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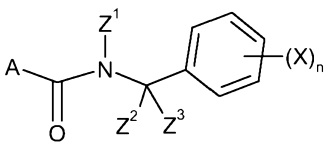
(54) Title: FUNGICIDE N-CYCLOALKYL-BENZYL-AMIDE DERIVATIVES



(I)

(57) Abstract: The present invention relates to N-cycloalkyl-benzyl-amide derivatives of formula (I) wherein the substituents are as in the description, their process of preparation, their use as fungicide active agents, particularly in the form of fungicide compositions, and methods for the control of phytopathogenic fungi, notably of plants, using these compounds or compositions: (I)

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FUNGICIDE N-CYCLOALKYL-BENZYL-AMIDE DERIVATIVES

DESCRIPTION

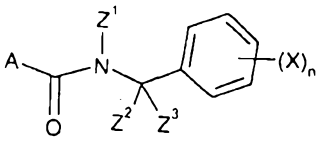
The present invention relates to N-cycloalkyl-benzyl-amide derivatives, their process of preparation, their use as fungicide active agents, particularly in the form of fungicide compositions, and methods for the control of phytopathogenic fungi, notably of plants, using these compounds or compositions.

US patent US-4314839 generically discloses 1,2,3-methyl-thiadiazole-5-carboxylic acid amide derivatives that can include a phenyl group and wherein the nitrogen atom can be substituted by a cyclohexyl group. These compounds largely differ from the compounds according to the invention, either in their chemical structure or in their properties.

It is always of high-interest in agriculture to use novel pesticide compounds in order to avoid or to control the development of resistant strains to the active ingredients. It is also of high-interest to use novel compounds being more active than those already known, with the aim of decreasing the amounts of active compound to be used, whilst at the same time maintaining effectiveness at least equivalent to the already known compounds.

We have now found a new family of compounds which possess the above mentioned effects or advantages.

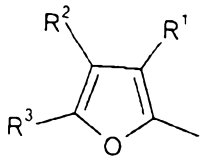
Accordingly, the present invention provides N-cycloalkyl-benzyl-amide derivatives of formula (I):



(I)

wherein

- A represents a heterocycle of formula (A^1)

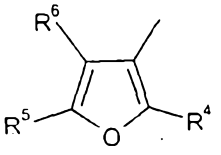


(A^1)

wherein:

R^1 to R^3 which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can the same or different; C_1-C_5-alkoxy or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^2)

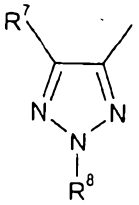


(A^2)

wherein:

R^4 to R^6 which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-alkoxy or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^3)



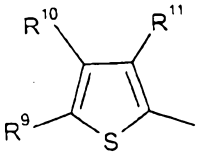
(A^3)

wherein:

R^7 represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-alkoxy or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

R^8 represents a hydrogen atom or a C_1.C_5-alkyl;

- a heterocycle of formula (A^4)

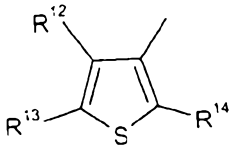


(A^4)

wherein:

R^9 to R^{11} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; amino; C_1-C_5-alkoxy; C_1-C_5-alkylthio C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^5)



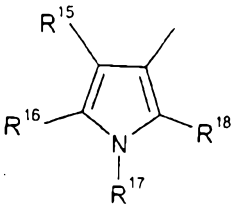
(A^5)

wherein:

R^{12} and R^{13} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-alkoxy; amino; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

R^{14} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-alkoxy; amino; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^6)



(A^6)

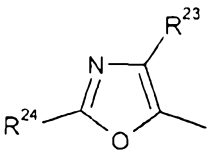
wherein:

R^{15} represents a hydrogen atom; a halogen atom; a cyano; a C_1-C_5-alkyl; C_1-C_5-alkoxy; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{16} and R^{18} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkoxycarbonyl; C_1-C_5-alkyl; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{17} represent a hydrogen atom or C_1.C_5-alkyl;

- a heterocycle of formula (A^8)



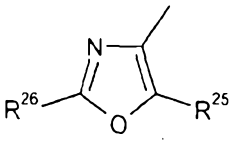
(A^8)

wherein:

R^{23} represents a hydrogen atom; a halogen atom; a C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{24} represents a hydrogen atom or C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^9)



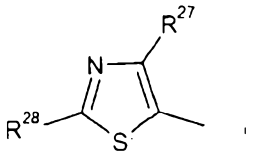
(A^9)

wherein:

R^{25} represents a hydrogen atom; a halogen atom; a C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{26} represents a hydrogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^{10})



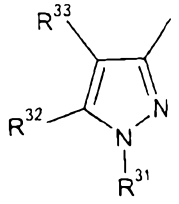
(A^{10})

wherein:

R^{27} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{28} represents a hydrogen atom; a halogen atom; amino; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^{12})



(A^{12})

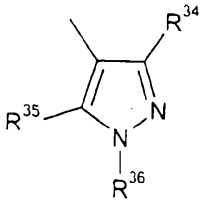
wherein:

R^{31} represents a hydrogen atom; a halogen atom or a C_1-C_5-alkyl

R^{32} represents a hydrogen atom; a halogen atom; C_1-C_5 alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{33} represents a hydrogen atom; a halogen atom; a nitro; C_1-C_5-alkyl; C_1-C_5-alkoxy; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^{13})



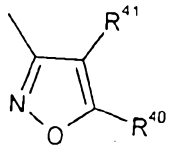
wherein:

R^{34} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_3-C_5-cycloalkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-alkoxy; C_2-C_5-alkynyloxy or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

R^{35} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl; a cyano; C_1-C_5-alkoxy; C_1-C_5-alkylthio; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different; amino; C_1-C_5-alkylamino or di(C_1-C_5-alkyl)amino;

R^{36} represents a hydrogen atom or C_1-C_5-alkyl;

- a heterocycle of formula (A^{15})

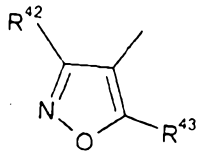


(A^{15})

wherein:

R^{40} and R^{41} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^{16})

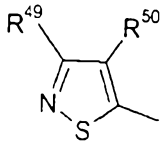


(A^{16})

wherein:

R^{42} and R^{43} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different or amino;

- a heterocycle of formula (A^{19})



wherein:

R^{49} and R^{50} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-alkoxy; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- Z1 represents a non substituted cyclopropyl or a cyclopropyl substituted by up to 10 atoms or groups which can be the same or different and which can be selected in the list consisting of halogen atoms; cyano; C1-C8-alkyl; C1-C8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C1-C8-alkoxy; C1-C8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different; C1-C8-alkoxycarbonyl; C1-C8-halogenoalkoxycarbonyl comprising up to 9 halogen atoms which can be the same or different; C1-C8-alkylaminocarbonyl; di-C1-C8-alkylaminocarbonyl;

- Z^2 and Z^3, which can be the same or different, represent a hydrogen atom ; C_1-C_8-alkyl ; C_2-C_8-alkenyl ; C_2-C_8-alkynyl ; cyano ; nitro ; a halogen atom ; C_1-C_8-alkoxy ; C_2-C_8-alkenyloxy ; C_2-C_8-alkynyloxy ; C_3-C_7-cycloalkyl ; C_1-C_8-alkylsulphenyl ; amino ; C_1-C_8-alkylamino ; di-C_1-C_8-alkylamino ; C_1-C_8-alkoxycarbonyl ; C_1-C_8-alkylcarbamoyl ; di-C_1-C_8-alkylcarbamoyl ; N-C_1-C_8-alkyl-C_1-C_8-alkoxycarbamoyl ; or
- Z^2 and Z^3 together with the carbon atom to which they are linked can form a substituted or non substituted C_3-C_7 cycloalkyl ;

- X, which can be the same or different, represents a halogen atom ; nitro ; cyano ; hydroxyl ; sulfanyl ; amino ; pentafluoro-λ6-sulfanyl ; C_1-C_8-alkyl ; C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different ; C_1-C_8-alkylamino ; di-C_1-C_8-alkylamino ; C_1-C_8-alkoxy ; C_1-C_8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different ; C_1-C_8-alkoxy-C_1-C_8-alkyl ; C_1-C_8-alkylsulfanyl ; C_1-C_8-halogenoalkylsulfanyl comprising up to 9 halogen atoms which can be the same or different ; C_2-C_8-alkenyl ; C_2-C_8-halogenoalkenyl comprising up to 9 halogen atoms which can be the same or different ; C_2-C_8-alkynyl ; C_2-C_8-halogenoalkynyl comprising up to 9 halogen atoms which can be the same or different C_2-C_8-alkenyloxy ; C_2-C_8-halogenoalkenyloxy comprising up to 9 halogen atoms which can be the same or different ; C_2-C_8-alkinyloxy ; C_2-C_8-halogenoalkinyloxy comprising up to 9 halogen atoms which can be the same or different ; C_3-C_7-cycloalkyl ; C_3-C_7-cycloalkyl-C_1-C_8-alkyl ; C_3-C_7-halogenocycloalkyl comprising up to 9 halogen atoms which can be the same or different ; formyl ; formyloxy ; formylamino ; carboxy ; carbamoyl ; N-hydroxycarbamoyl ; carbamate ; (hydroxyimino)-C_1-C_8-alkyl ; C_1-C_8-alkylcarbonyl ; C_1-C_8-halogenoalkylcarbonyl comprising up to 9 halogen atoms which can be the same or different ; C_1-C_8-alkylcarbamoyl ; di-C_1-C_8-alkylcarbamoyl ; N-C_1-C_8-alkyloxycarbamoyl ; C_1-C_8-alkoxycarbamoyl ; N-C_1-C_8-alkyl-C_1-C_8-alkoxycarbamoyl ; C_1-C_8-alkoxycarbonyl ; C_1-C_8-halogenoalkoxycarbonyl comprising up to 9 halogen atoms which can be the same or different ; C_1-C_8-alkylaminocarbonyl ; di-C_1-C_8-alkylaminocarbonyl ; C_1-C_8-alkylcarbonyloxy ; C_1-C_8-halogenoalkylcarbonyloxy comprising up to 9 halogen atoms which can be the same or different ; C_1-C_8-alkylcarbonylamino ; C_1-C_8-halogenoalkylcarbonylamino comprising up to 9 halogen atoms which can be the same or different ; C_1-C_8-alkylaminocarbonyloxy ; di-C_1-C_8-alkylaminocarbonyloxy ; C_1-C_8-alkyloxycarbonyloxy, C_1-C_8-alkylsulphenyl, C_1-C_8-halogenoalkylsulphenyl comprising up to 9 halogen atoms which can be the same or different, C_1-C_8-alkylsulphinyl, C_1-C_8-halogenoalkylsulphinyl comprising up to 9 halogen

atoms which can be the same or different, C_1-C_8-alkylsulphonyl, C_1-c_8-halogenoalkyl-sulphonyl comprising up to 9 halogen atoms which can be the same or different, C_1-C_8-alkoxyimino, (C_1-C_8-alkoxyimino)-C_1-C_8-alkyl, (C_1-C_8-alkenyloxyimino)-C_1-C_8-alkyl, (C_1-C_8-alkynyloxyimino)-C_1-C_8-alkyl, a (benzyloxyimino)-C_1-C_8-alkyl; tri(C_1-C_8-alkyl)silyl; tri(C_1-C_8-alkyl)silyl-C_1-C_8-alkyl; benzyloxy which can be substituted by up to 5 groups Q; benzylsulfanyl which can be substituted by up to 5 groups Q; benzylamino which can be substituted by up to 5 groups Q; naphthyl which can be substituted by up to 6 groups Q; phenoxy which can be substituted by up to 5 groups Q; phenylamino which can be substituted by up to 5 groups Q; phenylsulfanyl which can be substituted by up to 5 groups Q; phenylmethylene which can be substituted by up to 5 groups Q; pyridinyl which can be substituted by up to four groups Q and pyridinyloxy which can be substituted by up to four groups Q;

- two substituents X together with the consecutive carbon atoms to which they are linked can form a 5- or 6-membered, saturated, carbo- or hetero-cycle, which can be substituted by up to four groups Q which can be the same or different;

- n represents 1, 2, 3, 4 or 5;

- Q, which can be the same or different, represents a halogen atom; cyano; nitro; C_1-C_8-alkyl; C_1-C_8-alkoxy; C_1-C_8-alkylsulfanyl; C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different; tri(C_1-C_8)alkylsilyl and tri(C_1-C_8)alkylsilyl-C_1-C_8-alkyl;

as well as salts, N-oxides, and optically active or geometric isomers thereof.

Any of the compounds according to the invention can exist in one or more optical or chiral isomer forms depending on the number of asymmetric centres in the compound. The invention thus relates equally to all the optical isomers and to their racemic or scalemic mixtures (the term "scalemic" denotes a mixture of enantiomers in different proportions), and to the mixtures of all the possible stereoisomers, in all proportions. The diastereoisomers and/or the optical isomers can be separated according to the methods which are known *per se* by the man ordinary skilled in the art.
Any of the compounds according to the invention can also exist in one or more geometric isomer forms depending on the number of double bonds in the compound. The invention thus relates equally to all geometric isomers and to all possible mixtures, in all proportions. The geometric isomers can be separated according to general methods, which are known *per se* by the man ordinary skilled in the art.

For the compounds according to the invention, halogen means either one of fluorine, bromine, chlorine or iodine and heteroatom can be nitrogen, oxygen or sulfur.

More preferred compounds according to the invention are compounds of formula (I) wherein A is selected in the list consisting of A^2; A^5; A^6; A^{10} and A^{13} as herein-defined.

Other preferred compounds according to the invention are compounds of formula (I) wherein Z^1 represents a non substituted cyclopropyl. Other preferred compounds according to the invention are compounds of formula (I) wherein Z^1 represents a cyclopropyl substituted by up to 10 groups or atoms which can be the same or different and which can be selected in the list consisting of halogen atoms; C_1-C_8-alkyl; C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkoxy or C_1-C_8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different.

Other preferred compounds according to the invention are compounds of formula (I) wherein X, which can be the same or different, represents a halogen atom; C_1-C_8-alkyl; C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkoxy or C_1-C_8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different.

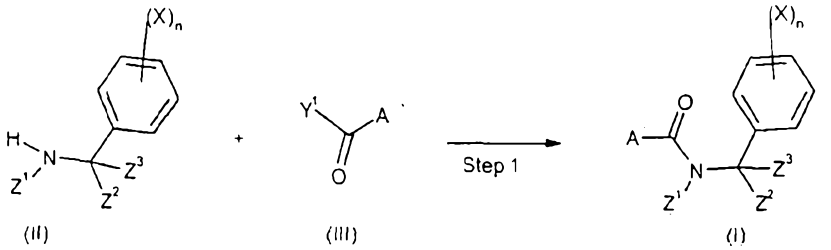
More preferred compounds according to the invention are compounds of formula (I) wherein two consecutive substituents X together with the phenyl ring form a substituted or non substituted 1,3-benzodioxolyl; 1,2,3,4-tetrahydro-quinoxalinyl; 3,4-dihydro-2H-1,4-benzoxazinyl; 1,4-benzodioxanyl; indanyl; 2,3-dihydrobenzofuranyl; indolinyl.

The above mentioned preferences with regard to the substituents of the compounds according to the invention can be combined in various manners. These combinations of preferred features thus provide sub-classes of compounds according to the invention. Examples of such sub-classes of preferred compounds according to the invention can combined:

- preferred features of A with preferred features of Z^1;
- preferred features of A with preferred features of Z^2 or Z^3;
- preferred features of A with preferred features of X and n;
- preferred features of A with preferred features of Q;
- preferred features of A with preferred features of Z^1 and Z^2 or Z^3;
- preferred features of A with preferred features of Z^1 and X and n;
- preferred features of A with preferred features Z^1 and Q;
- preferred features of Z^1 with preferred features of Z^2 or Z^3;
- preferred features of Z^1 with preferred features of X and n;
- preferred features of Z^1 with preferred features of Q;
- preferred features of Z^2 or Z^3 with preferred features of X and n;
- preferred features of Z^2 or Z^3 with preferred features of Q.

In these combinations of preferred features of the substituents of the compounds according to the invention, the said preferred features can also be selected among the more preferred features of each of A, Z^1, Z^2, Z^3, X, n and Q so as to form most preferred subclasses of compounds according to the invention.

The present invention also relates to a process for the preparation of compounds of formula (I). Thus according to a further aspect of the present invention there is provided a process P1 for the preparation of compound of formula (I) as herein-defined, as illustrated by the following reaction scheme:



(II) (III) (I)

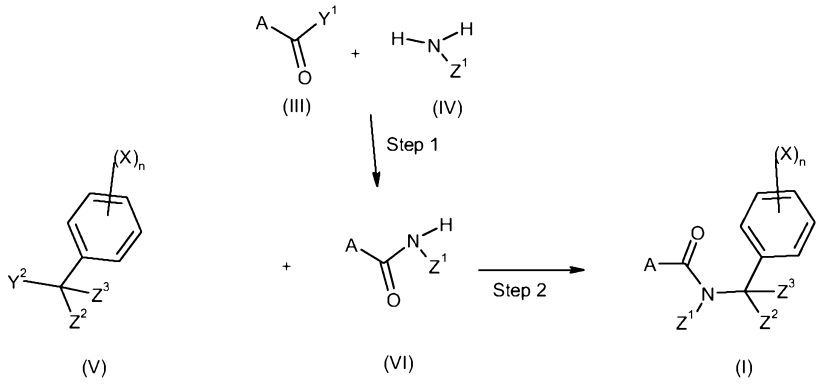
Process P1

wherein

A, Z^1, Z^2, Z^3, X and n as herein-defined;

Y^1 represents a halogen or a hydroxyl.

According to a further aspect of the present invention there is provided a process P2 for the preparation of compound of formula (I) as herein-defined, as illustrated by the following reaction scheme:



Process P2

wherein

A, Z^1, Z^2, Z^3, X and n are as herein-defined ;

Y^1 represents a halogen or a hydroxyl ;

Y^2 represents a halogen or a leaving group like a tosylate group.

In processes P1 and P2 according to the invention, step 1 may be performed if appropriate in the presence of a solvent and if appropriate in the presence of an acid binder.

In processes P2 according to the invention, step 2 may be performed if appropriate in the presence of a solvent and if appropriate in the presence of an acid binder.

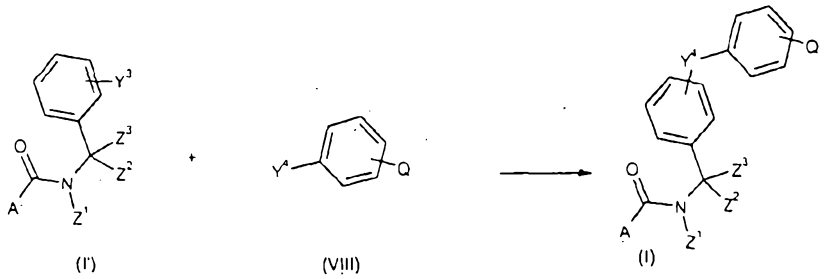
N-cycloalkyl-amine derivatives of formula (II) are known or can be prepared by known processes (J. Het. Chem., 1983, p1031-6 ; J. Am. Chem. Soc., 2004, p5192-5201 ; Synt. Comm. 2003, p3419-25).

Carboxylic acid derivatives of formula (III) are known or can be prepared by known processes (WO-93/11117 ; EP-A 0 545 099 ; Nucleosides & Nucleotides, 1987, p737-759, Bioorg. Med. Chem., 2002, p2105-2108).

Benzyl derivatives of formula (V) and cycloalkylamine derivatives of formula (IV) are known.

When X represents a halogen atom, processes P1 and P2 according to the invention for the preparation of compound of formula (I) may optionally be completed by a further step.

Process P3 according to the invention of such a step can be illustrated by the following reaction scheme :



(I') (VIII) (I)

Process P3

wherein

A, Z^1, Z^2, Z^3, X, Q and n are as herein-defined ;

Y^3 represents a halogen atom ;

Y^4 represents SH, OH or C_1-C_5-alkylamino.

Process P3 according to the invention may be performed in the presence of a acid binder and if appropriate in the presence of a solvent;

Phenol, thiophenol or aniline derivatives of formula (VIII) are known.

Suitable acid binder for carrying out processes P1, P2 and P3 according to the invention are in each case all inorganic and organic bases which are customary for such reactions. Preference is given to using alkaline earth metal, alkali metal hydride, alkali metal hydroxides or alkali metal alkoxydes, such as sodium hydroxide, sodium hydride, calcium hydroxide, potassium hydroxide, potassium tert-butoxide or other ammonium hydroxide, alkali metal carbonates, such as sodium carbonate, potassium carbonate, potassium bicarbonate, sodium bicarbonate, alkali metal or alkaline earth metal acetates, such as sodium acetate, potassium acetate, calcium acetate, and also ternary amines, such as trimethylamine, triethylamine, tributylamine, N,N-dimethylaniline, pyridine, N-methylpiperidine, N,N-dimethylaminopyridine, diazabicyclooctane (DABCO), diazabicyclononene (DBN) or diazabicycloundecene (DBU).
It is also possible to work in the absence of an additional condensing agent or to employ an excess of the amine component, so that it simultaneously acts as acid binder agent.

Suitable solvents for carrying out processes P1, P2 and P3 according to the invention are in each case all customary inert organic solvents. Preference is given to using optionally halogenated aliphatic, alicyclic or aromatic hydrocarbons, such as petroleum ether, hexane, heptane, cyclohexane, methylcyclohexane, benzene, toluene, xylene or decalin; chlorobenzene, dichlorobenzene, dichloromethane, chloroform, carbon tetrachloride, dichlorethane or trichlorethane; ethers, such as diethyl ether, diisopropyl ether, methyl t-butyl ether, methyl t-amyl ether, dioxane, tetrahydrofuran, 1,2-dimethoxyethane, 1,2-diethoxyethane or anisole;

nitriles, such as acetonitrile, propionitrile, n- or i-butyronitrile or benzonitrile; amides, such as N,N-dimethylformamide, N,N-dimethylacetamide, N-methylformanilide, N-methylpyrrolidone or hexamethylphosphoric triamide; esters, such as methyl acetate or ethyl acetate, sulphoxides, such as dimethyl sulphoxide, or sulphones, such as sulpholane.

Process P3 according to the invention is preferably carried out in the presence of a catalyst, such as a metal salt or complex. Suitable metal for this purpose are preferably copper or palladium. Suitable salts or complexes for this purpose are copper chloride, copper iodide, copper oxide, palladium chloride, palladium acetate, tetrakis(triphenylphosphine)palladium, bis(triphenylphosphine)palladium dichloride or 1,1'-bis(diphenylphosphino) ferrocenepalladium(II) chloride.
It is also possible to generate a palladium complex in the reaction mixture by separate addition of a palladium salt and a complex ligand, such as triethylphosphine, tri-tert-butylphosphine, tricyclohexylphosphine, 2-(dicyclohexylphosphine)biphenyl, 2-(di-tert-butylphosphine)biphenyl, 2-(dicyclohexylphosphine)-2'-(N,N-dimethylamino)biphenyl, triphenylphosphine, tris-(o-tolyl)phosphine, sodium 3-(diphenylphosphino)benzenesulphonate, tris-2-(methoxyphenyl)-phosphine, 2,2'-bis(diphenylphosphine)-1,1'-binaphthyl, 1,4-bis(diphenylphosphine)butane, 1,2-bis(diphenylphosphine)ethane, 1,4-bis(dicyclohexylphosphine)butane, 1,2-bis(dicyclo-hexylphosphine)ethane, 2-(dicyclohexylphosphine)-2'-(N,N-dimethylamino)-biphenyl, bis(diphenylphosphino)ferrocene or tris-(2,4-tert-butylphenyl)phosphite to the reaction.

When carrying out processes P1, P2 and P3 according to the invention, the reaction temperatures can independently be varied within a relatively wide range. Generally, processes according to the invention are carried out at temperatures between 0°C and 160°C, preferably between 10°C and 120°C.

Processes P1, P2 and P3 according to the invention are generally independently carried out under atmospheric pressure. However, in each case, it is also possible to operate under elevated or reduced pressure.

When carrying out step 1 of processes P1 or P2 according to the invention, generally 1 mol or other an excess of the acid derivative of formula (III) and from 1 to 3 mol of acid binder are employed per mole of amine of formula (II) or (IV). It is also possible to employ the reaction components in other ratios.
Work-up is carried out by customary methods. Generally, the reaction mixture is treated with water and the organic phase is separated off and, after drying, concentrated under reduced pressure. If appropriate, the remaining residue can be freed by customary methods, such as chromatography or recrystallization, from any impurities that may still be present.

When carrying out step 2 of process P2 according to the invention, generally 1 mol or other an excess of benzyl derivative of formula (V) and from 1 to 3 mol of acid binder are employed per mole of amide of formula (VI). It is also possible to employ the reaction components in other ratios.

Work-up is carried out by customary methods. Generally, the reaction mixture is treated with water and the organic phase is separated off and, after drying, concentrated under reduced pressure. If appropriate, the remaining residue can, be freed by customary methods, such as chromatography or recrystallization, from any impurities that may still be present.

When carrying out process P3 according to the invention, generally 1 mol or other of an excess of the phenol, thiophenol or aniline derivative of formula (VIII) and from 1 to 10 mol of acid binder and from 0.5 to 5 mol percent of a catalyst are employed per mole of amide derivative of formula (I'). It is also possible to employ the reaction components in other ratios.

Work-up is carried out by customary methods. Generally, the reaction mixture is concentrated under reduced pressure. If appropriate, the remaining residue can, be freed by customary methods, such as chromatography or recrystallization, from any impurities that may still be present.

Compounds according to the invention can be prepared according to the above described processes. It will nevertheless be understood that, on the basis of his general knowledge and of available publications, the skilled worker will be able to adapt these processes according to the specifics of each of the compounds according to the invention that is desired to be synthesised.

In a further aspect, the present invention also relates to a fungicide composition comprising an effective and non-phytotoxic amount of an active compound of formula (I).

The expression "effective and non-phytotoxic amount" means an amount of composition according to the invention which is sufficient to control or destroy the fungi present or liable to appear on the crops, and which does not entail any appreciable symptom of phytotoxicity for the said crops. Such an amount can vary within a wide range depending on the fungus to be controlled, the type of crop, the climatic conditions and the compounds included in the fungicide composition according to the invention.

This amount can be determined by systematic field trials, which are within the capabilities of a person skilled in the art.

Thus, according to the invention, there is provided a fungicide composition comprising, as an active ingredient, an effective amount of a compound of formula (I) as herein defined and an agriculturally acceptable support, carrier or filler.

According to the invention, the term "support" denotes a natural or synthetic, organic or inorganic compound with which the active compound of formula (I) is combined or associated to make it easier to apply, notably to the parts of the plant. This support is thus generally inert and

should be agriculturally acceptable. The support may be a solid or a liquid. Examples of suitable supports include clays, natural or synthetic silicates, silica, resins, waxes, solid fertilisers, water, alcohols, in particular butanol, organic solvents, mineral and plant oils and derivatives thereof. Mixtures of such supports may also be used.

The composition according to the invention may also comprise additional components. In particular, the composition may further comprise a surfactant. The surfactant can be an emulsifier, a dispersing agent or a wetting agent of ionic or non-ionic type or a mixture of such surfactants. Mention may be made, for example, of polyacrylic acid salts, lignosulphonic acid salts, phenolsulphonic or naphthalenesulphonic acid salts, polycondensates of ethylene oxide with fatty alcohols or with fatty acids or with fatty amines, substituted phenols (in particular alkylphenols or arylphenols), salts of sulphosuccinic acid esters, taurine derivatives (in particular alkyl taurates), phosphoric esters of polyoxyethylated alcohols or phenols, fatty acid esters of polyols, and derivatives of the above compounds containing sulphate, sulphonate and phosphate functions. The presence of at least one surfactant is generally essential when the active compound and/or the inert support are water-insoluble and when the vector agent for the application is water. Preferably, surfactant content may be comprised from 5% to 40% by weight of the composition.

Optionally, additional components may also be included, e.g. protective colloids, adhesives, thickeners, thixotropic agents, penetration agents, stabilisers, sequestering agents. More generally, the active compounds can be combined with any solid or liquid additive, which complies with the usual formulation techniques.

In general, the composition according to the invention may contain from 0.05 to 99% by weight of active compound, preferably 10 to 70% by weight.

Compositions according to the invention can be used in various forms such as aerosol dispenser, capsule suspension, cold fogging concentrate, dustable powder, emulsifiable concentrate, emulsion oil in water, emulsion water in oil, encapsulated granule, fine granule, flowable concentrate for seed treatment, gas (under pressure),gas generating product, granule, hot fogging concentrate, macrogranule, microgranule, oil dispersible powder, oil miscible flowable concentrate, oil miscible liquid, paste, plant rodlet, powder for dry seed treatment, seed coated with a pesticide, soluble concentrate, soluble powder, solution for seed treatment, suspension concentrate (flowable concentrate), ultra low volume (ULV) liquid, ultra low volume (ULV) suspension, water dispersible granules or tablets, water dispersible powder for slurry treatment, water soluble granules or tablets, water soluble powder for seed treatment and wettable powder.

These compositions include not only compositions which are ready to be applied to the plant or seed to be treated by means of a suitable device, such as a spraying or dusting device, but also concentrated commercial compositions which must be diluted before application to the crop.

The compounds according to the invention can also be mixed with one or more insecticide, fungicide, bactericide, attractant, acaricide or pheromone active substance or other compounds with biological activity. The mixtures thus obtained have a broadened spectrum of activity. The mixtures with other fungicide compounds are particularly advantageous.

Examples of suitable fungicide mixing partners may be selected in the following lists :

B1) a compound capable to inhibit the nucleic acid synthesis like benalaxyl, benalaxyl-M, bupirimate, chiralaxyl, clozylacon, dimethirimol, ethirimol, furalaxyl, hymexazol, metalaxyl, metalaxyl-M, ofurace, oxadixyl, oxolinic acid ;

B2) a compound capable to inhibit the mitosis and cell division like benomyl, carbendazim, diethofencarb, fuberidazole, pencycuron, thiabendazole thiophanate-methyl, zoxamide ;

B3) a compound capable to inhibit the respiration for example

as CI-respiration inhibitor like diflumetorim ;

as CII-respiration inhibitor like boscalid, carboxin, fenfuram, flutolanil, furametpyr, mepronil, oxycarboxine, penthiopyrad, thifluzamide ;

as CIII-respiration inhibitor like azoxystrobin, cyazofamid, dimoxystrobin, enestrobin, famoxadone, fenamidone, fluoxastrobin, kresoxim-methyl, metominostrobin, orysastrobin, pyraclostrobin, pyribencarb, picoxystrobin, trifloxystrobin ;

B4) a compound capable of to act as an uncoupler like dinocap, fluazinam ;

B5) a compound capable to inhibit ATP production like fentin acetate, fentin chloride, fentin hydroxide, silthiofam ;

B6) a compound capable to inhibit AA and protein biosynthesis like andoprim, blasticidin-S, cyprodinil, kasugamycin, kasugamycin hydrochloride hydrate, mepanipyrim, pyrimethanil ;

B7) a compound capable to inhibit the signal transduction like fenpiclonil, fludioxonil, quinoxyfen ;

B8) a compound capable to inhibit lipid and membrane synthesis like chlozolinate, iprodione, procymidone, vinclozolin, pyrazophos, edifenphos, iprobenfos (IBP), isoprothiolane, tolclofos-methyl, biphenyl, iodocarb, propamocarb, propamocarb-hydrochloride ;

B9) a compound capable to inhibit ergosterol biosynthesis like fenhexamid, azaconazole, bitertanol, bromuconazole, cyproconazole, diclobutrazole, difenoconazole, diniconazole, diniconazole-M, epoxiconazole, etaconazole, fenbuconazole, fluquinconazole, flusilazole, flutriafol, furconazole, furconazole-cis, hexaconazole, imibenconazole, ipconazole, metconazole, myclobutanil, paclobutrazol, penconazole, propiconazole, prothioconazole, simeconazole, tebuconazole, tetraconazole, triadimefon, triadimenol, triticonazole, uniconazole, voriconazole, imazalil, imazalil sulfate, oxpoconazole, fenarimol, flurprimidol, nuarimol, pyrifenox, triforine, pefurazoate, prochloraz, triflumizole, viniconazole, aldimorph, dodemorph, dodemorph acetate, fenpropimorph, tridemorph, fenpropidin, spiroxamine, naftifine, pyributicarb, terbinafine ;

B11) a compound capable to inhibit melanine biosynthesis like carprop

B10) a compound capable to inhibit cell wall synthesis like benthiavalicarb, bialaphos, dimethomorph, flumorph, iprovalicarb, polyoxins, polyoxorim, validamycin A ; amid, diclocymet, fenoxanil, phtalide, pyroquilon, tricyclazole ;

B12) a compound capable to induce a host defence like acibenzolar-S-methyl, probenazole, tiadinil ;

B13) a compound capable to have a multisite action like captafol, captan, chlorothalonil, copper preparations such as copper hydroxide, copper naphthenate, copper oxychloride, copper sulphate, copper oxide, oxine-copper and Bordeaux mixture, dichlofluanid, dithianon, dodine, dodine free base, ferbam, fluorofolpet, folpet, guazatine, guazatine acetate, iminoctadine, iminoctadine albesilate, iminoctadine triacetate, mancopper, mancozeb, maneb, metiram, metiram zinc, propineb, sulphur and sulphur preparations including calcium polysulphide, thiram, tolylfluanid, zineb, ziram ;

B14) a compound selected in the following list: amibromdole, benthiazole, bethoxazin, capsimycin, carvone, chinomethionat, chloropicrin, cufraneb, cyflufenamid, cymoxanil, dazomet, debacarb, diclomezine, dichlorophen, dicloran, difenzoquat, difenzoquat methylsulphate, diphenylamine, ethaboxam, ferimzone, flumetover, flusulfamide, fosetyl-aluminium, fosetyl-calcium, fosetyl-sodium, fluopicolide, fluoroimide, hexachlorobenzene, 8-hydroxyquinoline sulfate, irumamycin, methasulphocarb, metrafenone, methyl isothiocyanate, mildiomycin, natamycin, nickel dimethyldithiocarbamate, nitrothal-isopropyl,octhilinone, oxamocarb, oxyfenthiin, pentachlorophenol and salts, 2-phenylphenol and salts, phosphorous acid and its salts, piperalin, propanosine–sodium, proquinazid, pyrrolnitrine, quintozene, tecloftalam, tecnazene, triazoxide, trichlamide, valiphenal, zarilamid and 2,3,5,6-tetrachloro-4-(methylsulfonyl)-pyridine, N-(4-Chloro-2-nitrophenyl)-N-ethyl-4-methyl-benzenesulfonamide, 2-amino-4-methyl-N-phenyl-5-thiazolecarboxamide, 2-chloro-N-(2,3-dihydro-1,1,3-trimethyl-1H-inden-4-yl)-3-pyridincarboxamide, 3-[5-(4-chlorophenyl)-2,3-dimethylisoxazolidin-3-yl]pyridine, cis-1-(4-chlorophenyl)-2-(1H-1,2,4-triazole-1-yl)-cycloheptanol, methyl 1-(2,3-dihydro-2,2-dimethyl-1H-inden-1-yl)-1H-imidazole-5-carboxylate, 3,4,5-trichloro-2,6-pyridinedicarbonitrile, methyl 2-[[[cyclopropyl[(4-methoxyphenyl)imino]methyl]thio]methyl]-.alpha.-(methoxymethylene)-benzeneacetate, 4-Chloro-alpha-propynyloxy-N-[2-[3-methoxy-4-(2-propynyloxy)phenyl]ethyl]-benzeneacetamide, (2S)-N-[2-[4-[[3-(4-chlorophenyl)-2-propynyl]oxy]-3-methoxyphenyl]ethyl]- 3-methyl-2-[(methylsulfonyl)amino]-butanamide, 5-chloro-7-(4-methylpiperidin-1-yl)-6-(2,4,6-trifluorophenyl)[1,2,4]triazolo[1,5-a]pyrimidine, 5-chloro-6-(2,4,6-trifluorophenyl)-N-[(1R)-1,2,2-trimethylpropyl][1,2,4]triazolo[1,5-a]pyrimidin-7-amine, 5-chloro-N-[(1R)-1,2-dimethylpropyl]-6-(2,4,6-trifluorophenyl)[1,2,4]triazolo[1,5-a]pyrimidin-7-amine, N-[1-(5-bromo-3-chloropyridin-2-yl)ethyl]-2,4-dichloronicotinamide, N-(5-bromo-3-chloropyridin-2-yl)methyl-2,4-dichloronicotinamide, 2-butoxy-6-iodo-3-propyl-benzopyranon-4-one, N-{(Z)-[(cyclopropylmethoxy)imino][6-(difluoromethoxy)-2,3-difluorophenyl]methyl}-2-phenylacetamide, N-(3-ethyl-3,5,5-trimethyl-cyclohexyl)-3-formylamino-2-hydroxy-benzamide, 2-[[[[1-[3(1Fluoro-2-phenylethyl)oxy]phenyl]ethylidene]amino]oxy]methyl]-alpha-(methoxyimino)-N-methyl-alphaE-benzeneacetamide, N-{2-[3-chloro-5-(trifluoromethyl)pyridin-2-yl]ethyl}-2-(trifluoromethyl)benzamide, N-(3',4'-dichloro-5-fluorobiphenyl-2-yl)-3-(difluoromethyl)-1-methyl-1H-pyrazole-4-carboxamide, 2-(2-

{[6-(3-chloro-2-methylphenoxy)-5-fluoropyrimidin-4-yl]oxy}phenyl)-2-(methoxyimino)-N-methylacetamide , 1-[(4-methoxyphenoxy)methyl]-2,2-dimethylpropyl-1H-imidazole-1- carboxylic acid, O-[1-[(4-methoxyphenoxy)methyl]-2,2-dimethylpropyl]-1H-imidazole- 1- carbothioic acid, N-{2-[1,1'-bi(cyclopropyl)-2-yl]phenyl}-3-(difluoromethyl)-1-methyl-1H-pyrazole-4-carboxamide, N'-{5-(difluoromethyl)-2-methyl-4-[3-(trimethylsilyl)propoxy]phenyl}-N-ethyl-N-methylimidoformamide, N'-{5-(trifluoromethyl)-2-methyl-4-[3-(trimethylsilyl)propoxy]phenyl}-N-ethyl-N-methylimidoformamide.

The composition according to the invention comprising a mixture of a compound of formula (I) with a bactericide compound may also be particularly advantageous. Examples of suitable bactericide mixing partners may be selected in the following list : bronopol, dichlorophen, nitrapyrin, nickel dimethyldithiocarbamate, kasugamycin, octhilinone, furancarboxylic acid, oxytetracycline, probenazole, streptomycin, tecloftalam, copper sulphate and other copper preparations.

The compound of formula (I) and the fungicide composition according to the invention can be used to curatively or preventively control the phytopathogenic fungi of plants or crops.

Thus, according to a further aspect of the invention, there is provided a method for curatively or preventively controlling the phytopathogenic fungi of plants or crops characterised in that a compound of formula (I) or a fungicide composition according to the invention is applied to the seed, the plant or to the fruit of the plant or to the soil wherein the plant is growing or wherein it is desired to grow.

The method of treatment according to the invention may also be useful to treat propagation material such as tubers or rhizomes, but also seeds, seedlings or seedlings pricking out and plants or plants pricking out. This method of treatment can also be useful to treat roots. The method of treatment according to the invention can also be useful to treat the overground parts of the plant such as trunks, stems or stalks, leaves, flowers and fruit of the concerned plant.

Among the plants that can be protected by the method according to the invention, mention may be made of cotton ; flax ; vine ; fruit or vegetable crops such as *Rosaceae sp.* (for instance pip fruit such as apples and pears, but also stone fruit such as apricots, almonds and peaches), *Ribesioidae sp.*, *Juglandaceae sp.*, *Betulaceae sp.*, *Anacardiaceae sp.*, *Fagaceae sp.*, *Moraceae sp.*, *Oleaceae sp.*, *Actinidaceae sp., Lauraceae sp.*, *Musaceae sp.* (for instance banana trees and plantins), *Rubiaceae sp.*, *Theaceae sp.*, *Sterculiceae sp.*, *Rutaceae sp.* (for instance lemons, oranges and grapefruit) ; *Solanaceae sp.* (for instance tomatoes), *Liliaceae sp.*, *Asteraceae sp.* (for instance lettuces), *Umbelliferae sp.*, *Cruciferae sp.*, *Chenopodiaceae sp.*, *Cucurbitaceae sp.*, *Papilionaceae sp.* (for instance peas), *Rosaceae sp.* (for instance strawberries) ; major crops such as *Graminae sp.* (for instance maize, lawn or cereals such as wheat, rice, barley and triticale), *Asteraceae sp.* (for instance sunflower), *Cruciferae sp.* (for instance colza), *Fabacae sp.* (for instance peanuts), *Papilionaceae sp.* (for instance soybean), *Solanaceae sp.* (for instance potatoes), *Chenopodiaceae*

sp. (for instance beetroots) ; horticultural and forest crops ; as well as genetically modified homologues of these crops.

Among the diseases of plants or crops that can be controlled by the method according to the invention, mention may be made of :

Powdery mildew diseases such as :

Blumeria diseases, caused for example by *Blumeria graminis* ;

Podosphaera diseases, caused for example by *Podosphaera leucotricha* ;

Sphaerotheca diseases, caused for example by *Sphaerotheca fuliginea* ;

Uncinula diseases, caused for example by *Uncinula necator* ;

Rust diseases such as :

Gymnosporangium diseases, caused for example by *Gymnosporangium sabinae* ;

Hemileia diseases, caused for example by *Hemileia vastatrix* ;

Phakopsora diseases, caused for example by *Phakopsora pachyrhizi* or *Phakopsora meibomiae* ;

Puccinia diseases, caused for example by *Puccinia recondita* ;

Uromyces diseases, caused for example by *Uromyces appendiculatus* ;

Oomycete diseases such as :

Bremia diseases, caused for example by *Bremia lactucae* ;

Peronospora diseases, caused for example by *Peronospora pisi* or *P. brassicae* ;

Phytophthora diseases, caused for example by *Phytophthora infestans* ;

Plasmopara diseases, caused for example by Pla*smopara viticola* ;

Pseudoperonospora diseases, caused for example by *Pseudoperonospora humuli* or *Pseudoperonospora cubensis* ;

Pythium diseases, caused for example by *Pythium ultimum* ;

Leafspot, leaf blotch and leaf blight diseases such as :

Alternaria diseases, caused for example by *Alternaria solani* ;

Cercospora diseases, caused for example by *Cercospora beticola* ;

Cladiosporum diseases, caused for example by *Cladiosporium cucumerinum* ;

Cochliobolus diseases, caused for example by *Cochliobolus sativus* ;

Colletotrichum diseases, caused for example by *Colletotrichum lindemuthanium* ;

Cycloconium diseases, caused for example by *Cycloconium oleaginum* ;

Diaporthe diseases, caused for example by *Diaporthe citri* ;

Elsinoe diseases, caused for example by *Elsinoe fawcettii* ;

Gloeosporium diseases, caused for example by *Gloeosporium laeticolor* ;

Glomerella diseases, caused for example by *Glomerella cingulata* ;

Guignardia diseases, caused for example by *Guignardia bidwelli* ;

Leptosphaeria diseases, caused for example by *Leptosphaeria maculans* ; *Leptosphaeria nodorum* ;

Magnaporthe diseases, caused for example by *Magnaporthe grisea* ;

Mycosphaerella diseases, caused for example by *Mycosphaerella graminicola* ; Mycosphaerella arachidicola ; *Mycosphaerella fijiensis* ;

Phaeosphaeria diseases, caused for example by *Phaeosphaeria nodorum* ;

Pyrenophora diseases, caused for example by *Pyrenophora teres* ;

Ramularia diseases, caused for example by *Ramularia collo-cygni* ;

Rhynchosporium diseases, caused for example by *Rhynchosporium secalis* ;

Septoria diseases, caused for example by *Septoria apii* or *Septoria lycopercisi* ;

Typhula diseases, caused for example by *Typhula incarnata* ;

Venturia diseases, caused for example by *Venturia inaequalis* ;

Root and stem diseases such as :

Corticium diseases, caused for example by *Corticium graminearum* ;

Fusarium diseases, caused for example by *Fusarium oxysporum* ;

Gaeumannomyces diseases, caused for example by *Gaeumannomyces graminis* ;

Rhizoctonia diseases, caused for example by *Rhizoctonia solani* ;

Tapesia diseases, caused for example by *Tapesia acuformis* ;

Thielaviopsis diseases, caused for example by *Thielaviopsis basicola* ;

Ear and panicle diseases such as :

Alternaria diseases, caused for example by *Alternaria spp.* ;

Aspergillus diseases, caused for example by *Aspergillus flavus* ;

Cladosporium diseases, caused for example by *Cladosporium spp.* ;

Claviceps diseases, caused for example by *Claviceps purpurea* ;

Fusarium diseases, caused for example by *Fusarium culmorum* ;

Gibberella diseases, caused for example by *Gibberella zeae* ;

Monographella diseases, caused for example by *Monographella nivalis* ;

Smut and bunt diseases such as :

Sphacelotheca diseases, caused for example by *Sphacelotheca reiliana* ;

Tilletia diseases, caused for example by *Tilletia caries* ;

Urocystis diseases, caused for example by *Urocystis occulta* ;

Ustilago diseases, caused for example by *Ustilago nuda* ;

Fruit rot and mould diseases such as :

Aspergillus diseases, caused for example by *Aspergillus flavus* ;

Botrytis diseases, caused for example by *Botrytis cinerea* ;

Penicillium diseases, caused for example by *Penicillium expansum* ;

Sclerotinia diseases, caused for example by *Sclerotinia sclerotiorum* ;

Verticilium diseases, caused for example by *Verticilium alboatrum* ;

Seed and soilborne decay, mould, wilt, rot and damping-off diseases :

Fusarium diseases, caused for example by *Fusarium culmorum* ;

Phytophthora diseases, caused for example by *Phytophthora cactorum* ;

Pythium diseases, caused for example by *Pythium ultimum* ;
Rhizoctonia diseases, caused for example by *Rhizoctonia solani* ;
Sclerotium diseases, caused for example by *Sclerotium rolfsii* ;
Microdochium diseases, caused for example by *Microdochium nivale* ;
Canker, broom and dieback diseases such as :
Nectria diseases, caused for example by *Nectria galligena* ;
Blight diseases such as :
Monilinia diseases, caused for example by *Monilinia laxa* ;
Leaf blister or leaf curl diseases such as :
Taphrina diseases, caused for example by *Taphrina deformans* ;
Decline diseases of wooden plants such as :
Esca diseases, caused for example by *Phaemoniella clamydospora* ;
Eutypa dyeback, caused for example by *Eutypa lata* ;
Dutch elm disease, caused for example by *Ceratocystsc ulmi* ;
Diseases of flowers and Seeds such as :
Botrytis diseases, caused for example by *Botrytis cinerea* ;
Diseases of tubers such as :
Rhizoctonia diseases, caused for example by *Rhizoctonia solani*.

The fungicide composition according to the invention may also be used against fungal diseases liable to grow on or inside timber. The term “timber” means all types of species of wood, and all types of working of this wood intended for construction, for example solid wood, high-density wood, laminated wood, and plywood. The method for treating timber according to the invention mainly consists in contacting one or more compounds according to the invention, or a composition according to the invention ; this includes for example direct application, spraying, dipping, injection or any other suitable means.

The dose of active compound usually applied in the method of treatment according to the invention is generally and advantageously from 10 to 800 g/ha, preferably from 50 to 300 g/ha for applications in foliar treatment. The dose of active substance applied is generally and advantageously from 2 to 200 g per 100 kg of seed, preferably from 3 to 150 g per 100 kg of seed in the case of seed treatment.
It is clearly understood that the doses indicated herein are given as illustrative examples of the method according to the invention. A person skilled in the art will know how to adapt the application doses, notably according to the nature of the plant or crop to be treated.

The fungicide composition according to the invention may also be used in the treatment of genetically modified organisms with the compounds according to the invention or the agrochemical compositions according to the invention. Genetically modified plants are plants into genome of which

a heterologous gene encoding a protein of interest has been stably integrated. The expression "heterologous gene encoding a protein of interest" essentially means genes which give the transformed plant new agronomic properties, or genes for improving the agronomic quality of the modified plant.

The compounds or mixtures according to the invention may also be used for the preparation of composition useful to curatively or preventively treat human or animal fungal diseases such as, for example, mycoses, dermatoses, trichophyton diseases and candidiases or diseases caused by *Aspergillus spp.*, for example *Aspergillus fumigatus*.

The various aspects of the invention will now be illustrated with reference to the following tables of compound examples and the following preparation or efficacy examples.

The following tables illustrate in a non-limiting manner examples of compounds according to the invention. The compound example tables display compounds according to the invention of specific formulae (I-A^1) to (I-A^6), (I-A^8) to (I-A^{10}), (I-A^{12}), (I-A^{13}), (I-A^{15}), (I-A^{16}) and (I-A^{19}). Also disclosed are compounds not according to the invention of specific formulae (I-A^7), (I-A^{14}), (I-A^{17}), (I-A^{18}), (I-A^{20}), (I-A^{21}) and (I-A^{22}).

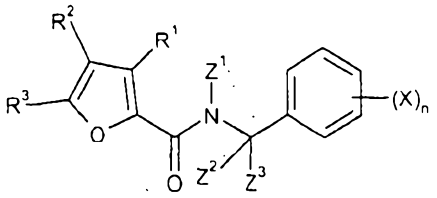
In the following compound examples, M+H (or M-H) means the molecular ion peak, plus or minus 1 a.m.u. (atomic mass unit) respectively, as observed in mass spectroscopy and M (ApcI+) means the molecular ion peak as it was found via positive atmospheric pressure chemical ionisation in mass spectroscopy.

In the following examples, the logP values were determined in accordance with EEC Directive 79/831 Annex V.A8 by HPLC (High Performance Liquid Chromatography) on a reversed-phase column (C 18), using the method described below:

Temperature: 40°C; Mobile phases: 0.1% aqueous formic acid and acetonitrile; linear gradient from 10% acetonitrile to 90% acetonitrile.

Calibration was carried out using unbranched alkan-2-ones (comprising 3 to 16 carbon atoms) with known logP values (determination of the logP values by the retention times using linear interpolation between two successive alkanones).

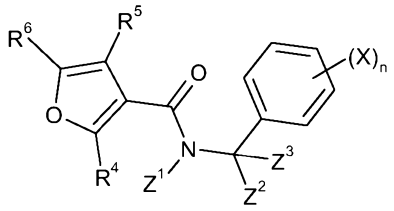
The lambda max values were determined in the maxima of the chromatographic signals using the UV spectra from 190nm to 400nm.



I-A'

N°	R^1	R^2	R^3	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
1	Me	H	H	H	H	Cyclopropyl	2-Cl-4-Cl		324
2	Me	H	H	H	H	Cyclopropyl	2-Cl-4-CF3		

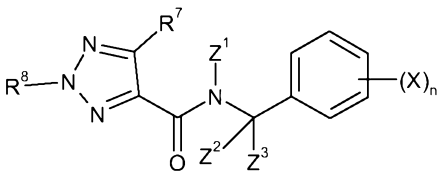
N°	R^1	R^2	R^3	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
3	H	H	H	H	H	Cyclopropyl	2-Cl-4-Cl		310
4	H	H	H	H	H	Cyclopropyl	2-Cl-4-CF3		
5	Me	H	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		358
6	H	H	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		344
7	Me	H	H	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
8	Me	H	H	H	H	cycloheptyl	2-Cl-4-Cl-6-Cl		



I-A^2

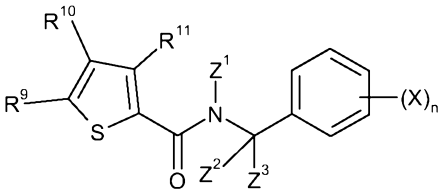
N°	R^4	R^6	R^5	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
9	Me	H	H	H	H	Cyclopropyl	2-Cl-4-CF3		
10	CF3	Me	H	H	H	Cyclopropyl	2-Cl-4-CF3		
11	Me	H	H	H	H	Cyclopropyl	2-Cl-4-Cl	3,77	
12	CF3	Me	H	H	H	Cyclopropyl	2-Cl-4-Cl	4,6	
13	Me	H	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	4,09	
14	CF3	Me	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	4,91	
15	Me	H	H	H	H	Cyclopropyl	4-CF3	3,43	
16	CF3	Me	H	H	H	Cyclopropyl	4-CF3	4,18	
17	Me	H	H	Me	H	Cyclopropyl	4-CF3		338
18	CF3	Me	H	Me	H	Cyclopropyl	4-CF3		406
19	Me	H	H	H	H	Cyclopropyl	4-OPh		348
20	CF3	Me	H	H	H	Cyclopropyl	4-OPh		416
21	Me	H	H	H	H	Cyclopropyl	4-O(2-Cl-4-Cl-Ph)		416
22	I	H	H	H	H	Cyclopropyl	2-Cl-4-Cl		
23	I	H	H	H	H	Cyclopropyl	2-Cl-4-CF3		
24	Me	Me	H	H	H	Cyclopropyl	2-Cl-4-Cl		338
25	Me	Me	H	H	H	Cyclopropyl	2-Cl-4-CF3		372
26	I	H	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		
27	Me	Me	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		372
28	Me	Me	H	H	H	Cyclopropyl	2-OMe-5-Ac		342
29	Me	Me	H	H	H	Cyclopropyl	3-Cl-5-Cl		338
30	Me	Me	H	H	H	Cyclopropyl	3-Me		284
31	Me	Me	H	H	H	Cyclopropyl	3-Me-4-Me		
32	Me	Me	H	H	H	Cyclopropyl	4-i-Pr		312
33	Me	Me	H	H	H	Cyclopropyl	2-CN		
34	Me	Me	H	H	H	Cyclopropyl	4-CN		295

N°	R^4	R^6	R^5	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
35	Me	Me	H	H	H	Cyclopropyl	2-OMe		299
36	Me	Me	H	H	H	Cyclopropyl	2-Me-4-Me-6-Me		
37	Me	Me	H	H	H	Cyclopropyl	3,4-Methylenedioxy		
38	Me	Me	H	H	H	Cyclopropyl	2-OMe-5-OMe		
39	Me	Me	H	H	H	Cyclopropyl	3-OCF3		354
40	Me	Me	H	H	H	Cyclopropyl	2-Cl-4,5-Methylenedioxy		348
41	Me	Me	H	Me	H	Cyclopropyl	2-Cl-4-Cl		352
42	Me	Me	H	Et	H	Cyclopropyl	2-Cl-4-Cl		366
43	Me	Me	H	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
44	Me	Me	H	H	H	cycloheptyl	2-Cl-4-Cl-6-Cl		
45	I	H	H	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
46	I	H	H	H	H	cycloheptyl	2-Cl-4-Cl-6-Cl		
47	Me	Me	H	n-Pr	H	Cyclopropyl	2-Cl-4-Cl		380
48	Me	Me	H	Me	H	Cyclopropyl	2-Cl-5-CF3		386
49	Me	Me	H	H	H	Cyclopropyl	2-Cl-5-CF3		372
50	Me	Me	H	H	H	Cyclopropyl	2-CF3-5-Cl		372
51	Me	Me	H	Me	H	Cyclopropyl	4-CF3		352
52	I	H	H	H	H	Cyclopentyl	2-Cl-4-Cl-6-Cl		



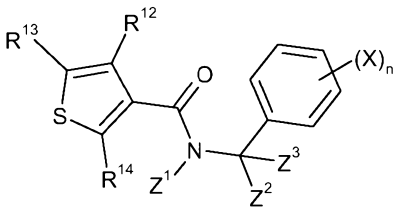
I-A^3

N°	R^7	R^8	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
53	CF3	Me	H	H	Cyclopropyl	2-Cl-4-CF3		
54	CF3	Me	H	H	Cyclopropyl	2-Cl-4-Cl		393
55	CF3	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		
56	CF3	Me	H	H	Cyclopropyl	3-OPh-4-F		435



I-A^4

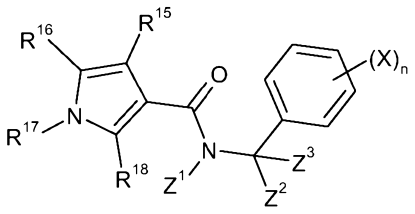
N°	R^9	R^{10}	R^{11}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
57	H	H	I	H	H	Cyclopropyl	2-Cl-4-CF3		
58	H	H	I	H	H	Cyclopropyl	2-Cl-4-Cl	4,48	
59	H	H	I	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	4,86	
60	H	H	I	H	H	Cyclopropyl	4-CF3	4,04	
61	H	H	I	Me	H	Cyclopropyl	4-CF3		466
62	H	H	I	H	H	Cyclopropyl	4-OPh		476
63	H	H	I	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
64	H	H	I	H	H	cycloheptyl	2-Cl-4-Cl-6-Cl		



I-A^5

N°	R^{12}	R^{13}	R^{14}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
65	H	H	I	H	H	Cyclopropyl	2-Cl-6-Cl		452
66	OMe	H	H	H	H	Cyclopropyl	2-Cl-4-Cl		
67	OMe	H	H	H	H	Cyclopropyl	2-Cl-4-CF3		
68	OMe	H	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		
69	H	H	I	H	H	Cyclopropyl	2-OMe-5-Acetyl		456
70	H	H	I	H	H	Cyclopropyl	3-Cl-5-Cl		452
71	H	H	I	H	H	Cyclopropyl	3-Me		398
72	H	H	I	H	H	Cyclopropyl	3-Me-4-Me		
73	H	H	I	H	H	Cyclopropyl	4-i-Pr		426
74	H	H	I	H	H	Cyclopropyl	2-CN		
75	H	H	I	H	H	Cyclopropyl	4-CN		409
76	H	H	I	H	H	Cyclopropyl	2-OMe		
77	H	H	I	H	H	Cyclopropyl	2-Me-4-Me-6-Me		426
78	H	H	I	H	H	Cyclopropyl	3,4-Methylenedioxy		
79	H	H	I	H	H	Cyclopropyl	2-OMe-5-OMe		
80	H	H	I	H	H	Cyclopropyl	3-OCF3		
81	H	H	I	H	H	Cyclopropyl	2-Cl-4,5-Methylenedioxy		462
82	H	H	I	Me	H	Cyclopropyl	2-Cl-4-Cl		466
83	H	H	I	Et	H	Cyclopropyl	2-Cl-4-Cl		480
84	H	H	I	H	H	Cyclopropyl	2-Cl-4-Cl		452
85	H	H	I	H	H	Cyclopropyl	2-Cl-4-CF3		
86	H	H	I	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		
87	H	H	I	H	H	Cyclopropyl	2-Cl-4-CF3-6-Cl		520
88	H	H	I	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		486

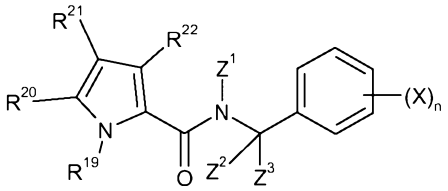
N°	R^{12}	R^{13}	R^{14}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
89	H	H	I	Me	H	Cyclopropyl	2-Cl-5-CF3		500
90	H	H	I	H	H	Cyclopropyl	2-Cl-5-CF3		486
91	H	H	I	Me	H	Cyclopropyl	4-CF3		466
92	H	H	I	n-Pr	H	Cyclopropyl	2-Cl-4-Cl		494
93	H	H	I	H	H	Cyclopropyl	3-OPh-4-F		494
94	H	H	I	H	H	Cyclopropyl	2-Cl-6-CF3		486
95	H	H	I	H	H	Cyclopropyl	2-F-6-CF3		470
96	H	H	I	H	H	Cyclohexyl	2-Cl-4-Cl		



I-A^6

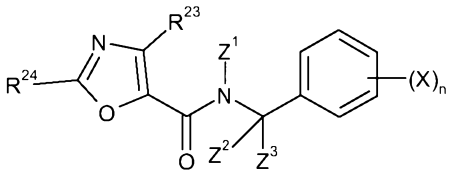
N°	R^{15}	R^{16}	R^{17}	R^{18}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
97	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-4-CF3		425
98	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-4-Cl	3,88	
99	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	4,08	
100	CF3	H	Me	H	H	H	Cyclopropyl	4-CF3	3,55	
101	CF3	H	Me	H	H	H	Cyclopropyl	4-OPh		415
102	CF3	H	Me	H	H	H	Cyclopropyl	2-OMe-5-Ac		395
103	CF3	H	Me	H	H	H	Cyclopropyl	3-Cl-5-Cl		391
104	CF3	H	Me	H	H	H	Cyclopropyl	3-Me		337
105	CF3	H	Me	H	H	H	Cyclopropyl	3-Me-4-Me		351
106	CF3	H	Me	H	H	H	Cyclopropyl	4-i-Pr		365
107	CF3	H	Me	H	H	H	Cyclopropyl	2-CN		
108	CF3	H	Me	H	H	H	Cyclopropyl	4-CN		348
109	CF3	H	Me	H	H	H	Cyclopropyl	2-OMe		353
110	CF3	H	Me	H	H	H	Cyclopropyl	2-Me-4-Me-6-Me		365
111	CF3	H	Me	H	H	H	Cyclopropyl	3,4-Methylenedioxy		367
112	CF3	H	Me	H	H	H	Cyclopropyl	2-OMe-5-OMe		383
113	CF3	H	Me	H	H	H	Cyclopropyl	3-OCF3		407
114	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-4,5-Methylenedioxy		401
115	CF3	H	Me	H	Me	H	Cyclopropyl	2-Cl-4-Cl		405
116	CF3	H	Me	H	Et	H	Cyclopropyl	2-Cl-4-Cl		419
117	CF3	H	Me	H	Me	H	Cyclopropyl	4-CF3		405
118	CF3	H	Me	H	H	H	Cyclopropyl	4-O(2-Cl-4-Cl-Ph)		483
119	CF3	H	Me	H	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		

N°	R^{15}	R^{16}	R^{17}	R^{18}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
120	CF3	H	Me	H	H	H	Cycloheptyl	2-Cl-4-Cl-6-Cl		
121	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-5-CF3		425
122	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-6-CF3		
123	CF3	H	Me	H	CO2Me	H	Cyclopropyl	2-Cl-5-CF3		483
124	CF3	H	Me	H	Me	H	Cyclopropyl	2-Cl-5-CF3		439
125	CF3	H	Me	H	CO2Me	H	Cyclopropyl	3-Cl-5-Cl		449
126	CF3	H	Me	H	Me	H	Cyclopropyl	3-Cl-5-Cl		405
127	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-4-CF3-6-Cl		459
128	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-3-Cl-4-Cl		425
129	CF3	H	Me	H	CO2Me	H	Cyclopropyl	2-Cl-4-Cl		449
130	CF3	H	Me	H	n-Pr	H	Cyclopropyl	2-Cl-4-Cl		433
131	CF3	H	Me	H	CN	H	Cyclopropyl	4-Cl		382
132	CF3	H	Me	H	CO2Me	H	Cyclopropyl	4-Cl		415
133	CF3	H	Me	H	H	H	Cyclopropyl	3-OPh-4-F		433
134	CF3	H	Me	H	H	H	Cyclopropyl	2-CF3		391
135	CF3	H	Me	H	CO2Me	H	Cyclopropyl	2-CH2OMe		425
136	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-6-CF3		425
137	CF3	H	Me	H	H	H	Cyclopropyl	2-Cl-6-Cl		391
138	CF3	H	Me	H	CO2Me	H	Cyclopropyl	2-Cl		415
139	CF3	H	Me	H	CN	H	Cyclopropyl	3-OPh		440
140	CF3	H	Me	H	H	H	Cyclopropyl	2-Me-6-Me		351
141	CF3	H	Me	H	CN	H	Cyclopropyl	2,3-(difluoro methylenedioxy)		428
142	CF3	H	Me	H	CN	H	Cyclopropyl	2-OMe		378
143	CF3	H	Me	H	CN	H	Cyclopropyl	2-OPh		440
144	CF3	H	Me	H	H	H	Cyclopropyl	4-OCF3		407
145	CF3	H	Me	H	CN	H	Cyclopropyl	3,4-Methylenedioxy		392
146	CF3	H	Me	H	CO2Et	H	Cyclopropyl	2-OMe-5-OMe		455



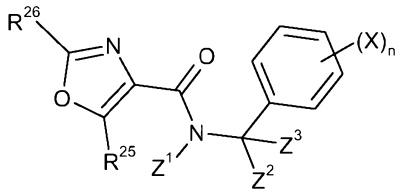
I-A7

N°	R^{19}	R^{20}	R^{21}	R^{22}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
147	Me	H	H	H	H	H	cyclopropyl	2-Cl-4-Cl		
148	Me	H	H	H	H	H	cyclopropyl	2-Cl-4-CF3		
149	Me	H	H	H	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl		



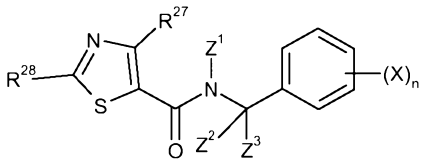
I-A^8

N°	R^{23}	R^{24}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
150	Me	H	H	H	cyclopropyl	2-Cl-4-Cl		325
151	Me	H	H	H	cyclopropyl	2-Cl-4-CF3		
152	Me	Me	H	H	cyclopropyl	2-Cl-4-Cl		
153	Me	Me	H	H	cyclopropyl	2-Cl-4-CF3		
154	Me	H	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl		359
155	Me	Me	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl		
156	Me	H	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
157	Me	H	H	H	cycloheptyl	2-Cl-4-Cl-6-Cl		



I-A^9

N°	R^{25}	R^{26}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
158	Me	Me	H	H	Cyclopropyl	2-Cl-4-Cl		339
159	Me	Me	H	H	Cyclopropyl	2-Cl-4-CF3		
160	Me	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		373
161	Me	Me	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
162	Me	Me	H	H	cycloheptyl	2-Cl-4-Cl-6-Cl		
163	CF3	Me	H	H	Cyclopropyl	2-Cl-4-Cl		
164	CF3	Me	H	H	Cyclopropyl	2-Cl-4-CF3		
165	CF3	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		

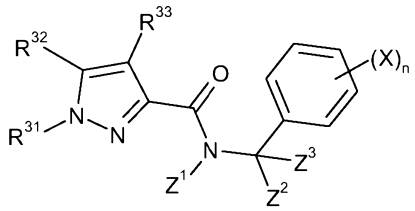


I-A^{10}

N°	R^{27}	R^{28}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
166	CF3	Me	H	H	Cyclopropyl	2-Cl-4-CF3		
167	CHF2	Me	H	H	Cyclopropyl	2-Cl-4-CF3		

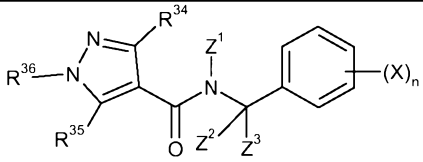
N°	R^{27}	R^{28}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
168	CF3	Me	H	H	Cyclopropyl	2-Cl-4-Cl	4,19	
169	CHF2	Me	H	H	Cyclopropyl	2-Cl-4-Cl	3,74	
170	CF3	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	4,52	
171	CHF2	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	4,1	
172	CHF2	Me	H	H	Cyclopropyl	4-CF3	3,37	
173	CHF2	Me	Me	H	Cyclopropyl	2-Cl-4-Cl	3,9	
174	CF3	Me	Me	H	Cyclopropyl	4-CF3		423
175	CHF2	Me	Me	H	Cyclopropyl	4-CF3		405
176	CHF2	Me	H	H	Cyclopropyl	4-OPh		415
177	CF3	Me	H	H	Cyclopropyl	4-CF3		409
178	CF3	Me	Me	H	Cyclopropyl	2-Cl-4-Cl		423
179	CHF2	Me	H	H	Cyclopropyl	2-OMe-5-Acetyl		395
180	CHF2	Me	H	H	Cyclopropyl	3-Cl-5-Cl		391
181	CHF2	Me	H	H	Cyclopropyl	3-Me		337
182	CHF2	Me	H	H	Cyclopropyl	3-Me-4-Me		
183	CHF2	Me	H	H	Cyclopropyl	4-i-Pr		365
184	CHF2	Me	H	H	Cyclopropyl	2-CN		
185	CHF2	Me	H	H	Cyclopropyl	4-CN		348
186	CHF2	Me	H	H	Cyclopropyl	2-OMe		
187	CHF2	Me	H	H	Cyclopropyl	2-Me-4-Me-6-Me		365
188	CHF2	Me	H	H	Cyclopropyl	3,4-Methylenedioxy		
189	CHF2	Me	H	H	Cyclopropyl	2-OMe-5-OMe		
190	CHF2	Me	H	H	Cyclopropyl	3-OCF3		407
191	CHF2	Me	H	H	Cyclopropyl	2-Cl-4,5-Methylenedioxy		
192	CHF2	Me	Me	H	Cyclopropyl	2-Cl-4-Cl		
193	CHF2	Me	Et	H	Cyclopropyl	2-Cl-4-Cl		419
194	CF3	Me	H	H	Cyclopropyl	4-OPh		433
195	CF3	Me	H	H	Cyclopropyl	4-O(2-Cl-4-Cl-Ph)		501
196	CHF2	Me	H	H	Cyclopropyl	4-O(2-Cl-4-Cl-Ph)		483
197	CF3	Me	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
198	CHF2	Me	H	H	Cycloheptyl	2-Cl-4-Cl-6-Cl		
199	CF3	Me	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
200	CHF2	Me	H	H	Cycloheptyl	2-Cl-4-Cl-6-Cl		
201	CHF2	Me	H	H	Cyclopropyl	2-Cl-5-CF3		
202	CHF2	Me	H	H	Cyclopropyl	2-Cl-6-CF3		
203	CF3	Me	H	H	Cyclopropyl	2-Cl-5-CF3		
204	CF3	Me	H	H	Cyclopropyl	2-Cl-6-CF3		
205	CF3	Me	H	H	Cyclopropyl	3-OPh-4-F		451
206	CHF2	Me	Me	H	Cyclopropyl	2-Cl-5-CF3		439
207	CHF2	Me	H	H	Cyclopropyl	2-Cl-5-CF3		425

N°	R^{27}	R^{28}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
208	CHF2	Me	H	H	Cyclopropyl	2-Cl-3-Cl-4-Cl		425
209	CHF2	Me	CN	H	Cyclopropyl	2-Cl-4-Cl	3,61	
210	CHF2	Me	n-Pr	H	Cyclopropyl	2-Cl-4-Cl		433
211	CHF2	Me	H	H	Cyclopropyl	3-OPh-4-F		433
212	CHF2	Me	CN	H	Cyclopropyl	2-CF3		416
213	CHF2	Me	CN	H	Cyclopropyl	2-Cl-6-Cl	3,14	
214	CHF2	Me	H	H	Cyclopropyl	2-Cl-6-Cl		391
215	CHF2	Me	H	H	Cyclopropyl	4-OCF3		407
216	CF3	Me	H	H	Cyclopentyl	2-Cl-4-Cl-6-Cl		
217	CF3	Me	H	H	2-Me-cyclopropyl	2-Cl-6-Cl		
218	CF3	Me	H	H	2-F-cyclopropyl	2-Cl-6-Cl		
219	CF3	Me	H	H	1-Me-cyclopropyl	2-Cl-6-Cl		
220	CHF2	Me	H	H	Cyclopentyl	2-Cl-4-Cl-6-Cl		
221	CHF2	Me	H	H	2-Me-cyclopropyl	2-Cl-6-Cl		
222	CHF2	Me	H	H	2-F-cyclopropyl	2-Cl-6-Cl		
223	CHF2	Me	H	H	1-Me-cyclopropyl	2-Cl-6-Cl		
224	CHF2	Me	H	H	2-F-cyclopropyl	2-Cl-4-Cl-6-Cl		
225	CHF2	Me	H	H	1-Me-cyclopropyl	2-Cl-4-Cl-6-Cl		



I-A^{12}

N°	R^{31}	R^{32}	R^{33}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
226	Me	Me	H	H	H	Cyclopropyl	2-Cl-4-Cl		338
227	Me	Me	H	H	H	Cyclopropyl	2-Cl-4-CF3		
228	Me	Me	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		372
229	Me	Me	H	H	H	Cyclopropyl	2-Cl-6-CF3		
230	Me	Me	H	Me	H	Cyclopropyl	2-Cl-4-Cl		
231	Me	Me	H	H	H	Cyclopentyl	2-Cl-4-Cl		
232	Me	Me	H	H	H	Cyclohexyl	2-Cl-4-Cl		
233	Me	Me	H	H	H	Cyclopentyl	2-Cl-4-Cl-6-Cl		
234	Me	Me	H	H	H	Cyclohexyl	2-Cl-4-Cl-6-Cl		



I-A^{13}

N°	R^{34}	R^{35}	R^{36}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
235	Me	F	Me	H	H	Cyclopropyl	2-Cl-4-CF3		390
236	Me	F	Me	H	H	Cyclopropyl	2-Cl-4-Cl	3,04	
237	Me	F	Me	H	H	Cyclopropyl	4-CF3	2,8	
238	Me	F	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	3,32	
239	Me	F	Me	H	H	Cyclopropyl	4-OPh		380
240	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-4-CF3		408
241	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl	3,27	
242	CHF2	H	Me	H	H	Cyclopropyl	4-CF3	2,98	
243	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	3,46	
244	CHF2	H	Me	H	H	Cyclopropyl	4-OPh	3,37	
245	CHF2	H	Me	Me	H	Cyclopropyl	2-Cl-4-Cl	3,31	
246	CHF2	H	Me	Me	H	Cyclopropyl	4-CF3	3,27	
247	OMe	H	Me	H	H	Cyclopropyl	2-Cl-4-CF3		388
248	CF3	H	Me	H	H	Cyclopropyl	2-Cl-4-CF3		426
249	OEt	H	Me	H	H	Cyclopropyl	2-Cl-4-CF3		
250	I	H	Me	H	H	Cyclopropyl	2-Cl-4-CF3		484
251	OMe	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl	2,81	
252	CF3	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl	3,58	
253	OEt	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl	3,22	
254	I	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl	3,15	
255	OMe	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	2,97	
256	CF3	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	3,78	
257	OEt	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	3,35	
258	I	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl	3,34	
259	OMe	H	Me	H	H	Cyclopropyl	4-CF3	2,61	
260	CF3	H	Me	H	H	Cyclopropyl	4-CF3	3,29	
261	OEt	H	Me	H	H	Cyclopropyl	4-CF3	2,92	
262	I	H	Me	H	H	Cyclopropyl	4-CF3	2,92	
263	Me	F	Me	Me	H	Cyclopropyl	2-Cl-4-Cl	3,19	
264	OMe	H	Me	Me	H	Cyclopropyl	2-Cl-4-Cl	2,83	
265	OEt	H	Me	Me	H	Cyclopropyl	2-Cl-4-Cl	3,19	
266	I	H	Me	Me	H	Cyclopropyl	2-Cl-4-Cl	3,22	
267	OEt	H	Me	Me	H	Cyclopropyl	4-CF3		382
268	OMe	H	Me	H	H	Cyclopropyl	4-OPh		378
269	CF3	H	Me	H	H	Cyclopropyl	4-OPh		416
270	OEt	H	Me	H	H	Cyclopropyl	4-OPh		392
271	OMe	H	Me	H	H	Cyclopropyl	4-O(2-Cl-4-Cl-Ph)		446
272	CF3	H	Me	H	H	Cyclopropyl	4-O(2-Cl-4-Cl-Ph)		484
273	OEt	H	Me	H	H	Cyclopropyl	4-O(2-Cl-4-Cl-Ph)		460
274	Me	F	Me	H	H	Cyclopropyl	2-Cl-3-Cl-4-Cl		390
275	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-3-Cl-4-Cl		408
276	CF3	H	Me	Me	H	Cyclopropyl	2-Cl-4-Cl		406

N°	R^{34}	R^{35}	R^{36}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
277	Me	F	Me	H	H	Cyclopropyl	2-OMe-5-Ac		
278	CHF2	H	Me	H	H	Cyclopropyl	2-OMe-5-Ac		378
279	OMe	H	Me	H	H	Cyclopropyl	2-OMe-5-Ac		358
280	Me	F	Me	H	H	Cyclopropyl	3-Cl-5-Cl		356
281	CHF2	H	Me	H	H	Cyclopropyl	3-Cl-5-Cl		374
282	OMe	H	Me	H	H	Cyclopropyl	3-Cl-5-Cl		354
283	Me	F	Me	H	H	Cyclopropyl	3-Me		302
284	CHF2	H	Me	H	H	Cyclopropyl	3-Me		320
285	OMe	H	Me	H	H	Cyclopropyl	3-Me		300
286	Me	F	Me	H	H	Cyclopropyl	3-Me-4-Me		316
287	CHF2	H	Me	H	H	Cyclopropyl	3-Me-4-Me		334
288	OMe	H	Me	H	H	Cyclopropyl	3-Me-4-Me		
289	Me	F	Me	H	H	Cyclopropyl	4-i-Pr		330
290	CHF2	H	Me	H	H	Cyclopropyl	4-i-Pr		
291	OMe	H	Me	H	H	Cyclopropyl	4-i-Pr		
292	Me	F	Me	H	H	Cyclopropyl	2-CN		
293	CHF2	H	Me	H	H	Cyclopropyl	2-CN		
294	OMe	H	Me	H	H	Cyclopropyl	2-CN		
295	Me	F	Me	H	H	Cyclopropyl	4-CN		313
296	CHF2	H	Me	H	H	Cyclopropyl	4-CN		
297	OMe	H	Me	H	H	Cyclopropyl	4-CN		311
298	Me	F	Me	H	H	Cyclopropyl	2-OMe		318
299	CHF2	H	Me	H	H	Cyclopropyl	2-OMe		336
300	OMe	H	Me	H	H	Cyclopropyl	2-OMe		316
301	Me	F	Me	H	H	Cyclopropyl	2-Me-4-Me-6-Me		330
302	CHF2	H	Me	H	H	Cyclopropyl	2-Me-4-Me-6-Me		348
303	OMe	H	Me	H	H	Cyclopropyl	2-Me-4-Me-6-Me		328
304	Me	F	Me	H	H	Cyclopropyl	3,4-Methylenedioxy		332
305	CHF2	H	Me	H	H	Cyclopropyl	3,4-Methylenedioxy		350
306	OMe	H	Me	H	H	Cyclopropyl	3,4-Methylenedioxy		330
307	Me	F	Me	H	H	Cyclopropyl	2-OMe-5-OMe		348
308	Me	F	Me	H	H	Cyclopropyl	3-OCF3		372
309	CHF2	H	Me	H	H	Cyclopropyl	2-OMe-5-OMe		366
310	CHF2	H	Me	H	H	Cyclopropyl	3-OCF3		390
311	OMe	H	Me	H	H	Cyclopropyl	2-OMe-5-OMe		346
312	OMe	H	Me	H	H	Cyclopropyl	3-OCF3		370
313	Me	F	Me	H	H	Cyclopropyl	2-Cl-4,5-Methylenedioxy		366
314	Me	F	Me	Me	H	Cyclopropyl	4-Cl-6-Cl		
315	Me	F	Me	Me	H	Cyclopropyl	4-Cl-6-Cl		

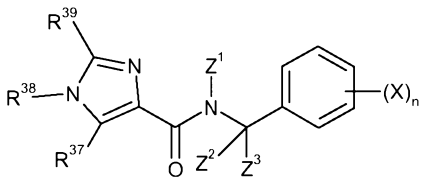
N°	R^{34}	R^{35}	R^{36}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
316	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-4,5-Methylenedioxy		
317	CHF2	H	Me	Me	H	Cyclopropyl	4-Cl-6-Cl		
318	CHF2	H	Me	Me	H	Cyclopropyl	4-Cl-6-Cl		
319	OMe	H	Me	H	H	Cyclopropyl	2-Cl-4,5-Methylenedioxy		364
320	OMe	H	Me	Me	H	Cyclopropyl	4-Cl-6-Cl		
321	OMe	H	Me	Me	H	Cyclopropyl	4-Cl-6-Cl		
322	Et	F	Me	H	H	Cyclopropyl	2-Cl-4-Cl		370
323	Et	F	Me	H	H	Cyclopropyl	2-Cl-4-CF3		404
324	Me	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl		338
325	Me	H	Me	H	H	Cyclopropyl	2-Cl-4-CF3		
326	H	H	H	H	H	Cyclopropyl	2-Cl-4-Cl		
327	H	H	H	H	H	Cyclopropyl	2-Cl-4-CF3		
328	Et	F	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		404
329	Me	H	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		372
330	H	H	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		
331	CF3	H	Me	H	H	Cyclopropyl	2-OMe-5-Ac		396
332	CF3	H	Me	H	H	Cyclopropyl	3-Cl-5-Cl		392
333	CF3	H	Me	H	H	Cyclopropyl	3-Me		338
334	CF3	H	Me	H	H	Cyclopropyl	3-Me-4-Me		
335	CF3	H	Me	H	H	Cyclopropyl	4-i-Pr		366
336	CF3	H	Me	H	H	Cyclopropyl	2-CN		
337	CF3	H	Me	H	H	Cyclopropyl	4-CN		349
338	CF3	H	Me	H	H	Cyclopropyl	2-OMe		353
339	CF3	H	Me	H	H	Cyclopropyl	2-Me-4-Me-6-Me		
340	Me	F	Me	H	H	Cyclopentyl	2-Cl-4-Cl-6-Cl		
341	Me	F	Me	H	H	2-F-cyclopropyl	2-Cl-4-Cl-6-Cl		
342	Me	F	Me	H	H	1-Me-cyclopropyl	2-Cl-4-Cl-6-Cl		
343	Me	F	Me	H	H	Cyclopentyl	2-Cl-6-CF3		
344	CF3	H	Me	H	H	Cyclopropyl	3,4-Methylenedioxy		
345	CF3	H	Me	H	H	Cyclopropyl	2-OMe-5-OMe		
346	CF3	H	Me	H	H	Cyclopropyl	3-OCF3		407
347	CF3	H	Me	H	H	Cyclopropyl	2-Cl-4,5-Methylenedioxy		402
348	CF3	H	Me	Me	H	Cyclopropyl	4-Cl-6-Cl		
349	CF3	H	Me	Me	H	Cyclopropyl	4-Cl-6-Cl		
350	Me	F	Me	CO2Me	H	Cyclopropyl	3-Cl-5-Cl		
351	Me	F	Me	H	H	Cyclopropyl	2-Cl-4-CF3-6-Cl		424
352	Me	F	Me	H	H	Cyclopropyl	2-Cl-6-Cl		356
353	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-4-CF3-6-Cl		442
354	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-6-Cl		374

N°	R^{34}	R^{35}	R^{36}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
355	Me	F	Me	Me	H	Cyclopropyl	4-CF3		370
356	OMe	H	Me	Me	H	Cyclopropyl	4-CF3		368
357	CF3	H	Me	Me	H	Cyclopropyl	4-CF3		406
358	Me	F	Me	H	H	Cyclopropyl	4-O(2-Cl-4-Cl-Ph)		448
359	Me	F	Me	H	H	Cyclopropyl	2-OMe-5-Ac		360
360	Me	F	Me	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
361	CHF2	H	Me	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
362	OMe	H	Me	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
363	Me	F	Me	H	H	Cycloheptyl	2-Cl-4-Cl-6-Cl		
364	CHF2	H	Me	H	H	Cycloheptyl	2-Cl-4-Cl-6-Cl		
365	OMe	H	Me	H	H	Cycloheptyl	2-Cl-4-Cl-6-Cl		
366	Me	F	Me	H	H	Cyclopropyl	2-Cl-5-CF3		
367	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-5-CF3		
368	OMe	H	Me	H	H	Cyclopropyl	2-Cl-5-CF3		
369	Me	F	Me	H	H	Cyclopropyl	2-Cl-6-CF3		
370	CHF2	H	Me	H	H	Cyclopropyl	2-Cl-6-CF3		
371	OMe	H	Me	H	H	Cyclopropyl	2-Cl-6-CF3		
372	Me	H	Me	H	H	Cyclopropyl	2-Cl-5-CF3		372
373	Me	H	Me	Me	H	Cyclopropyl	2-Cl-4-Cl		352
374	Me	H	Me	H	H	Cyclopropyl	3-OPh-4-F		380
375	Me	H	Me	H	H	Cyclopropyl	2-Cl-6-CF3		372
376	Me	H	Me	H	H	Cyclopropyl	2-Cl-6-Cl		338
377	Me	H	Me	H	H	Cyclopropyl	2-Me-4-Me-6-Me		312
378	Me	F	Me	H	H	Cyclopropyl	2-Br		366
379	Me	F	Me	Me	H	Cyclopropyl	2-CF3		370
380	Me	F	Me	H	H	Cyclopropyl	2-CF3		356
381	Me	F	Me	H	H	Cyclopropyl	2-CF3-5-CF3		424
382	Me	F	Me	CO2Me	H	Cyclopropyl	2-CH2OMe		390
383	Me	F	Me	CO2Me	H	Cyclopropyl	2-Cl	2,57	
384	Me	F	Me	H	H	Cyclopropyl	2-Cl		322
385	Me	F	Me	CN	H	Cyclopropyl	2-Cl-4-Cl	3,15	
386	Me	F	Me	Et	H	Cyclopropyl	2-Cl-4-Cl	3,53	
387	Me	F	Me	n-Pr	H	Cyclopropyl	2-Cl-4-Cl		398
388	Me	F	Me	n-Bu	H	Cyclopropyl	2-Cl-4-Cl		412
389	Me	F	Me	CO2Me	H	Cyclopropyl	2-Cl-4-Cl		414
390	Me	F	Me	Me	H	Cyclopropyl	2-Cl-5-CF3		404
391	Me	F	Me	CO2Me	H	Cyclopropyl	2-Cl-5-CF3		448
392	CHF2	H	Me	H	H	2-Me-cyclopropyl	2-Cl-6-Cl		
393	CHF2	H	Me	H	H	2-F-cyclopropyl	2-Cl-6-Cl		

N°	R^{34}	R^{35}	R^{36}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
394	CHF2	H	Me	H	H	1-Me-cyclopropyl	2-Cl-6-Cl		
395	Me	F	Me	H	H	Cyclopropyl	2-Cl-5-CF3		390
396	Me	F	Me	H	H	Cyclopropyl	2-Cl-5-Cl		356
397	Me	F	Me	H	H	Cyclopropyl	2-Cl-6-CF3		390
398	Me	F	Me	CN	H	Cyclopropyl	2-CN		338
399	Me	F	Me	H	H	Cyclopropyl	2-Cyclohexyl		370
400	Me	F	Me	H	H	Cyclopropyl	2-F-4-Br		384
401	Me	F	Me	H	H	Cyclopropyl	2-F-4-O-(3-Cl-4-F-Ph)		434
402	Me	F	Me	H	H	Cyclopropyl	2-I		414
403	Me	F	Me	H	H	Cyclopropyl	2-Me-5-Me		316
404	Me	F	Me	CN	H	Cyclopropyl	2-OMe		343
405	Me	F	Me	H	H	Cyclopropyl	2-OMe-5-C(NOEt)Me		389
406	Me	F	Me	H	H	Cyclopropyl	2-OMe-5-C(NOEt)Me		403
407	Me	F	Me	H	H	Cyclopropyl	2-OMe-5-C(NOiBu)Me		431
408	Me	F	Me	H	H	Cyclopropyl	2-OMe-5-C(NOiPr)Me		417
409	Me	F	Me	H	H	Cyclopropyl	2-OMe-5-C(NOtBu)Me		431
410	Me	F	Me	CO2Et	H	Cyclopropyl	2-OMe-5-OMe		420
411	Me	F	Me	CN	H	Cyclopropyl	2-OPh		405
412	Me	F	Me	H	H	Cyclopropyl	3-Br	2,66	
413	Me	F	Me	H	H	Cyclopropyl	3-Br-5-Br		444
414	Me	F	Me	Me	H	Cyclopropyl	3-Cl-5-Cl		370
415	Me	F	Me	Et	H	Cyclopropyl	3-Cl-5-Cl		384
416	Me	F	Me	H	H	Cyclopentyl	2-Cl-4-Cl-6-Cl		
417	Me	F	Me	H	H	2-Me-cyclopropyl	2-Cl-6-Cl		369
418	Me	F	Me	H	H	2-F-cyclopropyl	2-Cl-6-Cl		
419	Me	F	Me	H	H	1-Me-cyclopropyl	2-Cl-6-Cl		
420	Me	F	Me	Me	H	Cyclopropyl	3-OPh-4-F		412
421	Me	F	Me	H	H	Cyclopropyl	3-OPh-4-F		398
422	Me	F	Me	H	H	Cyclopropyl	4-Br	2,67	
423	Me	F	Me	Et	H	Cyclopropyl	4-CF3		384
424	Me	F	Me	n-Bu	H	Cyclopropyl	4-CF3		412
425	Me	F	Me	H	H	Cyclopropyl	4-CH2OH		318
426	Me	F	Me	CO2Me	H	Cyclopropyl	4-Cl		380
427	Me	F	Me	CN	H	Cyclopropyl	4-Cl		347
428	Me	F	Me	H	H	Cyclopropyl	4-CHNOiPr		373
429	Me	F	Me	CO2Et	H	Cyclopropyl	4-i-Bu		416
430	Me	F	Me	H	H	Cyclopropyl	4-O-(3-Cl-4-F-Ph)		416

N°	R^{34}	R^{35}	R^{36}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
431	Me	F	Me	H	H	Cyclopropyl	4-O-(4-CF3-Ph)		448
432	Me	F	Me	H	H	Cyclopropyl	4-O-(4-Cl-Ph)		414
433	Me	F	Me	H	H	Cyclopropyl	4-OCF3		372
434	Me	F	Et	H	H	Cyclopropyl	2-Cl-4-CF3		404
435	Me	F	Et	H	H	Cyclopropyl	2-Cl-4-Cl		370
436	Me	F	Et	Me	H	Cyclopropyl	2-Cl-4-Cl		384
437	Me	F	Et	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		404
438	Me	F	Et	H	H	Cyclopropyl	2-Cl-6-CF3		404
439	Me	F	Et	H	H	Cyclopropyl	2-Cl-6-Cl		370
440	Me	F	Et	Me	H	Cyclopropyl	4-CF3		384
441	OMe	H	Me	CO2Me	H	Cyclopropyl	2-CH2OMe		388
442	OMe	H	Me	CO2Me	H	Cyclopropyl	2-Cl		378
443	OMe	H	Me	H	H	Cyclopropyl	2-Cl-3-Cl-4-Cl		388
444	OMe	H	Me	CO2Me	H	Cyclopropyl	2-Cl-4-Cl		412
445	OMe	H	Me	Et	H	Cyclopropyl	2-Cl-4-Cl		382
446	OMe	H	Me	n-Pr	H	Cyclopropyl	2-Cl-4-Cl		396
447	OMe	H	Me	CO2Me	H	Cyclopropyl	2-Cl-5-CF3		446
448	OMe	H	Me	Me	H	Cyclopropyl	2-Cl-5-CF3		402
449	OMe	H	Me	H	H	Cyclopropyl	2-Cl-5-CF3		388
450	OMe	H	Me	H	H	Cyclopropyl	2-Cl-6-CF3		388
451	OMe	H	Me	CN	H	Cyclopropyl	2-Cl-6-Cl		379
452	OMe	H	Me	H	H	Cyclopropyl	2-Cl-6-Cl		354
453	OMe	H	Me	CN	H	Cyclopropyl	2-OCF2O-3-OCF2O		391
454	OMe	H	Me	CN	H	Cyclopropyl	2-OMe		341
455	OMe	H	Me	CO2Et	H	Cyclopropyl	2-OMe-5-OMe		418
456	OMe	H	Me	CN	H	Cyclopropyl	2-OPh		403
457	OMe	H	Me	CO2Me	H	Cyclopropyl	3-Cl-5-Cl		412
458	OMe	H	Me	CN	H	Cyclopropyl	3-OCH2O-4-OCH2O		355
459	OMe	H	Me	CN	H	Cyclopropyl	3-OPh		403
460	OMe	H	Me	H	H	Cyclopropyl	3-OPh-4-F		396
461	OMe	H	Me	CN	H	Cyclopropyl	4-Cl		345
462	OMe	H	Me	CO2Me	H	Cyclopropyl	4-Cl		378
463	OMe	H	Me	H	H	Cyclopropyl	4-OCF3		370
464	H	Cl	Me	Me	H	Cyclopropyl	2-Cl-4-Cl		372
465	H	Cl	Me	H	H	Cyclopropyl	2-Cl-4-Cl		358
466	H	Cl	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		392
467	CHF2	H	CH2OMe	H	H	Cyclopropyl	2-Cl-6-CF3		438
468	CF3	H	Me	n-Bu	H	Cyclopropyl	4-CF3		430
469	CF3	H	Me	CN	H	Cyclopropyl	2-CF3		417
470	CF3	H	Me	H	H	Cyclopropyl	2-CF3		392
471	CF3	H	Me	CO2Me	H	Cyclopropyl	2-CH2OMe		426

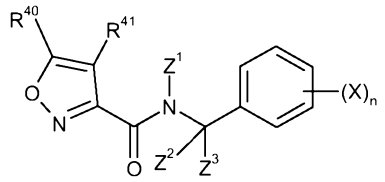
N°	R^{34}	R^{35}	R^{36}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
472	CF3	H	Me	CO2Me	H	Cyclopropyl	2-Cl		416
473	CF3	H	Me	H	H	Cyclopropyl	2-Cl-3-Cl-4-Cl		
474	CF3	H	Me	H	H	Cyclopropyl	2-Cl-4-CF3-6-Cl		460
475	CF3	H	Me	CO2Me	H	Cyclopropyl	2-Cl-4-Cl		450
476	CF3	H	Me	Et	H	Cyclopropyl	2-Cl-4-Cl		420
477	CF3	H	Me	n-Pr	H	Cyclopropyl	2-Cl-4-Cl		434
478	CF3	F	Me	H	H	Cyclopropyl	2-Cl-4-CF3		444
479	CF3	F	Me	H	H	Cyclopropyl	2-Cl-4-Cl		410
480	CF3	F	Me	Me	H	Cyclopropyl	2-Cl-4-Cl		424
481	CF3	F	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		
482	CHF2	H	Me	H	H	Cyclopropyl	2-CF3-5-CF3		442
483	CHF2	H	Me	CO2Me	H	Cyclopropyl	2-CH2OMe		408
484	CHF2	H	Me	CO2Me	H	Cyclopropyl	2-Cl		398
485	CHF2	H	Me	H	H	Cyclopropyl	2-Cl		340
486	CHF2	H	Me	CN	H	Cyclopropyl	2-Cl-4-Cl		
487	CHF2	H	Me	H	H	Cyclopropyl	4-O-(3-Cl-4-F-Ph)		434
488	CHF2	H	Me	H	H	Cyclopropyl	4-O-(4-CF3-Ph)		466
489	CHF2	H	Me	H	H	Cyclopropyl	4-O-(4-Cl-Ph)		432
490	CHF2	H	Me	H	H	Cyclopropyl	2-F-4-Br		
491	CHF2	H	Me	H	H	Cyclopropyl	2-F-4-O-(3-Cl-4-F-Ph)		452
492	CHF2	H	Me	CO2Et	H	Cyclopropyl	2-OMe-5-OMe		438
493	CHF2	H	Me	Me	Me	Cyclopropyl	2-Cl-4-Cl		
494	CHF2	H	Me	Me	Me	Cyclopropyl	4-CF3		
495	CHF2	H	Me	Me	Me	Cyclopropyl	2-CF3		
496	Me	F	Me	Me	Me	Cyclopropyl	2-Cl-4-Cl		
497	Me	F	Me	Me	Me	Cyclopropyl	4-CF3		
498	Me	F	Me	Me	Me	Cyclopropyl	2-CF3		
499	CHF2	H	Me	OMe	H	Cyclopropyl	2-Cl-4-Cl		
500	Me	F	Me	OMe	H	Cyclopropyl	2-Cl-4-Cl	2,96	
501	CHF2	H	Me	OEt	H	Cyclopropyl	2-Cl-4-Cl		
502	Me	F	Me	OEt	H	Cyclopropyl	2-Cl-4-Cl		



I-A^{14}

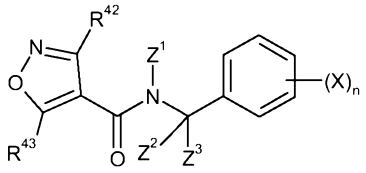
N°	R^{37}	R^{38}	R^{39}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
503	H	Me	H	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl	2,40	

N°	R^{37}	R^{38}	R^{39}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
504	H	Me	H	H	H	cyclopropyl	2-Cl-4-CF3		
505	H	Me	H	H	H	cyclopropyl	2-Cl-4-Cl		
506	H	Me	H	H	H	cyclopropyl	4-CF3		
507	H	Me	H	H	H	cyclopropyl	4-OPh		



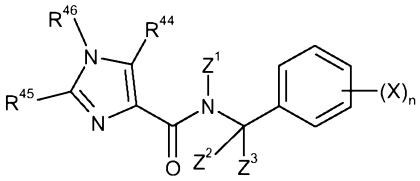
I-A^{15}

N°	R^{40}	R^{41}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
508	Me	H	H	H	cyclopropyl	2-Cl-4-Cl		325
509	Me	H	H	H	cyclopropyl	2-Cl-4-CF3		
510	Me	H	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl		359



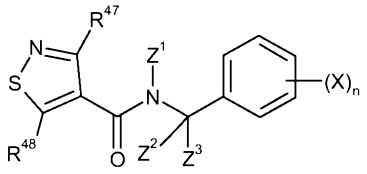
I-A^{16}

N°	R^{42}	R^{43}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
511	Me	Me	H	H	Cyclopropyl	2-Cl-4-Cl		339
512	Me	Me	H	H	Cyclopropyl	2-Cl-4-CF3		
513	Me	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		373
514	Me	CF3	H	H	Cyclopropyl	2-Cl-4-Cl		
515	Me	CF3	H	H	Cyclopropyl	2-Cl-4-CF3		
516	Me	CF3	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		
517	CF3	Me	H	H	Cyclopropyl	2-Cl-4-Cl		
518	CF3	Me	H	H	Cyclopropyl	2-Cl-6-CF3		
519	CF3	Me	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		
520	Me	Me	Me	H	Cyclopropyl	2-Cl-4-Cl		353



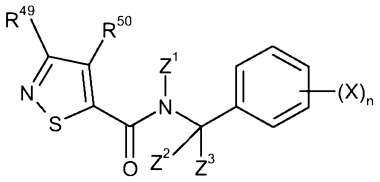
I-A^{17}

N°	R^{44}	R^{45}	R^{46}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
521	H	H	Me	H	H	cyclopropyl	2-Cl-4-Cl		
522	H	H	Me	H	H	cyclopropyl	2-Cl-4-CF3		
523	H	H	Me	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl		



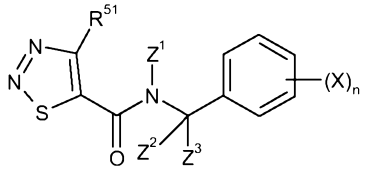
I-A^{18}

N°	R^{47}	R^{48}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
524	Me	NH2	H	H	cyclopropyl	2-Cl-4-Cl		
525	Me	NH2	H	H	cyclopropyl	2-Cl-4-CF3		
526	Me	NH2	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl		



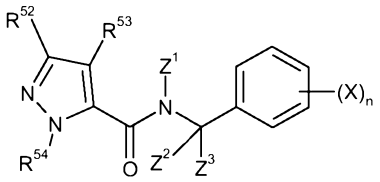
I-A^{19}

N°	R^{49}	R^{50}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
527	Cl	Cl	H	H	Cyclopropyl	2-Cl-4-Cl		395
528	Cl	Cl	H	H	Cyclopropyl	2-Cl-4-CF3		
529	Cl	Cl	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		429
530	Cl	Cl	H	H	3,5,5-trimethyl-cyclohexyl	2-Cl-4-Cl-6-Cl		
531	Cl	Cl	H	H	cycloheptyl	2-Cl-4-Cl-6-Cl		
532	Cl	Cl	Me	H	Cyclopropyl	2-Cl-4-Cl		409
533	H	H	H	H	Cyclopropyl	2-Cl-4-Cl-6-Cl		345
534	H	H	H	H	Cyclopropyl	2-Cl-4-Cl		311
535	H	H	Me	H	Cyclopropyl	2-Cl-4-Cl		325



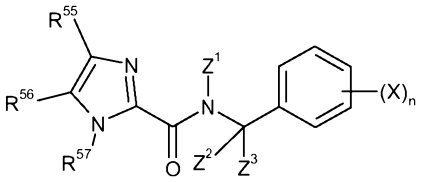
I-A^{20}

N°	R^{51}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
536	Me	H	H	cyclopropyl	2-Cl-4-Cl		
537	Me	H	H	cyclopropyl	2-Cl-4-CF3		
538	Me	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl		



I-A^{21}

N°	R^{52}	R^{53}	R^{54}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
539	Me	Br	Et	H	H	cyclopropyl	2-Cl-4-Cl		
540	Me	Br	Et	H	H	cyclopropyl	2-Cl-4-CF3		
541	Me	Br	Et	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl	2,4	



I-A^{22}

N°	R^{55}	R^{56}	R^{57}	Z^2	Z^3	Z^1	$(X)_n$	LogP	M+H
542	H	H	Me	H	H	cyclopropyl	2-Cl-4-Cl		
543	H	H	Me	H	H	cyclopropyl	2-Cl-4-CF3		
544	H	H	Me	H	H	cyclopropyl	2-Cl-4-Cl-6-Cl		

The following examples illustrate in a non-limiting manner the preparation and efficacy of the compounds of formula (I) according to the invention.

Preparation example: N-(4-trifluoromethyl-benzyl)-N-cyclopropyl-5-fluoro-1,3-dimethyl-1H-pyrazole-4-carboxamide (compound 237)

A solution of 0.25g (0.99 mmol) of N-(4-trifluoromethyl-benzyl) cyclopropylamine hydrochloride, 0.17g (0.99 mmol) of 5-fluoro-1,3-dimethyl-1H-pyrazole-4-carbonyl chloride and 0.2g (1.9 mmol) of triethylamine in THF (10 ml) is stirred at room temperature for 3hours.

Solvent is removed under reduced pressure. Residue is partitioned between water and ethylacetate. Organic phase is separated, dried over magnesium sulfate and solvent evaporated. The resulting viscous oil was purified by flash chromatography using 1:1 heptane/ethyl acetate as eluent to yield

0.31g of desired N-(4-trifluoromethyl-benzyl)-N-cyclopropyl-5-fluoro-1,3-dimethyl-1H-pyrazole-4-carboxamide as a white solid (LogP = 2.8).

Efficacy example A : *in vivo* preventive test on *Alternaria brassicae* (Leaf spot of crucifers)

The active ingredients tested are prepared by homogenisation in a mixture of acetone/tween/DMSO, and then diluted with water to obtain the desired active material concentration.

Radish plants (Pernot variety) in starter cups, sown on a 50/50 peat soil-pozzolana substrate and grown at 18-20°C, are treated at the cotyledon stage by spraying with the active ingredient prepared as described above.

Plants, used as controls, are treated with the mixture of acetone/tween/DMSO/water not containing the active material.

After 24 hours, the plants are contaminated by spraying them with an aqueous suspension of *Alternaria brassicae* spores (40,000 spores per cm3). The spores are collected from a 12 to 13 days-old culture.

The contaminated radish plants are incubated for 6-7 days at about 18°C, under a humid atmosphere.

Grading is carried out 6 to 7 days after the contamination, in comparison with the control plants.

Under these conditions, good (at least 70%) or total protection is observed at a dose of 500 ppm with the following compounds: 27, 58, 59, 99, 100, 137, 160, 173, 187, 238, 243, 245, 246, 251, 255, 256, 258, 263, 264, 266, 274, 275, 301, 303, 308, 310, 322, 324, 328, 329, 351,352, 353, 354, 373, 380, 386, 387, 389, 390, 395, 397, 400, 420, 421, 422, 423, 431, 432, 433, 438, 439, 452, 478, 479, 480, 481, 484, 486 and 534.

Efficacy example B : *in vivo* preventive test on *Pyrenophora teres* (Barley net blotch)

The active ingredients tested are prepared by homogenisation in a mixture of acetone/tween/DMSO, then diluted with water to obtain the desired active material concentration.

Barley plants (Express variety) in starter cups, sown on a 50/50 peat soil-pozzolana substrate and grown at 12°C, are treated at the 1-leaf stage (10 cm tall) by spraying with the active ingredient prepared as described above. Plants, used as controls, are treated with the mixture of acetone/tween/DMSO/water not containing the active material.

After 24 hours, the plants are contaminated by spraying them with an aqueous suspension of *Pyrenophora teres* spores (12,000 spores per ml). The spores are collected from a 12-day-old culture. The contaminated barley plants are incubated for 24 hours at about 20°C and at 100% relative humidity, and then for 12 days at 80% relative humidity.

Grading is carried out 12 days after the contamination, in comparison with the control plants.

Under these conditions, good (at least 70%) or total protection is observed at a dose of 500 ppm with the following compounds: 16, 24, 25, 27, 40, 41, 51, 65, 77, 87, 88, 94, 97, 100, 110, 113, 114, 116, 117, 128, 144, 168, 171, 172, 173, 178, 181, 187, 190, 196, 208, 209, 235, 236, 237, 238, 239, 240, 241, 242, 243, 245, 246, 248, 256, 258, 260, 262, 263, 264, 266, 274, 275, 276, 286, 298, 301,

302, 303, 307, 308, 310, 312, 313, 319, 324, 329, 351, 352, 353, 354, 355, 356, 357, 358, 379, 380, 387, 388, 390, 395, 397, 400, 404, 414, 415, 420, 421, 422, 423, 424, 431, 432, 433, 443, 463, 473, 478, 479, 480, 481 and 484.

Efficacy example C : *in vivo* preventive test on *Sphaerotheca fuliginea* (cucurbit powdery mildew)

The active ingredients tested are prepared by homogenisation in a mixture of acetone/tween/DMSO, then diluted with water to obtain the desired active material concentration.

Gherkin plants (Vert petit de Paris variety) in starter cups, sown on a 50/50 peat soil-pozzolana substrate and grown at 20°C/23°C, are treated at the 2-leaves stage by spraying with the aqueous suspension described above Plants, used as controls, are treated with the mixture of acetone/tween/DMSO/water not containing the active material.

After 24 hours, the plants are contaminated by spraying them with an aqueous suspension of *Sphaerotheca fuliginea* spores (100,000 spores per ml). The spores are collected from a contaminated plants .The contaminated gherkin plants are incubated at about 20°C/25°C and at 60/70% relative humidity.

Grading (% of efficacy) is carried out 21 days after the contamination, in comparison with the control plants.

Under these conditions, good (at least 70%) or total protection is observed at a dose of 500 ppm with the following compounds: 24, 27, 35, 83, 87, 97, 98, 99, 100, 103, 105, 113, 114, 117, 124, 128, 130, 137, 144, 158, 160, 168, 169, 172, 173, 178, 209, 211, 212, 213, 228, 235, 238, 240, 243, 245, 246, 247, 248, 251, 252, 254, 255, 256, 258, 260, 264, 265, 266, 268, 275, 276, 280, 285, 287, 298, 299, 300, 301, 302, 305, 307, 309, 310, 312, 313, 319, 322, 323, 324, 328, 329, 338, 346, 351, 352, 353, 354, 355, 356, 357, 358, 372, 374, 375, 376, 379, 380, 382, 383, 385, 386, 387, 388, 389, 390, 391, 395, 397, 404, 414, 415, 420, 421, 423, 424, 434, 435, 436, 437, 438, 439, 440, 443, 445, 446, 449, 452, 460, 463, 468, 478, 479, 480, 481, 484, 486 and 490.

Efficacy example D : *in vivo* preventive test on *Mycosphaerella graminicola* (wheat leaf spot)

The active ingredients tested are prepared by homogenisation in a mixture of acetone/tween/DMSO, and then diluted with water to obtain the desired active material concentration.

Wheat plants (Scipion variety), sown on a 50/50 peat soil-pozzolana substrate in starter cups and grown at 12°C, are treated at the 1-leaf stage (10 cm tall) by spraying with the active ingredient prepared as described above.

Plants, used as controls, are treated with the mixture of acetone/tween/DMSO/water not containing the active material.

After 24 hours, the plants are contaminated by spraying them with an aqueous suspension of *Mycosphaerella graminicola* spores (500,000 spores per ml). The spores are collected from a 7-day-old culture .The contaminated wheat plants are incubated for 72 hours at 18°C and at 100% relative humidity, and then for 21 to 28 days at 90% relative humidity.

Grading (% of efficacy) is carried out 21 to 28 days after the contamination, in comparison with the control plants.

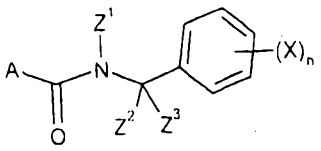
Under these conditions, good (at least 70%) or total protection is observed at a dose of 500 ppm with the following compounds: 5, 13, 14, 16, 20, 24, 27, 35, 39, 41, 49, 54, 56, 58, 65, 77, 81, 84, 87, 88, 97, 99, 100, 101, 103, 104, 105, 106, 108, 109, 110, 111, 112, 113, 114, 117, 118, 121, 128, 133, 137, 141, 144, 150, 154, 158, 160, 171, 173, 176, 178, 180, 183, 187, 194, 196, 205, 209, 211, 212, 213, 228, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 250, 256, 257, 258, 259, 260, 261, 263, 271, 274, 275, 276, 280, 282, 283, 285, 286, 287, 289, 295, 297, 298, 299, 300, 301, 303, 304, 305, 306, 308, 310, 312, 313, 319, 322, 323, 324, 328, 329, 332, 333, 335, 337, 338, 346, 347, 351, 352, 353, 354, 355, 356, 357, 358, 372, 374, 375, 376, 379, 383, 386, 387, 388, 389, 390, 391, 395, 397, 400, 404, 410, 415, 420, 421, 422, 423, 424, 426, 427, 433, 434, 436, 437, 438, 439, 443, 445, 446, 460, 463, 464, 465, 466, 468, 473, 478, 479, 480, 481, 484, 486, 488, 489, 490, 492, 508, 511, 513, 520, 529, 532 and 535.

In the claims which follow and in the preceding description of the invention, except where the context requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or "comprising" is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

It is to be understood that, if any prior art publication is referred to herein, such reference does not constitute an admission that the publication forms a part of the common general knowledge in the art, in Australia or any other country.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A compound of formula (I)

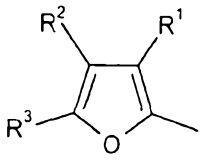


(I)

wherein

- A represents:

- a heterocycle of formula (A^1)

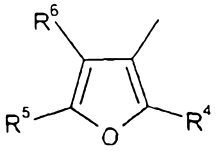


(A^1)

wherein:

R^1 to R^3 which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-alkoxy or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^2)

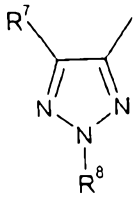


(A^2)

wherein:

R^4 to R^6 which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-alkoxy or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^3)



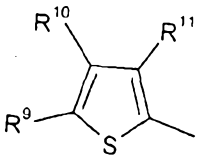
(A^3)

wherein:

R^7 represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-alkoxy or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

R^8 represents a hydrogen atom or a C_1-C_5-alkyl;

- a heterocycle of formula (A^4)

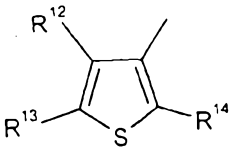


(A^4)

wherein:

R^9 to R^{11} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; amino; C_1-C_5-alkoxy; C_1-C_5-alkylthio C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^5)



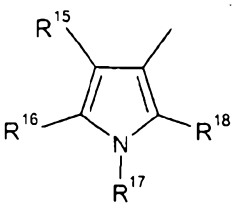
(A^5)

wherein:

R^{12} and R^{13} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-alkoxy; amino; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

R^{14} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-alkoxy; amino; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^6)



(A^6)

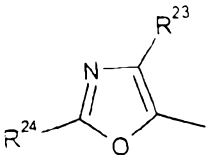
wherein:

R^{15} represents a hydrogen atom; a halogen atom; a cyano; C_1-C_5-alkyl; C_1-C_5-alkoxy; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{16} and R^{18} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkoxycarbonyl; C_1-C_5-alkyl; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{17} represent a hydrogen atom or C_1-C_5-alkyl;

- a heterocycle of formula (A^8)



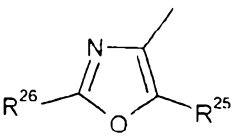
(A^8)

wherein:

R^{23} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{24} represents a hydrogen atom or C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^9)



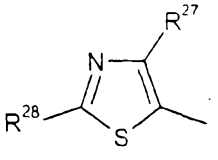
(A^9)

wherein:

R^{25} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{26} represents a hydrogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^{10})



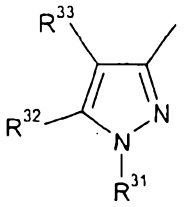
(A^{10})

wherein:

R^{27} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{28} represents a hydrogen atom; a halogen atom; amino; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^{12})



(A^{12})

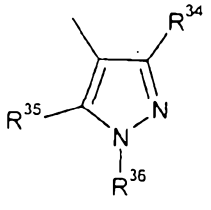
wherein:

R^{31} represents a hydrogen atom; a halogen atom or a C_1-C_5-alkyl;

R^{32} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

R^{33} represents a hydrogen atom; a halogen atom; a nitro; C_1-C_5-alkyl; C_1-C_5-alkoxy; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^{13})



(A^{13})

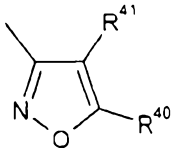
wherein:

R^{34} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_3-C_5-cycloalkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-alkoxy; C_2-C_5-alkynyloxy or C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different;

R^{35} represents a hydrogen atom; a halogen atom; C_1-C_5-alkyl; a cyano; C_1-C_5-alkoxy; C_1-C_5-alkylthio; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different; amino; C_1-C_5-alkylamino or di(C_1-C_5-alkyl)amino;

R^{36} represents a hydrogen atom or C_1-C_5-alkyl;

- a heterocycle of formula (A^{15})

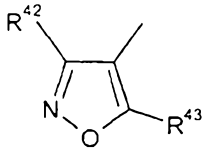


(A^{15})

wherein:

R^{40} and R^{41} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- a heterocycle of formula (A^{16})

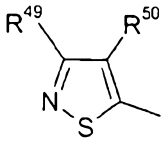


(A^{16})

wherein:

R^{42} and R^{43} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different or amino;

- a heterocycle of formula (A^{19})



(A^{19})

wherein:

R^{49} and R^{50} which can be the same or different represent a hydrogen atom; a halogen atom; C_1-C_5-alkyl; C_1-C_5-alkoxy; C_1-C_5-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different;

- Z^1 represents a non substituted cyclopropyl or a cyclopropyl substituted by up to 10 atoms or groups which can be the same or different and which can be selected in the list consisting of halogen atoms; cyano; C_1-C_8-alkyl; C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkoxy; C_1-C_8-halogenoalkoxy comprising up to 9 halogen

atoms which can be the same or different; C_1-C_8-alkoxycarbonyl; C_1-C_8-halogenoalkoxycarbonyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkylaminocarbonyl; di-C_1-C_8-alkylaminocarbonyl;

- Z^2 and Z^3, which can be the same or different, represent a hydrogen atom; C_1-C_8-alkyl; C_2-C_8-alkenyl; C_2-C_8-alkynyl; cyano; nitro; a halogen atom; C_1-C_8-alkoxy; C_2-C_8-alkenyloxy; C_2-C_8-alkynyloxy; C_3-C_7-cycloalkyl; C_1-C_8-alkylsulphenyl; amino; C_1-C_8-alkylamino; di-C_1-C_8-alkylamino; C_1-C_8-alkoxycarbonyl; C_1-C_8-alkylcarbamoyl; di-C_1-C_8-alkylcarbamoyl; N-C_1-C_8-alkyl-C_1-C_8-alkoxycarbamoyl; or
- Z^2 and Z^3 together with the carbon atom to which they are linked can form a substituted or non substituted C_3-C_7 cycloalkyl;

- X, which can be the same or different, represents a halogen atom; nitro; cyano; hydroxyl; sulfanyl; amino; pentafluoro-λ6-sulfanyl; C_1-C_8-alkyl, C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkylamino; di-C_1-C_8-alkylamino; C_1-C_8-alkoxy; C_1-C_8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkoxy-C_1-C_8-alkyl; C_1-C_8-alkylsulfanyl; C_1-C_8-halogenoalkylsulfanyl comprising up to 9 halogen atoms which can be the same or different; C_2-C_8-alkenyl; C_2-C_8-halogenoalkenyl comprising up to 9 halogen atoms which can be the same or different; C_2-C_8-alkynyl; C_2-C_8-halogenoalkynyl comprising up to 9 halogen atoms which can be the same or different C_2-C_8-alkenyloxy; C_2-C_8-halogenoalkenyloxy comprising up to 9 halogen atoms which can be the same or different; C_2-C_8-alkinyloxy; C_2-C_8-halogenoalkinyloxy comprising up to 9 halogen atoms which can be the same or different; C_3-C_7-cycloalkyl; C_3-C_7-cycloalkyl-C_1-C_8-alkyl; C_3-C_7-halogenocycloalkyl comprising up to 9 halogen atoms which can be the same or different; formyl; formyloxy; formylamino; carboxy; carbamoyl; N-hydroxycarbamoyl; carbamate; (hydroxyimino)-C_1-C_8-alkyl; C_1-C_8-alkylcarbonyl; C_1-C_8-halogenoalkylcarbonyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkylcarbamoyl; di-C_1-C_8-alkylcarbamoyl; N-C_1-C_6-alkyloxycarbamoyl; C_1-C_8-alkoxycarbamoyl; N-C_1-C_8-alkyl-C_1-C_8-alkoxycarbamoyl; C_1-C_8-alkoxycarbonyl; C_1-C_8-halogenoalkoxycarbonyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkylaminocarbonyl; di-C_1-C_8-alkylaminocarbonyl; C_1-C_8-alkylcarbonyloxy; C_1-C_8-

halogenoalkylcarbonyloxy comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkylcarbonylamino; C_1-C_8-halogenoalkylcarbonylamino comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkylaminocarbonyloxy; di-C_1-C_8-alkylaminocarbonyloxy; C_1-C_8-alkyloxycarbonyloxy, C_1-C_8-alkylsulphenyl, C_1-C_8-halogenoalkylsulphenyl comprising up to 9 halogen atoms which can be the same or different, C_1-C_8-alkylsulphinyl, C_1-C_8-halogenoalkylsulphinyl comprising up to 9 halogen atoms which can be the same or different, C_1-C_8-alkylsulphonyl, C_1-C_8-halogenoalkylsulphonyl comprising up to 9 halogen atoms which can be the same or different, C_1-C_8-alkoxyimino, (C_1-C_8-alkoxyimino)-C_1-C_8-alkyl, (C_1-C_8-alkenyloxyimino)-C_1-C_8-alkyl, (C_1-C_8-alkynyloxyimino)-C_1-C_8-alkyl, a (benzyloxyimino-C_1-C_8-alkyl; tri(C_1-C_8-alkyl)silyl; tri(C_1-C_8-alkyl)silyl-C_1-C_8-alkyl; benzyloxy which can be substituted by up to 5 groups Q; benzylsulfanyl which can be substituted by up to 5 groups Q; benzylamino which can be substituted by up to 5 groups Q; naphthyl which can be substituted by up to 6 groups Q; phenoxy which can be substituted by up to 5 groups Q; phenylamino which can be substituted by up to 5 groups Q; phenylsulfanyl which can be substituted by up to 5 groups Q; phenylmethylene which can be substituted by up to 5 groups Q; pyridinyl which can be substituted by up to four groups Q and pyridinyloxy which can be substituted by up to four groups Q;

- two substituents X together with the consecutive carbon atoms to which they are linked can form a 5- or 6-membered, saturated, carbo- or hetero-cycle, which can be substituted by up to four groups Q which can be the same or different;

- n represents 1, 2, 3, 4 or 5;

- Q, which can be the same or different, represents a halogen atom; cyano; nitro; C_1-C_8-alkyl; C_1-C_8-alkoxy; C_1-C_8-alkylsulfanyl; C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different; tri(C_1-C_8)alkylsilyl and tri(C_1-C_8)alkylsilyl-C_1-C_8-alkyl;

as well as salts, N-oxydes, and optically active or geometric isomers thereof.

2. A compound according to claim 1 wherein A is selected in the list consisting of

A^2; A^5; A^6; A^{10} and A^{13}.

3. A compound according to claim 2 wherein A represents A^{13}.

4. A compound according to claim 3 wherein A is A^{13}, and R^{34} represents C_1-C_5-alkyl or C_1-C_5-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; R^{35} represents a hydrogen or a fluorine atom; R^{36} represents methyl.

5. A compound according to any one of claims 1 to 4 wherein Z^1 represents a non substituted cyclopropyl.

6. A compound according to any one of claims 1 to 4 wherein Z^1 represents a cyclopropyl substituted by up to 10 groups or atoms which can be the same or different and which can be selected in the list consisting of halogen atoms; C_1-C_8-alkyl; C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkoxy or C_1-C_8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different.

7. A compound according to any one of claims 1 to 6 wherein X, which can be the same or different, represents a halogen atom; C_1-C_8-alkyl; C_1-C_8-halogenoalkyl comprising up to 9 halogen atoms which can be the same or different; C_1-C_8-alkoxy or C_1-C_8-halogenoalkoxy comprising up to 9 halogen atoms which can be the same or different.

8. A compound according to any one of claims 1 to 6 wherein two consecutive substituents X together with the phenyl ring form a substituted or non substituted 1,3-benzodioxolyl; 1,2,3,4-tetrahydro-quinoxalinyl; 3,4-dihydro-2H-1,4-benzoxazinyl; 1,4-benzodioxanyl; indanyl; 2,3-dihydrobenzofuranyl; or indolinyl.

9. A fungicide composition comprising, as an active ingredient, an effective amount of a compound of formula (I) according to any one of claims 1 to 8 and an agriculturally acceptable support, carrier or filler.

10. A process for the preparation of a compound of formula (I) according to any one of claims 1 to 8 according to the following scheme:

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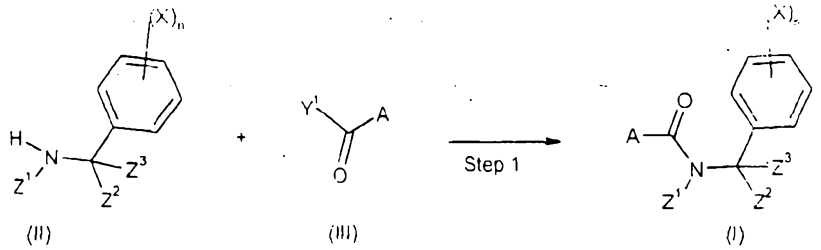


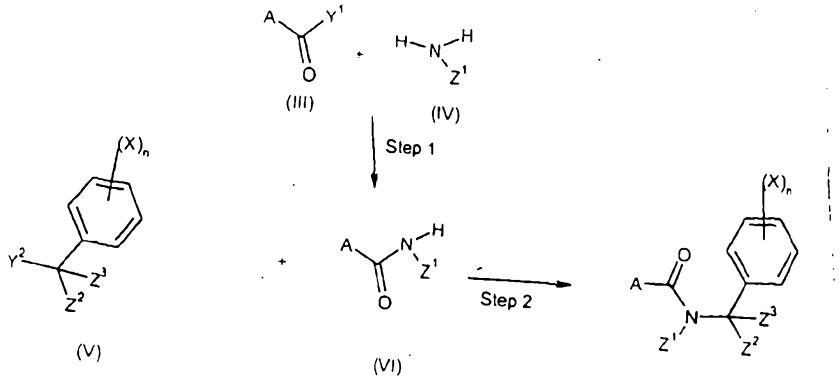
(II) (III) (I)

wherein

A, Z^1, Z^2, Z^3, X and n are as defined in any one of claims 1 to 8;

Y^1 represents a halogen or a hydroxyl.

11. A process for the preparation of a compound of formula (I) according to any one of claims 1 to 8 according to the following scheme:



(III) (IV) (V) (VI) (I)

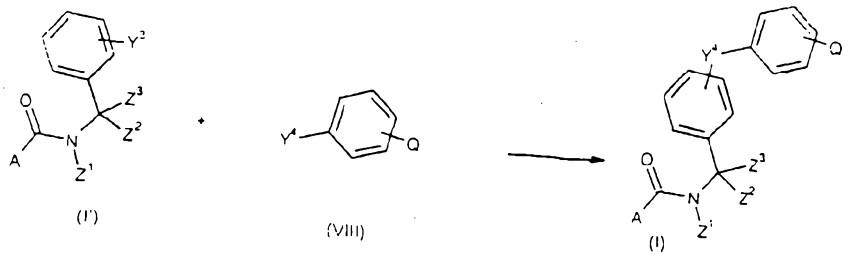
wherein

A, Z^1, Z^2, Z^3, X and n are as defined in any one of claims 1 to 8;

Y^1 represents a halogen or a hydroxyl;

Y^2 represents a halogen or a leaving group like a tosylate group.

12. A process for the preparation of a compound of formula (I) according to any one of claims 1 to 8 according to the following scheme:



(I') (VIII) (I)

wherein

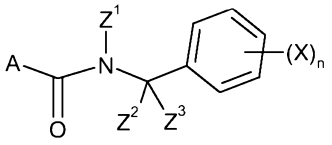
A, Z^1, Z^2, Z^3, X, Q and n are as defined in any one of claims 1 to 8;

Y^3 represents a halogen atom;

Y^4 represents SH, OH or C_1-C_5-alkylamino.

13. A method for controlling phytopathogenic fungi of crops, characterized in that an agronomically effective and substantially non-phytotoxic quantity of a compound according to any one of claims 1 to 8 or a composition according to claim 9 is applied to the soil where plants grow or are capable of growing, to the leaves and/or the fruit of plants or to the seeds of plants.

14. A compound of formula (I), substantially as herein described with reference to the compound examples.



(I)