B-11: (I)+(A.1.11), B-12: (I)+(A.1.12), B-13: (I)+(A.1.13), B-14: (I)+(A.1.14), B-15: (I)+(A.1.15), B-16: (I)+(A.1.16), B-17: (I)+(A.1.17), B-18: (I)+(A.1.18), B-19: (I)+(A.1.19), B-20: (I)+(A.1.20), B-21: (I)+(A.1.21), B-22: (I)+(A.1.22), B-23: (I)+(A.1.23), B-24: (I)+(A.1.24), B-25: (I)+(A.1.25), B-26: (I)+(A.1.26), B-27: (I)+(A.1.27), B-28: (I)+(A.1.30), B-29: (I)+(A.1.31), B-30: (I)+(A.1.32), B-31: (I)+(A.2.1), B-32: (I)+(A.2.2), B-33: (I)+(A.2.3), B-34: (I)+(A.2.4), B-35: (I)+(A.2.6), B-36: (I)+(A.2.7), B-37: (I)+(A.2.8), B-38: (I)+(A.3.1), B-39: (I)+(A.3.2), B-40: (I)+(A.3.3), B-41: (I)+(A.3.4), B-42: (I)+(A.3.5), B-43: (I)+(A.3.6), B-44: (I)+(A.3.7), B-45: (I)+(A.3.8), B-46: (I)+(A.3.9), B-47: (I)+(A.3.10), B-48: (I)+(A.3.11), B-49: (I)+(A.3.12), B-50: (I)+(A.3.13), B-51: (I)+(A.3.14), B-52: (I)+(A.3.15), B-53: (I)+(A.3.16), B-54: (I)+(A.3.17), B-55: (I)+(A.3.18), B-56: (I)+(A.3.19), B-57: (I)+(A.3.20), B-58: (I)+(A.3.21), B-59: (I)+(A.3.22), B-60: (I)+(A.3.23), B-61: (I)+(A.3.24), B-62: (I)+(A.3.25), B-63: (I)+(A.3.26), B-64: (I)+(A.3.27), B-65: (I)+(A.3.28), B-66: (I)+(A.3.29), B-67: (I)+(A.3.30), B-68: (I)+(A.3.31), B-69: (I)+(A.3.32), B-70: (I)+(A.3.33), B-71: (I)+(A.3.34), B-72: (I)+(A.3.35), B-73: (I)+(A.3.36), B-74: (I)+(A.3.37), B-75: (I)+(A.3.38), B-76: (I)+(A.3.39), B-77: (I)+(A.4.1), B-78: (I)+(A.4.2), B-79: (I)+(A.4.3), B-80: (I)+(A.4.4), B-81: (I)+(A.4.5), B-82: (I)+(A.4.6), B-83: (I)+(A.4.7), B-84: (I)+(A.4.8), B-85: (I)+(A.4.9), B-86: (I)+(A.4.10), B-87: (I)+(A.4.11), B-88: (I)+(A.4.12), B-89: (I)+(B.1.1), B-90: (I)+(B.1.2), B-91: (I)+(B.1.3), B-92: (I)+(B.1.4), B-93: (I)+(B.1.5), B-94: (I)+(B.1.6), B-95: (I)+(B.1.7), B-96: (I)+(B.1.8), B-97: (I)+(B.1.9), B-98: (I)+(B.1.10), B-99: (I)+(B.1.11), B-100: (I)+(B.1.12), B-101: (I)+(B.1.13), B-102: (I)+(B.1.14), B-103: (I)+(B.1.15), B-104: (I)+(B.1.16), B-105: (I)+(B.1.17), B-106: (I)+(B.1.18), B-107: (I)+(B.1.19), B-108: (I)+(B.1.20), B-109: (I)+(B.1.21), B-110: (I)+(B.1.22), B-111: (I)+(B.1.23), B-112: (I)+(B.1.24), B-113: (I)+(B.1.25), B-114: (I)+(B.1.26), B-115: (I)+(B.1.27), B-116: (I)+(B.1.28), B-117: (I)+(B.1.29), B-118: (I)+(B.1.30), B-119: (I)+(B.1.34), B-120: (I)+(B.1.37), B-121: (I)+(B.1.38), B-122: (I)+(B.1.43), B-123: (I)+(B.1.44), B-124: (I)+(B.1.45), B-125: (I)+(B.1.46), B-126: (I)+(B.1.47), B-127: (I)+(B.1.48), B-128: (I)+(B.1.49), B-129: (I)+(B.1.50), B-130: (I)+(B.1.51), B-131: (I)+(B.2.1), B-132: (I)+(B.2.2), B-133: (I)+(B.2.3), B-134: (I)+(B.2.4), B-135: (I)+(B.2.5), B-136: (I)+(B.2.6), B-137: (I)+(B.2.7), B-138: (I)+(B.2.8), B-139: (I)+(B.3.1), B-140: (I)+(C.1.1), B-141: (I)+(C.1.2), B-142: (I)+(C.1.3), B-143: (I)+(C.1.4), B-144: (I)+(C.1.5), B-145: (I)+(C.1.6), B-146: (I)+(C.1.7), B-147: (I)+(C.2.1), B-148: (I)+(C.2.2), B-149: (I)+(C.2.3), B-150: (I)+(C.2.4), B-151: (I)+(C.2.5), B-152: (I)+(C.2.6), B-153: (I)+(C.2.7), B-154: (I)+(D.1.1), B-155: (I)+(D.1.2), B-156: (I)+(D.1.3), B-157: (I)+(D.1.4), B-158: (I)+(D.1.5), B-159: (I)+(D.1.6), B-160: (I)+(D.2.1), B-161: (I)+(D.2.2), B-162: (I)+(D.2.3), B-163: (I)+(D.2.4), B-164: (I)+(D.2.5), B-165: (I)+(D.2.6), B-166: (I)+(D.2.7), B-167: (I)+(E.1.1), B-168: (I)+(E.1.2), B-169: (I)+(E.1.3), B-170: (I)+(E.2.1), B-171: (I)+(E.2.2), B-172: (I)+(E.2.3), B-173: (I)+(E.2.4), B-174: (I)+(E.2.5), B-175: (I)+(E.2.6), B-176: (I)+(E.2.7), B-177: (I)+(E.2.8), B-178: (I)+(F.1.1), B-179: (I)+(F.1.2), B-180: (I)+(F.1.3), B-181: (I)+(F.1.4), B-182: (I)+(F.1.5), B-183: (I)+(F.1.6), B-184: (I)+(F.2.1), B-185: (I)+(G.1.1), B-186: (I)+(G.1.2), B-187: (I)+(G.1.3), B-188: (I)+(G.1.4), B-189: (I)+(G.2.1), B-190: (I)+(G.2.2), B-191: (I)+(G.2.3), B-192: (I)+(G.2.4), B-193: (I)+(G.2.5), B-194: (I)+(G.2.6), B-195: (I)+(G.2.7), B-196: (I)+(G.3.1), B-197: (I)+(G.3.2), B-

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B-611: (I)+(O.25.2), B-612: (I)+(O.26.1), B-613: (I)+(O.26.2), B-614: (I)+(O.26.3), B-615: (I)+(O.26.4), B-616: (I)+(O.26.5), B-617: (I)+(O.26.6), B-618: (I)+(O.26.7), B-619: (I)+(O.26.8), B-620: (I)+(O.26.9), B-621: (I)+(O.26.10), B-622: (I)+(O.26.11), B-623: (I)+(O.26.12), B-624: (I)+(O.26.13), B-625: (I)+(O.26.14), B-626: (I)+(O.26.15), B-627: (I)+(O.26.16), B-628: (I)+(O.26.17), B-629: (I)+(O.26.18), B-630: (I)+(O.27.1), B-631: (I)+(O.27.2), B-632: (I)+(O.27.3), B-633: (I)+(O.27.4), B-634: (I)+(O.27.5), B-635: (I)+(O.27.6), B-636: (I)+(O.27.7), B-637: (I)+(O.27.8), B-638: (I)+(O.27.9), B-639: (I)+(O.27.10), B-640: (I)+(O.27.11), B-641: (I)+(O.27.12), B-642: (I)+(O.27.13), B-643: (I)+(O.27.14), B-644: (I)+(O.27.15), B-645: (I)+(O.27.16), B-646: (I)+(O.27.17), B-647: (I)+(O.27.18), B-648: (I)+(O.27.19), B-649: (I)+(O.27.20), B-650: (I)+(O.27.21), B-651: (I)+(O.27.22), B-652: (I)+(O.27.23), B-653: (I)+(O.27.24), B-654: (I)+(O.27.25), B-655: (I)+(O.27.26), B-656: (I)+(O.27.27), B-657: (I)+(O.27.28), B-658: (I)+(O.27.29), B-659: (I)+(O.27.30), B-660: (I)+(O.27.31), B-661: (I)+(O.27.32), B-662: (I)+(O.27.33), B-663: (I)+(O.27.34), B-664: (I)+(O.27.35), B-665: (I)+(O.27.36), B-666: (I)+(O.27.37), B-667: (I)+(O.27.38), B-668: (I)+(O.27.39), B-669: (I)+(O.27.40), B-670: (I)+(O.27.41), B-671: (I)+(O.27.42), B-672: (I)+(O.27.43), B-673: (I)+(O.27.44), B-674: (I)+(O.27.45), B-675: (I)+(O.27.46), B-676: (I)+(O.27.47), B-677: (I)+(O.27.48), B-678: (I)+(O.27.49), B-679: (I)+(O.27.50), B-680: (I)+(O.27.51), B-681: (I)+(O.27.52), B-682: (I)+(O.27.53), B-683: (I)+(O.27.54), B-684: (I)+(O.27.55), B-685: (I)+(O.27.56), B-686: (I)+(O.27.57), B-687: (I)+(O.27.58), B-688: (I)+(O.27.59), B-689: (I)+(O.27.60), B-690: (I)+(O.27.61), B-691: (I)+(O.27.62), B-692: (I)+(O.27.63), B-693: (I)+(O.27.64), B-694: (I)+(O.27.65), B-695: (I)+(O.27.66), B-696: (I)+(O.27.67), B-697: (I)+(O.27.68), B-698: (I)+(O.27.69), B-699: (I)+(O.27.70), B-700: (I)+(O.27.71), B-701: (I)+(O.27.72), B-702: (I)+(O.27.73), B-703: (I)+(O.27.74), B-704: (I)+(O.27.75), B-705: (I)+(O.27.76), B-706: (I)+(O.27.77), B-707: (I)+(O.27.78), B-708: (I)+(O.27.79), B-709: (I)+(O.27.80), B-710: (I)+(O.27.81), B-711: (I)+(O.27.82), B-712: (I)+(O.27.83), B-713: (I)+(O.27.84), B-714: (I)+(O.27.85), B-715: (I)+(O.27.86), B-716: (I)+(O.27.87), B-717: (I)+(O.27.88), B-718: (I)+(O.27.89), B-719: (I)+(O.27.90), B-720: (I)+(O.27.91), B-721: (I)+(O.27.92), B-722: (I)+(O.27.93), B-723: (I)+(O.27.94), B-724: (I)+(O.27.95), B-725: (I)+(O.27.96), B-726: (I)+(O.27.97), B-727: (I)+(O.27.98), B-728: (I)+(O.27.99), B-729: (I)+(O.27.100).

The mixtures of active substances can be prepared as compositions comprising besides the active ingredients at least one inert ingredient (auxiliary) by usual means, e. g. by the means given for the compositions of compounds I.

Concerning usual ingredients of such compositions reference is made to the explanations given for the compositions containing compounds I.

The mixtures of active substances according to the present invention are suitable as fungicides, as are the compounds of formula I. They are distinguished by an outstanding effectiveness against a broad spectrum of phytopathogenic fungi, especially from the classes of the Ascomycetes, Basidiomycetes, Deuteromycetes and Peronosporomycetes (syn. Oomycetes). In addition, it is refered to the explanations regarding the fungicidal activity of the compounds and the compositions containing compounds I, respectively.

I. Synthesis examples

The compounds of the formula I can be prepared according to the methods outlined below.

I.1) Preparation of N'-hydroxy-4-[(isopropylamino)methyl]benzamidine

To a solution of 4-[(isopropylamino)methyl]benzonitrile (4.5 g, 1 eq.) and trimethylamine (6.48 g, 2 eq.) in ethanol (12 mL) hydroxylamine hydrochloride (2.96 g, 2 eq.) was added. The mixture was heated overnight at 80 °C. After cooling to room temperature, the solvent was removed under reduced pressure. The title compound was used directly without further purification.

I.2) Preparation of N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]-propan-2-amine

A solution of N'-hydroxy-4-[(isopropylamino)methyl]benzamidine obtained from I.1) (4.41 g, 1 eq.) in dichloromethane (200 mL) was treated with trifluoroacetic anhydride (8.94 g, 2 eq.). The resulting mixture was stirred overnight at ambient temperature, before it was diluted with water and washed with dichloromethane. The combined organic layer was washed with an aqueous solution of sodium hydrogencarbonate, dried with magnesium sulfate and freed from solvent. The residue was purified by column chromatography (cyclohexane : ethyl acetate) to afford the desired product as a colorless oil (1.57 g, 26%). LC/MS (*HPLC method described below): Retention time 0.860 min (m/z 286). ^{1}H NMR (500 MHz, $CDCl_3$): δ [ppm] = 8.18 (*CH*, 2H), 7.45 (*CH*, 2H), 3.85 (CH_2, 2H), 2.90 (*NH*), 1.39 (*CH*, 1H), 1.15 (2 x CH_3, 6H).

I.3) Preparation of N-isopropyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]cyclobutanecarboxamide (Ex-10)

To a solution of the N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]-propan-2-amine (300 mg, 1.0 eq.) as obtained from I.2) in dichloromethane (10 mL) was added trimethylamine (212 mg, 2 eq.) and a solution of cyclobutanecarbonyl chloride (125 mg, 1 eq.) in dichloromethane (10 mL). The mixture was stirred at room temperature until HPLC indicated complete conversion of starting material. HCl solution was added and the aqueous layer was extracted with dichloromethane. The organic layer was dried with magenesium sulfate and the solvent was removed under reduced pressure. The crude product was purified by column chromatography (cyclohexane : ethyl acetate) to afford the desired product as a colorless oil (280 mg, 72.5%). LC/MS (*HPLC method described below): Retention time (R_t) 1.308 min (m/z 368).

I.4) Preparation of N-isopropyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]cyclobutanecarbothioamide (Ex-27)

To a solution of N-isopropyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]cyclobutanecarboxamide (compound Ex-10, 200 mg, 1.0 eq.) in 3.5 mL toluene was added diphosphorus pentasulfide (133 mg, 1.1 eq.). The mixture was heated over 4 hours. Water was added and the aqueous layer was extracted with ethyl acetate. The organic layer was dried with magenesium sulfate and the solvent was removed under reduced pressure. The crude product

was purified by column chromatography (cyclohexane, ethyl acetate) to afford the desired product as a colorless oil (154 mg, 70%). LC/MS: Retention time (R_t) 1.479 min (m/z 384).

The compounds listed in Table I were prepared in an analogous manner.

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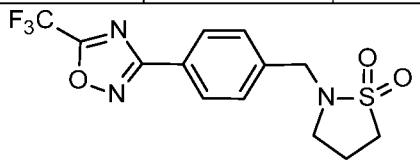
Table I: Compounds Ex-1 to Ex-33 of formula I, wherein A corresponds to subformula (A.4), wherein the group (A.4) is unsubstituted, and wherein the meaning of R^1, R^2, R^3, R^4 and L are as defined in each line.

Ex. no	R^1	R^2	R^3/R^4	L	HPLC R_t (min)*	Melting point (°C)
Ex-1	cyclobutyl	CH_3	H/H	-C(=O)-	1.20	89
Ex-2	cyclohexyl	CH_3	H/H	-C(=O)-	1.29	-
Ex-3	cyclopropyl	CH_3	H/H	-C(=O)-	1.14	72
Ex-4	phenyl	CH_3	H/H	-C(=O)-	1.22	85
Ex-5	cyclopropyl	allyl	H/H	-C(=O)-	1.24	-
Ex-6	cyclobutyl	allyl	H/H	-C(=O)-	1.30	-
Ex-7	cyclohexyl	allyl	H/H	-C(=O)-	1.39	-
Ex-8	phenyl	allyl	H/H	-C(=O)-	1.30	-
Ex-9	cyclopropyl	*iso*-propyl	H/H	-C(=O)-	1.24	-
Ex-10	cyclobutyl	*iso*-propyl	H/H	-C(=O)-	1.31	-
Ex-11	cyclohexyl	*iso*-propyl	H/H	-C(=O)-	1.38	-
Ex-12	1-methylcyclopropyl	CH_3	H/H	-C(=O)-	1.15	-
Ex-13	cyclopropyl	CH_3	H/CH_3	-C(=O)-	1.24	-
Ex-14	phenyl	CH_3	H/CH_3	-C(=O)-	1.28	-
Ex-15	cyclohexyl	CH_3	H/CH_3	-C(=O)-	1.37	-
Ex-16	2,4-difluorophenyl	CH_3	H/CH_3	-C(=O)-	1,30	-
Ex-17	2-MeO-phenyl	CH_3	H/CH_3	-C(=O)-	1.28	-
Ex-18	cyclobutyl	CH_3	H/CH_3	-C(=O)-	1.28	-
Ex-19	cyclopropyl	H	H/H	-C(=O)-	1.10	174
Ex-20	1-methylcyclopropyl	CH_3	H/CH_3	-C(=O)-	1.25	-
Ex-21	cyclopentyl	CH_3	H/CH_3	-C(=O)-	1.34	-
Ex-22	2-fluorophenyl	CH_3	H/CH_3	-C(=O)-	1.29	-
Ex-23	4-fluorophenyl	CH_3	H/CH_3	-C(=O)-	1.29	-
Ex-24	2,6-difluorophenyl	CH_3	H/CH_3	-C(=O)-	1.31	-
Ex-25	cyclopropyl	CH_3	H/CH_3	-C(=S)-	1.39	-
Ex-26	1-methylcyclopropyl	CH_3	H/CH_3	-C(=S)-	1.41	-
Ex-27	cyclobutyl	*iso*-propyl	H/H	-C(=S)-	1.48	-
Ex-28	phenyl	CH_3	H/H	-C(=S)-	1.38	-
Ex-29	cyclobutyl	CH_3	H/H	-C(=S)-	1.36	87
Ex-30	cyclohexyl	CH_3	H/H	-C(=S)-	1.44	115
Ex-31	cyclopropyl	CH_3	H/H	-C(=S)-	1.30	-
Ex-32	cyclopropyl	*iso*-propyl	H/H	-C(=S)-	1.42	-

Ex. no	R^1	R^2	R^3/R^4	L	HPLC R_t (min)*	Melting point (°C)
Ex-33					1.12	75

* HPLC: High Performance Liquid Chromatography; HPLC-column Kinetex XB C18 1,7µ (50 x 2,1 mm); eluent: acetonitrile / water+0.1% trifluoroacetic acid (gradient from 5:95 to 100 : 0 in 1.5 min at 60°C, flow gradient from 0.8 to 1.0 ml/min in 1.5 min). MS: Quadrupol Electrospray Ionisation, 80 V (positive mode). R_t: retention time in minutes.

II. Biological examples for fungicidal activity

The fungicidal action of the compounds of formula I was demonstrated by the following experiments:

A. Glass house trials

The spray solutions were prepared in several steps: The stock solution were prepared: a mixture of acetone and/or dimethylsulfoxide and the wetting agent/emulsifier Wettol, which is based on ethoxylated alkylphenoles, in a relation (volume) solvent-emulsifier of 99 to 1 was added to 25 mg of the compound to give a total of 5 ml. Water was then added to total volume of 100 ml. This stock solution was diluted with the described solvent-emulsifier-water mixture to the given concentration.

II.1) Curative control of soy bean rust on soy beans caused by *Phakopsora pachyrhizi*
Leaves of pot-grown soy bean seedlings were inoculated with spores of *Phakopsora pachyrhizi.* To ensure the success of the artificial inoculation, the plants were transferred to a humid chamber with a relative humidity of about 95 % and 20 to 24 °C for 24 hours. The next day the plants were cultivated for 3 days in a greenhouse chamber at 23 to 27 °C and a relative humidity between 60 and 80 %. Then the plants were sprayed to run-off with an aqueous suspension, containing the concentration of active ingredient or their mixture as described below. The plants were allowed to air-dry. Then the trial plants were cultivated for 14 days in a greenhouse chamber at 23 to 27 °C and a relative humidity between 60 and 80 %. The extent of fungal attack on the leaves was visually assessed as % diseased leaf area.
In this test, the plants which had been treated with 63 ppm of the active compounds Ex-7, Ex-8, Ex-11 and Ex-18 showed a diseased leaf area of at most 15 %, whereas the untreated plants

showed 90 % diseased leaf area.

In this test, the plants which had been treated with 16 ppm of the active compounds Ex-1, Ex-2, Ex-3, Ex-5, Ex-9, Ex-10, Ex-12, Ex-19, Ex-20, Ex-29, Ex-30 and Ex-31 showed a diseased leaf area of at most 13 %, whereas the untreated plants showed 90 % diseased leaf area.

II.2) Protective control of soy bean rust on soy beans caused by *Phakopsora pachyrhizi*

Leaves of pot-grown soy bean seedlings were sprayed to run-off with an aqueous suspension, containing the concentration of active ingredient or their mixture as described below. The plants were allowed to air-dry. The trial plants were cultivated for 2 day in a greenhouse chamber at 23 to 27 °C and a relative humidity between 60 and 80 %.Then the plants were inoculated with spores of *Phakopsora pachyrhizi.* To ensure the success the artificial inoculation, the plants were transferred to a humid chamber with a relative humidity of about 95 % and 20 to 24 °C for 24 h. The trial plants were cultivated for fourteen days in a greenhouse chamber at 23 to 27 °C and a relative humidity between 60 and 80 %. The extent of fungal attack on the leaves was visually assessed as % diseased leaf area.

In this test, the plants which had been treated with 63 ppm of the active compounds Ex-7, Ex-8, Ex-11, Ex-14, Ex-15, Ex-16, Ex-18, Ex-21, Ex-22, Ex-23, Ex-24, Ex-26 and Ex-27 showed a diseased leaf area of at most 6 %, whereas the untreated plants showed 90 % diseased leaf area.

In this test, the plants which had been treated with 16 ppm of the active compounds Ex-1, Ex-2, Ex-3, Ex-4, Ex-5, Ex-6, Ex-9, Ex-10, Ex-12, Ex-13, Ex-19, Ex-20, Ex-25, Ex-28, Ex-29, Ex-30, Ex-31 and Ex-32 showed a diseased leaf area of at most 1 %, whereas the untreated plants showed 90 % diseased leaf area.

II.3) Curative control of brown rust on wheat caused by *Puccinia recondita*

The first two developed leaves of pot-grown wheat seedling were dusted with spores of *Puccinia recondita.* To ensure the success the artificial inoculation, the plants were transferred to a humid chamber without light and a relative humidity of 95 to 99 % and 20 to 24 °C for 24 hours. The next day the plants were cultivated for 3 days in a greenhouse chamber at 20 to 24 °C and a relative humidity between 65 and 70 %. Then the plants were sprayed to run-off with an aqueous suspension, containing the concentration of active ingredient or their mixture as described below. The plants were allowed to air-dry. Then the trial plants were cultivated for 8 days in a greenhouse chamber at 20 to 24 °C and a relative humidity between 65 and 70 %. The extent of fungal attack on the leaves was visually assessed as % diseased leaf area.

In this test, the plants which had been treated with 63 ppm of the active compounds Ex-1, Ex-2, Ex-3, Ex-4, Ex-5, Ex-6, Ex-9, Ex-10, Ex-12, Ex-13, Ex-19, Ex-20, Ex-25, Ex-28, Ex-29 and Ex-32 showed a diseased leaf area of at most 4 %, whereas the untreated plants showed 90 % diseased leaf area.

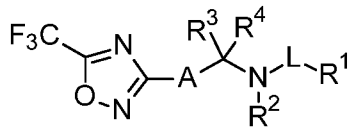
II.4) Preventative control of brown rust on wheat caused by *Puccinia recondita*

The first two developed leaves of pot-grown wheat seedling were sprayed to run-off with an aqueous suspension, containing the concentration of active ingredient or their mixture as described below. Seven days later the plants were inoculated with spores of *Puccinia recondita.* To ensure the success the artificial inoculation, the plants were transferred to a humid chamber without light and a relative humidity of 95 to 99 % and 20 to 24 °C for 24 hours. Then the trial plants were cultivated for 6 days in a greenhouse chamber at 20 to 24 °C and a relative humidity between 65 and 70 %. The extent of fungal attack on the leaves was visually assessed as % diseased leaf area.

In this test, the plants which had been treated with 63 ppm of the active compounds Ex-1, Ex-4, Ex-5, Ex-6, Ex-9, Ex-10, Ex-12, Ex-19, Ex-28 and Ex-29 showed a diseased leaf area of at most 12 %, whereas the untreated plants showed 90 % diseased leaf area.

Claims

1. Compounds of the formula I, or the N-oxides, or the agriculturally acceptable salts thereof



I,

wherein:

A is phenyl or a 5- or 6-membered aromatic heterocycle, wherein the ring member atoms of the aromatic heterocycles include besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein the phenyl ring or the aromatic heterocycles are unsubstituted or substituted with 1, 2, 3 or 4 identical or different groups R^A; wherein

R^A is halogen, cyano, NO_2, OH, SH, NH_2, diC_1-C_6-alkylamino, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_1-C_6-alkylthio, C_1-C_6-alkylsulfinyl, C_1-C_6-alkylsulfonyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkoxy; and wherein any of the aliphatic and cyclic moieties are unsubstituted or substituted with 1, 2, 3 or 4 identical or different groups R^a; wherein

R^a is halogen, cyano, NO_2, OH, SH, NH_2, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_1-C_6-haloalkylthio or C_3-C_8-cycloalkyl or C_1-C_4-alkoxy-C_1-C_4-alkyl;

L is -(C=O)-, -(C=S)- or -$S(=O)_p$-;

p is 0, 1 or 2;

R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, phenyl-C_1-C_4-alkyl, heteroaryl-C_1-C_4-alkyl, phenyl, naphthyl or a 3- to 10-membered saturated, partially unsaturated or aromatic mono- or bicyclic heterocycle, wherein the ring member atoms of said mono- or bicyclic heterocycle include besides carbon atoms further 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms and wherein 1 or 2 carbon ring member atoms of the heterocycle may be replaced by 1 or 2 groups independently selected from -C(=O)- and -C(=S)-; and wherein the heteroaryl group in heteroaryl-C_1-C_4-alkyl is a 5- or 6-membered aromatic heterocycle, wherein the ring member atoms of the heterocyclic ring include besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the above-mentioned aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3 or up to the maximum possible number of identical or different groups R^{1a}; wherein

R^{1a} is halogen, oxo, cyano, NO_2, OH, SH, NH_2, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_1-C_6-haloalkylthio, C_3-C_8-cycloalkyl, $NHSO_2$-C_1-C_4-alkyl, (C=O)-C_1-C_4-alkyl, C(=O)-C_1-C_4-alkoxy, C_1-C_6-alkylsulfonyl, hydroxyC_1-C_4-alkyl, C(=O)-NH_2, C(=O)-NH(C_1-C_4-alkyl), C_1-C_4-alkylthio-C_1-C_4-alkyl, aminoC_1-C_4-alkyl, C_1-C_4-alkylamino-C_1-C_4-alkyl, diC_1-C_4-alkylamino-C_1-C_4-alkyl, aminocarbonyl-C_1-C_4-alkyl or C_1-C_4-alkoxy-C_1-C_4-alkyl.

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_3-C_8-cycloalkyl-C_1-C_6-alkyl, phenyl-C_1-C_4-alkyl, phenyl, C(=O)-C_1-C_6-alkyl or C(=O)-C_1-C_6-alkoxy; and wherein any of the aliphatic or cyclic groups are unsubstituted or substituted with 1, 2, 3 or up to the maximum possible number of identical or different groups R^{1a};

R^3, R^4 independently of each other are selected from the group consisting of hydrogen, halogen, cyano, C_1-C_4-alkyl, C_1-C_4-alkenyl, C_1-C_4-alkynyl and C_1-C_4-haloalkyl;

or R^3 and R^4 together with the carbon atom to which they are bound form a 3- to 7-membered carbocycle or a saturated 3- to 6-membered heterocycle, wherein the heterocycle includes beside carbon atoms 1, 2 or 3 heteroatoms independently selected from N-R^N, S, -S(=O)-, -S(=O)$_2$- and O as ring member atoms; wherein

R^N is H, C_1-C_6-alkyl, SO_2CH_3, $SO_2C_6H_4CH_3$ or SO_2-aryl;

and wherein one or two CH_2 groups of the carbocycle or heterocycle may be replaced by one or two groups independently selected from the group of -C(=O)- and -C(=S)-; and wherein the carbocycle, the heterocycle and aryl is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{3a}; wherein

R^{3a} is halogen, cyano, NO_2, OH, SH, NH_2, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_1-C_6-haloalkylthio, C_3-C_8-cycloalkyl, $NHSO_2$-C_1-C_4-alkyl, (C=O)-C_1-C_4-alkyl, C(=O)-C_1-C_4-alkoxy or C_1-C_6-alkylsulfonyl;

with the exception of 5-ethyl-2,4-dimethyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide, 5-ethyl-2-methyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide, 4-chloro-2,5-dimethyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide, 4-bromo-5-ethyl-2-methyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide and 4-chloro-5-ethyl-2-methyl-N-[[4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methyl]pyrazole-3-carboxamide.

2. Compounds according to claim 1, wherein A is phenyl.

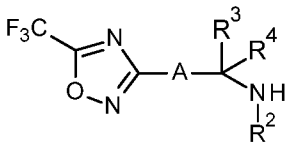
3. Compounds according to claim 1 or 2, wherein A is unsubstituted or substituted with 1 or 2 identical or different groups R^A; and wherein R^A is fluorine, chlorine or C_1-C_6-alkyl.

4. Compounds according to any one of claims 1 to 3, wherein R^2 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkenyl, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkyl-C_1-C_4-alkyl; and R^1 is C_3-C_8-cycloalkyl, C_3-C_8-cycloalkenyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, phenyl-C_1-C_4-alkyl, heteroaryl-C_1-C_4-alkyl, phenyl or heteroaryl; and wherein the heteroaryl group is a 5- or 6-membered aromatic heterocycle, wherein the ring includes besides carbon atoms 1, 2, 3 or 4 heteroatoms selected from N, O and S as ring member atoms; and wherein any of the aliphatic or cyclic groups in R^1 or R^2 are independently unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different groups R^{1a} as defined in claim 1.

5. Compounds according to any one of claims 1 to 4, wherein R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_3-C_8-cycloalkyl, C_3-C_8-cycloalkyl-C_1-C_4-alkyl; and R^1 is C_3-C_8-cycloalkyl; and wherein the cycloalkyl group in R^1 is unsubstituted or substituted with 1, 2, 3, 4 or up to the maximum possible number of identical or different radicals selected from halogen or C_1-C_6-alkyl.

6. Compounds according to any one of claims 1 to 5, wherein L is -(C=O)-.

7. A process for preparing compounds of the formula I as defined in claim 1, which comprises the process step of reacting an amine compound of the formula II



II,

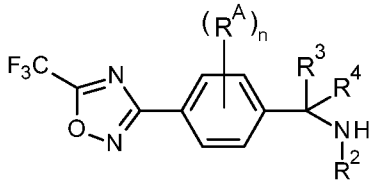
wherein the variables A, R^2, R^3 and R^4 are as defined for compounds of the formula I in claim 1, under basic conditions with a compound of the formula III

$$LG\text{-}L\text{-}R^1 \qquad III,$$

wherein L and R^1 are as defined for compounds of the formula I in claim 1; and wherein LG is a leaving group selected from the group consisting of chlorine, bromine, fluorine, azide and the group -O-L-R^1, wherein the variables R^1 and L are as defined for compounds of the formula I in claim 1.

8. Intermediate compounds of the formula II as defined in claim 7, wherein A is phenyl, with the exception of [4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methanamine.

9. Intermediate compounds of the formula II.a



II.a,

wherein n is 0, 1 or 2 and wherein the variables R^A, R^2, R^3 and R^4 are as defined in claim 1, with the exception of [4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methanamine.

10. Intermediate compounds according to claim 8 or 9, wherein

n is 0;

R^3 and R^4 independently of each other are hydrogen, halogen, C_1-C_6-alkyl or C_1-C_6-haloalkyl; or

R^3 and R^4 together with the carbon atom to which they are bound form a cyclopropyl ring;

R^2 is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl or C_3-C_8-cycloalkyl-C_1-C_4-alkyl; with the exception of [4-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]phenyl]methanamine.

11. An agrochemical composition, which comprises an auxiliary and at least one compound of the formula I, or an N-oxide, or an agriculturally acceptable salt thereof, as defined in any one of claims 1 to 6.

12. An agrochemical composition according to claim 11 comprising at least one further pesticidally active substance selected from the group consisting of herbicides, safeners, fungicides, insecticides, and plant growth regulators.

13. An agrochemical composition according to claim 11 or 12, further comprising seed, wherein the amount of the compound of the formula I, or an N-oxide, or an agriculturally acceptable salt thereof, is from 0.1 g to 10 kg per 100 kg of seed.

14. The use of compounds according to any one of claims 1 to 6 for combating phytopathogenic harmful fungi.

15. A method for combating phytopathogenic harmful fungi, which process comprises treating the fungi or the plants, the soil or seeds to be protected against fungal attack, with an effective amount of at least one compound of formula I, or an N-oxide, or an agriculturally acceptable salt thereof, as defined in any one of claims 1 to 6.