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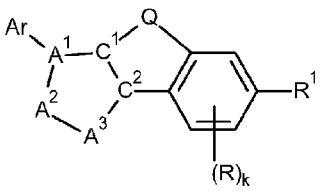
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(54) Title: FUSED TRICYCLIC COMPOUNDS, COMPOSITIONS COMPRISING THESE COMPOUNDS AND THEIR USE FOR CON-TROLLING INVERTEBRATE PESTS



(I)

(57) Abstract: The present invention relates to novel fused tricyclic compounds of the formula I and the N-oxides, stereoisomers, tautomers and agriculturally or veterinarily acceptable salts thereof wherein C^1 is C or CH; C^2 is C or CH; A^1 is N or C; A^2 is N, $C(R^2)$, $N(R^3)$, O, S or $C(R^4,R^5)$; and A^3 is N, O, S, $N(R^6)$, $C(R^7)$ or $C(R^8,R^9)$; where one or two non-adjacent bonds in the 5-membered ring formed by C^1, C^2, A^1, A^2 and A^3 are double bonds, while the others are single bonds, provided that the bond between A^1 and A^2 or the bond between A^1 and C or the bond between A^2 and A^3 or the bond between C^1 and C^2 or the bond between A^3 and C^2 is a double bond further provided that at least one of A^1, A^2 and A^3 is N, $N(R^3)$ or $N(R^6)$, and where Ar, R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9 and $(R)_k$ are as defined in the claims. The compounds of formula (I), as well as the N-oxides, stereoisomers, tautomers and agriculturally or veterinarily acceptable salts thereof, are useful for combating or controlling invertebrate pests, in particular arthropod pests and nematodes. The invention also relates to a method for controlling invertebrate pests by using these compounds and to plant propagation material and to an agricultural and a veterinary composition comprising said compounds.

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Fused tricyclic compounds, compositions comprising these compounds and their use for controlling invertebrate pests

Description

The present invention relates to novel fused tricyclic compounds which are useful for combating or controlling invertebrate pests, in particular arthropod pests and nematodes. The invention also relates to a method for controlling invertebrate pests by using these compounds and to plant propagation material and to an agricultural and a veterinary composition comprising said compounds.

Invertebrate pests and in particular arthropods and nematodes destroy growing and harvested crops and attack wooden dwelling and commercial structures, causing large economic loss to the food supply and to property. While a large number of pesticidal agents are known, due to the ability of target pests to develop resistance to said agents, there is an on-going need for new agents for combating invertebrate pests, in particular insects, arachnids and nematodes.

WO 2009/102736 describes linear triaryls having a rhamnose type radical which is bound to a terminal aryl group via a bivalent linker such as (thio)carbamate or iminoxy linker. Similar compounds are known from WO 2012/027521.

WO 2011/017504 describes linear triaryls having a methyliden(thio)carbazone motive that carries a (het)aryl or (het)arylalkyl radical.

WO 2011/017513 describe linear triaryls having a carbamate or thiocarbamate motive that carries a (het)arylalkyl radical.

US 2012/0202687 describes linear triaryls having a methylideniminoisothiourea motive that carries a (het)aryl or (het)arylalkyl radical.

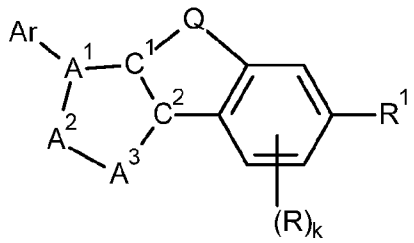
WO 2014/204622 describes linear triaryls having a rhamnose carbamate radical.

Earlier filed patent application PCT/EP2014/065034 describes insecticide compounds having a fused tricyclic core comprising a heterocyclic ring and a benzene ring which both are fused to a central ring, where the fused heterocyclic ring carries an aromatic or heteroaromatic radical and where the fused benzene ring carries a side chain, which may, inter alia, be a carbamate or thiocarbamate motiv, a methyliden(thio)carbazone motive, a methylideniminoisothiourea motive or an iminoxy motive.

It is an object of the present invention to provide compounds that have a good pesticidal activity, in particular insecticidal activity, and show a broad activity spectrum against a large number of different invertebrate pests, especially against difficult to control arthropod pests and/or nematodes.

It has been found that these objectives can be achieved by compounds of the formula I below, by their stereoisomers, their tautomers, their N-oxides and by their salts, in particular their agriculturally or veterinarily acceptable salts.

Therefore, in a first aspect, the invention relates to compounds of formula I



(I)

wherein

C^1 is C or CH;

C^2 is C or CH;

A^1 is N or C;

A^2 is N, $C(R^2)$, $N(R^3)$, O, S or $C(R^4,R^5)$; and

A^3 is N, O, S, $N(R^6)$, $C(R^7)$ or $C(R^8,R^9)$;

where one or two non-adjacent bonds in the 5-membered ring formed by C^1, C^2, A^1, A^2 and A^3 are double bonds, while the others are single bonds, provided that the bond between A^1 and A^2 or the bond between A^1 and C^1 or the bond between A^2 and A^3 or the bond between C^1 and C^2 or the bond between A^3 and C^2 is a double bond further provided that at least one of A^1, A^2 and A^3 is N, $N(R^3)$ or $N(R^6)$,

and where

R^2, R^7 independently of each other, are selected from the group consisting of hydrogen, halogen, N_3, OH, CN, NO_2, -SCN, $-SF_5$,
C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$;

R^3, R^6 independently of each other, are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c,
C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

R^4, R^5 independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio or $C(R^4,R^5)$ may be a carbonyl group or thiocarbonyl group;

R^8, R^9 independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio or $C(R^8,R^9)$ may be a carbonyl group or thiocarbonyl group;

Ar is phenyl or 5- or 6-membered hetaryl, which are unsubstituted or carry 1, 2, 3 or 4 radicals R^{Ar}, which are identical or different, where

R^{Ar} independently of each other, are selected from the group consisting of halogen, N_3, OH, CN, NO_2, -SCN, $-SF_5$,
C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$, one radical may also be phenyl, phenoxy, phenylcarbonyl, phenylthio or benzyl, where the phenyl ring in the last 5 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

Q is -O-, -S-, -S(=O)-, $-S(=O)_2$-, $-C(R^{Q2a}R^{Q2b})$-, $-N(R^{Q1})$-, $-N(R^{Q2})$-C(=O)-, $-N(R^{Q2})$-C(=S)-, -O-C(=O)-, $-C(R^{Q3})=C(R^{Q4})$-, $-C(R^{Q3a}R^{Q3b})$-$C(R^{Q4a}R^{Q4b})$-, $-C(R^{Q3a}R^{Q3b})$-C(=O)-, -O-$C(R^{Q4a}R^{Q4b})$-, $-S(=O)_n$-$C(R^{Q4a}R^{Q4b})$-, $-N=C(R^{Q3c})$, $-S(=O)_n$-$N(R^{Q2})$- or $-N(R^{Q2})$-$C(R^{Q4a}R^{Q4b})$-, where

n is 0, 1 or 2;

R^{Q1}, R^{Q2} independently of each other are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN,
C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

R^{Q3}, R^{Q4} independently of each other, are selected from the group consisting of hydrogen, halogen, OH, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$;

R^{Q2a}, R^{Q2b} independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio or $-C(R^{Q2a}R^{Q2b})$- is C=O or C=S;

R^{Q3a}, R^{Q3b} independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio;

R^{Q3c} is selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio;

R^{Q4a}, R^{Q4b} independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio;

R^1 is a moiety of the formula -X-Y-Z^1-R^{11} , a moiety -X'-Y-Z^2-R^{12} , a moiety -X'-Y-Z^3-R^{11}, a moiety –X'-Y'-Z^4-R^{11} or a moiety –X'-Y''-Z^5-R^{11} where

X is $(CHR^{xa})_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl, cyclopropane-1,2-diyl or T-$C(R^{x3})$=N-,

X' is a single bond, $(CHR^{xa})_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl or cyclopropane-1,2-diyl, NR^{x1}, or a bivalent group

-N(R^{x2})-C(=O)-, where C=(O) is bound to Y, Y' or Y'', respectively,
-T-N(R^{x2})-C(=O)-, where C=(O) is bound to Y, Y' or Y'', respectively,
-N(R^{x2})-C(=S)-, where C=(S) is bound to Y, Y' or Y'', respectively,
-T-N(R^{x2})-C(=S)-, where C=(S) is bound to Y, Y' or Y'', respectively,
-C(R^{x3})=N-, where the nitrogen is bound to Y, Y' or Y'', respectively, or
-T-C(R^{x3})=N-, where the nitrogen is bound to Y, Y' or Y'', respectively;

T is $(CHR^{xa})_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl or cyclopropane-1,2-diyl,

Y is a single bond, or one of the bivalent groups -N(R^{y1})-C(=O)-,
-N(R^{y2})-C(=S)-, -N(R^{y1})-C(=O)-N(R^{y1})-C(=O)-,
-N(R^{y1})-C(=O)-N(R^{y2})-C(=S)-, -N(R^{y2})-C(=S)-N(R^{y1})-C(=O)-,
-N=C($(O)_p$-R^{y3})- or -N=C($(S)_p$-R^{y3})-, where the left hand nitrogen atom in the seven groups is bound to X or X', respectively, and where p is 0 or 1,

Y' is N(R^{y4}), O-N(R^{y4}), N(R^{y44})-N(R^{y4}),

Y'' is a bivalent group -N=C($(O)_v$-R^{y5})- or -N=C($(S)_v$-R^{y5})-, where the nitrogen atom in the two groups is bound to X' and where v is 0 or 1,

Z^1 is O, S or N-R^{z1},

Z^2 is O, S or N-R^{z2},

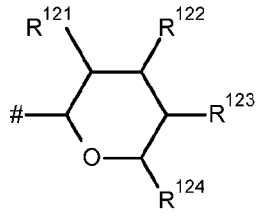
Z^3 is C(R^{z3})=C($(S)_q$-R^{z4})-N(R^{z5}), wherein R^{11} is bound to the nitrogen atom, which carries R^{z5}, and q is 0 or 1;

Z^4 is C(S-R^{Z6})=N, wherein R^{11} is bound to the nitrogen atom;

Z^5 is N-R^{z7},

R^{11} is selected from the group consisting of C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, C(O)-NR^bR^c, C(O)-R^d, aryl, arylcarbonyl, aryl-C_1-C_4-alkyl, aryloxy-C_1-C_4-alkyl, hetaryl, hetarylcarbonyl, hetaryl-C_1-C_4-alkyl and hetaryloxy-C_1-C_4-alkyl, where the aryl and hetaryl rings in the last 8 radicals are unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^g and where hetaryl is a 5- or 6-membered monocyclic hetaryl or a 8-, 9- or 10-membered bicyclic hetaryl;

R^{12} is a radical of the formula A;



(A)

wherein # indicates the point of attachment to Z^2;

R^{121}, R^{122}, R^{123} independently of each other are selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyloxy, C_2-C_6-alkynyloxy, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_1-C_6-alkylcarbonlyoxy, C_1-C_6-haloalkylcarbonlyoxy, C_1-C_6-alkenylcarbonlyoxy, C_3-C_6-cycloalkylcarbonlyoxy and NR^bR^c, or one of R^{121}, R^{122}, R^{123} may also be oxo;

R^{124} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy and C_2-C_6-alkenyloxy;

and where

R^{x1}, R^{x2} independently of each other, are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated,
C(O)-OR^a, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN,
C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f;

R^{x3} is selected from the group consisting of hydrogen, halogen, CN, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, phenyl, phenoxy, phenylcarbonyl, phenylthio and benzyl, where the phenyl ring in the last 5 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f;

R^{xa}, R^{xb}, R^{xc} independently of each other, are selected from the group consisting of hydrogen, halogen and C_1-C_6-alkyl,

p is 0 or 1;

R^{y1}, R^{y2} independently of each other, are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN,

$C(O)$-NR^bR^c, $C(O)$-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

R^{y3} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, $C(O)$-NR^bR^c, $C(O)$-R^d, phenyl, phenylcarbonyl and benzyl, where the phenyl ring in the last 3 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

R^{y4} together with R^{z6} form a linear C_1-C_6-alkylene group or a linear C_2-C_6-alkenylene group, where in the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group or a group C=N-R' and/or wherein 1 or 2 CH_2 moieties may be replaced by O or S and/or wherein the linear C_1-C_6-alkylene group and the linear C_1-C_6-alkenylene group may be unsubstituted or substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh} ;

R^{y5} together with R^{z7} form CH_2 or a linear C_2-C_6-alkenylene group, where in the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group or a group C=N-R' and/or wherein 1 or 2 CH_2 moieties may be replaced by O or S and/or wherein CH_2 and the linear C_2-C_6-alkenylene group may be unsubstituted or substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh}; or

R^{y5} together with R^{z7} form a linear C_2-C_6-alkylene group, where in the linear C_2-C_6-alkenylene group a CH_2 is replaced by a group C=N-R' and wherein the linear C_2-C_6-alkylene group may also be substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh}; or

R^{y5} together with R^{z7} form a linear C_2-C_6-alkylene group, where in the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group, wherein the linear C_2-C_6-alkylene group is substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh}, provided that at least one of R^{hh} is OH;

R^{y44} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, $C(O)$-NR^bR^c, $C(O)$-R^d, phenyl, phenylcarbonyl and benzyl, where the phenyl ring in the last 3 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f;

R^{z1}, R^{z2} independently of each other are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated,
$C(O)$-OR^a, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN,
$C(O)$-NR^bR^c, $C(O)$-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f, or

R^{z1} together with R^{y3}, if present, may also form a linear C_1-C_6-alkylene group or a linear C_2-C_6-alkenylene group, where in the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group or a group C=N-R'

and/or wherein 1 or 2 CH_2 moieties may be replaced by O or S and/or wherein the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group may be unsubstituted or substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh} ;

R^{z2} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f,

R^{z3} is selected from the group consisting of hydrogen, CN, halogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f;

R^{z4}, R^{z5} and R^{z6} independently of each other, are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f; or

R^{z4} together with R^{z5}, if present, may also form a linear C_1-C_6-alkylene group or a linear C_2-C_6-alkenylene group, where in the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group or a group C=N-R' and/or wherein 1 or 2 CH_2 moieties may be replaced by O or S and/or wherein the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group may be unsubstituted or substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh} ;

k is 0, 1, 2 or 3;

R is selected from the group consisting of halogen, N_3, OH, CN, NO_2, -SCN, -SF_5, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxyx-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c,
C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$, one radical may also be phenyl, phenoxy, phenylcarbonyl, phenylthio or benzyl, where the phenyl ring in the last 5 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

it being possible for k = 2 or 3 that R are identical or different;

R' is selected from the group consisting of hydrogen, halogen, CN, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, phenyl, phenoxy, phenylcarbonyl, phenylthio and benzyl, where the phenyl ring in the last 5 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

and where

each m is independently 0, 1 or 2;

each R^a is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

each R^b is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated, C_1-C_6-alkylen-CN, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

each R^c is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated, C_1-C_6-alkylen-CN, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

each moiety NR^bR^c may also form an N-bound, saturated 5- to 8-membered heterocycle, which in addition to the nitrogen atom may have 1 or 2 further heteroatoms or heteroatom moieties selected from O, $S(=O)_m$ and N-R', where R' is hydrogen or C_1-C_6-alkyl and where the N-bound heterocycle is unsubstituted or carries 1, 2, 3, 4, 5 or 6 radicals selected from halogen, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy and C_1-C_4-haloalkoxy;

each R^d is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

each R^e is selected from the group consisting of C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl and cycloalkyl parts of the last 2 mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

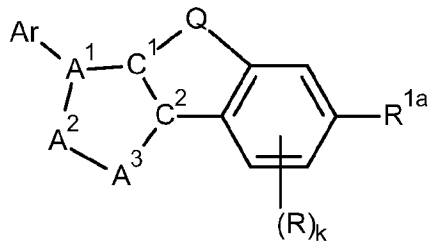
each R^f is selected from the group consisting of halogen, N_3, OH, CN, NO_2, -SCN, -SF_5, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxyx-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c,
C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$;

each R^g is selected from the group consisting of halogen, N_3, OH, CN, NO_2, -SCN, -SF_5, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c,
C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$;

each R^{hh} is selected from halogen, OH, C_1-C_6-alkyl, C_3-C_6-cycloalkyl, and CN;

and the N-oxides, stereoisomers, tautomers and agriculturally or veterinarily acceptable salts thereof.

The present invention also relates to a compound of the formula INT and to the tautomers and salts thereof



(INT)

where R^{1a} is C(=O)-N_3 or N=C=O, and where Ar, A^1, A^2, A^3, C^1, C^2, Q, k and R are as defined herein and the salts thereof.

The compounds of formula INT and their tautomers and salts are valuable intermediates in the preparation of the compounds of formula I.

Moreover, the present invention also relates to and includes the following aspects:

- an agricultural composition comprising at least one compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or an agriculturally acceptable salt thereof, and at least one liquid and/or solid carrier.
- a veterinary composition comprising at least one compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or a verterinarily acceptable salt thereof, and at least one liquid and/or solid carrier.
- a method for combating or controlling invertebrate pests which method comprises treating the pests, their food supply, their habitat or their breeding ground or a cultivated plant, plant propagation materials (such as seed), soil, area, material or environment in which the pests are growing or may grow, or the materials, cultivated plants, plant propagation materials (such as seed), soils, surfaces or spaces to be protected from pest attack or infestation with a pesticidally effective amount of a compound selected from compounds of formula I, the N-oxides, stereoisomers, tautomers or salts thereof as defined herein.
- a method for protecting growing plants from attack or infestation by invertebrate pests, which method comprises contacting a plant, or soil or water in which the plant is growing, with a pesticidally effective amount of at least one compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or an agriculturally or veterinarily acceptable salt thereof, or a composition as defined herein.
- a method for the protection of plant propagation material, especially seeds, from soil insects and of the seedlings' roots and shoots from soil and foliar insects comprising contacting the plant propagation material respectively seeds before sowing and/or after pre-germination with at least one compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or an agriculturally or veterinarily acceptable salt thereof, or a composition as defined herein.
- plant propagation material, in particular seed, comprising at least one compound of formula I, an N-oxide, a stereoisomer, a tautomer and/or an agriculturally acceptable salt thereof as defined herein.
- use of a compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or an agriculturally or veterinarily acceptable salt thereof, or a composition as defined herein for combating or controlling invertebrate pests of the group of insects, arachnids or nematodes.
- use of a compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or an agriculturally or veterinarily acceptable salt thereof, or a composition as defined herein for protecting growing plants from attack or infestation by invertebrate pests.
- use of a compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or a veterinarily acceptable salt thereof or a composition as defined herein for combating or controlling invertebrate parasites in and on animals.
- a method for treating a non-human animal infested or infected by parasites or for preventing a non-human animal from getting infested or infected by parasites or for protecting a non-human animal against infestation or infection by parasites which comprises orally, topically or parenteraly administering or applying to the non-human animal a parasiticidally effective amount of a compound compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or a veterinarily acceptable salt thereof or a composition as defined in claim herein.

- a compound compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or a veterinarily acceptable salt thereof for use as a medicament.
- a compound compound of formula (I) or a stereoisomer, a tautomer, a N-oxide or a veterinarily acceptable salt thereof for use in the treatment, control, prevention or protection of animals against infestation or infection by parasites.

The term "tautomers" encompasses isomers, which are derived from the compounds of formula I by the shift of an H-atom involving at least one H-atom located at a nitrogen, oxygen or sulphur atom. Examples of tautomeric forms are keto-enol forms, imine-enamine forms, urea-isourea forms, thiourea-isothiourea forms, (thio)amide-(thio)imidate forms etc.

The term "stereoisomers" encompasses both optical isomers, such as enantiomers or diastereomers, the latter existing due to more than one center of chirality in the molecule, as well as geometrical isomers (cis/trans isomers).

Depending on the substitution pattern, the compounds of the formula I may have one or more centers of chirality, in which case they are present as mixtures of enantiomers or diastereomers. One center of chirality is the carbon ring atom of the isothiazoline ring carrying radical R^1. The invention provides both the pure enantiomers or diastereomers and their mixtures and the use according to the invention of the pure enantiomers or diastereomers of the compound I or its mixtures. Suitable compounds of the formula I also include all possible geometrical stereoisomers (cis/trans isomers) and mixtures thereof.

The term N-oxides relates to a form of compounds I in which at least one nitrogen atom is present in oxidized form (as NO). To be more precise, it relates to any compound of the present invention which has at least one tertiary nitrogen atom that is oxidized to an N-oxide moiety. N-oxides of compounds I can in particular be prepared by oxidizing e.g. the ring nitrogen atom of an N-heterocycle, e.g. a pyridine or pyrimidine ring present in Ar or R^{11}, or an imino-nitrogen present in central tricyclic core, with a suitable oxidizing agent, such as peroxo carboxylic acids or other peroxides. The person skilled in the art knows if and in which positions compounds of the present invention may form N-oxides.

The compounds of the present invention may be amorphous or may exist in one or more different crystalline states (polymorphs) which may have a different macroscopic properties such as stability or show different biological properties such as activities. The present invention includes both amorphous and crystalline compounds of the formula I, mixtures of different crystalline states of the respective compound I, as well as amorphous or crystalline salts thereof.

Salts of the compounds of the formula I are preferably agriculturally and veterinarily acceptable salts. They can be formed in a customary method, e.g. by reacting the compound with an acid of the anion in question if the compound of formula I has a basic functionality or by reacting an acidic compound of formula I with a suitable base.

Suitable agriculturally acceptable salts are especially the salts of those cations or the acid addition salts of those acids whose cations and anions, respectively, do not have any adverse effect on the action of the compounds according to the present invention. Suitable cations are in particular the ions of the alkali metals, preferably lithium, sodium and potassium, of the alkaline

earth metals, preferably calcium, magnesium and barium, and of the transition metals, preferably manganese, copper, zinc and iron, and also ammonium (NH^{4+}) and substituted ammonium in which one to four of the hydrogen atoms are replaced by C_1-C_4-alkyl, C_1-C_4-hydroxyalkyl, C_1-C_4-alkoxy, C_1-C_4-alkoxy-C_1-C_4-alkyl, hydroxy-C_1-C_4-alkoxy-C_1-C_4-alkyl, phenyl or benzyl. Examples of substituted ammonium ions comprise methylammonium, isopropylammonium, dimethylammonium, diisopropylammonium, trimethylammonium, tetramethylammonium, tetraethylammonium, tetrabutylammonium, 2-hydroxyethylammonium, 2-(2-hydroxyethoxy)ethylammonium, bis(2-hydroxyethyl)ammonium, benzyltrimethylammonium and benzyl-triethylammonium, furthermore phosphonium ions, sulfonium ions, preferably tri(C_1-C_4-alkyl)sulfonium, and sulfoxonium ions, preferably tri(C_1-C_4-alkyl)sulfoxonium.

Anions of useful acid addition salts are primarily chloride, bromide, fluoride, hydrogen sulfate, sulfate, dihydrogen phosphate, hydrogen phosphate, phosphate, nitrate, hydrogen carbonate, carbonate, hexafluorosilicate, hexafluorophosphate, benzoate, and the anions of C_1-C_4-alkanoic acids, preferably formate, acetate, propionate and butyrate. They can be formed by reacting a compound of formulae I with an acid of the corresponding anion, preferably of hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid or nitric acid.

By the term "veterinarily acceptable salts" is meant salts of those cations or anions which are known and accepted in the art for the formation of salts for veterinary use. Suitable acid addition salts, e.g. formed by compounds of formula I containing a basic nitrogen atom, e.g. an amino group, include salts with inorganic acids, for example hydrochlorides, sulphates, phosphates, and nitrates and salts of organic acids for example acetic acid, maleic acid, dimaleic acid, fumaric acid, difumaric acid, methane sulfenic acid, methane sulfonic acid, and succinic acid.

The term "invertebrate pest" as used herein encompasses animal populations, such as insects, arachnids and nematodes, which may attack plants, thereby causing substantial damage to the plants attacked, as well as ectoparasites which may infest animals, in particular warm blooded animals such as e.g. mammals or birds, or other higher animals such as reptiles, amphibians or fish, thereby causing substantial damage to the animals infested.

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

The term "plants" comprises any types of plants including "non-cultivated plants" and in particular "cultivated plants".

The term "non-cultivated plants" refers to any wild type species or related species or related genera of a cultivated plant.

The term "cultivated plants" is to be understood as including plants which have been modi-

fied by breeding, mutagenesis or genetic engineering including but not limiting to agricultural biotech products on the market or in development (cf. http://www.bio.org/speeches/pubs/er/agri_products.asp). Genetically modified plants are plants, which genetic material has been so modified by the use of recombinant DNA techniques that under natural circumstances cannot readily be obtained by cross breeding, mutations or natural recombination. Typically, one or more genes have been integrated into the genetic material of a genetically modified plant in order to improve certain properties of the plant. Such genetic modifications also include but are not limited to targeted post-translational modification of protein(s), oligo- or polypeptides e. g. by glycosylation or polymer additions such as prenylated, acetylated or farnesylated moieties or PEG moieties.

Plants that have been modified by breeding, mutagenesis or genetic engineering, e. g. have been rendered tolerant to applications of specific classes of herbicides, such as auxin herbicides such as dicamba or 2,4-D; bleacher herbicides such as hydroxylphenylpyruvate dioxygenase (HPPD) inhibitors or phytoene desaturase (PDS) inhibittors; acetolactate synthase (ALS) inhibitors such as sulfonyl ureas or imidazolinones; enolpyruvylshikimate-3-phosphate synthase (EPSPS) inhibitors, such as glyphosate; glutamine synthetase (GS) inhibitors such as glufosinate; protoporphyrinogen-IX oxidase inhibitors; lipid biosynthesis inhibitors such as acetyl CoA carboxylase (ACCase) inhibitors; or oxynil (i. e. bromoxynil or ioxynil) herbicides as a result of conventional methods of breeding or genetic engineering. Furthermore, plants have been made resistant to multiple classes of herbicides through multiple genetic modifications, such as resistance to both glyphosate and glufosinate or to both glyphosate and a herbicide from another class such as ALS inhibitors, HPPD inhibitors, auxin herbicides, or ACCase inhibitors. These herbicide resistance technologies are e. g. described in Pest Managem. Sci. 61, 2005, 246; 61, 2005, 258; 61, 2005, 277; 61, 2005, 269; 61, 2005, 286; 64, 2008, 326; 64, 2008, 332; Weed Sci. 57, 2009, 108; Austral. J. Agricult. Res. 58, 2007, 708; Science 316, 2007, 1185; and references quoted therein. Several cultivated plants have been rendered tolerant to herbicides by conventional methods of breeding (mutagenesis), e. g. Clearfield® summer rape (Canola, BASF SE, Germany) being tolerant to imidazolinones, e. g. imazamox, or ExpressSun® sunflowers (DuPont, USA) being tolerant to sulfonyl ureas, e. g. tribenuron. Genetic engineering methods have been used to render cultivated plants such as soybean, cotton, corn, beets and rape, tolerant to herbicides such as glyphosate and glufosinate, some of which are commercially available under the trade names RoundupReady® (glyphosate-tolerant, Monsanto, U.S.A.), Cultivance® (imidazolinone tolerant, BASF SE, Germany) and LibertyLink® (glufosinate-tolerant, Bayer CropScience, Germany).

Furthermore, plants are also covered that are by the use of recombinant DNA techniques capable to synthesize one or more insecticidal proteins, especially those known from the bacterial genus *Bacillus*, particularly from *Bacillus thuringiensis*, such as δ-endotoxins, e. g. CryIA(b), CryIA(c), CryIF, CryIF(a2), CryIIA(b), CryIIIA, CryIIIB(b1) or Cry9c; vegetative insecticidal proteins (VIP), e. g. VIP1, VIP2, VIP3 or VIP3A; insecticidal proteins of bacteria colonizing nematodes, e. g. *Photorhabdus* spp. or *Xenorhabdus* spp.; toxins produced by animals, such as scorpion toxins, arachnid toxins, wasp toxins, or other insect-specific neurotoxins; toxins produced by fungi, such Streptomycetes toxins, plant lectins, such as pea or barley lectins; agglutinins;

proteinase inhibitors, such as trypsin inhibitors, serine protease inhibitors, patatin, cystatin or papain inhibitors; ribosome-inactivating proteins (RIP), such as ricin, maize-RIP, abrin, luffin, saporin or bryodin; steroid metabolism enzymes, such as 3-hydroxysteroid oxidase, ecdysteroid-IDP-glycosyl-transferase, cholesterol oxidases, ecdysone inhibitors or HMG-CoA-reductase; ion channel blockers, such as blockers of sodium or calcium channels; juvenile hormone esterase; diuretic hormone receptors (helicokinin receptors); stilben synthase, bibenzyl synthase, chitinases or glucanases. In the context of the present invention these insecticidal proteins or toxins are to be understood expressly also as pre-toxins, hybrid proteins, truncated or otherwise modified proteins. Hybrid proteins are characterized by a new combination of protein domains, (see, e. g. WO 02/015701). Further examples of such toxins or genetically modified plants capable of synthesizing such toxins are disclosed, e. g., in EP-A 374 753, WO 93/007278, WO 95/34656, EP-A 427 529, EP-A 451 878, WO 03/18810 und WO 03/52073. The methods for producing such genetically modified plants are generally known to the person skilled in the art and are described, e. g. in the publications mentioned above. These insecticidal proteins contained in the genetically modified plants impart to the plants producing these proteins tolerance to harmful pests from all taxonomic groups of athropods, especially to beetles (Coeloptera), two-winged insects (Diptera), and moths (Lepidoptera) and to nematodes (Nematoda). Genetically modified plants capable to synthesize one or more insecticidal proteins are, e. g., described in the publications mentioned above, and some of which are commercially available such as YieldGard® (corn cultivars producing the Cry1Ab toxin), YieldGard® Plus (corn cultivars producing Cry1Ab and Cry3Bb1 toxins), Starlink® (corn cultivars producing the Cry9c toxin), Herculex® RW (corn cultivars producing Cry34Ab1, Cry35Ab1 and the enzyme Phosphinothricin-N-Acetyltransferase [PAT]); NuCOTN® 33B (cotton cultivars producing the Cry1Ac toxin), Bollgard® I (cotton cultivars producing the Cry1Ac toxin), Bollgard® II (cotton cultivars producing Cry1Ac and Cry2Ab2 toxins); VIPCOT® (cotton cultivars producing a VIP-toxin); NewLeaf® (potato cultivars producing the Cry3A toxin); Bt-Xtra®, NatureGard®, KnockOut®, BiteGard®, Protecta®, Bt11 (e. g. Agrisure® CB) and Bt176 from Syngenta Seeds SAS, France, (corn cultivars producing the Cry1Ab toxin and PAT enyzme), MIR604 from Syngenta Seeds SAS, France (corn cultivars producing a modified version of the Cry3A toxin, c.f. WO 03/018810), MON 863 from Monsanto Europe S.A., Belgium (corn cultivars producing the Cry3Bb1 toxin), IPC 531 from Monsanto Europe S.A., Belgium (cotton cultivars producing a modified version of the Cry1Ac toxin) and 1507 from Pioneer Overseas Corporation, Belgium (corn cultivars producing the Cry1F toxin and PAT enzyme).

Furthermore, plants are also covered that are by the use of recombinant DNA techniques capable to synthesize one or more proteins to increase the resistance or tolerance of those plants to bacterial, viral or fungal pathogens. Examples of such proteins are the so-called "pathogenesis-related proteins" (PR proteins, see, e. g. EP-A 392 225), plant disease resistance genes (e. g. potato cultivars, which express resistance genes acting against *Phytophthora infestans* derived from the mexican wild potato *Solanum bulbocastanum*) or T4-lysozym (e. g. potato cultivars capable of synthesizing these proteins with increased resistance against bacteria such as *Erwinia amylvora*). The methods for producing such genetically modified plants are gen-

erally known to the person skilled in the art and are described, e. g. in the publications mentioned above.

Furthermore, plants are also covered that are by the use of recombinant DNA techniques capable to synthesize one or more proteins to increase the productivity (e. g. bio mass production, grain yield, starch content, oil content or protein content), tolerance to drought, salinity or other growth-limiting environmental factors or tolerance to pests and fungal, bacterial or viral pathogens of those plants.

Furthermore, plants are also covered that contain by the use of recombinant DNA techniques a modified amount of substances of content or new substances of content, specifically to improve human or animal nutrition, e. g. oil crops that produce health-promoting long-chain omega-3 fatty acids or unsaturated omega-9 fatty acids (e. g. Nexera® rape, DOW Agro Sciences, Canada).

Furthermore, plants are also covered that contain by the use of recombinant DNA techniques a modified amount of substances of content or new substances of content, specifically to improve raw material production, e. g. potatoes that produce increased amounts of amylopectin (e. g. Amflora® potato, BASF SE, Germany).

The organic moieties mentioned in the above definitions of the variables are - like the term halogen - collective terms for individual listings of the individual group members. The prefix C_n-C_m indicates in each case the possible number of carbon atoms in the group.

The term halogen denotes in each case F, Br, Cl or I, in particular F, Cl or Br.

The term "partially or fully halogenated" will be taken to mean that 1 or more, e.g. 1, 2, 3, 4 or 5 or all of the hydrogen atoms of a given radical have been replaced by a halogen atom, in particular by F or Cl. A partially or fully halogenated radical is termed below also "halo-radical". For example, partially or fully halogenated alkyl is also termed haloalkyl, partially or fully halogenated cycloalkyl is also termed halocycloalkyl, partially or fully halogenated alkylenyl is also termed haloalkenyl, partially or fully halogenated alkylynyl is also termed haloalkynyl, partially or fully halogenated cycloalkylalkyl is also termed halocycloalkylalkyl.

The term "alkyl" as used herein and in the alkyl moieties of alkoxy, alkylthio, and the like refers to saturated straight-chain or branched hydrocarbon radicals having 1 to 2 ("C_1-C_2-alkyl"), 1 to 3 ("C_1-C_3-alkyl"),1 to 4 ("C_1-C_4-alkyl") or 1 to 6 ("C_1-C_6-alkyl") carbon atoms. C_1-C_2-Alkyl is CH_3 or C_2H_5. C_1-C_3-Alkyl is additionally propyl and isopropyl. C_1-C_4-Alkyl is additionally butyl, 1-methylpropyl (sec-butyl), 2-methylpropyl (isobutyl) or 1,1-dimethylethyl (tert-butyl). C_1-C_6-Alkyl is additionally also, for example, pentyl, 1-methylbutyl, 2-methylbutyl, 3-methylbutyl, 2,2-dimethylpropyl, 1-ethylpropyl, 1,1-dimethylpropyl, 1,2-dimethylpropyl, hexyl, 1-methylpentyl, 2-methylpentyl, 3-methylpentyl, 4-methylpentyl, 1,1-dimethylbutyl, 1,2-dimethylbutyl, 1,3-dimethylbutyl, 2,2-dimethylbutyl, 2,3-dimethylbutyl, 3,3-dimethylbutyl, 1-ethylbutyl, 2-ethylbutyl, 1,1,2-trimethylpropyl, 1,2,2-trimethylpropyl, 1-ethyl-1-methylpropyl, or 1-ethyl-2-methylpropyl.

The term "haloalkyl" as used herein, which is also expressed as "alkyl which is partially or fully halogenated", refers to straight-chain or branched alkyl groups having 1 to 2 ("C_1-C_2-haloalkyl"), 1 to 3 ("C_1-C_3-haloalkyl"), 1 to 4 ("C_1-C_4-haloalkyl") or 1 to 6 ("C_1-C_6-haloalkyl") carbon atoms (as mentioned above), where some or all of the hydrogen atoms in these groups are re-

placed by halogen atoms as mentioned above: in particular C_1-C_2-haloalkyl, such as chloromethyl, bromomethyl, dichloromethyl, trichloromethyl, fluoromethyl, difluoromethyl, trifluoromethyl, chlorofluoromethyl, dichlorofluoromethyl, chlorodifluoromethyl, 1-chloroethyl, 1-bromoethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 2-chloro-2-fluoroethyl, 2-chloro-2,2-difluoroethyl, 2,2-dichloro-2-fluoroethyl, 2,2,2-trichloroethyl or pentafluoroethyl. C_1-C_3-haloalkyl is additionally, for example, 1-fluoropropyl, 2-fluoropropyl, 3-fluoropropyl, 1,1-difluoropropyl, 2,2-difluoropropyl, 1,2-difluoropropyl, 3,3-difluoropropyl, 3,3,3-trifluoropropyl, heptafluoropropyl, 1,1,1-trifluoroprop-2-yl, 3-chloropropyl and the like. Examples for C_1-C_4-haloalkyl are, apart those mentioned for C_1-C_3-haloalkyl, 4-chlorobutyl and the like.

"Halomethyl" is methyl in which 1, 2 or 3 of the hydrogen atoms are replaced by halogen atoms. Examples are bromomethyl, chloromethyl, fluoromethyl, dichloromethyl, trichloromethyl, difluoromethyl, trifluoromethyl, chlorofluoromethyl, dichlorofluoromethyl, chlorodifluoromethyl and the like.

The term "alkylene" (or alkanediyl) as used herein in each case denotes an alkyl radical as defined above, wherein one hydrogen atom at any position of the carbon backbone is replaced by one further binding site, thus forming a bivalent moiety. Alkylene has preferably 1 to 6 carbon atoms (C_1-C_6-alkylene), 2 to 6 carbon atoms (C_2-C_6-alkylene), in particular 1 to 4 carbon atoms (C_1-C_4-alkylene) or 2 to 4 carbon atoms (C_2-C_4-alkylene). Examples of alkylene are methylene (CH2), 1,1-ethandiyl, 1,2-ethandiyl, 1,3-propandiyl, 1,2-propandiyl, 2,2-propandiyl, 1,4-butandiyl, 1,2-butandiyl, 1,3-butandiyl, 2,3-butandiyl, 2,2-butandiyl, 1,5-pentandiyl, 2,2-dimethylpropan-1,3-diyl, 1,3-dimethyl-1,3-propandiyl, 1,6-hexandiyl etc.

The term "alkenyl" as used herein refers to monounsaturated straight-chain or branched hydrocarbon radicals having 2 to 3 ("C_2-C_3-alkenyl"), 2 to 4 ("C_2-C_4-alkenyl") or 2 to 6 ("C_2-C_6-alkenyl) carbon atoms and a double bond in any position, for example C_2-C_3-alkenyl, such as ethenyl, 1-propenyl, 2-propenyl or 1-methylethenyl; C_2-C_4-alkenyl, such as ethenyl, 1-propenyl, 2-propenyl, 1-methylethenyl, 1-butenyl, 2-butenyl, 3-butenyl, 1-methyl-1-propenyl, 2-methyl-1-propenyl, 1-methyl-2-propenyl or 2-methyl-2-propenyl; C_2-C_6-alkenyl, such as ethenyl, 1-propenyl, 2-propenyl, 1-methylethenyl, 1-butenyl, 2-butenyl, 3-butenyl, 1-methyl-1-propenyl, 2-methyl-1-propenyl, 1-methyl-2-propenyl, 2-methyl-2-propenyl, 1-pentenyl, 2-pentenyl, 3-pentenyl, 4-pentenyl, 1-methyl-1-butenyl, 2-methyl-1-butenyl, 3-methyl-1-butenyl, 1-methyl-2-butenyl, 2-methyl-2-butenyl, 3-methyl-2-butenyl, 1-methyl-3-butenyl, 2-methyl-3-butenyl, 3-methyl-3-butenyl, 1,1-dimethyl-2-propenyl, 1,2-dimethyl-1-propenyl, 1,2-dimethyl-2-propenyl, 1-ethyl-1-propenyl, 1-ethyl-2-propenyl, 1-hexenyl, 2-hexenyl, 3-hexenyl, 4-hexenyl, 5-hexenyl, 1-methyl-1-pentenyl, 2-methyl-1-pentenyl, 3-methyl-1-pentenyl, 4-methyl-1-pentenyl, 1-methyl-2-pentenyl, 2-methyl-2-pentenyl, 3-methyl-2-pentenyl, 4-methyl-2-pentenyl, 1-methyl-3-pentenyl, 2-methyl-3-pentenyl, 3-methyl-3-pentenyl, 4-methyl-3-pentenyl, 1-methyl-4-pentenyl, 2-methyl-4-pentenyl, 3-methyl-4-pentenyl, 4-methyl-4-pentenyl, 1,1-dimethyl-2-butenyl, 1,1-dimethyl-3-butenyl, 1,2-dimethyl-1-butenyl, 1,2-dimethyl-2-butenyl, 1,2-dimethyl-3-butenyl, 1,3-dimethyl-1-butenyl, 1,3-dimethyl-2-butenyl, 1,3-dimethyl-3-butenyl, 2,2-dimethyl-3-butenyl, 2,3-dimethyl-1-butenyl, 2,3-dimethyl-2-butenyl, 2,3-dimethyl-3-butenyl, 3,3-dimethyl-1-butenyl, 3,3-dimethyl-2-butenyl, 1-ethyl-1-butenyl, 1-ethyl-2-butenyl, 1-ethyl-3-butenyl, 2-ethyl-1-butenyl, 2-ethyl-2-butenyl, 2-

ethyl-3-butenyl, 1,1,2-trimethyl-2-propenyl, 1-ethyl-1-methyl-2-propenyl, 1-ethyl-2-methyl-1-propenyl, 1-ethyl-2-methyl-2-propenyl and the like.

The term "haloalkenyl" as used herein, which is also expressed as "alkenyl which is partially or fully halogenated", refers to unsaturated straight-chain or branched hydrocarbon radicals having 2 to 3 ("C_2-C_3-haloalkenyl"), 2 to 4 ("C_2-C_4-haloalkenyl") or 2 to 6 ("C_2-C_6-haloalkenyl") carbon atoms and a double bond in any position (as mentioned above), where some or all of the hydrogen atoms in these groups are replaced by halogen atoms as mentioned above, in particular F, Cl and Br, for example chlorovinyl, chloroallyl and the like.

The term "alkynyl" as used herein refers to straight-chain or branched hydrocarbon groups having 2 to 3 ("C_2-C_3-alkynyl"), 2 to 4 ("C_2-C_4-alkynyl") or 2 to 6 ("C_2-C_6-alkynyl") carbon atoms and one or two triple bonds in any position, for example C_2-C_3-alkynyl, such as ethynyl, 1-propynyl or 2-propynyl; C_2-C_4-alkynyl, such as ethynyl, 1-propynyl, 2-propynyl, 1-butynyl, 2-butynyl, 3-butynyl, 1-methyl-2-propynyl and the like, C_2-C_6-alkynyl, such as ethynyl, 1-propynyl, 2-propynyl, 1-butynyl, 2-butynyl, 3-butynyl, 1-methyl-2-propynyl, 1-pentynyl, 2-pentynyl, 3-pentynyl, 4-pentynyl, 1-methyl-2-butynyl, 1-methyl-3-butynyl, 2-methyl-3-butynyl, 3-methyl-1-butynyl, 1,1-dimethyl-2-propynyl, 1-ethyl-2-propynyl, 1-hexynyl, 2-hexynyl, 3-hexynyl, 4-hexynyl, 5-hexynyl, 1-methyl-2-pentynyl, 1-methyl-3-pentynyl, 1-methyl-4-pentynyl, 2-methyl-3-pentynyl, 2-methyl-4-pentynyl, 3-methyl-1-pentynyl, 3-methyl-4-pentynyl, 4-methyl-1-pentynyl, 4-methyl-2-pentynyl, 1,1-dimethyl-2-butynyl, 1,1-dimethyl-3-butynyl, 1,2-dimethyl-3-butynyl, 2,2-dimethyl-3-butynyl, 3,3-dimethyl-1-butynyl, 1-ethyl-2-butynyl, 1-ethyl-3-butynyl, 2-ethyl-3-butynyl, 1-ethyl-1-methyl-2-propynyl and the like;

The term "haloalkynyl" as used herein, which is also expressed as "alkynyl which is partially or fully halogenated", refers to unsaturated straight-chain or branched hydrocarbon radicals having 2 to 3 ("C_2-C_3-haloalkynyl"), 2 to 4 ("C_2-C_4-haloalkynyl"), 3 to 4 ("C_3-C_4-haloalkynyl") or 2 to 6 ("C_2-C_6-haloalkynyl") carbon atoms and one or two triple bonds in any position (as mentioned above), where some or all of the hydrogen atoms in these groups are replaced by halogen atoms as mentioned above, in particular F, Cl and Br;

The term "cycloalkyl" as used herein refers to mono- or bi- or polycyclic saturated hydrocarbon radicals having in particular 3 to 6 ("C_3-C_6-cycloalkyl") or 3 to 5 ("C_3-C_5-cycloalkyl") or 3 to 4 ("C_3-C_4-cycloalkyl") carbon atoms. Examples of monocyclic radicals having 3 to 4 carbon atoms comprise cyclopropyl and cyclobutyl. Examples of monocyclic radicals having 3 to 5 carbon atoms comprise cyclopropyl, cyclobutyl and cyclopentyl. Examples of monocyclic radicals having 3 to 6 carbon atoms comprise cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl. Examples of monocyclic radicals having 3 to 8 carbon atoms comprise cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl and cyclooctyl. Examples of bicyclic radicals having 7 or 8 carbon atoms comprise bicyclo[2.2.1]heptyl, bicyclo[3.1.1]heptyl, bicyclo[2.2.2]octyl and bicyclo[3.2.1]octyl. Preferably, the term cycloalkyl denotes a monocyclic saturated hydrocarbon radical.

The term "cycloalkoxy" as used herein refers to a cycloalkyl radical, in particular a monocyclic cycloalkyl radical, as defined above having in particular 3 to 6 ("C_3-C_6-cycloalkoxy") or 3 to 5 ("C_3-C_5-cycloalkoxy") or 3 to 4 ("C_3-C_4-cycloalksoxy") carbon atoms, which is bound via an oxygen atom to the remainder of the molecule.

The term "halocycloalkyl" as used herein, which is also expressed as "cycloalkyl which is partially or fully halogenated", refers to mono- or bi- or polycyclic saturated hydrocarbon groups having preferably 3 to 6 ("C_3-C_6-halocycloalkyl") or 3 to 5 ("C_3-C_5-halocycloalkyl") or 3 to 4 ("C_3-C_4-halocycloalkyl") carbon ring members (as mentioned above) in which some or all of the hydrogen atoms are replaced by halogen atoms as mentioned above, in particular F, Cl and Br.

The term "cycloalkyl-C_1-C_4-alkyl" refers to a C_3-C_8-cycloalkyl group ("C_3-C_8-cycloalkyl-C_1-C_4-alkyl"), preferably a C_3-C_6-cycloalkyl group ("C_3-C_6-cycloalkyl-C_1-C_4-alkyl"), more preferably a C_3-C_4-cycloalkyl group ("C_3-C_4-cycloalkyl-C_1-C_4-alkyl") as defined above (preferably a monocyclic cycloalkyl group) which is bound to the remainder of the molecule via a C_1-C_4-alkyl group, as defined above. Examples for C_3-C_4-cycloalkyl-C_1-C_4-alkyl are cyclopropylmethyl, cyclopropylethyl, cyclopropylpropyl, cyclobutylmethyl, cyclobutylethyl and cyclobutylpropyl, Examples for C_3-C_6-cycloalkyl-C_1-C_4-alkyl, apart those mentioned for C_3-C_4-cycloalkyl-C_1-C_4-alkyl, are cyclopentylmethyl, cyclopentylethyl, cyclopentylpropyl, cyclohexylmethyl, cyclohexylethyl and cyclohexylpropyl.

The term "C_3-C_6-halocycloalkyl-C_1-C_4-alkyl" refers to a C_3-C_8-halocycloalkyl group as defined above which is bound to the remainder of the molecule via a C_1-C_4-alkyl group, as defined above.

The term "C_3-C_6-cycloalkxoy-C_1-C_4-alkyl" refers to a C_3-C_6-cycloalkoxy group ("C_3-C_8-cycloalkoxy-C_1-C_4-alkyl"), as defined above (preferably a monocyclic cycloalkoxy group) which is bound to the remainder of the molecule via a C_1-C_4-alkyl group, as defined above. Examples for C_3-C_4-cycloalkoxy-C_1-C_4-alkyl are cyclopropyloxymethyl, cyclopropyloxyethyl, cyclopropyloxypropyl, cyclobutyloxymethyl, 1-cyclobutyloxyethyl and 2-cyclobutyloxypropyl, Examples for C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, apart those mentioned for C_3-C_4-cycloalkoxy-C_1-C_4-alkyl, are cyclopentyloxymethyl, cyclopentyloxyethyl, cyclopentyloxypropyl, cyclohexyloxymethyl, cyclohexyloxyethyl and cyclohexyloxypropyl.

The term "C_1-C_2-alkoxy" is a C_1-C_2-alkyl group, as defined above, attached via an oxygen atom. The term "C_1-C_3-alkoxy" is a C_1-C_3-alkyl group, as defined above, attached via an oxygen atom.The term "C_1-C_4-alkoxy" is a C_1-C_4-alkyl group, as defined above, attached via an oxygen atom. The term "C_1-C_6-alkoxy" is a C_1-C_6-alkyl group, as defined above, attached via an oxygen atom. The term "C_1-C_{10}-alkoxy" is a C_1-C_{10}-alkyl group, as defined above, attached via an oxygen atom. C_1-C_2-Alkoxy is methoxy or ethoxy. C_1-C_3-Alkoxy is additionally, for example, n-propoxy and 1-methylethoxy (isopropoxy). C_1-C_4-Alkoxy is additionally, for example, butoxy, 1-methylpropoxy (sec-butoxy), 2-methylpropoxy (isobutoxy) or 1,1-dimethylethoxy (tert-butoxy). C_1-C_6-Alkoxy is additionally, for example, pentoxy, 1-methylbutoxy, 2-methylbutoxy, 3-methylbutoxy, 1,1-dimethylpropoxy, 1,2-dimethylpropoxy, 2,2-dimethylpropoxy, 1-ethylpropoxy, hexoxy, 1-methylpentoxy, 2-methylpentoxy, 3-methylpentoxy, 4-methylpentoxy, 1,1-dimethylbutoxy, 1,2-dimethylbutoxy, 1,3-dimethylbutoxy, 2,2-dimethylbutoxy, 2,3-dimethylbutoxy, 3,3-dimethylbutoxy, 1-ethylbutoxy, 2-ethylbutoxy, 1,1,2-trimethylpropoxy, 1,2,2-trimethylpropoxy, 1-ethyl-1-methylpropoxy or 1-ethyl-2-methylpropoxy. C_1-C_8-Alkoxy is additionally, for example, heptyloxy, octyloxy, 2-ethylhexyloxy and positional isomers thereof. C_1-C_{10}-Alkoxy is additionally, for example, nonyloxy, decyloxy and positional isomers thereof.

The term "C_1-C_2-haloalkoxy" is a C_1-C_2-haloalkyl group, as defined above, attached via an oxygen atom. The term "C_1-C_3-haloalkoxy" is a C_1-C_3-haloalkyl group, as defined above, attached via an oxygen atom. The term "C_1-C_4-haloalkoxy" is a C_1-C_4-haloalkyl group, as defined above, attached via an oxygen atom. The term "C_1-C_6-haloalkoxy" is a C_1-C_6-haloalkyl group, as defined above, attached via an oxygen atom. The term "C_1-C_{10}-haloalkoxy" is a C_1-C_{10}-haloalkyl group, as defined above, attached via an oxygen atom. C_1-C_2-Haloalkoxy is, for example, OCH_2F, $OCHF_2$, OCF_3, OCH_2Cl, $OCHCl_2$, $OCCl_3$, chlorofluoromethoxy, dichlorofluoromethoxy, chlorodifluoromethoxy, 2-fluoroethoxy, 2-chloroethoxy, 2-bromoethoxy, 2-iodoethoxy, 2,2-difluoroethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2-fluoroethoxy, 2-chloro-2,2-difluoroethoxy, 2,2-dichloro-2-fluoroethoxy, 2,2,2-trichloroethoxy or OC_2F_5. C_1-C_3-Haloalkoxy is additionally, for example, 2-fluoropropoxy, 3-fluoropropoxy, 2,2-difluoropropoxy, 2,3-difluoropropoxy, 2-chloropropoxy, 3-chloropropoxy, 2,3-dichloropropoxy, 2-bromopropoxy, 3-bromopropoxy, 3,3,3-trifluoropropoxy, 3,3,3-trichloropropoxy, OCH_2-C_2F_5, OCF_2-C_2F_5, 1-(CH_2F)-2-fluoroethoxy, 1-(CH_2Cl)-2-chloroethoxy or 1-(CH_2Br)-2-bromoethoxy. C_1-C_4-Haloalkoxy is additionally, for example, 4-fluorobutoxy, 4-chlorobutoxy, 4-bromobutoxy or nonafluorobutoxy. C_1-C_6-Haloalkoxy is additionally, for example, 5-fluoropentoxy, 5-chloropentoxy, 5-brompentoxy, 5-iodopentoxy, undecafluoropentoxy, 6-fluorohexoxy, 6-chlorohexoxy, 6-bromohexoxy, 6-iodohexoxy or dodecafluorohexoxy.

The term "C_1-C_3-alkoxy-C_1-C_3-alkyl" as used herein, refers to a straight-chain or branched alkyl group having 1 to 3 carbon atoms, as defined above, where one hydrogen atom is replaced by a C_1-C_3-alkoxy group, as defined above. The term "C_1-C_4-alkoxy-C_1-C_4-alkyl" as used herein, refers to a straight-chain or branched alkyl group having 1 to 4 carbon atoms, as defined above, where one hydrogen atom is replaced by a C_1-C_4-alkoxy group, as defined above. The term "C_1-C_6-alkoxy-C_1-C_4-alkyl" as used herein, refers to a straight-chain or branched alkyl group having 1 to 4 carbon atoms, as defined above, where one hydrogen atom is replaced by a C_1-C_6-alkoxy group, as defined above. Examples are methoxymethyl, ethoxymethyl, propoxymethyl, isopropoxymethyl, n-butoxymethyl, sec-butoxymethyl, isobutoxymethyl, tert-butoxymethyl, 1-methoxyethyl, 1-ethoxyethyl, 1-propoxyethyl, 1-isopropoxyethyl, 1-n-butoxyethyl, 1-sec-butoxyethyl, 1-isobutoxyethyl, 1-tert-butoxyethyl, 2-methoxyethyl, 2-ethoxyethyl, 2-propoxyethyl, 2-isopropoxyethyl, 2-n-butoxyethyl, 2-sec-butoxyethyl, 2-isobutoxyethyl, 2-tert-butoxyethyl, 1-methoxypropyl, 1-ethoxypropyl, 1-propoxypropyl, 1-isopropoxypropyl, 1-n-butoxypropyl, 1-sec-butoxypropyl, 1-isobutoxypropyl, 1-tert-butoxypropyl, 2-methoxypropyl, 2-ethoxypropyl, 2-propoxypropyl, 2-isopropoxypropyl, 2-n-butoxypropyl, 2-sec-butoxypropyl, 2-isobutoxypropyl, 2-tert-butoxypropyl, 3-methoxypropyl, 3-ethoxypropyl, 3-propoxypropyl, 3-isopropoxypropyl, 3-n-butoxypropyl, 3-sec-butoxypropyl, 3-isobutoxypropyl, 3-tert-butoxypropyl and the like.

The term "C_1-C_4-alkoxy-methyl" as used herein, refers to methyl in which one hydrogen atom is replaced by a C_1-C_4-alkoxy group, as defined above. The term "C_1-C_6-alkoxy-methyl" as used herein, refers to methyl in which one hydrogen atom is replaced by a C_1-C_6-alkoxy group, as defined above. Examples are methoxymethyl, ethoxymethyl, propoxymethyl, isopropoxymethyl, n-butoxymethyl, sec-butoxymethyl, isobutoxymethyl, tert-butoxymethyl, pentyloxymethyl, hexyloxymethyl and the like.

The term "alkoxyalkoxy" as used herein refers to an alkoxyalkyl radical, in particular a C_1-C_6-alkoxy-C_1-C_4-alkyl radical, as defined above, which is bound via an oxygen atom to the remainder of the molecule. Examples thereof are OCH_2-OCH_3, OCH_2-OC_2H_5, n-propoxymethoxy, OCH_2-$OCH(CH_3)_2$, n-butoxymethoxy, (1-methylpropoxy)methoxy, (2-methylpropoxy)methoxy, OCH_2-$OC(CH_3)_3$, 2-(methoxy)ethoxy, 2-(ethoxy)ethoxy, 2-(n-propoxy)ethoxy, 2-(1-methylethoxy)ethoxy, 2-(n-butoxy)ethoxy, 2-(1-methylpropoxy)ethoxy, 2-(2-methylpropoxy)ethoxy, 2-(1,1-dimethylethoxy)ethoxy, etc.

C_1-C_6-Haloalkoxy-C_1-C_6-alkyl is a straight-chain or branched alkyl group having from 1 to 6, especially 1 to 4 carbon atoms (=C_1-C_6-haloalkoxy-C_1-C_4-alkyl), wherein one of the hydrogen atoms is replaced by a C_1-C_6-alkoxy group and wherein at least one, e.g. 1, 2, 3, 4 or all of the remaining hydrogen atoms (either in the alkoxy moiety or in the alkyl moiety or in both) are replaced by halogen atoms. C_1-C_4-Haloalkoxy-C_1-C_4-alkyl is a straight-chain or branched alkyl group having from 1 to 4 carbon atoms, wherein one of the hydrogen atoms is replaced by a C_1-C_4-alkoxy group and wherein at least one, e.g. 1, 2, 3, 4 or all of the remaining hydrogen atoms (either in the alkoxy moiety or in the alkyl moiety or in both) are replaced by halogen atoms. Examples are difluoromethoxymethyl (CHF_2OCH_2), trifluoromethoxymethyl, 1-difluoromethoxyethyl , 1-trifluoromethoxyethyl, 2-difluoromethoxyethyl, 2-trifluoromethoxyethyl, difluoro-methoxy-methyl (CH_3OCF_2), 1,1-difluoro-2-methoxyethyl, 2,2-difluoro-2-methoxyethyl and the like.

The term "C_1-C_2-alkylthio" is a C_1-C_2-alkyl group, as defined above, attached via a sulfur atom. The term "C_1-C_3-alkylthio" is a C_1-C_3-alkyl group, as defined above, attached via a sulfur atom. The term "C_1-C_4-alkylthio" is a C_1-C_4-alkyl group, as defined above, attached via a sulfur atom. The term "C_1-C_6-alkylthio" is a C_1-C_6-alkyl group, as defined above, attached via a sulfur atom. The term "C_1-C_{10}-alkylthio" is a C_1-C_{10}-alkyl group, as defined above, attached via a sulfur atom. C_1-C_2-Alkylthio is methylthio or ethylthio. C_1-C_3-Alkylthio is additionally, for example, n-propylthio or 1-methylethylthio (isopropylthio). C_1-C_4-Alkylthio is additionally, for example, butylthio, 1-methylpropylthio (sec-butylthio), 2-methylpropylthio (isobutylthio) or 1,1-dimethylethylthio (tert-butylthio). C_1-C_6-Alkylthio is additionally, for example, pentylthio, 1-methylbutylthio, 2-methylbutylthio, 3-methylbutylthio, 1,1-dimethylpropylthio, 1,2-dimethylpropylthio, 2,2-dimethylpropylthio, 1-ethylpropylthio, hexylthio, 1-methylpentylthio, 2-methylpentylthio, 3-methylpentylthio, 4-methylpentylthio, 1,1-dimethylbutylthio, 1,2-dimethylbutylthio, 1,3-dimethylbutylthio, 2,2-dimethylbutylthio, 2,3-dimethylbutylthio, 3,3-dimethylbutylthio, 1-ethylbutylthio, 2-ethylbutylthio, 1,1,2-trimethylpropylthio, 1,2,2-trimethylpropylthio, 1-ethyl-1-methylpropylthio or 1-ethyl-2-methylpropylthio. C_1-C_8-Alkylthio is additionally, for example, heptylthio, octylthio, 2-ethylhexylthio and positional isomers thereof. C_1-C_{10}-Alkylthio is additionally, for example, nonylthio, decylthio and positional isomers thereof.

The term "C_1-C_2-haloalkylthio" is a C_1-C_2-haloalkyl group, as defined above, attached via a sulfur atom. The term "C_1-C_3-haloalkylthio" is a C_1-C_3-haloalkyl group, as defined above, attached via a sulfur atom.The term "C_1-C_4-haloalkylthio" is a C_1-C_4-haloalkyl group, as defined above, attached via a sulfur atom. The term "C_1-C_6-haloalkylthio" is a C_1-C_6-haloalkyl group, as defined above, attached via a sulfur atom. The term "C_1-C_{10}-haloalkylthio" is a C_1-C_{10}-haloalkyl group, as defined above, attached via a sulfur atom. C_1-C_2-Haloalkylthio is, for example, SCH_2F,

$SCHF_2$, SCF_3, SCH_2Cl, $SCHCl_2$, $SCCl_3$, chlorofluoromethylthio, dichlorofluoromethylthio, chlorodifluoromethylthio, 2-fluoroethylthio, 2-chloroethylthio, 2-bromoethylthio, 2-iodoethylthio, 2,2-difluoroethylthio, 2,2,2-trifluoroethylthio, 2-chloro-2-fluoroethylthio, 2-chloro-2,2-difluoroethylthio, 2,2-dichloro-2-fluoroethylthio, 2,2,2-trichloroethylthio or SC_2F_5. C_1-C_3-Haloalkylthio is additionally, for example, 2-fluoropropylthio, 3-fluoropropylthio, 2,2-difluoropropylthio, 2,3-difluoropropylthio, 2-chloropropylthio, 3-chloropropylthio, 2,3-dichloropropylthio, 2-bromopropylthio, 3-bromopropylthio, 3,3,3-trifluoropropylthio, 3,3,3-trichloropropylthio, SCH_2-C_2F_5, SCF_2-C_2F_5, 1-(CH_2F)-2-fluoroethylthio, 1-(CH_2Cl)-2-chloroethylthio or 1-(CH_2Br)-2-bromoethylthio. C_1-C_4-Haloalkylthio is additionally, for example, 4-fluorobutylthio, 4-chlorobutylthio, 4-bromobutylthio or nonafluorobutylthio. C_1-C_6-Haloalkylthio is additionally, for example, 5-fluoropentylthio, 5-chloropentylthio, 5-brompentylthio, 5-iodopentylthio, undecafluoropentylthio, 6-fluorohexylthio, 6-chlorohexylthio, 6-bromohexylthio, 6-iodohexylthio or dodecafluorohexylthio.

The substituent "oxo" replaces a CH_2 group by a C(=O) group.

The term "aryl" relates to phenyl and bi- or polycyclic carbocycles having at least one fused phenylene ring, which is bound to the remainder of the molecule. Examples of bi- or polycyclic carbocycles having at least one phenylene ring include naphthyl, tetrahydronaphthyl, indanyl, indenyl, anthracenyl, fluorenyl etc.

The term "aryl-C_1-C_4-alkyl" relates to C_1-C_4-alkyl, as defined above, wherein one hydrogen atom has been replaced by an aryl radical, in particular a phenyl radical. Particular examples of aryl-C_1-C_4-alkyl include benzyl, 1-phenethyl, 2-phenetyl, 1-phenylpropyl, 2-phenylpropyl, 3-phenyl-1-propyl and 2-phenyl-2-propyl.

The term "aryloxy-C_1-C_4-alkyl" relates to C_1-C_4-alkyl, as defined above, wherein one hydrogen atom has been replaced by an aryloxy radical, in particular a phenoxy radical. Particular examples of aryloxy-C_1-C_4-alkyl include phenoxymethyl, 1-phenoxyethyl, 2-phenoxyetyl, 1-phenoxypropyl, 2-phenoxypropyl, 3-phenoxy-1-propyl and 2-phenoxy-2-propyl.

The term "aryl-C_1-C_4-carbonyl" relates to aryl as defined above, , in particular a phenyl radical, which is bound by a carbonyl group to the remainder of the molecule. Particular examples of arylcarbonyl include benzoyl, 1-naphthoyl and 2-naphthoyl.

The term hetaryl relates to aromatic heterocycles having either 5 or 6 ring atoms (5- or 6-membered hetaryl) and being monocyclic or 8, 9 or 10 ring atoms and bing bicyclic. Hetaryl will generally have at least one ring atom selected from O, S and N, which in case of N may be an imino-nitrogen or an amino-nitrogen, which carries hydrogen or a radical different from hydrogen. Hetaryl may have 1, 2, 3 or 4 further nitrogen atoms as ring members, which are imino nitrogens. Examples of 5- or 6-membered hetaryl include 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 1-pyrrolyl, 2-pyrrolyl, 3-pyrrolyl, 1-pyrazolyl, 3-pyrazolyl, 4-pyrazolyl, 5-pyrazolyl, 2-oxazolyl, 4-oxazolyl, 5-oxazolyl, 2-thiazolyl, 4-thiazolyl, 5-thiazolyl, 1-imidazolyl, 2-imidazolyl, 4-imidazolyl, 1,3,4-triazol-1-yl, 1,3,4-triazol-2-yl, 1,3,4-oxadiazolyl-2-yl, 1,3,4-thiadiazol-2-yl, 2-pyridinyl, 3-pyridinyl, 4-pyridinyl, 3-pyridazinyl, 4-pyridazinyl, 2-pyrimidinyl, 4-pyrimidinyl, 5-pyrimidinyl, 2-pyrazinyl and 1,3,5-triazin-2-yl.. Examples of 8-, 9- or 10-membered hetaryl include, for example, quinolinyl, isoquinolinyl, cinnolinyl, indolyl, indolizynyl, isoindolyl, indazolyl, benzofuryl, benzothienyl, benzo[b]thiazolyl, benzoxazolyl, benzthiazolyl, benzimidazolyl, imidazo[1,2-a]pyridine-2-yl, thieno[3,2-b]pyridine-5-yl, imidazo-[2,1-b]-thiazol-6-yl and 1,2,4-triazolo[1,5-a]pyridine-2-yl.

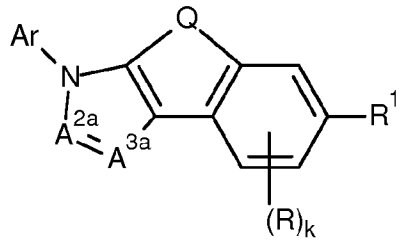
Examples of N-bound 5-, 6-, 7 or 8-membered saturated heterocycles include: pyrrolidin-1-yl, pyrazolidin-1-yl, imidazolidin-1-yl, oxazolidin-3-yl, isoxazolidin-2-yl, thiazolidin-3-yl, isothiazolidin-2-yl, piperidin-1-yl, piperazin-1-yl, morpholin-4-yl, thiomorpholin-4-yl, 1-oxothiomorpholin-4-yl, 1,1-dioxothiomorpholin-4-yl, azepan-1-yl and the like.

The term "hetaryl-C_1-C_4-alkyl" relates to C_1-C_4-alkyl, as defined above, wherein one hydrogen atom has been replaced by a hetaryl radical, in particular a pyridyl radical. Particular examples of hetaryl-C_1-C_4-alkyl include 2-pyridylmethyl, 3-pyridylmethyl, 4-pyridylmethyl, 1-(2-pyridyl)ethyl, 2-(2-pyridyl)ethyl, 1-(3-pyridyl)ethyl, 2-(3-pyridyl)ethyl, 1-(4-pyridyl)ethyl, 2-(4-pyridyl)ethyl etc..

The term "hetaryloxy-C_1-C_4-alkyl" relates to C_1-C_4-alkyl, as defined above, wherein one hydrogen atom has been replaced by an hetaryloxy radical, in particular a pyridyloxy radical. Particular examples of hetaryloxy-C_1-C_4-alkyl include 2-pyridyloxymethyl, 3-pyridyloxymethyl, 4-pyridyloxymethyl, 1-(2-pyridyloxy)ethyl, 2-(2-pyridyloxy)ethyl, 1-(3-pyridyloxy)ethyl, 2-(3-pyridyloxy)ethyl, 1-(4-pyridyloxy)ethyl, 2-(4-pyridyloxy)ethyl etc.

The term "hetaryl-C_1-C_4-carbonyl" relates to hetaryl as defined above, in particular a C-bound hetaryl radical, e.g. 2-, 3-or 4-pyridyl, 2- or 3-thienyl, 2- or 3-furyl, 1-, 2- or 3-pyrrolyl, 2- or 4-pyrimidinyl, pyridazinyl, 1-, 3- or 4-pyrazolyl, 1-, 2- or 4-imidazolyl radical, which is bound by a carbonyl group to the remainder of the molecule.

A first particular group of embodiments of the present invention relates to compounds of the formula Ia, including their N-oxides, stereoisomers, tautomers and their agriculturally or veterinarily acceptable salts:



(Ia)

wherein:

A^{2a} is N or $C(R^2)$; and

A^{3a} is N or $C(R^7)$;

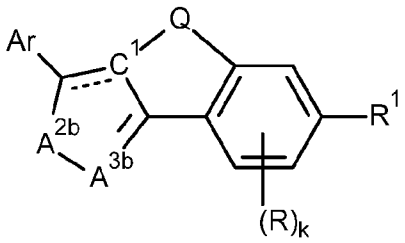
and wherein k, Ar, Q, R^1, R^2 and R^7 are as defined herein.

In a particular group of embodiments of the compounds of formula Ia, A^{2a} is N and A^{3a} is $C(R^7)$.

In another particular group of embodiments of the compounds of formula Ia, A^{2a} is $C(R^2)$ and A^{3a} is N.

In a further particular group of embodiments of the compounds of formula Ia, A^{2a} and A^{3a} are both N.

A second particular group of embodiments of the present invention relates to compounds of the formula Ib, including their N-oxides, stereoisomers, tautomers and their agriculturally or veterinarily acceptable salts:



(Ib)

wherein:

C^1 is CH or C, provided that ---- indicates a single bond, if C^1 is CH or a double bond, if C^1 is C,

A^{2b} is $N(R^3)$, O or S; and

A^{3b} is N or $C(R^7)$;

provided that one or both of A^{2b} and A^{3b} are N or $N(R^3)$, respectively;

and wherein k, Ar, Q, R^1, R^3 and R^7 are as defined herein.

In a particular group of embodiments of the compounds of formula Ib, C^1 is C, A^{2b} is O and A^{3b} is $C(R^7)$.

In another particular group of embodiments of the compounds of formula Ib, C^1 is C, A^{2b} is S and A^{3b} is $C(R^7)$.

In a further particular group of embodiments of the compounds of formula Ib, C^1 is C, A^{2b} is $N(R^3)$ and A^{3b} is $C(R^7)$.

In yet a further particular group of embodiments of the compounds of formula Ib, C^1 is C, A^{2b} is O and A^{3b} is N.

In yet a further particular group of embodiments of the compounds of formula Ib, C^1 is CH, A^{2b} is O and A^{3b} is N.

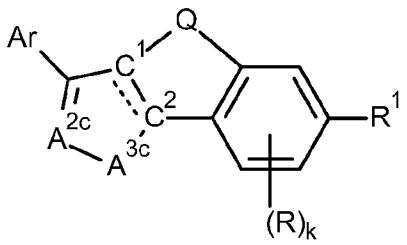
In yet a further particular group of embodiments of the compounds of formula Ib, C^1 is C, A^{2b} is $N(R^3)$ and A^{3b} is N.

In yet a further particular group of embodiments of the compounds of formula Ib, C^1 is CH, A^{2b} is $N(R^3)$ and A^{3b} is N.

In yet a further particular group of embodiments of the compounds of formula Ib, C^1 is C, A^{2b} is S and A^{3b} is N.

In yet a further particular group of embodiments of the compounds of formula Ib, C^1 is CH, A^{2b} is S and A^{3b} is N.

A third particular group of embodiments of the present invention relates to compounds of the formula Ic, including their N-oxides, stereoisomers, tautomers and their agriculturally or veterinarily acceptable salts:



(Ic)

wherein

C^1 and C^2 are both CH or both C provided that ---- indicates a single bond, if C^1 and C^2 are CH, or a double bond, if C^1 and C^2 are C,

A^{2c} is N or $C(R^2)$; and

A^{3c} is O, S, $N(R^6)$ or $C(R^8,R^9)$;

and wherein k, Ar, Q, R^1, R^2, R^6, R^8 and R^9 are as defined herein.

In a particular group of embodiments of the compounds of formula Ic, C^1 and C^2 are CH, A^{2c} is N and A^{3c} is $C(R^8,R^9)$.

In another particular group of embodiments of the compounds of formula Ic, C^1 and C^2 are CH, A^{2c} is N and A^{3c} is O.

In a further particular group of embodiments of the compounds of formula Ic, C^1 and C^2 are CH, A^{2c} is N and A^{3c} is S.

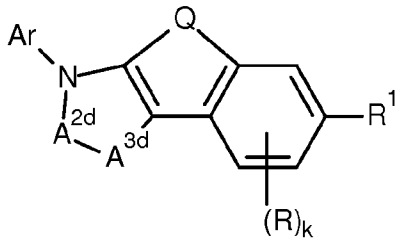
In yet a further particular group of embodiments of the compounds of formula Ic, C^1 and C^2 are CH, A^{2c} is N and A^{3c} is $N(R^6)$.

In yet a further particular group of embodiments of the compounds of formula Ic, C^1 and C^2 are C, A^{2c} is N and A^{3c} is O.

In yet a further particular group of embodiments of the compounds of formula Ic, C^1 and C^2 are C, A^{2c} is N and A^{3c} is S.

In yet a further particular group of embodiments of the compounds of formula Ic, C^1 and C^2 are C, A^{2c} is N and A^{3c} is $N(R^6)$.

A fourth particular group of embodiments of the present invention relates to compounds of the formula Id, including their N-oxides, stereoisomers, tautomers and their agriculturally or veterinarily acceptable salts:



(Id)

where in formula Id

A^{2d} is $N(R^3)$, O, S or $C(R^4,R^5)$; and

A^{3d} is O, S, $N(R^6)$ or $C(R^8,R^9)$;

provided that at least one of A^{2d} and A^{3d} is different from O and S and that the bond between A^{2d} and A^{3d} is a single bond;

and wherein k, Ar, Q, R^1, R^3, R^4, R^5, R^6, R^8 and R^9 are as defined herein.

In a particular group of embodiments of the compounds of formula Id, A^{2d} is $C(R^4,R^5)$, in particular CH_2, C=O or C=S and A^{3d} is O.

In another particular group of embodiments of the compounds of formula Id, A^{2d} is $C(R^4,R^5)$, in particular CH_2, C=O or C=S and A^{3d} is S.

In a further particular group of embodiments of the compounds of formula Id, A^{2d} is $C(R^4,R^5)$, in particular CH_2, C=O or C=S and A^{3d} is $N(R^6)$.

Irrespectively of their occurrence, in particular in context with formulae Ia, Ib, Ic and Id, but also in context with formula INT the variables R^2, R^3, R^4, R^5, R^6, R^7, R^8 and R^9 have in particular the following meanings:

R^2 is in particular hydrogen, halogen, such as F or Cl, C_1-C_4-alkyl, such as CH_3, C_2H_5, n-propyl or isopropyl, C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, C_1-C_4-alkoxy, such as methoxy or ethoxy, or C_1-C_4-haloalkoxy, such as fluoromethoxy, difluoromethoxy or trifluoromethoxy, especially hydrogen.

R^3 is in particular C_1-C_4-alkyl, such as CH_3, C_2H_5, n-propyl or isopropyl, C_3-C_6-cycloalkyl such as cyclopropyl, cyclobutyl, or cyclohexyl, C_3-C_6-cycloalkymethyl, such as cyclopropylmethyl, cyclobutylmethyl or cyclopentylmethyl, or benzyl, and especially C_1-C_4-alkyl.

R^4, R^5 independently of each other are in particular hydrogen, halogen, such as F or Cl, C_1-C_4-alkyl, such as CH_3, C_2H_5, n-propyl or isopropyl, C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, C_1-C_4-alkoxy, such as methoxy or ethoxy, or C_1-C_4-haloalkoxy, such as fluoromethoxy, difluoromethoxy or trifluoromethoxy, or $C(R^4,R^5)$ forms a carbonyl (C=O) or thiocarbonyl (C=S), especially R^4, R^5 are hydrogen or $C(R^4,R^5)$ forms a carbonyl (C=O) or thiocarbonyl (C=S).

R^6 is in particular C_1-C_4-alkyl, such as CH_3, C_2H_5, n-propyl or isopropyl, C_3-C_6-cycloalkyl such as cyclopropyl, cyclobutyl, or cyclohexyl, C_3-C_6-cycloalkymethyl, such as cyclopropylmethyl, cyclobutylmethyl or cyclopentylmethyl, or benzyl, and especially C_1-C_4-alkyl.

R^7 is in particular hydrogen, halogen, such as F or Cl, C_1-C_4-alkyl, such as CH_3, C_2H_5, n-propyl or isopropyl, C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, C_1-C_4-alkoxy, such as methoxy or ethoxy, or C_1-C_4-haloalkoxy, such as fluoromethoxy, difluoromethoxy or trifluoromethoxy, especially hydrogen.

R^8, R^9 independently of each other are in particular hydrogen, halogen, such as F or Cl, C_1-C_4-alkyl, such as CH_3, C_2H_5, n-propyl or isopropyl, C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, C_1-C_4-alkoxy, such as methoxy or ethoxy, or C_1-C_4-haloalkoxy, such as fluoromethoxy, difluoromethoxy or trifluoromethoxy, or $C(R^8,R^9)$ forms a carbonyl (C=O) or thiocarbonyl (C=S), especially R^8, R^9 are hydrogen or $C(R^8,R^9)$ forms a carbonyl (C=O) or thiocarbonyl (C=S).

Particular groups of embodiments relate to compounds of the formulae I, Ia, Ib, Ic and Id, including their N-oxides, stereoisomers, tautomers and their agriculturally or veterinarily acceptable salts, wherein Q is -O-, -S-, $N(R^{Q1})$, $-C(R^{Q2a}R^{Q2b})-$, $-N(R^{Q2})-C(=O)-$, $-N(R^{Q2})-C(=S)-$, $-C(R^{Q3})=C(R^{Q4})-$, $-C(R^{Q3a}R^{Q3b})-C(R^{Q4a}R^{Q4b})-$, $-N=C(R^{Q3c})$, $-S(=O)_2-N(R^{Q2})-$, $-O-C(R^{Q4a}R^{Q4b})-$, $-S(=O)_n-C(R^{Q4a}R^{Q4b})-$ or $-N(R^{Q2})-C(R^{Q4a}R^{Q4b})-$, where R^{Q2}, R^{Q3}, R^{Q3a}, R^{Q3b}, R^{Q3c}, R^{Q4}, R^{Q4a} and R^{Q4b} are as defined herein and where,

R^{Q2} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3, C_2H_5, n-propyl or isopropyl, C_3-C_6-cycloalkyl such as cyclopropyl, cyclobutyl, or cyclohexyl, C_3-C_6-cycloalkymethyl, such as cyclopropylmethyl, cyclobutylmethyl or cyclopentylmethyl, or benzyl, and especially hydrogen or methyl;

R^{Q3} is in particular hydrogen, Cl, F, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q4} is in particular hydrogen, Cl, F, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q2a} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q2b} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q3a} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q3b} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q3c} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q4a} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q4b} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen.

Particular groups of embodiments relate to compounds of the formulae I, INT, Ia, Ib, Ic and Id, including their N-oxides, stereoisomers, tautomers and their agriculturally or veterinarily acceptable salts, wherein Q is -O-, -S-, $-C(R^{Q2a}R^{Q2b})-$, $-C(R^{Q3})=C(R^{Q4})-$, $-C(R^{Q3a}R^{Q3b})-C(R^{Q4a}R^{Q4b})-$, $-O-C(R^{Q4a}R^{Q4b})-$, $-S(=O)_n-C(R^{Q4a}R^{Q4b})-$, $-N(R^{Q2})-C(=O)-$, $-N(R^{Q2})-C(R^{Q4a}R^{Q4b})-$, $-N(R^{Q2})-C(=S)-$ or $-N(R^{Q2})-S(=O)_2-$, where R^{Q2}, R^{Q3}, R^{Q2a}, R^{Q2b}, R^{Q3a}, R^{Q3b}, R^{Q4}, R^{Q4a} and R^{Q4b} are as defined herein and where,

R^{Q3} is in particular hydrogen, Cl, F, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q4} is in particular hydrogen, Cl, F, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q2a} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q2b} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q3a} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q3b} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

R^{Q4a} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen;

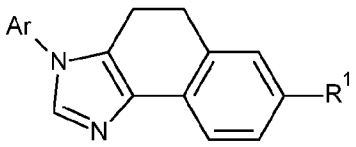
R^{Q4b} is in particular hydrogen, C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-haloalkyl, such as fluoromethyl, difluoromethyl or trifluoromethyl, and especially hydrogen.

Particular preferred groups of embodiments relate to compounds of the formulae I, INT, Ia, Ib, Ic and Id, including their N-oxides, stereoisomers, tautomers and their agriculturally or veterinarily acceptable salts, wherein Q is selected from the group consisting of O, S, $-CH_2-$, $-N(R^{Q1})-$,

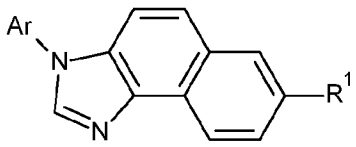
-CH=CH-, -CH_2CH_2-, -N=CH-, O-CH_2, -S-CH_2,
-S(=O)-CH_2-, -S(=O)$_2$-CH_2-,-N(R^{Q2})-C(=O)-, -N(R^{Q2})-C(=S)-, -N(R^{Q2})-S(=O)$_2$- and
-N(R^{Q2})-CH_2-, where R^{Q2} is as defined herein.

Especially preferred groups of embodiments relate to compounds of the formulae I, Ia, Ib, Ic and Id, including their N-oxides, stereoisomers, tautomers and their agriculturally or veterinarily acceptable salts, wherein Q is selected from the group consisting of O, S, -CH_2-, -CH=CH-, -CH_2CH_2-, -O-CH_2-, -S-CH_2-, -S(=O)-CH_2-, -S(=O)$_2$-CH_2-,
-N(R')-C(=O)-, -N(R')-S(=O)$_2$- and -N(R')-CH_2-, wherein R' is hydrogen or methyl.

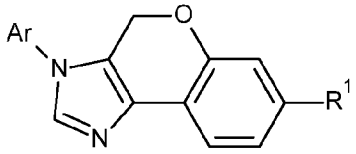
A particular group of embodiments relates to the compounds of formulae Ia.1 to Ia.56 as described below, to their N-oxides, their stereoisomers, their tautomers and to the agriculturally or veterinarily acceptable salt thereof. In formulae Ia.1 to Ia.56 Ar, R^1 and R^{Q2} are as defined above and hereinafter and R^{Q2} is in particular hydrogen, C_1-C_4-alkyl, such asCH_3, C_2H_5, n-propyl or isopropyl, C_3-C_6-cycloalkyl such as cyclopropyl, cyclobutyl, or cyclohexyl, C_3-C_6-cycloalkymethyl, such as cyclopropylmethyl, cyclobutylmethyl or cyclopentylmethyl, or benzyl, especially hydrogen or methyl.



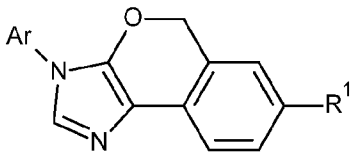
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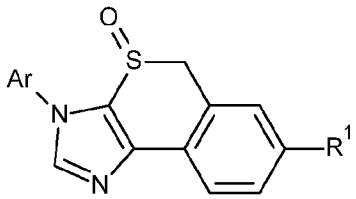
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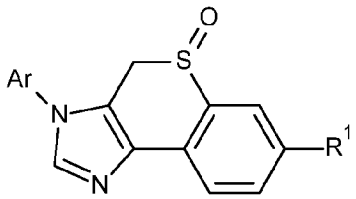
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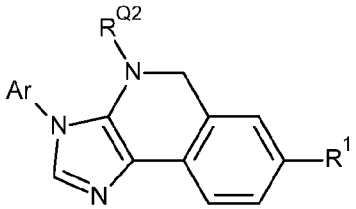
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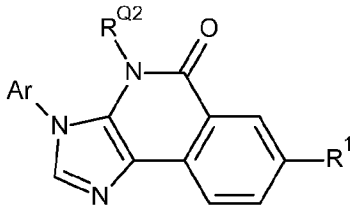
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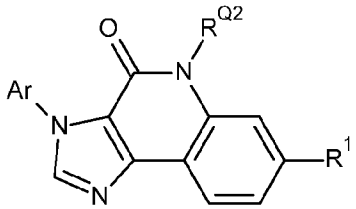
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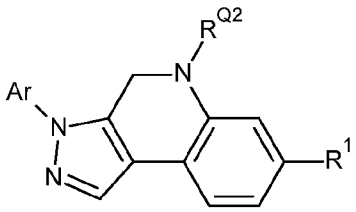
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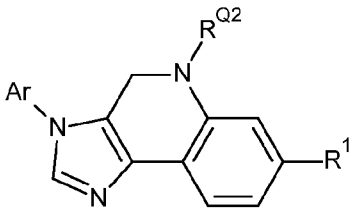
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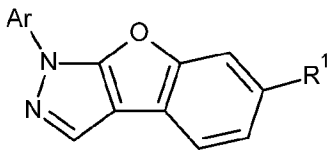
Ia.9



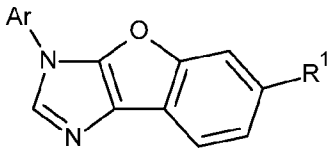
Ia.10



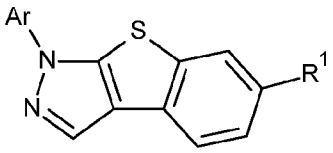
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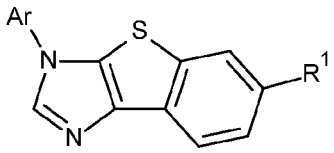
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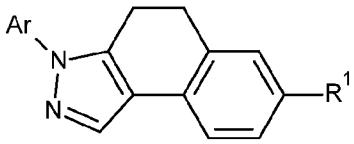
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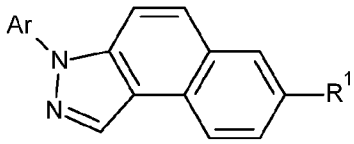
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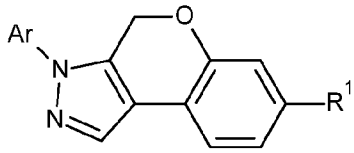
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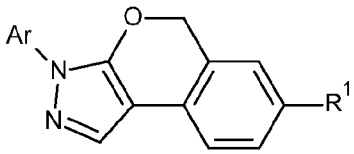
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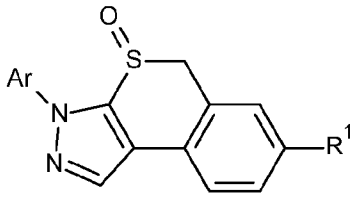
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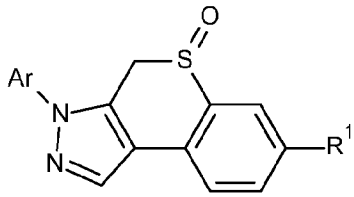
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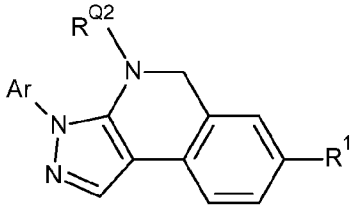
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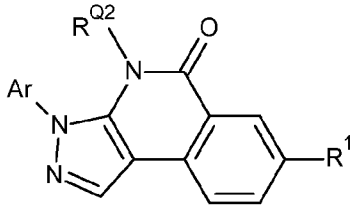
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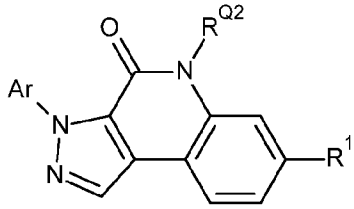
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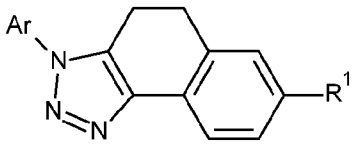
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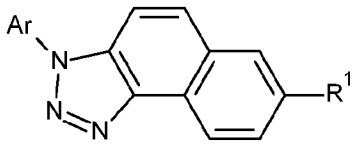
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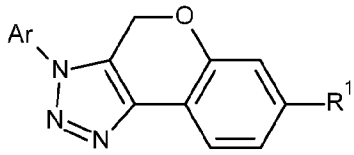
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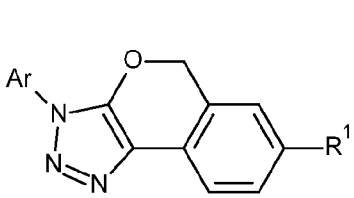
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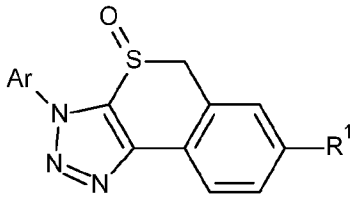
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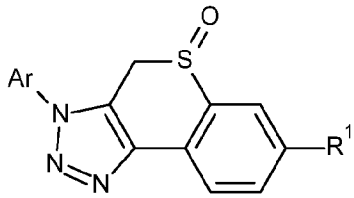
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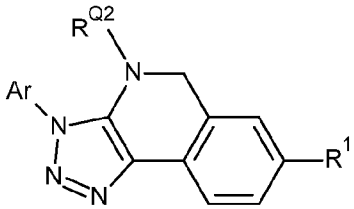
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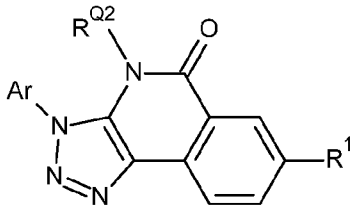
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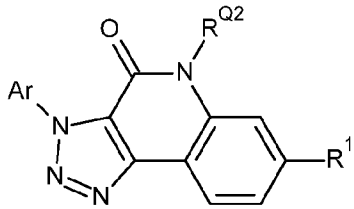
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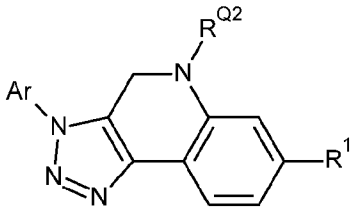
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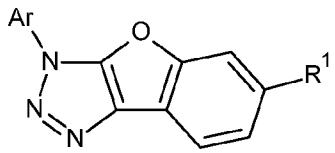
Ia.32



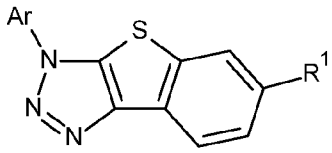
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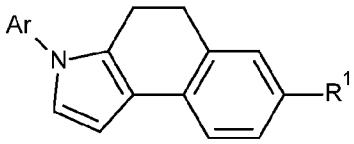
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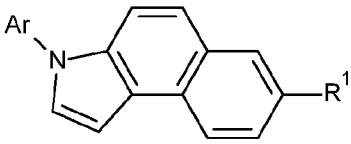
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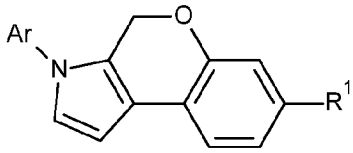
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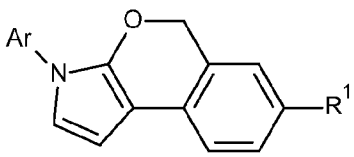
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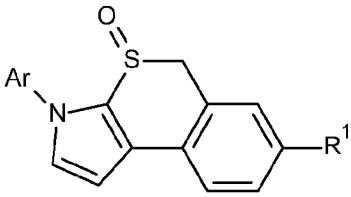
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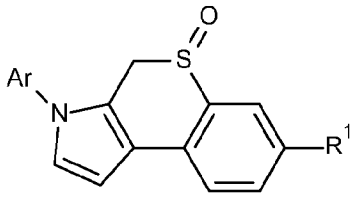
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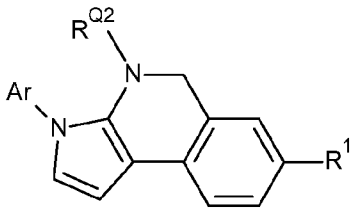
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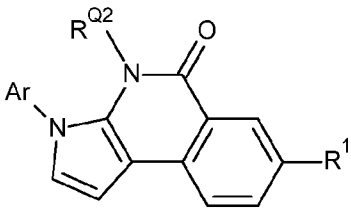
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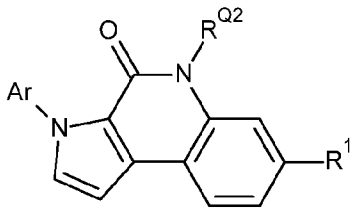
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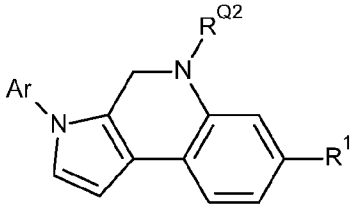
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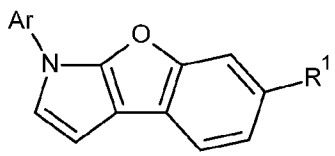
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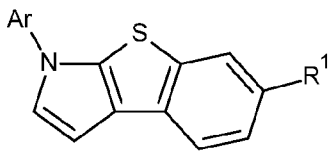
Ia.45



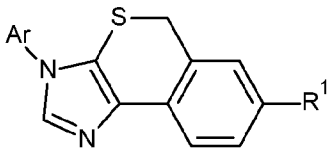
Ia.46



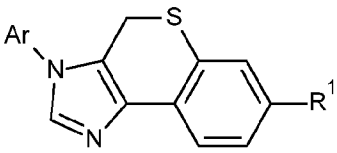
Ia.47



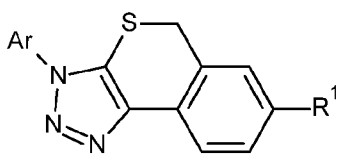
Ia.48



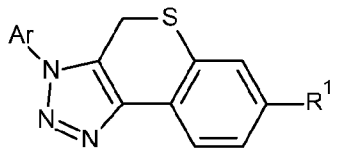
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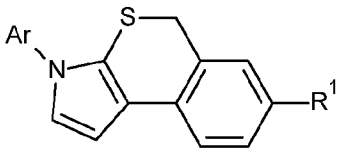
Ia.50



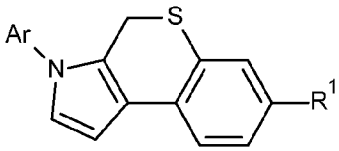
Ia.51



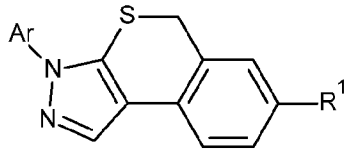
Ia.52



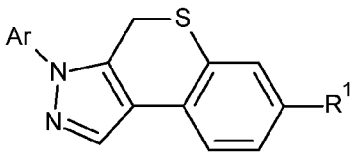
Ia.53



Ia.54

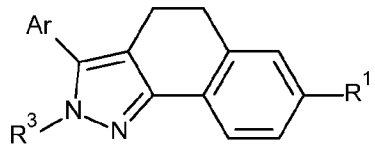


Ia.55

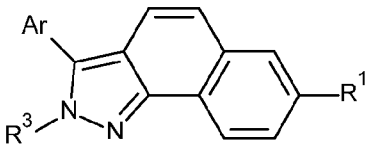


Ia.56

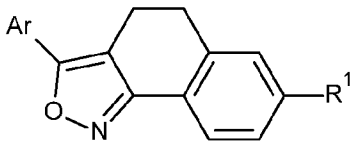
A further particular group of embodiments relates to the compounds of formulae Ib.1 to Ib.18 as described below, to their N-oxides, their stereoisomers, their tautomers and to the agriculturally or veterinarily acceptable salt thereof. In formulae Ib.1 to Ib.14 Ar, R^1 and R^3 are as defined above and hereinafter and R^3 is in particular C_1-C_4-alkyl, such asCH_3, C_2H_5, n-propyl or isopropyl, C_3-C_6-cycloalkyl such as cyclopropyl, cyclobutyl, or cyclohexyl, C_3-C_6-cycloalkymethyl, such as cyclopropylmethyl, cyclobutylmethyl or cyclopentylmethyl, or benzyl, especially C_1-C_4-alkyl.



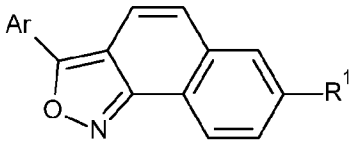
Ib.1



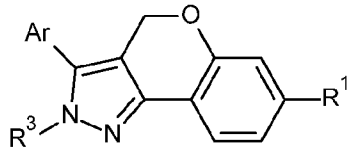
Ib.2



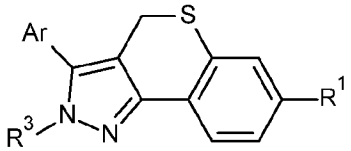
Ib.3



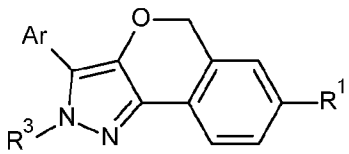
Ib.4



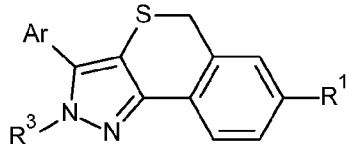
Ib.5



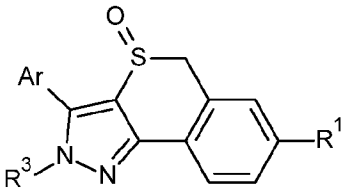
Ib.6



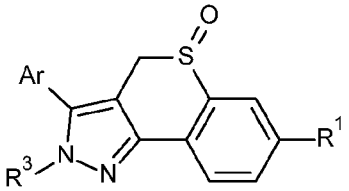
Ib.7



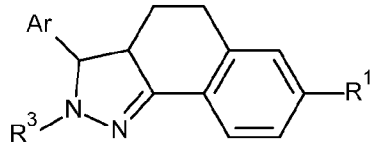
Ib.8



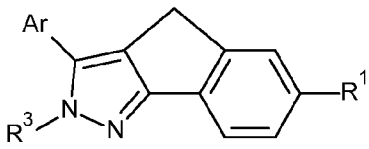
Ib.9



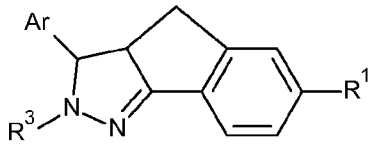
Ib.10



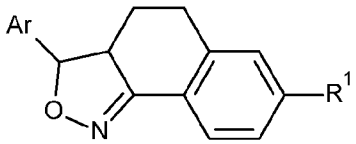
Ib.11



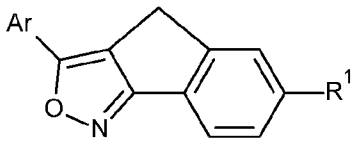
Ib.12



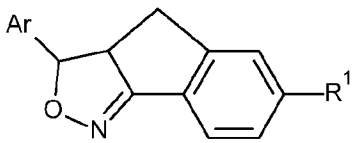
Ib.13



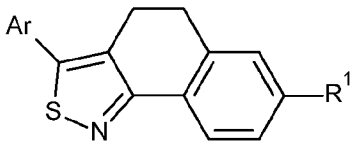
Ib.14



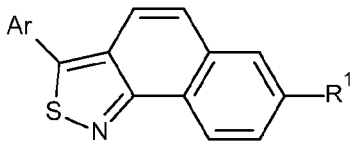
Ib.15



Ib.16

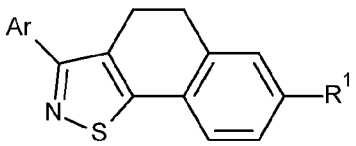


Ib.17

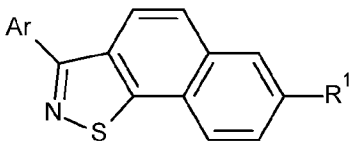


Ib.18

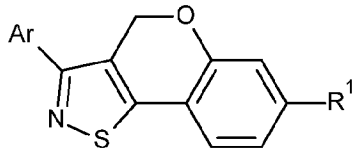
A further particular group of embodiments relates to the compounds of formulae Ic.1 to Ic.63 as described below, to their N-oxides, their stereoisomers, their tautomers and to the agriculturally or veterinarily acceptable salt thereof. In formulae Ic.1 to Ic.63 Ar, R^1, R^6 and R^{Q2} are as defined above and hereinafter. R^{Q2} is in particular hydrogen, C_1-C_4-alkyl, such asCH_3, C_2H_5, n-propyl or isopropyl, C_3-C_6-cycloalkyl such as cyclopropyl, cyclobutyl, or cyclohexyl, C_3-C_6-cycloalkymethyl, such as cyclopropylmethyl, cyclobutylmethyl or cyclopentylmethyl, or benzyl, especially hydrogen or methyl. R^6 is in particular C_1-C_4-alkyl, such asCH_3, C_2H_5, n-propyl or isopropyl, C_3-C_6-cycloalkyl such as cyclopropyl, cyclobutyl, or cyclohexyl, C_3-C_6-cycloalkymethyl, such as cyclopropylmethyl, cyclobutylmethyl or cyclopentylmethyl, or benzyl, especially C_1-C_4-alkyl.



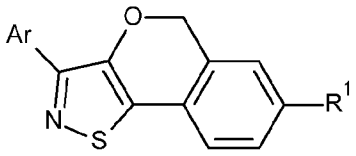
Ic.1



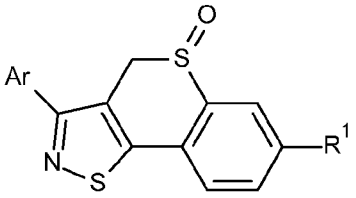
Ic.2



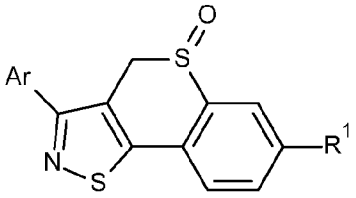
Ic.3



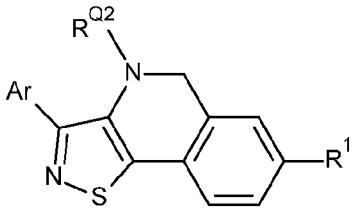
Ic.4



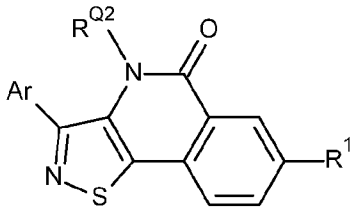
Ic.5



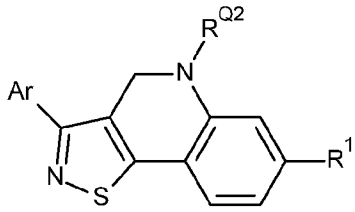
Ic.6



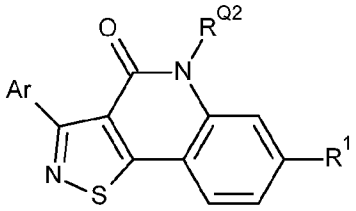
Ic.7



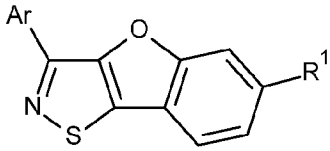
Ic.8



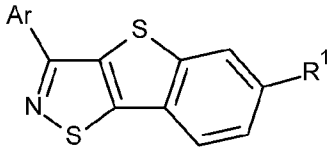
Ic.9



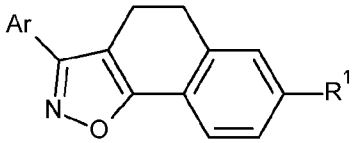
Ic.10



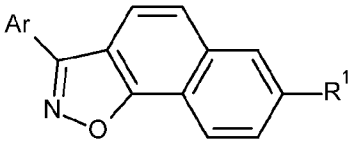
Ic.11



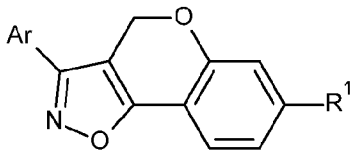
Ic.12



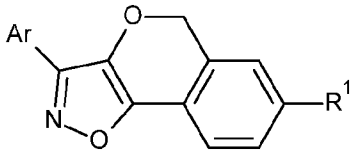
Ic.13



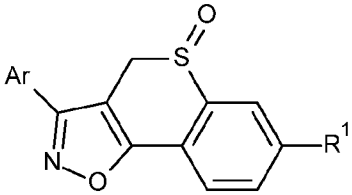
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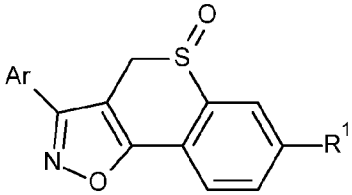
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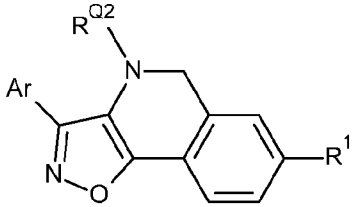
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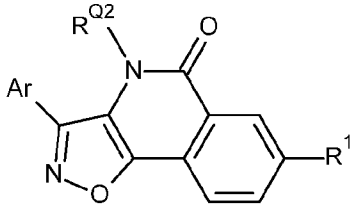
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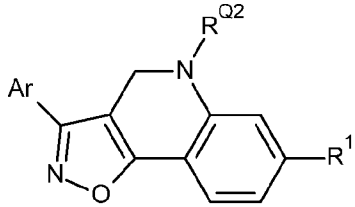
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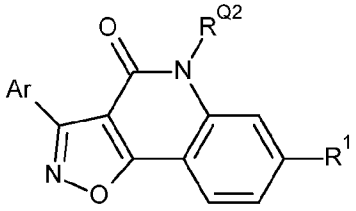
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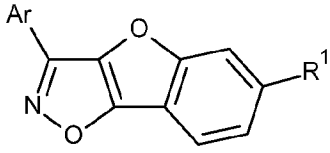
Ic.20



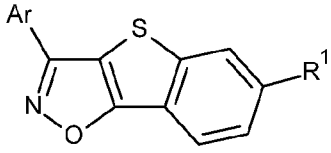
Ic.21



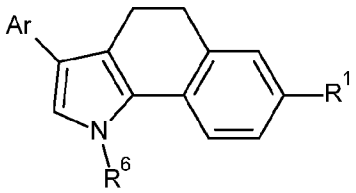
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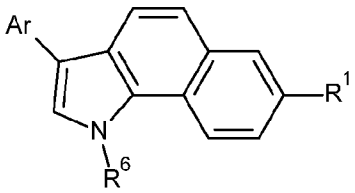


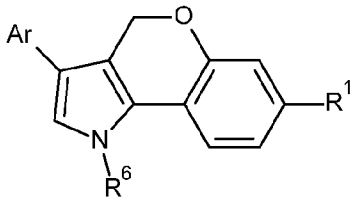
Ic.23

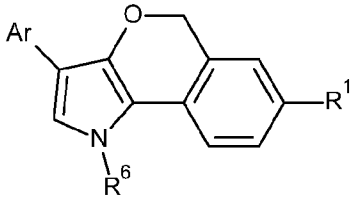


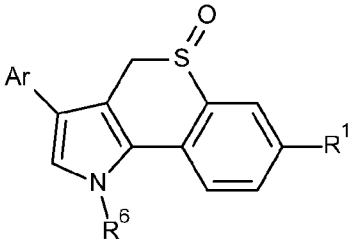
Ic.24

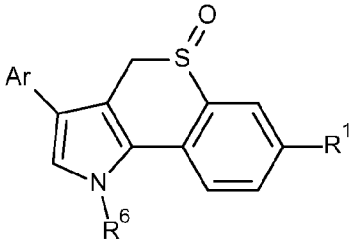

Ic.25

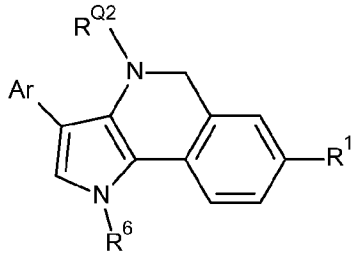

Ic.26

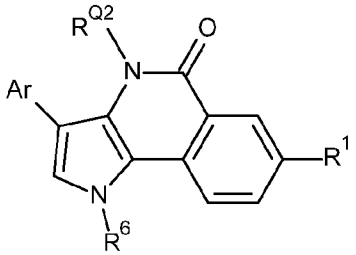

Ic.27

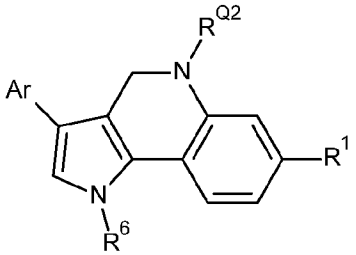

Ic.28

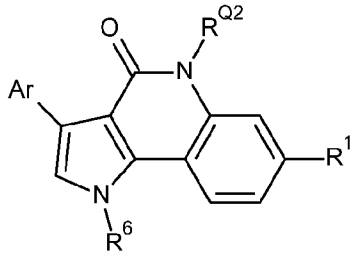

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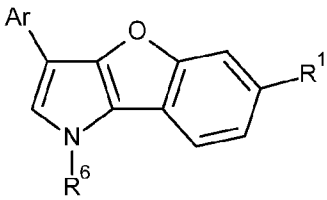

Ic.30

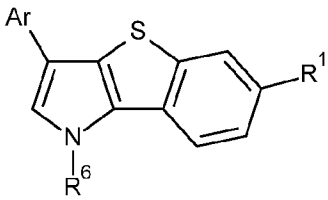

Ic.31

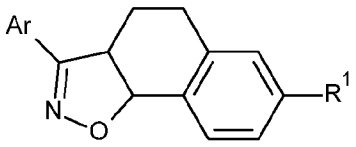

Ic.32

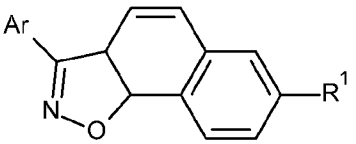

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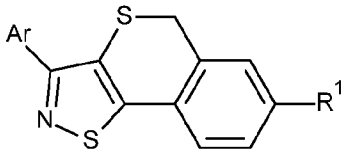

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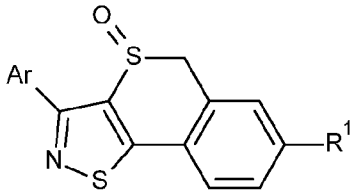

Ic.35

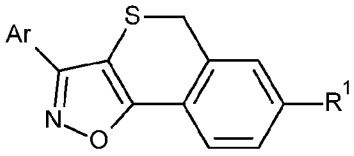

Ic.36

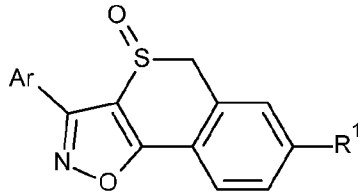

Ic.37


Ic.38

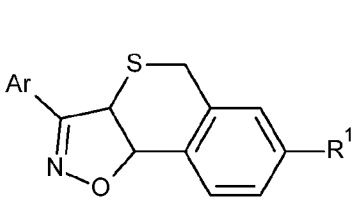

Ic.39


Ic.40

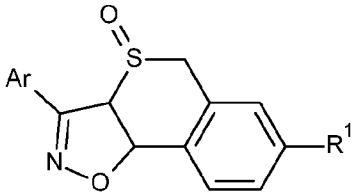

Ic.41



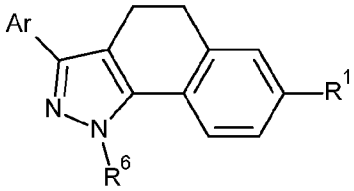
Ic.42



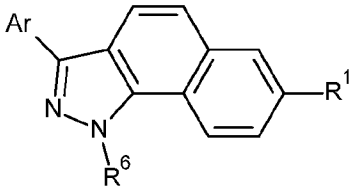
Ic.43



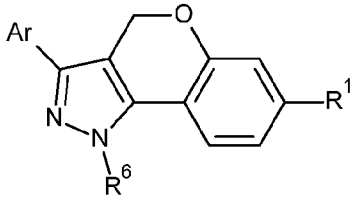
Ic.44



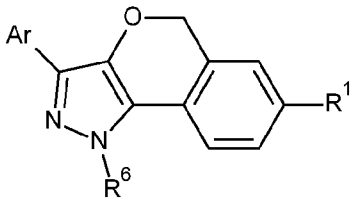
Ic.45



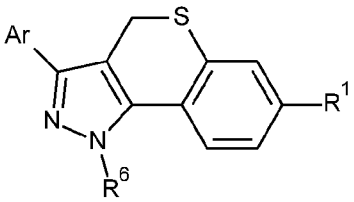
Ic.46



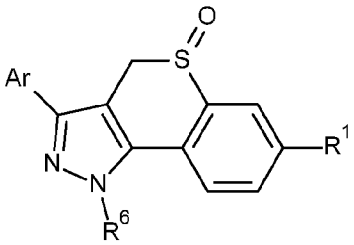
Ic.47



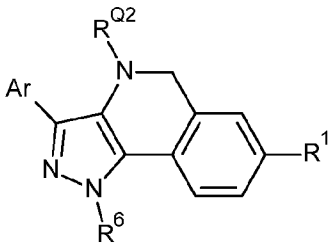
Ic.48



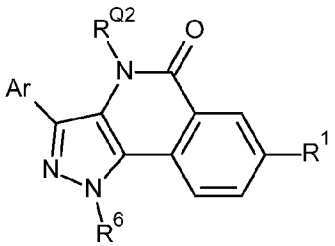
Ic.49



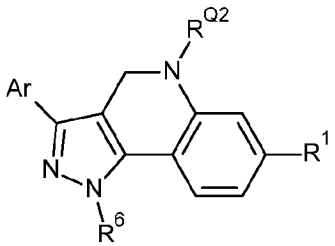
Ic.50



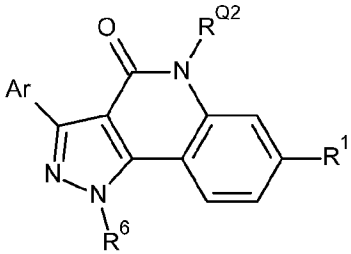
Ic.51



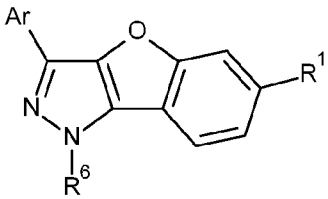
Ic.52



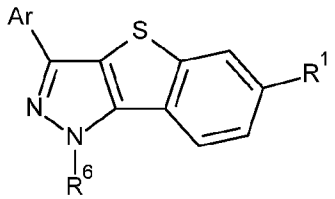
Ic.53



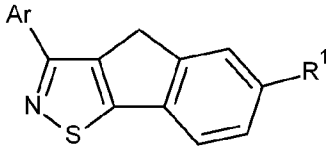
Ic.54



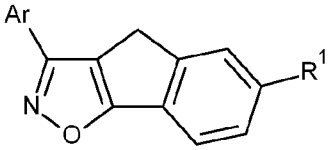
Ic.55



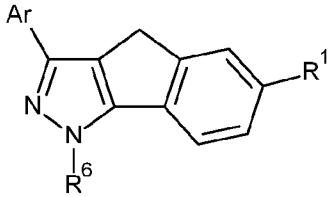
Ic.56



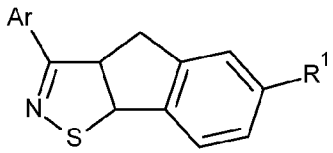
Ic.58



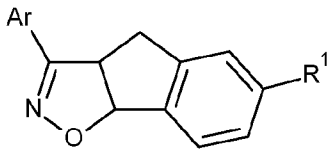
Ic.59



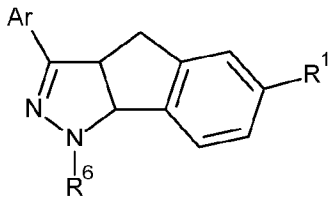
Ic.57



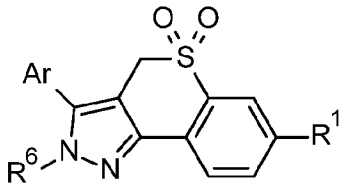
Ic.61



Ic.62

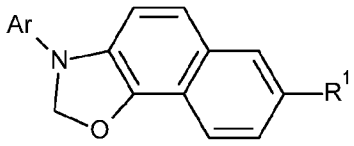


Ic.60

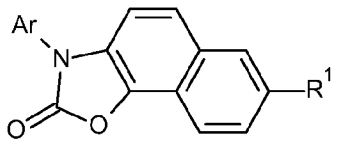


Ic.63

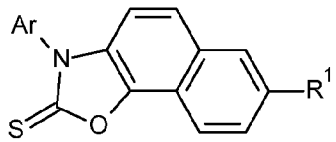
A further particular group of embodiments relates to the compounds of formulae Id.1 to Id.4 as described below, to their N-oxides, their stereoisomers, their tautomers and to the agriculturally or veterinarily acceptable salt thereof. In formulae Id.1 to Id.4 Ar, R^1 and R^6 are as defined above and hereinafter. R^6 is in particular C_1-C_4-alkyl, such asCH_3, C_2H_5, n-propyl or isopropyl, C_3-C_6-cycloalkyl such as cyclopropyl, cyclobutyl, or cyclohexyl, C_3-C_6-cycloalkymethyl, such as cyclopropylmethyl, cyclobutylmethyl or cyclopentylmethyl, or benzyl, especially C_1-C_4-alkyl.



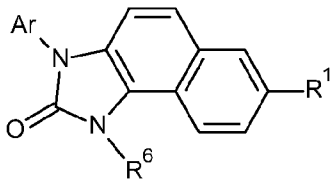
Id.1



Id.2



Id.3



Id.4

Amongst formulae Ia.1 to Ia.56 particular preference is given to the following formulae Ia.1, Ia.2, Ia.3, Ia.4, Ia.5, Ia.6, Ia.25, Ia.26, Ia.27, Ia.28, Ia.29, Ia.30, Ia.49 and Ia.50.

Amongst formulae Ib.1 to Ib.18 particular preference is given to the following formulae: Ib.1, Ib.2, Ib.3, Ib.4, Ib.12, Ib.15, Ib.17 and Ib.18.

Amongst formulae Ic.1 to Ic.63 particular preference is given to the following formulae: Ic.1, Ic.2, Ic.13, Ic.14, Ic.45, Ic.46, Ic.57, Ic.58 and Ic.59

Amongst formulae Id.1 to Id.4, particular preference is given to the following formulae: Id.2 and 1d.3

In formula I as well as in formulae Ia, Ia.1 to Ia.56, Ib, Ib.1 to Ib.18, Ic, Ic.1 to Ic.63, I.d and Id.1 to Id.4 Ar is in particular selected from the group consisting of phenyl, pyrimidinyl, pyridazinyl and pyridyl, which are unsubstituted or carry 1, 2 or 3 radicals R^{Ar}. R^{Ar} is in particular selected from the group consisting of halogen, such as F, Cl or Br, OH, CN, NO_2, SCN, C_1-C_6-al-

kyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$, C_1-C_6-alkoxy, in particular C_1-C_3-alkoxy such as methoxy, ethoxy, n-propyloxy or isopropyloxy, C_1-C_6-haloalkoxy, in particular fluorinated C_1-C_3-alkoxy such as OCH_2F, $OCHF_2$, OCF_3, OCH_2CF_3, OCF_2CHF_2, OC_2F_5, $OCH_2CH_2CF_3$, $OCH_2CF_2CHF_2$, or $OCH_2CF_2CF_3$, and S-R^e, where R^e is C_1-C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, or C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$ or $CH_2CF_2CF_3$.

In formula I as well as in formulae Ia, Ia.1 to Ia.56, Ib, Ib.1 to Ib.18, Ic, Ic.1 to Ic.63, I.d and Id.1 to Id.4 Ar is especially selected from the group consisting of phenyl, which carries one radical R^{Ar} in the 4-position, 3-pyridyl and 3-pyridazinyl, which carry one radical R^{Ar} in the 6-position and where phenyl, 3-pyridyl and 3-pyridazinyl may carry 1 or 2 further radicals R^{Ar}. In this context, R^{Ar} is in particular selected from the group consisting of halogen, such as F, Cl or Br, C_1-C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$, C_1-C_6-alkoxy, in particular C_1-C_3-alkoxy such as methoxy, ethoxy, n-propyloxy or isopropyloxy, C_1-C_6-haloalkoxy, in particular fluorinated C_1-C_3-alkoxy such as OCH_2F, $OCHF_2$, OCF_3, OCH_2CF_3, OCF_2CHF_2, OC_2F_5, $OCH_2CH_2CF_3$, $OCH_2CF_2CHF_2$, or $OCH_2CF_2CF_3$, and S-R^e, where R^e is C_1-C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, or C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$ or $CH_2CF_2CF_3$. In this context, the radical R^{Ar} in the 4-position of phenyl is preferably selected from the group consisting of C_1-C_4-haloalkyl, especially fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$; C_1-C_4-haloalkoxy, especially fluorinated C_1-C_3-alkoxy such as OCH_2F, $OCHF_2$, OCF_3, OCH_2CF_3, OCF_2CHF_2, OC_2F_5, $OCH_2CH_2CF_3$, $OCH_2CF_2CHF_2$, or $OCH_2CF_2CF_3$, and S-R^e, where R^e is C_1-C_4-haloalkyl, especially fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$. In this context, the radical R^{Ar} in the 6-position of 3-pyridyl or 3-pyridazinyl is preferably selected from the group consisting of C_1-C_4-haloalkyl, especially fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$; C_1-C_4-haloalkoxy, especially fluorinated C_1-C_3-alkoxy such as OCH_2F, $OCHF_2$, OCF_3, OCH_2CF_3, OCF_2CHF_2, OC_2F_5, $OCH_2CH_2CF_3$, $OCH_2CF_2CHF_2$, or $OCH_2CF_2CF_3$, and S-R^e, where R^e is C_1-C_4-haloalky, especially fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$.

The further 1 or 2 radicals R^{Ar}, if present, are preferably selected from the group consisting of halogen, such as F, Cl or Br, C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$, C_1-C_3-alkoxy such as methoxy, ethoxy, n-propyloxy or isopropyloxy, and fluorinated C_1-C_3-alkoxy such as OCH_2F, $OCHF_2$, OCF_3, OCH_2CF_3, OCF_2CHF_2, OC_2F_5, $OCH_2CH_2CF_3$, $OCH_2CF_2CHF_2$, or $OCH_2CF_2CF_3$,

Examples of particularly preferred radicals Ar are the radicals Ar-1 to Ar-9 summarized in Table A below.

Table A: Examples of radicals Ar

Ar-1	4-trifluoromethylphenyl
Ar-2	4-trifluoromethoxyphenyl
Ar-3	4-(pentafluoroethoxy)phenyl
Ar-4	4-(trifluoromethylthio)phenyl
Ar-5	6-trifluoro-3-pyridyl
Ar-6	6-trifluoromethoxy-3-pyridyl
Ar-7	6-(pentafluoroethoxy)-3-pyridyl
Ar-8	6-(trifluoromethylthio)-3-pyridyl
Ar-9	6-(trifluoromethylthio)-3-pyridazinyl
Ar-10	3-trifluoromethylpyridazinyl
Ar-11	5-trifluoromethyl-1,3,4-thiadiazolyl

In a first particular group (1) of embodiments, the radical R^1 in formula I as well as the radical R^1 in formulae Ia, Ia.1 to Ia.56, Ib, Ib.1 to Ib.18, Ic, Ic.1 to Ic.63, I.d and Id.1 to Id.4, is a moiety of the formula -X'-Y-Z^2-R^{12}.

In this group (1) of embodiments, X' is preferably selected from the group consisting of –N(R^{x2})-C(=O)-, –N(R^{x2})-C(=S)- and -C(R^{x3})=N-.

In the context of group (1) of embodiments R^{x2} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{x2} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

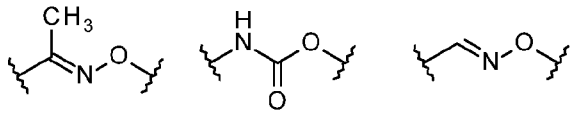
In the context of group (1) of embodiments R^{x3} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl and alkoxy parts of the last 3 mentioned radicals are unsubstituted or partially or completely halogenated, and phenyl, where the phenyl ring is unsubstituted or carries 1, 2 or 3 radicals R^f. In this context R^{x3} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

Especially, X' is –NH-C(=O)-, -C(CH_3)=N- or -CH=N-.

In this group (1) of embodiments, Y is preferably a single bond.

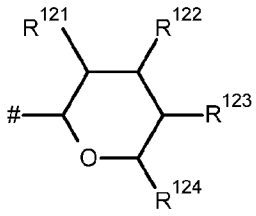
In this group (1) of embodiments, Z^2 is preferably O.

In this group (1) of embodiments the moiety of the formula -X'-Y-Z^2- is preferably a group of the formulae XYZ-1, XYZ-2 or XYZ-0:



XYZ-0 XYZ-1 XYZ-2

In this group (1) of embodiments, R^{12} is a radical of the formula (A),



(A)

wherein # indicates the point of attachment to Z^2 and wherein R^{121}, R^{122}, $R^{123}$and R^{124} are as defined above and wherein R^{121}, R^{122}, $R^{123}$and R^{124} independently of each other and especially in combination preferably have the following meanings:

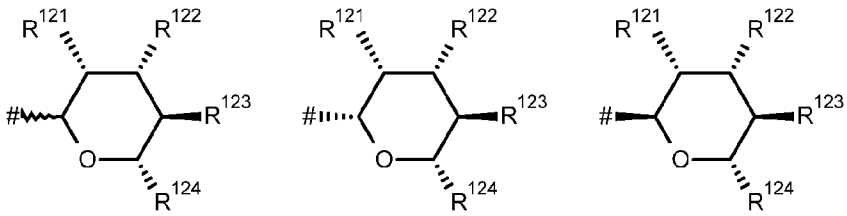
R^{121} is C_1-C_4-alkoxy, in particular methoxy or ethoxy;

R^{122} is C_1-C_4-alkoxy, such as methoxy, ethoxy, n-propoxyx or isopropoxy, or C_3-C_4-alkenyloxy, such as allyloxy, with R^{122} in particular being methoxy, ethoxy or n-propoxy;

R^{123} is OH, C_1-C_4-alkoxy, such as methoxy or ethoxy, or C_3-C_4-alkenyloxy, such as allyloxy, with R^{123} in particular being methoxy or ethoxy;

R^{124} is C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-alkoxy-C_1-C_4-alkyl, such as methoxymethyl, ethoxymethyl, 2-methoxyethyl or 2-ethoxyethyl, with R^{124} in particular being methyl;.

In this group (1) of embodiments, R^{12} is in particular a radical of the formula (A'), e.g. (A'-a) or (A'-b)



(A') (A'-a) (A'-b)

wherein # indicates the point of attachment to Z^2 and wherein R^{121}, R^{122}, $R^{123}$and R^{124} are as defined above and wherein R^{121}, R^{122}, $R^{123}$and R^{124} independently of each other and especially in combination preferably have the following meanings:

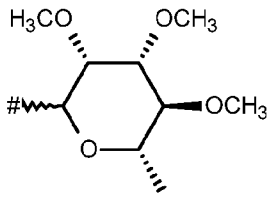
R^{121} is C_1-C_4-alkoxy, in particular methoxy or ethoxy;

R^{122} is C_1-C_4-alkoxy, such as methoxy, ethoxy, n-propoxyx or isopropoxy, or C_3-C_4-alkenyloxy, such as allyloxy, with R^{122} in particular being methoxy, ethoxy or n-propoxy;

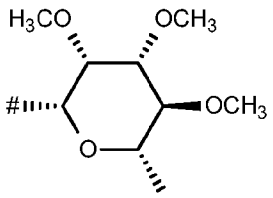
R^{123} is OH, C_1-C_4-alkoxy, such as methoxy or ethoxy, or C_3-C_4-alkenyloxy, such as allyloxy, with R^{123} in particular being methoxy or ethoxy;

R^{124} is C_1-C_4-alkyl, such as CH_3 or C_2H_5, or C_1-C_4-alkoxy-C_1-C_4-alkyl, such as methoxymethyl, ethoxymethyl, 2-methoxyethyl or 2-ethoxyethyl, with R^{124} in particular being methyl.

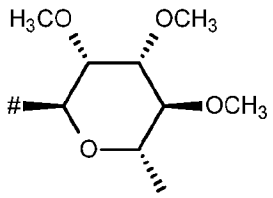
Particular examples of radicals R^{12} are the following radicals A'-1, A'-1a, A'-1b, A'-2, A'-2a, A'-2b, A'-3, A'-3a and A'-3b:



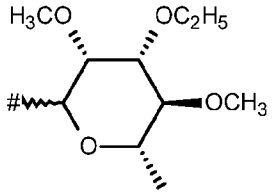
(A'-1)



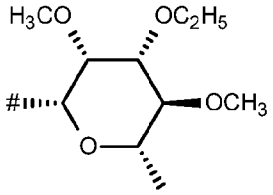
(A'-1a)



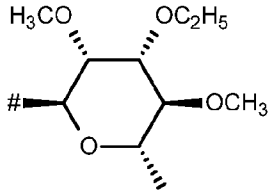
(A'-1b)



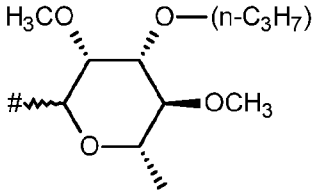
(A'-2)



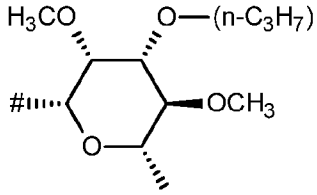
(A'-2a)



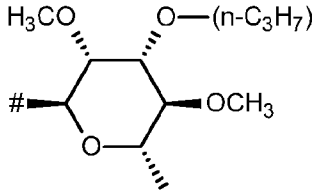
(A'-2b)



(A'-3)



(A'-3a)



(A'-3b)

In a second particular group (2) of embodiments, the radical R^1 in formula I as well as the radical R^1 in formulae Ia, Ia.1 to Ia.56, Ib, Ib.1 to Ib.18, Ic, Ic.1 to Ic.63, I.d and Id.1 to Id.4, is a moiety of the formula -X-Y-Z^1-R^{11}.

In this group (2) of embodiments, X' is preferably selected from the group consisting of CHR^{xa}, $CH(R^{xa})CH(R^{xa})$ and cyclopropane-1,2-diyl. In this context R^{xa}, independently of each other, preferably are selected from the group consisting of hydrogen and C_1-C_4-allkyl, in particular from the group consisting of hydrogen and methyl. In this context, R^{xa} is especially hydrogen. In this group (2) of embodiments, X' is in particular selected from the group consisting of CH_2, CH_2CH_2 and cyclopropane-1,2-diyl.

In this group (2) of embodiments, Y is preferably selected from the group consisting of –$N(R^{y1})$-C(=O)-, –$N(R^{y2})$-C(=S)-, –$N(R^{y1})$-C(=O)-$N(R^{y1})$-C(=O)-, –$N(R^{y1})$-C(=O)-$N(R^{y2})$-C(=S)-, -N=C(O-R^{y3})- and -N=C(S-R^{y3})-.

In the context of group (2) of embodiments R^{y1}, R^{y2}, independently of each other, are preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{y1}, R^{y2} are in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In the context of group (2) of embodiments R^{y3} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely

halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{y3} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In this group (2) of embodiments, Y is especially selected from the group consisting of –NH-C(=O)-, –NH-C(=S)-, –NH-C(=O)-NH-C(=O)-, –NH-C(=O)-NH-C(=S)-, -N=C(O-R^{y3})- and -N=C(S-R^{y3})-.

In this group (2) of embodiments, Z^1 is preferably selected from the group consisting of O and –N-R^{z1}.

In the context of group (2) of embodiments R^{z1} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{z1} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In the context of group (2) of embodiments, R^{z1} together with R^{y3}, if present, may also form a linear C_1-C_4-alkylene group, such as CH_2, CH_2CH_2 or $CH_2CH_2CH_2$ or a linear C_2-C_4-alkenylene group, such as CH=CH or CH_2-CH=CH, where in the alkylene and alkenylene groups a CH_2 moiety may be replaced by a carbonyl group or a group =N-R' and/or wherein the alkylene group and the alkenylene group may be substituted by 1, 2, 3 or 4 radicals R^{hh} which are preferably OH or C_1-C_3-alkyl such asCH_3, C_2H_5 or n-propyl. In this context R' is preferably selected from hydrogen, CN and C_1-C_4-alkyl.

In a third particular group (3) of embodiments, the radical R^1 in formula I as well as the radical R^1 in formulae Ia, Ia.1 to Ia.56, Ib, Ib.1 to Ib.18, Ic, Ic.1 to Ic.63, I.d and Id.1 to Id.4, is a moiety of the formula -X'-Y-Z^3-R^{11}.

In this group (3) of embodiments, X' is preferably selected from the group consisting of –N(R^{x2})-C(=O)- and –N(R^{x2})-C(=S)-.

In the context of group (3) of embodiments R^{x2} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{x2} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In this group (3) of embodiments, X' is especially –NH-C(=O)- or –NH-C(=S)-.

In this group (3) of embodiments, Y is preferably a single bond.

In this group (3) of embodiments, Z^3 is preferably a bivalent moiety of the formula C(R^{z3})=C(S-R^{z4})-N(R^{z5}). In the context of group (3) of embodiments R^{z3}, R^{z4} and R^{z5} are as defined above and have in particular the following meanings:

R^{z3} is selected from the group consisting of hydrogen, halogen, such as F or Cl, CN, C_1-C_6-alkyl and C_1-C_6-haloalkyl, more preferably from the group consisting of hydrogen, F, Cl, CN and methyl and especially hydrogen or CN;

R^{z4} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and C_1-C_6-haloalkyl, more preferably from the group consisting of C_1-C_4-alkyl and C_1-C_4-haloalkyl, especiallyCH_3, C_2H_5 or trifluoromethyl;

R^{z5} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{z5} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In the context of group (3) of embodiments, R^{z4} together with R^{z5} may also form a linear C_1-C_4-alkylene group, such as CH_2, CH_2CH_2 or $CH_2CH_2CH_2$ or a linear C_2-C_4-alkenylene group, such as CH=CH or CH_2-CH=CH, where in the alkylene and alkenylene groups a CH_2 moiety may be replaced by a carbonyl group or a group =N-R' and/or wherein the alkylene group and the alkenylene group may be substituted by 1, 2, 3 or 4 radicals R^{hh} which are preferably OH, halogen or C_1-C_3-alkyl such asCH_3, C_2H_5 or n-propyl. In this context R' is preferably selected from hydrogen, CN and C_1-C_4-alkyl.

In groups (2) and (3) of embodiments preferably at least one of X' and Y is different from a single bond.

In a fourth particular group (4) of embodiments, the radical R^1 in formula I as well as the radical R^1 in formulae Ia, Ia.1 to Ia.56, Ib, Ib.1 to Ib.18, Ic, Ic.1 to Ic.63, I.d and Id.1 to Id.4, is a moiety of the formula -X'-Y'-Z^4-R^{11}.

In this group (4) of embodiments, X' is preferably selected from the group consisting of –N(R^{x2})-C(=O)-, –N(R^{x2})-C(=S)- and -C(R^{x3})=N-.

In the context of group (4) of embodiments R^{x2} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{x2} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In the context of group (4) of embodiments R^{x3} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl and alkoxy parts of the last 3 mentioned radicals are unsubstituted or partially or completely halogenated,and phenyl, where the phenyl ring is unsubstituted or carries 1, 2 or 3 radicals R^f. In this context R^{x3} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In this group (4) of embodiments, X' is especially –NH-C(=O)-, –NH-C(=S)- or -CH=N-.

In this group (4) of embodiments, Y' is preferably N-R^{y4}. In this context R^{y4} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the

alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{y4} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In this group (4) of embodiments, Z^4 is $C(S\text{-}R^{z6})=N$, wherein R^{11} is bound to the nitrogen atom. In this context R^{z6} is preferably selected from the group consisting of C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl parts of the last two mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{z6} is in particular C_1-C_4-alkyl or C_1-C_4-haloalkyl, especiallyCH_3, C_2H_5 or trifluoromethyl.

In the context of group (4) of embodiments, R^{y4} together with R^{z6} may also form a linear C_1-C_4-alkylene group, such as CH_2, CH_2CH_2 or $CH_2CH_2CH_2$ or a linear C_2-C_4-alkenylene group, such as CH=CH or CH_2-CH=CH, where in the alkylene and alkenylene groups a CH_2 moiety may be replaced by a carbonyl group or a group =N-R' and/or wherein the alkylene group and the alkenylene group may be substituted by 1, 2, 3 or 4 radicals R^{hh} which are preferably OH, halogen or C_1-C_3-alkyl such asCH_3, C_2H_5 or n-propyl. In this context R' is preferably selected from hydrogen, CN and C_1-C_4-alkyl.

In a fifth particular group (5) of embodiments, the radical R^1 in formula I as well as the radical R^1 in formulae Ia, Ia.1 to Ia.56, Ib, Ib.1 to Ib.18, Ic, Ic.1 to Ic.63, I.d and Id.1 to Id.4, is a moiety of the formula -X'-Y''-Z^5-R^{11}.

In this group (5) of embodiments, X' is preferably selected from the group consisting of –$N(R^{x2})$-C(=O)-, –$N(R^{x2})$-C(=S)- and -$C(R^{x3})$=N-. In particular X' is -$C(R^{x3})$=N-.

In the context of group (5) of embodiments R^{x2} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In this context R^{x2} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In the context of group (5) of embodiments R^{x3} is preferably selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl and alkoxy parts of the last 3 mentioned radicals are unsubstituted or partially or completely halogenated,and phenyl, where the phenyl ring is unsubstituted or carries 1, 2 or 3 radicals R^f. In this context R^{x3} is in particular hydrogen or C_1-C_4-alkyl, especially hydrogen.

In this group (5) of embodiments, X' is especially -CH=N-.

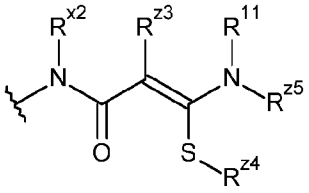
In this group (5) of embodiments, Y'' is preferably -N=C(O-R^{y5})- or -N=C(S-R^{y5})-, where the nitrogen atoms of these radicals are bound to X'.

In this group (5) of embodiments, Z^5 is N-R^{z7}.

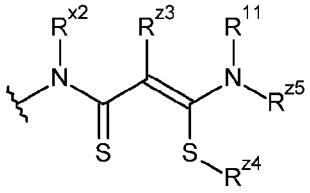
In group (5) of embodiments R^{y5} and R^{z7} are as defined above and in particular form $C(R^h)_2$, A^0-C(=NR') or A^0-$C(R^h)$(OH), where R' is as defined above and where

A^0 is $C(R^h)_2$ or $C(R^h)_2C(R^h)_2$, where the R^h is the last two moieties may be identical or different and where R^h is hydrogen or has one of the meanings given for R^{hh}, and where R^h is in particular selected from the group consisting of hydrogen, methyl and trifluoromethyl.

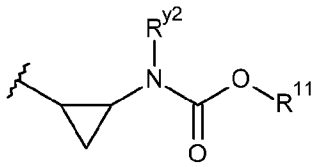
In these groups (2) to (5) of embodiments the radical R^1 is preferably selected from the moieties of the formulae R^1-1 to R^1-39:



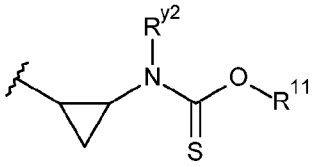
R^1-1



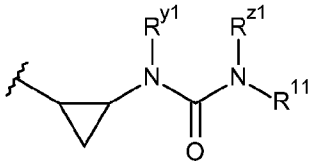
R^1-2



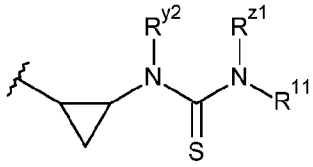
R^1-3



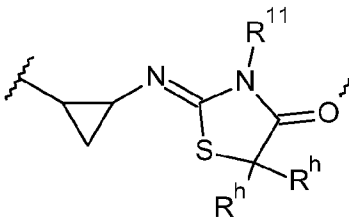
R^1-4



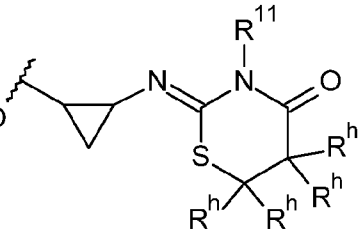
R^1-5



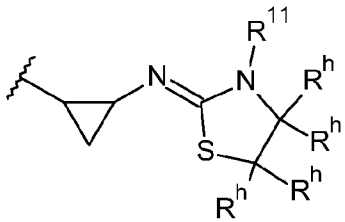
R^1-6



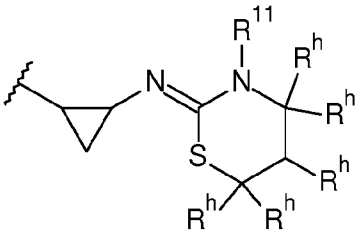
R^1-7



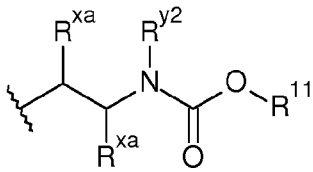
R^1-8



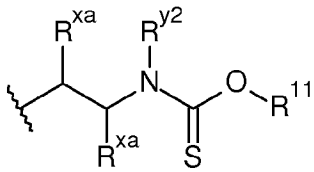
R^1-9



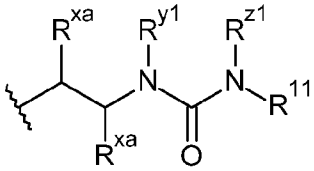
R^1-10



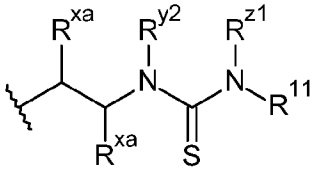
R^1-11



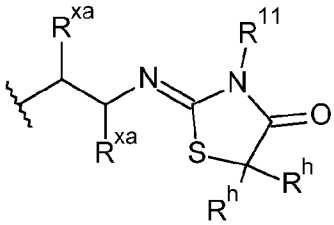
R^1-12



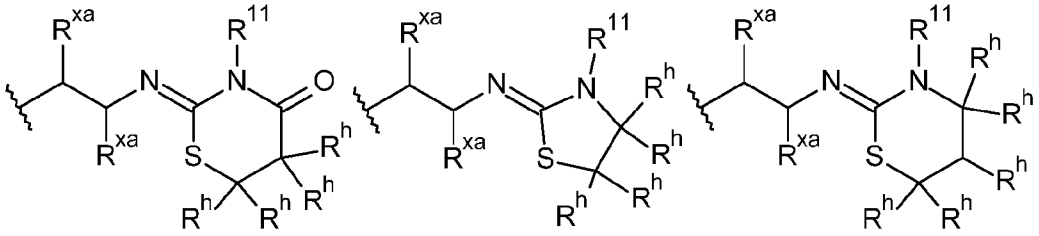
R^1-13



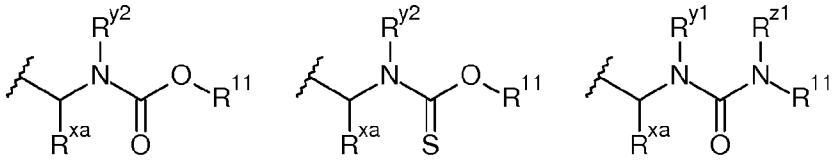
R^1-14



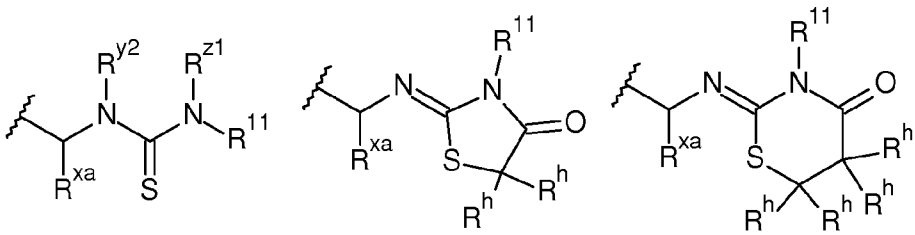
R^1-15



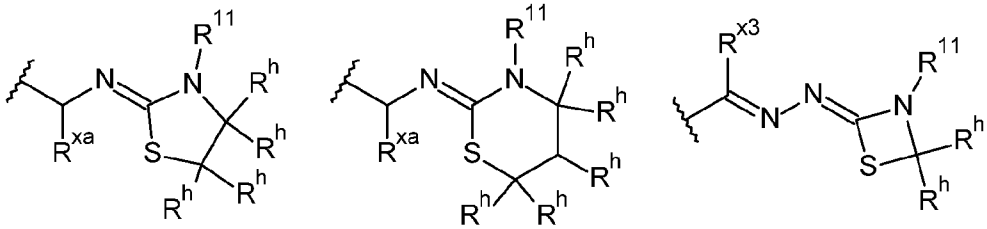
R1-16 R1-17 R1-18



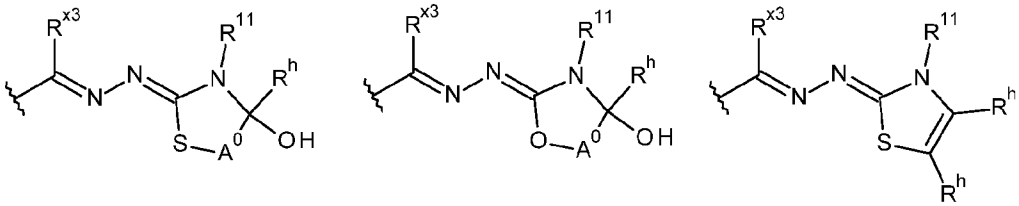
R1-19 R1-20 R1-21



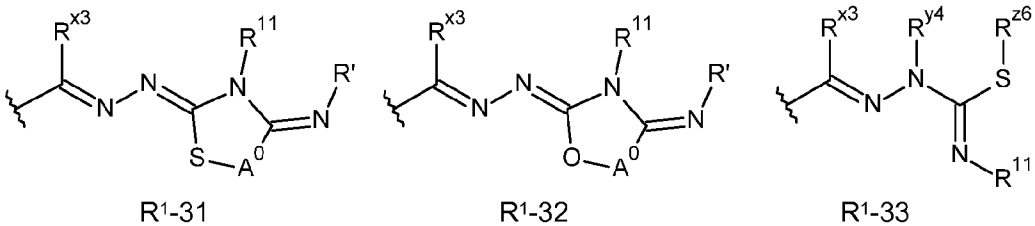
R1-22 R1-23 R1-24



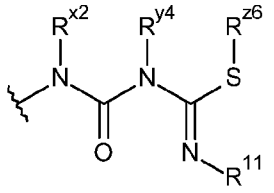
R1-25 R1-26 R1-27



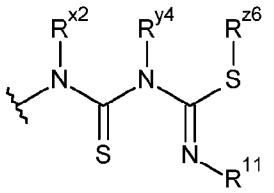
R1-28 R1-29 R1-30



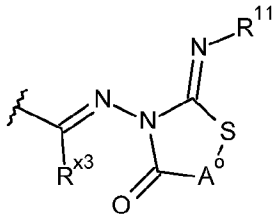
R1-31 R1-32 R1-33



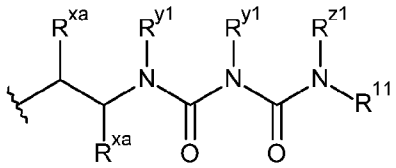
R1-34



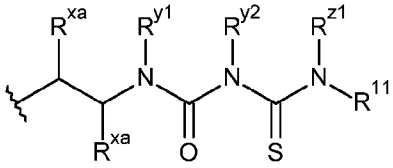
R1-35



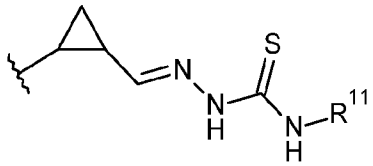
R1-36



R1-37



R1-38

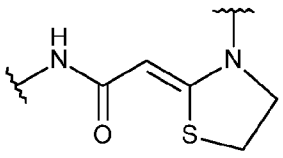


R1-39

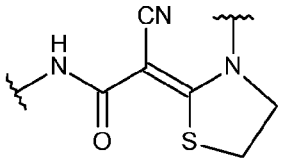
where

R', R^{11}, R^{x2},R^{x3}, R^{y1}, R^{y2}, R^{y3}, R^{y4}, R^{z1}, R^{z3}, R^{z4}, R^{z5} and R^{z6} are as defined above and in particular as defined for groups (2) to (5) of embodiments, A^0 is $C(R^h)_2$ or $C(R^h)_2C(R^h)_2$ and R^h, irrespectively of its occurrence, is selected from hydrogen or has one of the meanings given for R^{hh} and where R^h is in particular selected from the group consisting of hydrogen,CH_3, and trifluoromethyl.

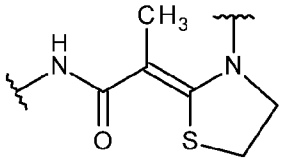
In these groups (2) to (5) of embodiments the moieties of the formulae -X-Y-Z^1-, -X'-Y-Z^3-, -X'-Y'-Z^4- and -X'-Y''-Z^5- are especially bivalent moieties of the formulae XYZ-3 to XYZ-66:



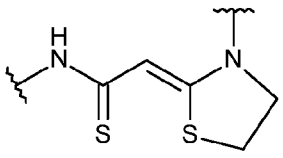
XYZ-3



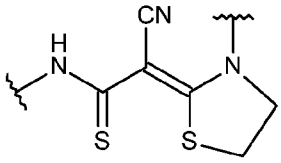
XYZ-4



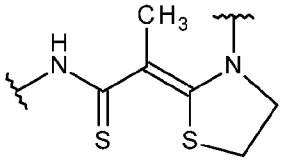
XYZ-5



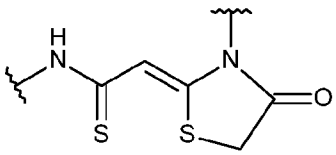
XYZ-6



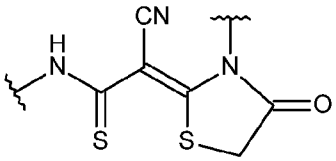
YXZ-7



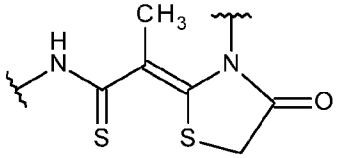
XYZ-8



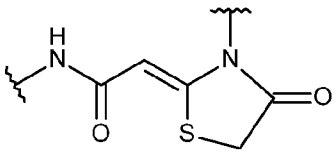
XYZ-9



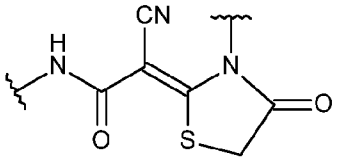
XYZ-10



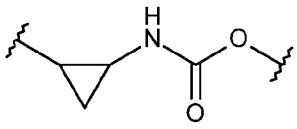
XYZ-11



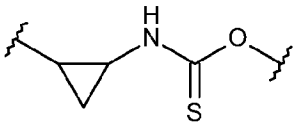
XYZ-13



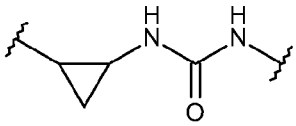
XYZ-14



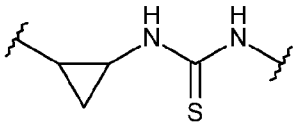
XYZ-12



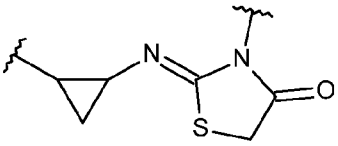
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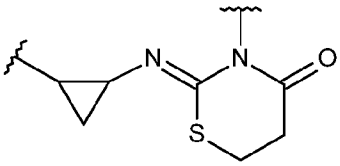
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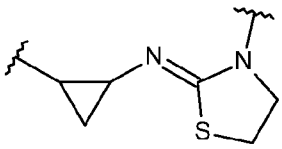
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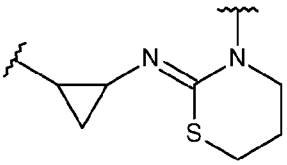
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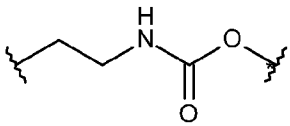
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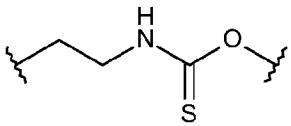
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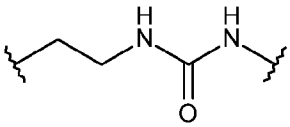
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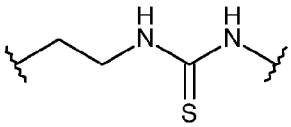
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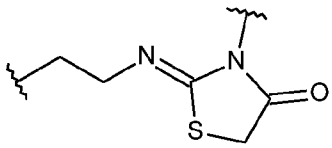
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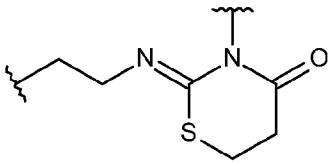
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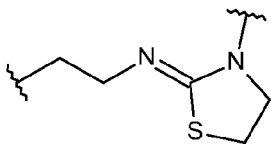
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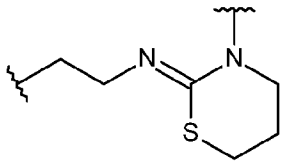
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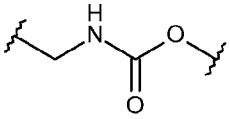
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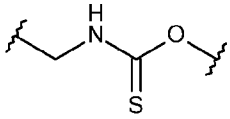
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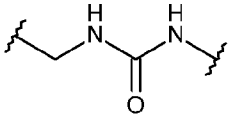
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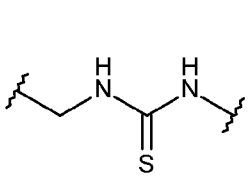
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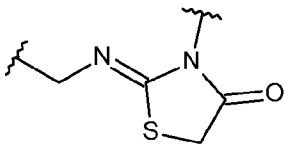
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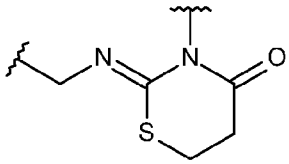
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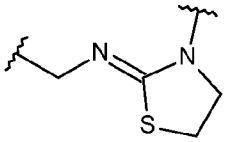
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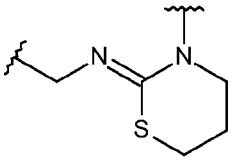
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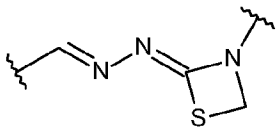
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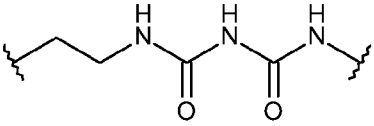
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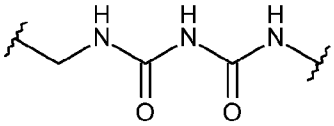
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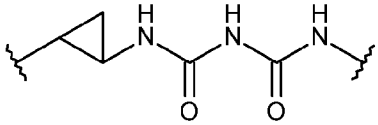
XYZ-38



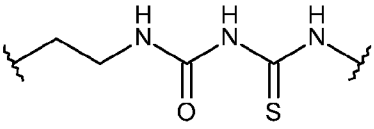
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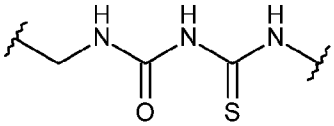
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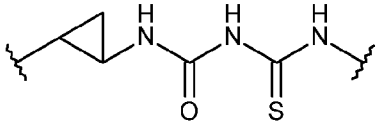
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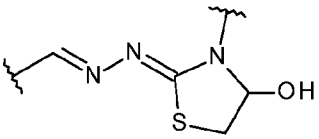
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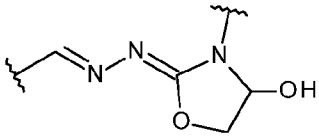
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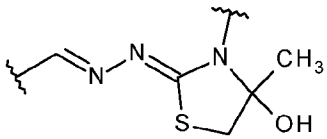
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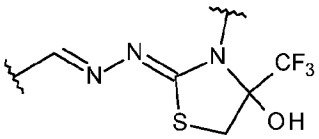
XYZ-45



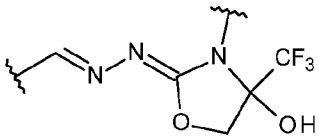
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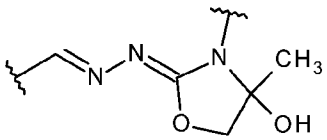
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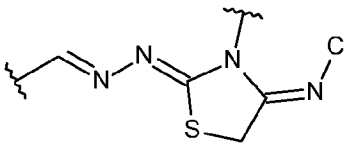
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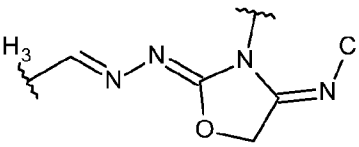
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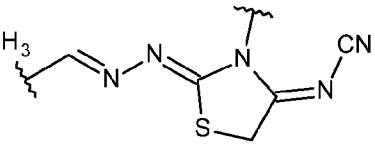
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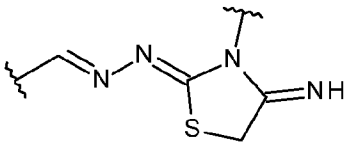
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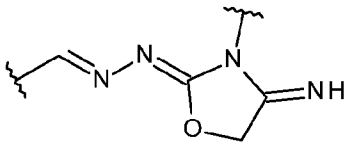
XYZ-52



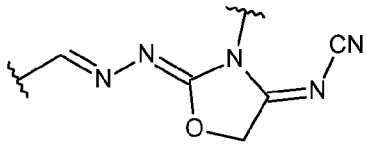
XYZ-53



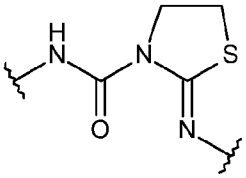
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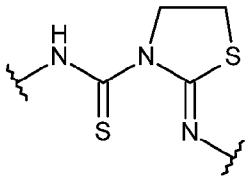
XYZ-55



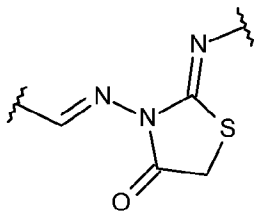
XYZ-56



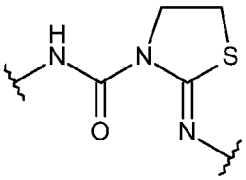
XYZ-57



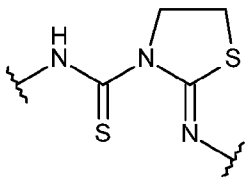
XYZ-58



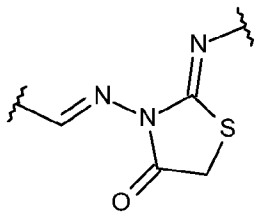
XYZ-59



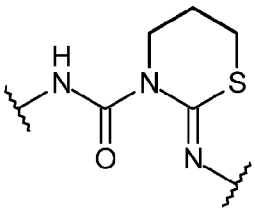
XYZ-60



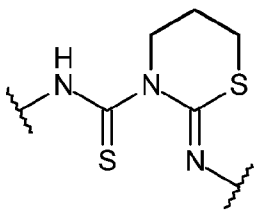
XYZ-61



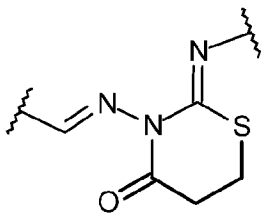
XYZ-62



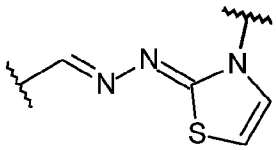
XYZ-63



XYZ-64



XYZ-65



XYZ-66

In these groups (2) to (5) of embodiments the radical R^{11} is in particular aryl, aryl-C_1-C_4-alkyl, hetaryl, or hetaryl-C_1-C_4-alkyl, where the aryl and hetaryl rings in the last 4 radicals are unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^g and where hetaryl in hetaryl or hetaryl-C_1-C_4-alkyl, is preferably a 5- or 6-membered monocyclic hetaryl such as pyridyl, pyrimidinyl, pyridazinyl, pyrrolyl, pyrazolyl, imidazolyl, oxazolyl, thiazolyl, isoxazolyl or isothiazolyl which 5- or 6-membered hetaryl is unsubstituted or carries 1, 2 or 3 radicals R^g.

In these groups (2) to (5) of embodiments the radical R^{11} is especially phenyl, benzyl, 1-phenylethyl, pyridyl, pyridyl-methyl and 1-(pyridyl)ethyl, where phenyl and pyridyl in the last 6 radicals may be unsubstituted or preferably carry 1, 2 or 3 radicals R^g.

In context of R^{11}, the radicals R^g are independently of each other selected from the group consisting of halogen, such as F, Cl or Br, C_1-C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$, C_1-C_6-alkoxy, in particular C_1-C_3-alkoxy such as methoxy, ethoxy, n-propyloxy or isopropyloxy, C_1-C_6-haloalkoxy, in particular fluorinated C_1-C_3-alkoxy such as OCH_2F, $OCHF_2$, OCF_3, OCH_2CF_3, OCF_2CHF_2, OC_2F_5, $OCH_2CH_2CF_3$, $OCH_2CF_2CHF_2$, or $OCH_2CF_2CF_3$, and S-R^e, where R^e is C_1-

C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, or C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$ or $CH_2CF_2CF_3$. If two or more radicals R^g are present on R^{11}, it is possible that the radicals R^g are identical or different.

Examples of particularly preferred radicals R^{11} are the radicals R^{11}-1 to R^{11}-29 summarized in Table B below.

Table B: Examples of radicals R^{11}

R^{11}-1	2-isopropylphenyl
R^{11}-2	2-trifluoromethyphenyl
R^{11}-3	2-ethylphenyl
R^{11}-4	2-methoxyphenyl
R^{11}-5	2,4-dichlorophenyl
R^{11}-6	2,5-dimethylphenyl
R^{11}-7	2,5-dichlorophenyl
R^{11}-8	2,6-dichlorophenyl
R^{11}-9	2,6-difluorophenyl
R^{11}-10	2,6-dimethylphenyl
R^{11}-11	2,4,6-trifluorophenyl
R^{11}-12	2,4,6-trichlorophenyl
R^{11}-13	2,4,6-trimethylphenyl
R^{11}-14	2-methyl-4-chlorophenyl
R^{11}-15	2-methyl-5-chlorophenyl

R^{11}-16	2-chloro-5-trifluoromethylphenyl
R^{11}-17	2,6-dimethyl-4-bromophenyl
R^{11}-18	1-(5-chloro-2-pyridyl)ethyl
R^{11}-19	1-(5-fluoro-2-pyridyl)ethyl
R^{11}-20	1-(5-methoxy-2-pyridyl)ethyl
R^{11}-21	1-(6-chloro-2-pyridyl)ethyl
R^{11}-22	1-naphthyl
R^{11}-23	2-chlorophenyl
R^{11}-24	2-fluorophenyl
R^{11}-25	2-methylphenyl
R^{11}-26	2,4-difluorophenyl
R^{11}-27	2,4-dimethylphenyl
R^{11}-28	2-methyl-5-methoxyphenyl
R^{11}-29	2-isopropyl-5-methyl-phenyl

In formulae I, Ia, Ib, Ic and Id, the variable k is preferably 0. If k is 1, 2 or 3, the variable R is preferably selected from the group consisting of halogen such as F, Cl or Br, CN, NO_2, SCN, C_1-C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$, C_1-C_6-alkoxy, in particular C_1-C_3-alkoxy such as methoxy, ethoxy, n-propyloxy or isopropyloxy, C_1-C_6-haloalkoxy, in particular fluorinated C_1-C_3-alkoxy such as OCH_2F, $OCHF_2$, OCF_3, OCH_2CF_3, OCF_2CHF_2, OC_2F_5, $OCH_2CH_2CF_3$, $OCH_2CF_2CHF_2$, or $OCH_2CF_2CF_3$, and S-R^e, where R^e is C_1-C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, or C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$ or $CH_2CF_2CF_3$. For k = 2 or 3 it will be possible that the radicals R are identical or different.

Apart from that, the variables T, R^{x1}, R^a, R^b, R^c, R^d, R^e, R^f and R^g independently of each other, preferably have one of the following meanings:

Preferably, T is CH_2, CH_2CH_2 or cyclopropane-1,2-diyl.

Preferably, R^{x1} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloal-

koxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2 or 3 radicals R^f. In particular, R^{x1} is hydrogen or C_1-C_4-alkyl, especially hydrogen.

Preferably, each R^a is independently selected from the group consisting of C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_3-C_8-cycloalkyl, C_3-C_8-halocycloalkyl, benzyl and phenyl, where the phenyl ring in the last two radicals is unsubstituted or may be substituted by 1, 2 or 3 radicals R^f.

Preferably, R^c and R^d are, independently of each other and independently of their occurrence, selected from the group consisting of hydrogen, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_3-C_6-cycloalkyl-CH_2, C_3-C_6-cycloalkyl, benzyl and phenyl, where the phenyl ring in the last two radicals is unsubstituted or may be substituted by 1, 2 or 3 radicals R^f; or

R^b and R^c together with the nitrogen atom to which they are bound may form a saturated 5-, 6- or 7-membered saturated N-bound heterocycle, which may contain 1 or 2 further heteroatoms selected from N, O and S as ring members, where the heterocyclic ring may carry 1, 2, 3 or 4 substituents selected from C_1-C_4-alkyl, examples including 1-pyrrolidinyl, 1-piperidinyl, 1-piperazinyl, 4-methyl-1-piperazinyl, 4-morpholinyl and 4-thiomorpholinyl.

Preferably, each R^d is independently selected from the group consisting of C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_3-C_8-cycloalkyl, benzyl and phenyl, where the phenyl ring in the last two radicals is unsubstituted or may be substituted by 1, 2 or 3 radicals R^f.

Preferably, each R^e is independently selected from the group consisting of C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_3-C_8-cycloalkyl, benzyl and phenyl, where the phenyl ring in the last two radicals is unsubstituted or may be substituted by 1, 2 or 3 radicals R^f.

Preferably each R^f is independently selected from the group consisting of halogen, in particular F, Cl or Br, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxycarbonyl, cyano, C_1-C_4-alkoxy and C_1-C_4-haloalkoxy, especially from the group consisting of halogen, in particular F, Cl or Br,CH_3, halomethyl, e.g. trifluoromethyl, difluoromethyl or bromodifluoromethyl, cyano, methoxy and halomethoxy, e.g. trifluoromethoxy, difluoromethoxy or fluoromethoxy. If two or more radicals R^f are present, it is possible that the radicals R^f are identical or different.

R^g are independently of each other selected from the group consisting of halogen, such as F, Cl or Br, C_1-C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$, or $CH_2CF_2CF_3$, C_1-C_6-alkoxy, in particular C_1-C_3-alkoxy such as methoxy, ethoxy, n-propyloxy or isopropyloxy, C_1-C_6-haloalkoxy, in particular fluorinated C_1-C_3-alkoxy such as OCH_2F, $OCHF_2$, OCF_3, OCH_2CF_3, OCF_2CHF_2, OC_2F_5, $OCH_2CH_2CF_3$, $OCH_2CF_2CHF_2$, or $OCH_2CF_2CF_3$, and S-R^e, where R^e is C_1-C_6-alkyl, in particular C_1-C_3-alkyl such asCH_3, C_2H_5, n-propyl or isopropyl, or C_1-C_6-haloalkyl, in particular fluorinated C_1-C_3-alkyl such as CH_2F, CHF_2, CF_3, CH_2CF_3, CF_2CHF_2, C_2F_5, $CH_2CH_2CF_3$, $CH_2CF_2CHF_2$ or $CH_2CF_2CF_3$. If two or more radicals R^g are present, it is possible that the radicals R^g are identical or different.

Examples of compounds of the present invention are given in the tables 1 to 164 below:

Table 1: Compounds of the formula Ia.1, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical -XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 2: Compounds of the formula Ia.2, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 3: Compounds of the formula Ia.3, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 4: Compounds of the formula Ia.4, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 5: Compounds of the formula Ia.5, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 6: Compounds of the formula Ia.6, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 7: Compounds of the formula Ia.7, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 8: Compounds of the formula Ia.8, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 9: Compounds of the formula Ia.9, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 10: Compounds of the formula Ia.10, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 11: Compounds of the formula Ia.11, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 12: Compounds of the formula Ia.12, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 13: Compounds of the formula Ia.13, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 14: Compounds of the formula Ia.14, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 15: Compounds of the formula Ia.15, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 16: Compounds of the formula Ia.16, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 17: Compounds of the formula Ia.17, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 18: Compounds of the formula Ia.18, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 19: Compounds of the formula Ia.19, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 20: Compounds of the formula Ia.20, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 21: Compounds of the formula Ia.21, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 22: Compounds of the formula Ia.22, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 23: Compounds of the formula Ia.23, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 24: Compounds of the formula Ia.24, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 25: Compounds of the formula Ia.25, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 26: Compounds of the formula Ia.26, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 27: Compounds of the formula Ia.27, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 28: Compounds of the formula Ia.28, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 29: Compounds of the formula Ia.29, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 30: Compounds of the formula Ia.30, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 31: Compounds of the formula Ia.31, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 32: Compounds of the formula Ia.32, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 33: Compounds of the formula Ia.33, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 34: Compounds of the formula Ia.34, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 35: Compounds of the formula Ia.31, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 36: Compounds of the formula Ia.32, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 37: Compounds of the formula Ia.33, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 38: Compounds of the formula Ia.34, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 39: Compounds of the formula Ia.35, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 40: Compounds of the formula Ia.36, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 41: Compounds of the formula Ia.37, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 42: Compounds of the formula Ia.38, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 43: Compounds of the formula Ia.39, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 44: Compounds of the formula Ia.40, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 45: Compounds of the formula Ia.41, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 46: Compounds of the formula Ia.42, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 47: Compounds of the formula Ia.43, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 48: Compounds of the formula Ia.44, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 49: Compounds of the formula Ia.45, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 50: Compounds of the formula Ia.46, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 51: Compounds of the formula Ia.43, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 52: Compounds of the formula Ia.44, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 53: Compounds of the formula Ia.45, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 54: Compounds of the formula Ia.46, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 55: Compounds of the formula Ia.47, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 56: Compounds of the formula Ia.48, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 57: Compounds of the formula Ia.49, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 58: Compounds of the formula Ia.50, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 59: Compounds of the formula Ia.51, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 60: Compounds of the formula Ia.52, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 61: Compounds of the formula Ia.53, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 62: Compounds of the formula Ia.54, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 63: Compounds of the formula Ia.55, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 64: Compounds of the formula Ia.56, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 65: Compounds of the formula Ib.1, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 66: Compounds of the formula Ib.2, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 67: Compounds of the formula Ib.3, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 68: Compounds of the formula Ib.4, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 69: Compounds of the formula Ib.5, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 70: Compounds of the formula Ib.6, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 71: Compounds of the formula Ib.7, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 72: Compounds of the formula Ib.8, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 73: Compounds of the formula Ib.9, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 74: Compounds of the formula Ib.10, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 75: Compounds of the formula Ib.11, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 76: Compounds of the formula Ib.12, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 77: Compounds of the formula Ib.13, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^3 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 78: Compounds of the formula Ib.14, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 79: Compounds of the formula Ib.15, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 80: Compounds of the formula Ib.16, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 81: Compounds of the formula Ib.17, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 82: Compounds of the formula Ib.18, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 83: Compounds of the formula Ic.1, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 84: Compounds of the formula Ic.2, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 85: Compounds of the formula Ic.3, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 86: Compounds of the formula Ic.4, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 87: Compounds of the formula Ic.5, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 88: Compounds of the formula Ic.6, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 89: Compounds of the formula Ic.7, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 90: Compounds of the formula Ic.8, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 91: Compounds of the formula Ic.9, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 92: Compounds of the formula Ic.10, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 93: Compounds of the formula Ic.7, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 94: Compounds of the formula Ic.8, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 95: Compounds of the formula Ic.9, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 96: Compounds of the formula Ic.10, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 97: Compounds of the formula Ic.11, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 98: Compounds of the formula Ic.12, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 99: Compounds of the formula Ic.13, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 100: Compounds of the formula Ic.14, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 101: Compounds of the formula Ic.15, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 102: Compounds of the formula Ic.16, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 103: Compounds of the formula Ic.17, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 104: Compounds of the formula Ic.18, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 105: Compounds of the formula Ic.19, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 106: Compounds of the formula Ic.20, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 107: Compounds of the formula Ic.21, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 108: Compounds of the formula Ic.22, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 109: Compounds of the formula Ic.19, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 110: Compounds of the formula Ic.20, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 111: Compounds of the formula Ic.21, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 112: Compounds of the formula Ic.22, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 113: Compounds of the formula Ic.23, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 114: Compounds of the formula Ic.24, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 115: Compounds of the formula Ic.25, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 116: Compounds of the formula Ic.26, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 117: Compounds of the formula Ic.27, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 118: Compounds of the formula Ic.28, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 119: Compounds of the formula Ic.29, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 120: Compounds of the formula Ic.30, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 121: Compounds of the formula Ic.31, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 122: Compounds of the formula Ic.32, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 123: Compounds of the formula Ic.33, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 124: Compounds of the formula Ic.34, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 125: Compounds of the formula Ic.31, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} is methyl R^1 is a radical -

XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 126: Compounds of the formula Ic.32, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^{Q2} is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 127: Compounds of the formula Ic.33, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^{Q2} is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 128: Compounds of the formula Ic.34, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^{Q2} is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 129: Compounds of the formula Ic.35, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 130: Compounds of the formula Ic.36, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 131: Compounds of the formula Ic.37, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 132: Compounds of the formula Ic.38, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C..

Table 133: Compounds of the formula Ic.39, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 134: Compounds of the formula Ic.40, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 135: Compounds of the formula Ic.41, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 136: Compounds of the formula Ic.42, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 137: Compounds of the formula Ic.43, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 138: Compounds of the formula Ic.44, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 139: Compounds of the formula Ic.45, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 140: Compounds of the formula Ic.46, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is methyl R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 141: Compounds of the formula Ic.47, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 142: Compounds of the formula Ic.48, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 143: Compounds of the formula Ic.49, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 144: Compounds of the formula Ic.50, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 145: Compounds of the formula Ic.51, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 146: Compounds of the formula Ic.52, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 147: Compounds of the formula Ic.53, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 148: Compounds of the formula Ic.54, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, $R^{Q2\ 2}$ is hydrogen, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 149: Compounds of the formula Ic.51, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^{Q2} isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 150: Compounds of the formula Ic.52, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^{Q2} is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 151: Compounds of the formula Ic.53, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^{Q2} is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 152: Compounds of the formula Ic.54, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^{Q2} is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 153: Compounds of the formula Ic.55, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 154: Compounds of the formula Ic.56, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 155: Compounds of the formula Ic.57, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 156: Compounds of the formula Ic.58, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 157: Compounds of the formula Ic.59, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is CH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 158: Compounds of the formula Ic.60, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 159: Compounds of the formula Ic.61, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 160: Compounds of the formula Ic.62, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 is methyl R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 161: Compounds of the formula Id.1, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 162: Compounds of the formula Id.2, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 163: Compounds of the formula Id.3, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Table 164: Compounds of the formula Id.4, their stereoisomers, their tautomers and the agriculturally or veterinarily acceptable salts, wherein R^6 isCH_3, R^1 is a radical - XYZ-R^{11} or XYZ-R^{12}, respectively, where Ar, -XYZ- and R^{11}/R^{12} are as defined in the rows of table C.

Further examples of compounds of the present invention are given in the tables 165 to 1476 below:

Tables 165 to 328: Compounds of the formulae Ia.1 to Id.4, which correspond to the compounds of the formulae Ia.1 to Id.4 summarized in tables 1 to 164, wherein Ar is Ar-2 instead of Ar-1.

Tables 329 to 492: Compounds of the formulae Ia.1 to Id.4, which correspond to the compounds of the formulae Ia.1 to Id.4 summarized in tables 1 to 164, wherein Ar is Ar-3 instead of Ar-1.

Tables 493 to 656: Compounds of the formulae Ia.1 to Id.4, which correspond to the compounds of the formulae Ia.1 to Id.4 summarized in tables 1 to 164, wherein Ar is Ar-4 instead of Ar-1.

Tables 657 to 820: Compounds of the formulae Ia.1 to Id.4, which correspond to the compounds of the formulae Ia.1 to Id.4 summarized in tables 1 to 164, wherein Ar is Ar-5 instead of Ar-1.

Tables 821 to 984: Compounds of the formulae Ia.1 to Id.4, which correspond to the compounds of the formulae Ia.1 to Id.4 summarized in tables 1 to 164, wherein Ar is Ar-6 instead of Ar-1.

Tables 985 to 1148: Compounds of the formulae Ia.1 to Id.4, which correspond to the compounds of the formulae Ia.1 to Id.4 summarized in tables 1 to 164, wherein Ar is Ar-7 instead of Ar-1.

Tables 1149 to 1312: Compounds of the formulae Ia.1 to Id.4, which correspond to the compounds of the formulae Ia.1 to Id.4 summarized in tables 1 to 164, wherein Ar is Ar-8 instead of Ar-1.

Tables 1313 to 1476: Compounds of the formulae Ia.1 to Id.4, which correspond to the compounds of the formulae Ia.1 to Id.4 summarized in tables 1 to 164, wherein Ar is Ar-9 instead of Ar-1.

	Ar	-X-Y-Z-	R^{11}/R^{12}
1.	Ar-1	XYZ-1	A'-1
2.	Ar-1	XYZ-1	A'-1a
3.	Ar-1	XYZ-1	A'-1b
4.	Ar-1	XYZ-1	A'-2
5.	Ar-1	XYZ-1	A'-2a
6.	Ar-1	XYZ-1	A'-2b
7.	Ar-1	XYZ-1	A'-3
8.	Ar-1	XYZ-1	A'-3a
9.	Ar-1	XYZ-1	A'-3b
10.	Ar-1	XYZ-2	A'-1
11.	Ar-1	XYZ-2	A'-1a

	Ar	-X-Y-Z-	R^{11}/R^{12}
12.	Ar-1	XYZ-2	A'-1b
13.	Ar-1	XYZ-2	A'-2
14.	Ar-1	XYZ-2	A'-2a
15.	Ar-1	XYZ-2	A'-2b
16.	Ar-1	XYZ-2	A'-3
17.	Ar-1	XYZ-2	A'-3a
18.	Ar-1	XYZ-2	A'-3b
19.	Ar-1	XYZ-3	R^{11}-1
20.	Ar-1	XYZ-3	R^{11}-2
21.	Ar-1	XYZ-3	R^{11}-3
22.	Ar-1	XYZ-3	R^{11}-4

	Ar	-X-Y-Z-	R^{11}/R^{12}
23.	Ar-1	XYZ-3	R^{11}-5
24.	Ar-1	XYZ-3	R^{11}-6
25.	Ar-1	XYZ-3	R^{11}-7
26.	Ar-1	XYZ-3	R^{11}-8
27.	Ar-1	XYZ-3	R^{11}-9
28.	Ar-1	XYZ-3	R^{11}-10
29.	Ar-1	XYZ-3	R^{11}-11
30.	Ar-1	XYZ-3	R^{11}-12
31.	Ar-1	XYZ-3	R^{11}-13
32.	Ar-1	XYZ-3	R^{11}-14
33.	Ar-1	XYZ-3	R^{11}-15
34.	Ar-1	XYZ-3	R^{11}-16
35.	Ar-1	XYZ-3	R^{11}-17
36.	Ar-1	XYZ-3	R^{11}-18
37.	Ar-1	XYZ-3	R^{11}-19
38.	Ar-1	XYZ-3	R^{11}-20
39.	Ar-1	XYZ-3	R^{11}-21
40.	Ar-1	XYZ-3	R^{11}-22
41.	Ar-1	XYZ-3	R^{11}-23
42.	Ar-1	XYZ-3	R^{11}-24
43.	Ar-1	XYZ-3	R^{11}-25
44.	Ar-1	XYZ-3	R^{11}-26
45.	Ar-1	XYZ-3	R^{11}-27
46.	Ar-1	XYZ-3	R^{11}-28
47.	Ar-1	XYZ-3	R^{11}-29
48.	Ar-1	XYZ-4	R^{11}-1
49.	Ar-1	XYZ-4	R^{11}-2
50.	Ar-1	XYZ-4	R^{11}-3
51.	Ar-1	XYZ-4	R^{11}-4
52.	Ar-1	XYZ-4	R^{11}-5
53.	Ar-1	XYZ-4	R^{11}-6
54.	Ar-1	XYZ-4	R^{11}-7
55.	Ar-1	XYZ-4	R^{11}-8
56.	Ar-1	XYZ-4	R^{11}-9
57.	Ar-1	XYZ-4	R^{11}-10
58.	Ar-1	XYZ-4	R^{11}-11
59.	Ar-1	XYZ-4	R^{11}-12
60.	Ar-1	XYZ-4	R^{11}-13

	Ar	-X-Y-Z-	R^{11}/R^{12}
61.	Ar-1	XYZ-4	R^{11}-14
62.	Ar-1	XYZ-4	R^{11}-15
63.	Ar-1	XYZ-4	R^{11}-16
64.	Ar-1	XYZ-4	R^{11}-17
65.	Ar-1	XYZ-4	R^{11}-18
66.	Ar-1	XYZ-4	R^{11}-19
67.	Ar-1	XYZ-4	R^{11}-20
68.	Ar-1	XYZ-4	R^{11}-21
69.	Ar-1	XYZ-4	R^{11}-22
70.	Ar-1	XYZ-4	R^{11}-23
71.	Ar-1	XYZ-4	R^{11}-24
72.	Ar-1	XYZ-4	R^{11}-25
73.	Ar-1	XYZ-4	R^{11}-26
74.	Ar-1	XYZ-4	R^{11}-27
75.	Ar-1	XYZ-4	R^{11}-28
76.	Ar-1	XYZ-4	R^{11}-29
77.	Ar-1	XYZ-5	R^{11}-1
78.	Ar-1	XYZ-5	R^{11}-2
79.	Ar-1	XYZ-5	R^{11}-3
80.	Ar-1	XYZ-5	R^{11}-4
81.	Ar-1	XYZ-5	R^{11}-5
82.	Ar-1	XYZ-5	R^{11}-6
83.	Ar-1	XYZ-5	R^{11}-7
84.	Ar-1	XYZ-5	R^{11}-8
85.	Ar-1	XYZ-5	R^{11}-9
86.	Ar-1	XYZ-5	R^{11}-10
87.	Ar-1	XYZ-5	R^{11}-11
88.	Ar-1	XYZ-5	R^{11}-12
89.	Ar-1	XYZ-5	R^{11}-13
90.	Ar-1	XYZ-5	R^{11}-14
91.	Ar-1	XYZ-5	R^{11}-15
92.	Ar-1	XYZ-5	R^{11}-16
93.	Ar-1	XYZ-5	R^{11}-17
94.	Ar-1	XYZ-5	R^{11}-18
95.	Ar-1	XYZ-5	R^{11}-19
96.	Ar-1	XYZ-5	R^{11}-20
97.	Ar-1	XYZ-5	R^{11}-21
98.	Ar-1	XYZ-5	R^{11}-22

	Ar	-X-Y-Z-	R^{11}/R^{12}
99.	Ar-1	XYZ-5	R^{11}-23
100.	Ar-1	XYZ-5	R^{11}-24
101.	Ar-1	XYZ-5	R^{11}-25
102.	Ar-1	XYZ-5	R^{11}-26
103.	Ar-1	XYZ-5	R^{11}-27
104.	Ar-1	XYZ-5	R^{11}-28
105.	Ar-1	XYZ-5	R^{11}-29
106.	Ar-1	XYZ-6	R^{11}-1
107.	Ar-1	XYZ-6	R^{11}-2
108.	Ar-1	XYZ-6	R^{11}-3
109.	Ar-1	XYZ-6	R^{11}-4
110.	Ar-1	XYZ-6	R^{11}-5
111.	Ar-1	XYZ-6	R^{11}-6
112.	Ar-1	XYZ-6	R^{11}-7
113.	Ar-1	XYZ-6	R^{11}-8
114.	Ar-1	XYZ-6	R^{11}-9
115.	Ar-1	XYZ-6	R^{11}-10
116.	Ar-1	XYZ-6	R^{11}-11
117.	Ar-1	XYZ-6	R^{11}-12
118.	Ar-1	XYZ-6	R^{11}-13
119.	Ar-1	XYZ-6	R^{11}-14
120.	Ar-1	XYZ-6	R^{11}-15
121.	Ar-1	XYZ-6	R^{11}-16
122.	Ar-1	XYZ-6	R^{11}-17
123.	Ar-1	XYZ-6	R^{11}-18
124.	Ar-1	XYZ-6	R^{11}-19
125.	Ar-1	XYZ-6	R^{11}-20
126.	Ar-1	XYZ-6	R^{11}-21
127.	Ar-1	XYZ-6	R^{11}-22
128.	Ar-1	XYZ-6	R^{11}-23
129.	Ar-1	XYZ-6	R^{11}-24
130.	Ar-1	XYZ-6	R^{11}-25
131.	Ar-1	XYZ-6	R^{11}-26
132.	Ar-1	XYZ-6	R^{11}-27
133.	Ar-1	XYZ-6	R^{11}-28
134.	Ar-1	XYZ-6	R^{11}-29
135.	Ar-1	XYZ-7	R^{11}-1
136.	Ar-1	XYZ-7	R^{11}-2

	Ar	-X-Y-Z-	R^{11}/R^{12}
137.	Ar-1	XYZ-7	R^{11}-3
138.	Ar-1	XYZ-7	R^{11}-4
139.	Ar-1	XYZ-7	R^{11}-5
140.	Ar-1	XYZ-7	R^{11}-6
141.	Ar-1	XYZ-7	R^{11}-7
142.	Ar-1	XYZ-7	R^{11}-8
143.	Ar-1	XYZ-7	R^{11}-9
144.	Ar-1	XYZ-7	R^{11}-10
145.	Ar-1	XYZ-7	R^{11}-11
146.	Ar-1	XYZ-7	R^{11}-12
147.	Ar-1	XYZ-7	R^{11}-13
148.	Ar-1	XYZ-7	R^{11}-14
149.	Ar-1	XYZ-7	R^{11}-15
150.	Ar-1	XYZ-7	R^{11}-16
151.	Ar-1	XYZ-7	R^{11}-17
152.	Ar-1	XYZ-7	R^{11}-18
153.	Ar-1	XYZ-7	R^{11}-19
154.	Ar-1	XYZ-7	R^{11}-20
155.	Ar-1	XYZ-7	R^{11}-21
156.	Ar-1	XYZ-7	R^{11}-22
157.	Ar-1	XYZ-7	R^{11}-23
158.	Ar-1	XYZ-7	R^{11}-24
159.	Ar-1	XYZ-7	R^{11}-25
160.	Ar-1	XYZ-7	R^{11}-26
161.	Ar-1	XYZ-7	R^{11}-27
162.	Ar-1	XYZ-7	R^{11}-28
163.	Ar-1	XYZ-7	R^{11}-29
164.	Ar-1	XYZ-8	R^{11}-1
165.	Ar-1	XYZ-8	R^{11}-2
166.	Ar-1	XYZ-8	R^{11}-3
167.	Ar-1	XYZ-8	R^{11}-4
168.	Ar-1	XYZ-8	R^{11}-5
169.	Ar-1	XYZ-8	R^{11}-6
170.	Ar-1	XYZ-8	R^{11}-7
171.	Ar-1	XYZ-8	R^{11}-8
172.	Ar-1	XYZ-8	R^{11}-9
173.	Ar-1	XYZ-8	R^{11}-10
174.	Ar-1	XYZ-8	R^{11}-11

	Ar	-X-Y-Z-	R^{11}/R^{12}
175.	Ar-1	XYZ-8	R^{11}-12
176.	Ar-1	XYZ-8	R^{11}-13
177.	Ar-1	XYZ-8	R^{11}-14
178.	Ar-1	XYZ-8	R^{11}-15
179.	Ar-1	XYZ-8	R^{11}-16
180.	Ar-1	XYZ-8	R^{11}-17
181.	Ar-1	XYZ-8	R^{11}-18
182.	Ar-1	XYZ-8	R^{11}-19
183.	Ar-1	XYZ-8	R^{11}-20
184.	Ar-1	XYZ-8	R^{11}-21
185.	Ar-1	XYZ-8	R^{11}-22
186.	Ar-1	XYZ-8	R^{11}-23
187.	Ar-1	XYZ-8	R^{11}-24
188.	Ar-1	XYZ-8	R^{11}-25
189.	Ar-1	XYZ-8	R^{11}-26
190.	Ar-1	XYZ-8	R^{11}-27
191.	Ar-1	XYZ-8	R^{11}-28
192.	Ar-1	XYZ-8	R^{11}-29
193.	Ar-1	XYZ-9	R^{11}-1
194.	Ar-1	XYZ-9	R^{11}-2
195.	Ar-1	XYZ-9	R^{11}-3
196.	Ar-1	XYZ-9	R^{11}-4
197.	Ar-1	XYZ-9	R^{11}-5
198.	Ar-1	XYZ-9	R^{11}-6
199.	Ar-1	XYZ-9	R^{11}-7
200.	Ar-1	XYZ-9	R^{11}-8
201.	Ar-1	XYZ-9	R^{11}-9
202.	Ar-1	XYZ-9	R^{11}-10
203.	Ar-1	XYZ-9	R^{11}-11
204.	Ar-1	XYZ-9	R^{11}-12
205.	Ar-1	XYZ-9	R^{11}-13
206.	Ar-1	XYZ-9	R^{11}-14
207.	Ar-1	XYZ-9	R^{11}-15
208.	Ar-1	XYZ-9	R^{11}-16
209.	Ar-1	XYZ-9	R^{11}-17
210.	Ar-1	XYZ-9	R^{11}-18
211.	Ar-1	XYZ-9	R^{11}-19
212.	Ar-1	XYZ-9	R^{11}-20

	Ar	-X-Y-Z-	R^{11}/R^{12}
213.	Ar-1	XYZ-9	R^{11}-21
214.	Ar-1	XYZ-9	R^{11}-22
215.	Ar-1	XYZ-9	R^{11}-23
216.	Ar-1	XYZ-9	R^{11}-24
217.	Ar-1	XYZ-9	R^{11}-25
218.	Ar-1	XYZ-9	R^{11}-26
219.	Ar-1	XYZ-9	R^{11}-27
220.	Ar-1	XYZ-9	R^{11}-28
221.	Ar-1	XYZ-9	R^{11}-29
222.	Ar-1	XYZ-10	R^{11}-1
223.	Ar-1	XYZ-10	R^{11}-2
224.	Ar-1	XYZ-10	R^{11}-3
225.	Ar-1	XYZ-10	R^{11}-4
226.	Ar-1	XYZ-10	R^{11}-5
227.	Ar-1	XYZ-10	R^{11}-6
228.	Ar-1	XYZ-10	R^{11}-7
229.	Ar-1	XYZ-10	R^{11}-8
230.	Ar-1	XYZ-10	R^{11}-9
231.	Ar-1	XYZ-10	R^{11}-10
232.	Ar-1	XYZ-10	R^{11}-11
233.	Ar-1	XYZ-10	R^{11}-12
234.	Ar-1	XYZ-10	R^{11}-13
235.	Ar-1	XYZ-10	R^{11}-14
236.	Ar-1	XYZ-10	R^{11}-15
237.	Ar-1	XYZ-10	R^{11}-16
238.	Ar-1	XYZ-10	R^{11}-17
239.	Ar-1	XYZ-10	R^{11}-18
240.	Ar-1	XYZ-10	R^{11}-19
241.	Ar-1	XYZ-10	R^{11}-20
242.	Ar-1	XYZ-10	R^{11}-21
243.	Ar-1	XYZ-10	R^{11}-22
244.	Ar-1	XYZ-10	R^{11}-23
245.	Ar-1	XYZ-10	R^{11}-24
246.	Ar-1	XYZ-10	R^{11}-25
247.	Ar-1	XYZ-10	R^{11}-26
248.	Ar-1	XYZ-10	R^{11}-27
249.	Ar-1	XYZ-10	R^{11}-28
250.	Ar-1	XYZ-10	R^{11}-29

	Ar	-X-Y-Z-	R^{11}/R^{12}
251.	Ar-1	XYZ-11	R^{11}-1
252.	Ar-1	XYZ-11	R^{11}-2
253.	Ar-1	XYZ-11	R^{11}-3
254.	Ar-1	XYZ-11	R^{11}-4
255.	Ar-1	XYZ-11	R^{11}-5
256.	Ar-1	XYZ-11	R^{11}-6
257.	Ar-1	XYZ-11	R^{11}-7
258.	Ar-1	XYZ-11	R^{11}-8
259.	Ar-1	XYZ-11	R^{11}-9
260.	Ar-1	XYZ-11	R^{11}-10
261.	Ar-1	XYZ-11	R^{11}-11
262.	Ar-1	XYZ-11	R^{11}-12
263.	Ar-1	XYZ-11	R^{11}-13
264.	Ar-1	XYZ-11	R^{11}-14
265.	Ar-1	XYZ-11	R^{11}-15
266.	Ar-1	XYZ-11	R^{11}-16
267.	Ar-1	XYZ-11	R^{11}-17
268.	Ar-1	XYZ-11	R^{11}-18
269.	Ar-1	XYZ-11	R^{11}-19
270.	Ar-1	XYZ-11	R^{11}-20
271.	Ar-1	XYZ-11	R^{11}-21
272.	Ar-1	XYZ-11	R^{11}-22
273.	Ar-1	XYZ-11	R^{11}-23
274.	Ar-1	XYZ-11	R^{11}-24
275.	Ar-1	XYZ-11	R^{11}-25
276.	Ar-1	XYZ-11	R^{11}-26
277.	Ar-1	XYZ-11	R^{11}-27
278.	Ar-1	XYZ-11	R^{11}-28
279.	Ar-1	XYZ-11	R^{11}-29
280.	Ar-1	XYZ-12	R^{11}-1
281.	Ar-1	XYZ-12	R^{11}-2
282.	Ar-1	XYZ-12	R^{11}-3
283.	Ar-1	XYZ-12	R^{11}-4
284.	Ar-1	XYZ-12	R^{11}-5
285.	Ar-1	XYZ-12	R^{11}-6
286.	Ar-1	XYZ-12	R^{11}-7
287.	Ar-1	XYZ-12	R^{11}-8
288.	Ar-1	XYZ-12	R^{11}-9

	Ar	-X-Y-Z-	R^{11}/R^{12}
289.	Ar-1	XYZ-12	R^{11}-10
290.	Ar-1	XYZ-12	R^{11}-11
291.	Ar-1	XYZ-12	R^{11}-12
292.	Ar-1	XYZ-12	R^{11}-13
293.	Ar-1	XYZ-12	R^{11}-14
294.	Ar-1	XYZ-12	R^{11}-15
295.	Ar-1	XYZ-12	R^{11}-16
296.	Ar-1	XYZ-12	R^{11}-17
297.	Ar-1	XYZ-12	R^{11}-18
298.	Ar-1	XYZ-12	R^{11}-19
299.	Ar-1	XYZ-12	R^{11}-20
300.	Ar-1	XYZ-12	R^{11}-21
301.	Ar-1	XYZ-12	R^{11}-22
302.	Ar-1	XYZ-12	R^{11}-23
303.	Ar-1	XYZ-12	R^{11}-24
304.	Ar-1	XYZ-12	R^{11}-25
305.	Ar-1	XYZ-12	R^{11}-26
306.	Ar-1	XYZ-12	R^{11}-27
307.	Ar-1	XYZ-12	R^{11}-28
308.	Ar-1	XYZ-12	R^{11}-29
309.	Ar-1	XYZ-13	R^{11}-1
310.	Ar-1	XYZ-13	R^{11}-2
311.	Ar-1	XYZ-13	R^{11}-3
312.	Ar-1	XYZ-13	R^{11}-4
313.	Ar-1	XYZ-13	R^{11}-5
314.	Ar-1	XYZ-13	R^{11}-6
315.	Ar-1	XYZ-13	R^{11}-7
316.	Ar-1	XYZ-13	R^{11}-8
317.	Ar-1	XYZ-13	R^{11}-9
318.	Ar-1	XYZ-13	R^{11}-10
319.	Ar-1	XYZ-13	R^{11}-11
320.	Ar-1	XYZ-13	R^{11}-12
321.	Ar-1	XYZ-13	R^{11}-13
322.	Ar-1	XYZ-13	R^{11}-14
323.	Ar-1	XYZ-13	R^{11}-15
324.	Ar-1	XYZ-13	R^{11}-16
325.	Ar-1	XYZ-13	R^{11}-17
326.	Ar-1	XYZ-13	R^{11}-18

	Ar	-X-Y-Z-	R^{11}/R^{12}
327.	Ar-1	XYZ-13	R^{11}-19
328.	Ar-1	XYZ-13	R^{11}-20
329.	Ar-1	XYZ-13	R^{11}-21
330.	Ar-1	XYZ-13	R^{11}-22
331.	Ar-1	XYZ-13	R^{11}-23
332.	Ar-1	XYZ-13	R^{11}-24
333.	Ar-1	XYZ-13	R^{11}-25
334.	Ar-1	XYZ-13	R^{11}-26
335.	Ar-1	XYZ-13	R^{11}-27
336.	Ar-1	XYZ-13	R^{11}-28
337.	Ar-1	XYZ-13	R^{11}-29
338.	Ar-1	XYZ-14	R^{11}-1
339.	Ar-1	XYZ-14	R^{11}-2
340.	Ar-1	XYZ-14	R^{11}-3
341.	Ar-1	XYZ-14	R^{11}-4
342.	Ar-1	XYZ-14	R^{11}-5
343.	Ar-1	XYZ-14	R^{11}-6
344.	Ar-1	XYZ-14	R^{11}-7
345.	Ar-1	XYZ-14	R^{11}-8
346.	Ar-1	XYZ-14	R^{11}-9
347.	Ar-1	XYZ-14	R^{11}-10
348.	Ar-1	XYZ-14	R^{11}-11
349.	Ar-1	XYZ-14	R^{11}-12
350.	Ar-1	XYZ-14	R^{11}-13
351.	Ar-1	XYZ-14	R^{11}-14
352.	Ar-1	XYZ-14	R^{11}-15
353.	Ar-1	XYZ-14	R^{11}-16
354.	Ar-1	XYZ-14	R^{11}-17
355.	Ar-1	XYZ-14	R^{11}-18
356.	Ar-1	XYZ-14	R^{11}-19
357.	Ar-1	XYZ-14	R^{11}-20
358.	Ar-1	XYZ-14	R^{11}-21
359.	Ar-1	XYZ-14	R^{11}-22
360.	Ar-1	XYZ-14	R^{11}-23
361.	Ar-1	XYZ-14	R^{11}-24
362.	Ar-1	XYZ-14	R^{11}-25
363.	Ar-1	XYZ-14	R^{11}-26
364.	Ar-1	XYZ-14	R^{11}-27

	Ar	-X-Y-Z-	R^{11}/R^{12}
365.	Ar-1	XYZ-14	R^{11}-28
366.	Ar-1	XYZ-14	R^{11}-29
367.	Ar-1	XYZ-15	R^{11}-1
368.	Ar-1	XYZ-15	R^{11}-2
369.	Ar-1	XYZ-15	R^{11}-3
370.	Ar-1	XYZ-15	R^{11}-4
371.	Ar-1	XYZ-15	R^{11}-5
372.	Ar-1	XYZ-15	R^{11}-6
373.	Ar-1	XYZ-15	R^{11}-7
374.	Ar-1	XYZ-15	R^{11}-8
375.	Ar-1	XYZ-15	R^{11}-9
376.	Ar-1	XYZ-15	R^{11}-10
377.	Ar-1	XYZ-15	R^{11}-11
378.	Ar-1	XYZ-15	R^{11}-12
379.	Ar-1	XYZ-15	R^{11}-13
380.	Ar-1	XYZ-15	R^{11}-14
381.	Ar-1	XYZ-15	R^{11}-15
382.	Ar-1	XYZ-15	R^{11}-16
383.	Ar-1	XYZ-15	R^{11}-17
384.	Ar-1	XYZ-15	R^{11}-18
385.	Ar-1	XYZ-15	R^{11}-19
386.	Ar-1	XYZ-15	R^{11}-20
387.	Ar-1	XYZ-15	R^{11}-21
388.	Ar-1	XYZ-15	R^{11}-22
389.	Ar-1	XYZ-15	R^{11}-23
390.	Ar-1	XYZ-15	R^{11}-24
391.	Ar-1	XYZ-15	R^{11}-25
392.	Ar-1	XYZ-15	R^{11}-26
393.	Ar-1	XYZ-15	R^{11}-27
394.	Ar-1	XYZ-15	R^{11}-28
395.	Ar-1	XYZ-15	R^{11}-29
396.	Ar-1	XYZ-16	R^{11}-1
397.	Ar-1	XYZ-16	R^{11}-2
398.	Ar-1	XYZ-16	R^{11}-3
399.	Ar-1	XYZ-16	R^{11}-4
400.	Ar-1	XYZ-16	R^{11}-5
401.	Ar-1	XYZ-16	R^{11}-6
402.	Ar-1	XYZ-16	R^{11}-7

	Ar	-X-Y-Z-	R^{11}/R^{12}
403.	Ar-1	XYZ-16	R^{11}-8
404.	Ar-1	XYZ-16	R^{11}-9
405.	Ar-1	XYZ-16	R^{11}-10
406.	Ar-1	XYZ-16	R^{11}-11
407.	Ar-1	XYZ-16	R^{11}-12
408.	Ar-1	XYZ-16	R^{11}-13
409.	Ar-1	XYZ-16	R^{11}-14
410.	Ar-1	XYZ-16	R^{11}-15
411.	Ar-1	XYZ-16	R^{11}-16
412.	Ar-1	XYZ-16	R^{11}-17
413.	Ar-1	XYZ-16	R^{11}-18
414.	Ar-1	XYZ-16	R^{11}-19
415.	Ar-1	XYZ-16	R^{11}-20
416.	Ar-1	XYZ-16	R^{11}-21
417.	Ar-1	XYZ-16	R^{11}-22
418.	Ar-1	XYZ-16	R^{11}-23
419.	Ar-1	XYZ-16	R^{11}-24
420.	Ar-1	XYZ-16	R^{11}-25
421.	Ar-1	XYZ-16	R^{11}-26
422.	Ar-1	XYZ-16	R^{11}-27
423.	Ar-1	XYZ-16	R^{11}-28
424.	Ar-1	XYZ-16	R^{11}-29
425.	Ar-1	XYZ-17	R^{11}-1
426.	Ar-1	XYZ-17	R^{11}-2
427.	Ar-1	XYZ-17	R^{11}-3
428.	Ar-1	XYZ-17	R^{11}-4
429.	Ar-1	XYZ-17	R^{11}-5
430.	Ar-1	XYZ-17	R^{11}-6
431.	Ar-1	XYZ-17	R^{11}-7
432.	Ar-1	XYZ-17	R^{11}-8
433.	Ar-1	XYZ-17	R^{11}-9
434.	Ar-1	XYZ-17	R^{11}-10
435.	Ar-1	XYZ-17	R^{11}-11
436.	Ar-1	XYZ-17	R^{11}-12
437.	Ar-1	XYZ-17	R^{11}-13
438.	Ar-1	XYZ-17	R^{11}-14
439.	Ar-1	XYZ-17	R^{11}-15
440.	Ar-1	XYZ-17	R^{11}-16

	Ar	-X-Y-Z-	R^{11}/R^{12}
441.	Ar-1	XYZ-17	R^{11}-17
442.	Ar-1	XYZ-17	R^{11}-18
443.	Ar-1	XYZ-17	R^{11}-19
444.	Ar-1	XYZ-17	R^{11}-20
445.	Ar-1	XYZ-17	R^{11}-21
446.	Ar-1	XYZ-17	R^{11}-22
447.	Ar-1	XYZ-17	R^{11}-23
448.	Ar-1	XYZ-17	R^{11}-24
449.	Ar-1	XYZ-17	R^{11}-25
450.	Ar-1	XYZ-17	R^{11}-26
451.	Ar-1	XYZ-17	R^{11}-27
452.	Ar-1	XYZ-17	R^{11}-28
453.	Ar-1	XYZ-17	R^{11}-29
454.	Ar-1	XYZ-18	R^{11}-1
455.	Ar-1	XYZ-18	R^{11}-2
456.	Ar-1	XYZ-18	R^{11}-3
457.	Ar-1	XYZ-18	R^{11}-4
458.	Ar-1	XYZ-18	R^{11}-5
459.	Ar-1	XYZ-18	R^{11}-6
460.	Ar-1	XYZ-18	R^{11}-7
461.	Ar-1	XYZ-18	R^{11}-8
462.	Ar-1	XYZ-18	R^{11}-9
463.	Ar-1	XYZ-18	R^{11}-10
464.	Ar-1	XYZ-18	R^{11}-11
465.	Ar-1	XYZ-18	R^{11}-12
466.	Ar-1	XYZ-18	R^{11}-13
467.	Ar-1	XYZ-18	R^{11}-14
468.	Ar-1	XYZ-18	R^{11}-15
469.	Ar-1	XYZ-18	R^{11}-16
470.	Ar-1	XYZ-18	R^{11}-17
471.	Ar-1	XYZ-18	R^{11}-18
472.	Ar-1	XYZ-18	R^{11}-19
473.	Ar-1	XYZ-18	R^{11}-20
474.	Ar-1	XYZ-18	R^{11}-21
475.	Ar-1	XYZ-18	R^{11}-22
476.	Ar-1	XYZ-18	R^{11}-23
477.	Ar-1	XYZ-18	R^{11}-24
478.	Ar-1	XYZ-18	R^{11}-25

	Ar	-X-Y-Z-	R^{11}/R^{12}
479.	Ar-1	XYZ-18	R^{11}-26
480.	Ar-1	XYZ-18	R^{11}-27
481.	Ar-1	XYZ-18	R^{11}-28
482.	Ar-1	XYZ-18	R^{11}-29
483.	Ar-1	XYZ-19	R^{11}-1
484.	Ar-1	XYZ-19	R^{11}-2
485.	Ar-1	XYZ-19	R^{11}-3
486.	Ar-1	XYZ-19	R^{11}-4
487.	Ar-1	XYZ-19	R^{11}-5
488.	Ar-1	XYZ-19	R^{11}-6
489.	Ar-1	XYZ-19	R^{11}-7
490.	Ar-1	XYZ-19	R^{11}-8
491.	Ar-1	XYZ-19	R^{11}-9
492.	Ar-1	XYZ-19	R^{11}-10
493.	Ar-1	XYZ-19	R^{11}-11
494.	Ar-1	XYZ-19	R^{11}-12
495.	Ar-1	XYZ-19	R^{11}-13
496.	Ar-1	XYZ-19	R^{11}-14
497.	Ar-1	XYZ-19	R^{11}-15
498.	Ar-1	XYZ-19	R^{11}-16
499.	Ar-1	XYZ-19	R^{11}-17
500.	Ar-1	XYZ-19	R^{11}-18
501.	Ar-1	XYZ-19	R^{11}-19
502.	Ar-1	XYZ-19	R^{11}-20
503.	Ar-1	XYZ-19	R^{11}-21
504.	Ar-1	XYZ-19	R^{11}-22
505.	Ar-1	XYZ-19	R^{11}-23
506.	Ar-1	XYZ-19	R^{11}-24
507.	Ar-1	XYZ-19	R^{11}-25
508.	Ar-1	XYZ-19	R^{11}-26
509.	Ar-1	XYZ-19	R^{11}-27
510.	Ar-1	XYZ-19	R^{11}-28
511.	Ar-1	XYZ-19	R^{11}-29
512.	Ar-1	XYZ-20	R^{11}-1
513.	Ar-1	XYZ-20	R^{11}-2
514.	Ar-1	XYZ-20	R^{11}-3
515.	Ar-1	XYZ-20	R^{11}-4
516.	Ar-1	XYZ-20	R^{11}-5

	Ar	-X-Y-Z-	R^{11}/R^{12}
517.	Ar-1	XYZ-20	R^{11}-6
518.	Ar-1	XYZ-20	R^{11}-7
519.	Ar-1	XYZ-20	R^{11}-8
520.	Ar-1	XYZ-20	R^{11}-9
521.	Ar-1	XYZ-20	R^{11}-10
522.	Ar-1	XYZ-20	R^{11}-11
523.	Ar-1	XYZ-20	R^{11}-12
524.	Ar-1	XYZ-20	R^{11}-13
525.	Ar-1	XYZ-20	R^{11}-14
526.	Ar-1	XYZ-20	R^{11}-15
527.	Ar-1	XYZ-20	R^{11}-16
528.	Ar-1	XYZ-20	R^{11}-17
529.	Ar-1	XYZ-20	R^{11}-18
530.	Ar-1	XYZ-20	R^{11}-19
531.	Ar-1	XYZ-20	R^{11}-20
532.	Ar-1	XYZ-20	R^{11}-21
533.	Ar-1	XYZ-20	R^{11}-22
534.	Ar-1	XYZ-20	R^{11}-23
535.	Ar-1	XYZ-20	R^{11}-24
536.	Ar-1	XYZ-20	R^{11}-25
537.	Ar-1	XYZ-20	R^{11}-26
538.	Ar-1	XYZ-20	R^{11}-27
539.	Ar-1	XYZ-20	R^{11}-28
540.	Ar-1	XYZ-20	R^{11}-29
541.	Ar-1	XYZ-21	R^{11}-1
542.	Ar-1	XYZ-21	R^{11}-2
543.	Ar-1	XYZ-21	R^{11}-3
544.	Ar-1	XYZ-21	R^{11}-4
545.	Ar-1	XYZ-21	R^{11}-5
546.	Ar-1	XYZ-21	R^{11}-6
547.	Ar-1	XYZ-21	R^{11}-7
548.	Ar-1	XYZ-21	R^{11}-8
549.	Ar-1	XYZ-21	R^{11}-9
550.	Ar-1	XYZ-21	R^{11}-10
551.	Ar-1	XYZ-21	R^{11}-11
552.	Ar-1	XYZ-21	R^{11}-12
553.	Ar-1	XYZ-21	R^{11}-13
554.	Ar-1	XYZ-21	R^{11}-14

	Ar	-X-Y-Z-	R^{11}/R^{12}
555.	Ar-1	XYZ-21	R^{11}-15
556.	Ar-1	XYZ-21	R^{11}-16
557.	Ar-1	XYZ-21	R^{11}-17
558.	Ar-1	XYZ-21	R^{11}-18
559.	Ar-1	XYZ-21	R^{11}-19
560.	Ar-1	XYZ-21	R^{11}-20
561.	Ar-1	XYZ-21	R^{11}-21
562.	Ar-1	XYZ-21	R^{11}-22
563.	Ar-1	XYZ-21	R^{11}-23
564.	Ar-1	XYZ-21	R^{11}-24
565.	Ar-1	XYZ-21	R^{11}-25
566.	Ar-1	XYZ-21	R^{11}-26
567.	Ar-1	XYZ-21	R^{11}-27
568.	Ar-1	XYZ-21	R^{11}-28
569.	Ar-1	XYZ-21	R^{11}-29
570.	Ar-1	XYZ-22	R^{11}-1
571.	Ar-1	XYZ-22	R^{11}-2
572.	Ar-1	XYZ-22	R^{11}-3
573.	Ar-1	XYZ-22	R^{11}-4
574.	Ar-1	XYZ-22	R^{11}-5
575.	Ar-1	XYZ-22	R^{11}-6
576.	Ar-1	XYZ-22	R^{11}-7
577.	Ar-1	XYZ-22	R^{11}-8
578.	Ar-1	XYZ-22	R^{11}-9
579.	Ar-1	XYZ-22	R^{11}-10
580.	Ar-1	XYZ-22	R^{11}-11
581.	Ar-1	XYZ-22	R^{11}-12
582.	Ar-1	XYZ-22	R^{11}-13
583.	Ar-1	XYZ-22	R^{11}-14
584.	Ar-1	XYZ-22	R^{11}-15
585.	Ar-1	XYZ-22	R^{11}-16
586.	Ar-1	XYZ-22	R^{11}-17
587.	Ar-1	XYZ-22	R^{11}-18
588.	Ar-1	XYZ-22	R^{11}-19
589.	Ar-1	XYZ-22	R^{11}-20
590.	Ar-1	XYZ-22	R^{11}-21
591.	Ar-1	XYZ-22	R^{11}-22
592.	Ar-1	XYZ-22	R^{11}-23

	Ar	-X-Y-Z-	R^{11}/R^{12}
593.	Ar-1	XYZ-22	R^{11}-24
594.	Ar-1	XYZ-22	R^{11}-25
595.	Ar-1	XYZ-22	R^{11}-26
596.	Ar-1	XYZ-22	R^{11}-27
597.	Ar-1	XYZ-22	R^{11}-28
598.	Ar-1	XYZ-22	R^{11}-29
599.	Ar-1	XYZ-23	R^{11}-1
600.	Ar-1	XYZ-23	R^{11}-2
601.	Ar-1	XYZ-23	R^{11}-3
602.	Ar-1	XYZ-23	R^{11}-4
603.	Ar-1	XYZ-23	R^{11}-5
604.	Ar-1	XYZ-23	R^{11}-6
605.	Ar-1	XYZ-23	R^{11}-7
606.	Ar-1	XYZ-23	R^{11}-8
607.	Ar-1	XYZ-23	R^{11}-9
608.	Ar-1	XYZ-23	R^{11}-10
609.	Ar-1	XYZ-23	R^{11}-11
610.	Ar-1	XYZ-23	R^{11}-12
611.	Ar-1	XYZ-23	R^{11}-13
612.	Ar-1	XYZ-23	R^{11}-14
613.	Ar-1	XYZ-23	R^{11}-15
614.	Ar-1	XYZ-23	R^{11}-16
615.	Ar-1	XYZ-23	R^{11}-17
616.	Ar-1	XYZ-23	R^{11}-18
617.	Ar-1	XYZ-23	R^{11}-19
618.	Ar-1	XYZ-23	R^{11}-20
619.	Ar-1	XYZ-23	R^{11}-21
620.	Ar-1	XYZ-23	R^{11}-22
621.	Ar-1	XYZ-23	R^{11}-23
622.	Ar-1	XYZ-23	R^{11}-24
623.	Ar-1	XYZ-23	R^{11}-25
624.	Ar-1	XYZ-23	R^{11}-26
625.	Ar-1	XYZ-23	R^{11}-27
626.	Ar-1	XYZ-23	R^{11}-28
627.	Ar-1	XYZ-23	R^{11}-29
628.	Ar-1	XYZ-24	R^{11}-1
629.	Ar-1	XYZ-24	R^{11}-2
630.	Ar-1	XYZ-24	R^{11}-3

	Ar	-X-Y-Z-	R^{11}/R^{12}
631.	Ar-1	XYZ-24	R^{11}-4
632.	Ar-1	XYZ-24	R^{11}-5
633.	Ar-1	XYZ-24	R^{11}-6
634.	Ar-1	XYZ-24	R^{11}-7
635.	Ar-1	XYZ-24	R^{11}-8
636.	Ar-1	XYZ-24	R^{11}-9
637.	Ar-1	XYZ-24	R^{11}-10
638.	Ar-1	XYZ-24	R^{11}-11
639.	Ar-1	XYZ-24	R^{11}-12
640.	Ar-1	XYZ-24	R^{11}-13
641.	Ar-1	XYZ-24	R^{11}-14
642.	Ar-1	XYZ-24	R^{11}-15
643.	Ar-1	XYZ-24	R^{11}-16
644.	Ar-1	XYZ-24	R^{11}-17
645.	Ar-1	XYZ-24	R^{11}-18
646.	Ar-1	XYZ-24	R^{11}-19
647.	Ar-1	XYZ-24	R^{11}-20
648.	Ar-1	XYZ-24	R^{11}-21
649.	Ar-1	XYZ-24	R^{11}-22
650.	Ar-1	XYZ-24	R^{11}-23
651.	Ar-1	XYZ-24	R^{11}-24
652.	Ar-1	XYZ-24	R^{11}-25
653.	Ar-1	XYZ-24	R^{11}-26
654.	Ar-1	XYZ-24	R^{11}-27
655.	Ar-1	XYZ-24	R^{11}-28
656.	Ar-1	XYZ-24	R^{11}-29
657.	Ar-1	XYZ-25	R^{11}-1
658.	Ar-1	XYZ-25	R^{11}-2
659.	Ar-1	XYZ-25	R^{11}-3
660.	Ar-1	XYZ-25	R^{11}-4
661.	Ar-1	XYZ-25	R^{11}-5
662.	Ar-1	XYZ-25	R^{11}-6
663.	Ar-1	XYZ-25	R^{11}-7
664.	Ar-1	XYZ-25	R^{11}-8
665.	Ar-1	XYZ-25	R^{11}-9
666.	Ar-1	XYZ-25	R^{11}-10
667.	Ar-1	XYZ-25	R^{11}-11
668.	Ar-1	XYZ-25	R^{11}-12

	Ar	-X-Y-Z-	R^{11}/R^{12}
669.	Ar-1	XYZ-25	R^{11}-13
670.	Ar-1	XYZ-25	R^{11}-14
671.	Ar-1	XYZ-25	R^{11}-15
672.	Ar-1	XYZ-25	R^{11}-16
673.	Ar-1	XYZ-25	R^{11}-17
674.	Ar-1	XYZ-25	R^{11}-18
675.	Ar-1	XYZ-25	R^{11}-19
676.	Ar-1	XYZ-25	R^{11}-20
677.	Ar-1	XYZ-25	R^{11}-21
678.	Ar-1	XYZ-25	R^{11}-22
679.	Ar-1	XYZ-25	R^{11}-23
680.	Ar-1	XYZ-25	R^{11}-24
681.	Ar-1	XYZ-25	R^{11}-25
682.	Ar-1	XYZ-25	R^{11}-26
683.	Ar-1	XYZ-25	R^{11}-27
684.	Ar-1	XYZ-25	R^{11}-28
685.	Ar-1	XYZ-25	R^{11}-29
686.	Ar-1	XYZ-26	R^{11}-1
687.	Ar-1	XYZ-26	R^{11}-2
688.	Ar-1	XYZ-26	R^{11}-3
689.	Ar-1	XYZ-26	R^{11}-4
690.	Ar-1	XYZ-26	R^{11}-5
691.	Ar-1	XYZ-26	R^{11}-6
692.	Ar-1	XYZ-26	R^{11}-7
693.	Ar-1	XYZ-26	R^{11}-8
694.	Ar-1	XYZ-26	R^{11}-9
695.	Ar-1	XYZ-26	R^{11}-10
696.	Ar-1	XYZ-26	R^{11}-11
697.	Ar-1	XYZ-26	R^{11}-12
698.	Ar-1	XYZ-26	R^{11}-13
699.	Ar-1	XYZ-26	R^{11}-14
700.	Ar-1	XYZ-26	R^{11}-15
701.	Ar-1	XYZ-26	R^{11}-16
702.	Ar-1	XYZ-26	R^{11}-17
703.	Ar-1	XYZ-26	R^{11}-18
704.	Ar-1	XYZ-26	R^{11}-19
705.	Ar-1	XYZ-26	R^{11}-20
706.	Ar-1	XYZ-26	R^{11}-21

	Ar	-X-Y-Z-	R^{11}/R^{12}
707.	Ar-1	XYZ-26	R^{11}-22
708.	Ar-1	XYZ-26	R^{11}-23
709.	Ar-1	XYZ-26	R^{11}-24
710.	Ar-1	XYZ-26	R^{11}-25
711.	Ar-1	XYZ-26	R^{11}-26
712.	Ar-1	XYZ-26	R^{11}-27
713.	Ar-1	XYZ-26	R^{11}-28
714.	Ar-1	XYZ-27	R^{11}-29
715.	Ar-1	XYZ-27	R^{11}-1
716.	Ar-1	XYZ-27	R^{11}-2
717.	Ar-1	XYZ-27	R^{11}-3
718.	Ar-1	XYZ-27	R^{11}-4
719.	Ar-1	XYZ-27	R^{11}-5
720.	Ar-1	XYZ-27	R^{11}-6
721.	Ar-1	XYZ-27	R^{11}-7
722.	Ar-1	XYZ-27	R^{11}-8
723.	Ar-1	XYZ-27	R^{11}-9
724.	Ar-1	XYZ-27	R^{11}-10
725.	Ar-1	XYZ-27	R^{11}-11
726.	Ar-1	XYZ-27	R^{11}-12
727.	Ar-1	XYZ-27	R^{11}-13
728.	Ar-1	XYZ-27	R^{11}-14
729.	Ar-1	XYZ-27	R^{11}-15
730.	Ar-1	XYZ-27	R^{11}-16
731.	Ar-1	XYZ-27	R^{11}-17
732.	Ar-1	XYZ-27	R^{11}-18
733.	Ar-1	XYZ-27	R^{11}-19
734.	Ar-1	XYZ-27	R^{11}-20
735.	Ar-1	XYZ-27	R^{11}-21
736.	Ar-1	XYZ-27	R^{11}-22
737.	Ar-1	XYZ-27	R^{11}-23
738.	Ar-1	XYZ-27	R^{11}-24
739.	Ar-1	XYZ-27	R^{11}-25
740.	Ar-1	XYZ-27	R^{11}-26
741.	Ar-1	XYZ-27	R^{11}-27
742.	Ar-1	XYZ-27	R^{11}-28
743.	Ar-1	XYZ-27	R^{11}-29
744.	Ar-1	XYZ-28	R^{11}-1

	Ar	-X-Y-Z-	R^{11}/R^{12}
745.	Ar-1	XYZ-28	R^{11}-2
746.	Ar-1	XYZ-28	R^{11}-3
747.	Ar-1	XYZ-28	R^{11}-4
748.	Ar-1	XYZ-28	R^{11}-5
749.	Ar-1	XYZ-28	R^{11}-6
750.	Ar-1	XYZ-28	R^{11}-7
751.	Ar-1	XYZ-28	R^{11}-8
752.	Ar-1	XYZ-28	R^{11}-9
753.	Ar-1	XYZ-28	R^{11}-10
754.	Ar-1	XYZ-28	R^{11}-11
755.	Ar-1	XYZ-28	R^{11}-12
756.	Ar-1	XYZ-28	R^{11}-13
757.	Ar-1	XYZ-28	R^{11}-14
758.	Ar-1	XYZ-28	R^{11}-15
759.	Ar-1	XYZ-28	R^{11}-16
760.	Ar-1	XYZ-28	R^{11}-17
761.	Ar-1	XYZ-28	R^{11}-18
762.	Ar-1	XYZ-28	R^{11}-19
763.	Ar-1	XYZ-28	R^{11}-20
764.	Ar-1	XYZ-28	R^{11}-21
765.	Ar-1	XYZ-28	R^{11}-22
766.	Ar-1	XYZ-28	R^{11}-23
767.	Ar-1	XYZ-28	R^{11}-24
768.	Ar-1	XYZ-28	R^{11}-25
769.	Ar-1	XYZ-28	R^{11}-26
770.	Ar-1	XYZ-28	R^{11}-27
771.	Ar-1	XYZ-28	R^{11}-28
772.	Ar-1	XYZ-28	R^{11}-29
773.	Ar-1	XYZ-29	R^{11}-1
774.	Ar-1	XYZ-29	R^{11}-2
775.	Ar-1	XYZ-29	R^{11}-3
776.	Ar-1	XYZ-29	R^{11}-4
777.	Ar-1	XYZ-29	R^{11}-5
778.	Ar-1	XYZ-29	R^{11}-6
779.	Ar-1	XYZ-29	R^{11}-7
780.	Ar-1	XYZ-29	R^{11}-8
781.	Ar-1	XYZ-29	R^{11}-9
782.	Ar-1	XYZ-29	R^{11}-10

	Ar	-X-Y-Z-	R^{11}/R^{12}
783.	Ar-1	XYZ-29	R^{11}-11
784.	Ar-1	XYZ-29	R^{11}-12
785.	Ar-1	XYZ-29	R^{11}-13
786.	Ar-1	XYZ-29	R^{11}-14
787.	Ar-1	XYZ-29	R^{11}-15
788.	Ar-1	XYZ-29	R^{11}-16
789.	Ar-1	XYZ-29	R^{11}-17
790.	Ar-1	XYZ-29	R^{11}-18
791.	Ar-1	XYZ-29	R^{11}-19
792.	Ar-1	XYZ-29	R^{11}-20
793.	Ar-1	XYZ-29	R^{11}-21
794.	Ar-1	XYZ-29	R^{11}-22
795.	Ar-1	XYZ-29	R^{11}-23
796.	Ar-1	XYZ-29	R^{11}-24
797.	Ar-1	XYZ-29	R^{11}-25
798.	Ar-1	XYZ-29	R^{11}-26
799.	Ar-1	XYZ-29	R^{11}-27
800.	Ar-1	XYZ-29	R^{11}-28
801.	Ar-1	XYZ-29	R^{11}-29
802.	Ar-1	XYZ-30	R^{11}-1
803.	Ar-1	XYZ-30	R^{11}-2
804.	Ar-1	XYZ-30	R^{11}-3
805.	Ar-1	XYZ-30	R^{11}-4
806.	Ar-1	XYZ-30	R^{11}-5
807.	Ar-1	XYZ-30	R^{11}-6
808.	Ar-1	XYZ-30	R^{11}-7
809.	Ar-1	XYZ-30	R^{11}-8
810.	Ar-1	XYZ-30	R^{11}-9
811.	Ar-1	XYZ-30	R^{11}-10
812.	Ar-1	XYZ-30	R^{11}-11
813.	Ar-1	XYZ-30	R^{11}-12
814.	Ar-1	XYZ-30	R^{11}-13
815.	Ar-1	XYZ-30	R^{11}-14
816.	Ar-1	XYZ-30	R^{11}-15
817.	Ar-1	XYZ-30	R^{11}-16
818.	Ar-1	XYZ-30	R^{11}-17
819.	Ar-1	XYZ-30	R^{11}-18
820.	Ar-1	XYZ-30	R^{11}-19

	Ar	-X-Y-Z-	R^{11}/R^{12}
821.	Ar-1	XYZ-30	R^{11}-20
822.	Ar-1	XYZ-30	R^{11}-21
823.	Ar-1	XYZ-30	R^{11}-22
824.	Ar-1	XYZ-30	R^{11}-23
825.	Ar-1	XYZ-30	R^{11}-24
826.	Ar-1	XYZ-30	R^{11}-25
827.	Ar-1	XYZ-30	R^{11}-26
828.	Ar-1	XYZ-30	R^{11}-27
829.	Ar-1	XYZ-30	R^{11}-28
830.	Ar-1	XYZ-30	R^{11}-29
831.	Ar-1	XYZ-31	R^{11}-1
832.	Ar-1	XYZ-31	R^{11}-2
833.	Ar-1	XYZ-31	R^{11}-3
834.	Ar-1	XYZ-31	R^{11}-4
835.	Ar-1	XYZ-31	R^{11}-5
836.	Ar-1	XYZ-31	R^{11}-6
837.	Ar-1	XYZ-31	R^{11}-7
838.	Ar-1	XYZ-31	R^{11}-8
839.	Ar-1	XYZ-31	R^{11}-9
840.	Ar-1	XYZ-31	R^{11}-10
841.	Ar-1	XYZ-31	R^{11}-11
842.	Ar-1	XYZ-31	R^{11}-12
843.	Ar-1	XYZ-31	R^{11}-13
844.	Ar-1	XYZ-31	R^{11}-14
845.	Ar-1	XYZ-31	R^{11}-15
846.	Ar-1	XYZ-31	R^{11}-16
847.	Ar-1	XYZ-31	R^{11}-17
848.	Ar-1	XYZ-31	R^{11}-18
849.	Ar-1	XYZ-31	R^{11}-19
850.	Ar-1	XYZ-31	R^{11}-20
851.	Ar-1	XYZ-31	R^{11}-21
852.	Ar-1	XYZ-31	R^{11}-22
853.	Ar-1	XYZ-31	R^{11}-23
854.	Ar-1	XYZ-31	R^{11}-24
855.	Ar-1	XYZ-31	R^{11}-25
856.	Ar-1	XYZ-31	R^{11}-26
857.	Ar-1	XYZ-31	R^{11}-27
858.	Ar-1	XYZ-31	R^{11}-28

	Ar	-X-Y-Z-	R^{11}/R^{12}
859.	Ar-1	XYZ-31	R^{11}-29
860.	Ar-1	XYZ-32	R^{11}-1
861.	Ar-1	XYZ-32	R^{11}-2
862.	Ar-1	XYZ-32	R^{11}-3
863.	Ar-1	XYZ-32	R^{11}-4
864.	Ar-1	XYZ-32	R^{11}-5
865.	Ar-1	XYZ-32	R^{11}-6
866.	Ar-1	XYZ-32	R^{11}-7
867.	Ar-1	XYZ-32	R^{11}-8
868.	Ar-1	XYZ-32	R^{11}-9
869.	Ar-1	XYZ-32	R^{11}-10
870.	Ar-1	XYZ-32	R^{11}-11
871.	Ar-1	XYZ-32	R^{11}-12
872.	Ar-1	XYZ-32	R^{11}-13
873.	Ar-1	XYZ-32	R^{11}-14
874.	Ar-1	XYZ-32	R^{11}-15
875.	Ar-1	XYZ-32	R^{11}-16
876.	Ar-1	XYZ-32	R^{11}-17
877.	Ar-1	XYZ-32	R^{11}-18
878.	Ar-1	XYZ-32	R^{11}-19
879.	Ar-1	XYZ-32	R^{11}-20
880.	Ar-1	XYZ-32	R^{11}-21
881.	Ar-1	XYZ-32	R^{11}-22
882.	Ar-1	XYZ-32	R^{11}-23
883.	Ar-1	XYZ-32	R^{11}-24
884.	Ar-1	XYZ-32	R^{11}-25
885.	Ar-1	XYZ-32	R^{11}-26
886.	Ar-1	XYZ-32	R^{11}-27
887.	Ar-1	XYZ-32	R^{11}-28
888.	Ar-1	XYZ-32	R^{11}-29
889.	Ar-1	XYZ-33	R^{11}-1
890.	Ar-1	XYZ-33	R^{11}-2
891.	Ar-1	XYZ-33	R^{11}-3
892.	Ar-1	XYZ-33	R^{11}-4
893.	Ar-1	XYZ-33	R^{11}-5
894.	Ar-1	XYZ-33	R^{11}-6
895.	Ar-1	XYZ-33	R^{11}-7
896.	Ar-1	XYZ-33	R^{11}-8

	Ar	-X-Y-Z-	R^{11}/R^{12}
897.	Ar-1	XYZ-33	R^{11}-9
898.	Ar-1	XYZ-33	R^{11}-10
899.	Ar-1	XYZ-33	R^{11}-11
900.	Ar-1	XYZ-33	R^{11}-12
901.	Ar-1	XYZ-33	R^{11}-13
902.	Ar-1	XYZ-33	R^{11}-14
903.	Ar-1	XYZ-33	R^{11}-15
904.	Ar-1	XYZ-33	R^{11}-16
905.	Ar-1	XYZ-33	R^{11}-17
906.	Ar-1	XYZ-33	R^{11}-18
907.	Ar-1	XYZ-33	R^{11}-19
908.	Ar-1	XYZ-33	R^{11}-20
909.	Ar-1	XYZ-33	R^{11}-21
910.	Ar-1	XYZ-33	R^{11}-22
911.	Ar-1	XYZ-33	R^{11}-23
912.	Ar-1	XYZ-33	R^{11}-24
913.	Ar-1	XYZ-33	R^{11}-25
914.	Ar-1	XYZ-33	R^{11}-26
915.	Ar-1	XYZ-33	R^{11}-27
916.	Ar-1	XYZ-33	R^{11}-28
917.	Ar-1	XYZ-33	R^{11}-29
918.	Ar-1	XYZ-34	R^{11}-1
919.	Ar-1	XYZ-34	R^{11}-2
920.	Ar-1	XYZ-34	R^{11}-3
921.	Ar-1	XYZ-34	R^{11}-4
922.	Ar-1	XYZ-34	R^{11}-5
923.	Ar-1	XYZ-34	R^{11}-6
924.	Ar-1	XYZ-34	R^{11}-7
925.	Ar-1	XYZ-34	R^{11}-8
926.	Ar-1	XYZ-34	R^{11}-9
927.	Ar-1	XYZ-34	R^{11}-10
928.	Ar-1	XYZ-34	R^{11}-11
929.	Ar-1	XYZ-34	R^{11}-12
930.	Ar-1	XYZ-34	R^{11}-13
931.	Ar-1	XYZ-34	R^{11}-14
932.	Ar-1	XYZ-34	R^{11}-15
933.	Ar-1	XYZ-34	R^{11}-16
934.	Ar-1	XYZ-34	R^{11}-17

	Ar	-X-Y-Z-	R^{11}/R^{12}
935.	Ar-1	XYZ-34	R^{11}-18
936.	Ar-1	XYZ-34	R^{11}-19
937.	Ar-1	XYZ-34	R^{11}-20
938.	Ar-1	XYZ-34	R^{11}-21
939.	Ar-1	XYZ-34	R^{11}-22
940.	Ar-1	XYZ-34	R^{11}-23
941.	Ar-1	XYZ-34	R^{11}-24
942.	Ar-1	XYZ-34	R^{11}-25
943.	Ar-1	XYZ-34	R^{11}-26
944.	Ar-1	XYZ-34	R^{11}-27
945.	Ar-1	XYZ-34	R^{11}-28
946.	Ar-1	XYZ-34	R^{11}-29
947.	Ar-1	XYZ-35	R^{11}-1
948.	Ar-1	XYZ-35	R^{11}-2
949.	Ar-1	XYZ-35	R^{11}-3
950.	Ar-1	XYZ-35	R^{11}-4
951.	Ar-1	XYZ-35	R^{11}-5
952.	Ar-1	XYZ-35	R^{11}-6
953.	Ar-1	XYZ-35	R^{11}-7
954.	Ar-1	XYZ-35	R^{11}-8
955.	Ar-1	XYZ-35	R^{11}-9
956.	Ar-1	XYZ-35	R^{11}-10
957.	Ar-1	XYZ-35	R^{11}-11
958.	Ar-1	XYZ-35	R^{11}-12
959.	Ar-1	XYZ-35	R^{11}-13
960.	Ar-1	XYZ-35	R^{11}-14
961.	Ar-1	XYZ-35	R^{11}-15
962.	Ar-1	XYZ-35	R^{11}-16
963.	Ar-1	XYZ-35	R^{11}-17
964.	Ar-1	XYZ-35	R^{11}-18
965.	Ar-1	XYZ-35	R^{11}-19
966.	Ar-1	XYZ-35	R^{11}-20
967.	Ar-1	XYZ-35	R^{11}-21
968.	Ar-1	XYZ-35	R^{11}-22
969.	Ar-1	XYZ-35	R^{11}-23
970.	Ar-1	XYZ-35	R^{11}-24
971.	Ar-1	XYZ-35	R^{11}-25
972.	Ar-1	XYZ-35	R^{11}-26

	Ar	-X-Y-Z-	R^{11}/R^{12}
973.	Ar-1	XYZ-35	R^{11}-27
974.	Ar-1	XYZ-35	R^{11}-28
975.	Ar-1	XYZ-35	R^{11}-29
976.	Ar-1	XYZ-36	R^{11}-1
977.	Ar-1	XYZ-36	R^{11}-2
978.	Ar-1	XYZ-36	R^{11}-3
979.	Ar-1	XYZ-36	R^{11}-4
980.	Ar-1	XYZ-36	R^{11}-5
981.	Ar-1	XYZ-36	R^{11}-6
982.	Ar-1	XYZ-36	R^{11}-7
983.	Ar-1	XYZ-36	R^{11}-8
984.	Ar-1	XYZ-36	R^{11}-9
985.	Ar-1	XYZ-36	R^{11}-10
986.	Ar-1	XYZ-36	R^{11}-11
987.	Ar-1	XYZ-36	R^{11}-12
988.	Ar-1	XYZ-36	R^{11}-13
989.	Ar-1	XYZ-36	R^{11}-14
990.	Ar-1	XYZ-36	R^{11}-15
991.	Ar-1	XYZ-36	R^{11}-16
992.	Ar-1	XYZ-36	R^{11}-17
993.	Ar-1	XYZ-36	R^{11}-18
994.	Ar-1	XYZ-36	R^{11}-19
995.	Ar-1	XYZ-36	R^{11}-20
996.	Ar-1	XYZ-36	R^{11}-21
997.	Ar-1	XYZ-36	R^{11}-22
998.	Ar-1	XYZ-36	R^{11}-23
999.	Ar-1	XYZ-36	R^{11}-24
1000.	Ar-1	XYZ-36	R^{11}-25
1001.	Ar-1	XYZ-36	R^{11}-26
1002.	Ar-1	XYZ-36	R^{11}-27
1003.	Ar-1	XYZ-36	R^{11}-28
1004.	Ar-1	XYZ-36	R^{11}-29
1005.	Ar-1	XYZ-37	R^{11}-1
1006.	Ar-1	XYZ-37	R^{11}-2
1007.	Ar-1	XYZ-37	R^{11}-3
1008.	Ar-1	XYZ-37	R^{11}-4
1009.	Ar-1	XYZ-37	R^{11}-5
1010.	Ar-1	XYZ-37	R^{11}-6

	Ar	-X-Y-Z-	R^{11}/R^{12}
1011.	Ar-1	XYZ-37	R^{11}-7
1012.	Ar-1	XYZ-37	R^{11}-8
1013.	Ar-1	XYZ-37	R^{11}-9
1014.	Ar-1	XYZ-37	R^{11}-10
1015.	Ar-1	XYZ-37	R^{11}-11
1016.	Ar-1	XYZ-37	R^{11}-12
1017.	Ar-1	XYZ-37	R^{11}-13
1018.	Ar-1	XYZ-37	R^{11}-14
1019.	Ar-1	XYZ-37	R^{11}-15
1020.	Ar-1	XYZ-37	R^{11}-16
1021.	Ar-1	XYZ-37	R^{11}-17
1022.	Ar-1	XYZ-37	R^{11}-18
1023.	Ar-1	XYZ-37	R^{11}-19
1024.	Ar-1	XYZ-37	R^{11}-20
1025.	Ar-1	XYZ-37	R^{11}-21
1026.	Ar-1	XYZ-37	R^{11}-22
1027.	Ar-1	XYZ-37	R^{11}-23
1028.	Ar-1	XYZ-37	R^{11}-24
1029.	Ar-1	XYZ-37	R^{11}-25
1030.	Ar-1	XYZ-37	R^{11}-26
1031.	Ar-1	XYZ-37	R^{11}-27
1032.	Ar-1	XYZ-37	R^{11}-28
1033.	Ar-1	XYZ-37	R^{11}-29
1034.	Ar-1	XYZ-38	R^{11}-1
1035.	Ar-1	XYZ-38	R^{11}-2
1036.	Ar-1	XYZ-38	R^{11}-3
1037.	Ar-1	XYZ-38	R^{11}-4
1038.	Ar-1	XYZ-38	R^{11}-5
1039.	Ar-1	XYZ-38	R^{11}-6
1040.	Ar-1	XYZ-38	R^{11}-7
1041.	Ar-1	XYZ-38	R^{11}-8
1042.	Ar-1	XYZ-38	R^{11}-9
1043.	Ar-1	XYZ-38	R^{11}-10
1044.	Ar-1	XYZ-38	R^{11}-11
1045.	Ar-1	XYZ-38	R^{11}-12
1046.	Ar-1	XYZ-38	R^{11}-13
1047.	Ar-1	XYZ-38	R^{11}-14
1048.	Ar-1	XYZ-38	R^{11}-15

	Ar	-X-Y-Z-	R^{11}/R^{12}
1049.	Ar-1	XYZ-38	R^{11}-16
1050.	Ar-1	XYZ-38	R^{11}-17
1051.	Ar-1	XYZ-38	R^{11}-18
1052.	Ar-1	XYZ-38	R^{11}-19
1053.	Ar-1	XYZ-38	R^{11}-20
1054.	Ar-1	XYZ-38	R^{11}-21
1055.	Ar-1	XYZ-38	R^{11}-22
1056.	Ar-1	XYZ-38	R^{11}-23
1057.	Ar-1	XYZ-38	R^{11}-24
1058.	Ar-1	XYZ-38	R^{11}-25
1059.	Ar-1	XYZ-38	R^{11}-26
1060.	Ar-1	XYZ-38	R^{11}-27
1061.	Ar-1	XYZ-38	R^{11}-28
1062.	Ar-1	XYZ-38	R^{11}-29
1063.	Ar-1	XYZ-39	R^{11}-1
1064.	Ar-1	XYZ-39	R^{11}-2
1065.	Ar-1	XYZ-39	R^{11}-3
1066.	Ar-1	XYZ-39	R^{11}-4
1067.	Ar-1	XYZ-39	R^{11}-5
1068.	Ar-1	XYZ-39	R^{11}-6
1069.	Ar-1	XYZ-39	R^{11}-7
1070.	Ar-1	XYZ-39	R^{11}-8
1071.	Ar-1	XYZ-39	R^{11}-9
1072.	Ar-1	XYZ-39	R^{11}-10
1073.	Ar-1	XYZ-39	R^{11}-11
1074.	Ar-1	XYZ-39	R^{11}-12
1075.	Ar-1	XYZ-39	R^{11}-13
1076.	Ar-1	XYZ-39	R^{11}-14
1077.	Ar-1	XYZ-39	R^{11}-15
1078.	Ar-1	XYZ-39	R^{11}-16
1079.	Ar-1	XYZ-39	R^{11}-17
1080.	Ar-1	XYZ-39	R^{11}-18
1081.	Ar-1	XYZ-39	R^{11}-19
1082.	Ar-1	XYZ-39	R^{11}-20
1083.	Ar-1	XYZ-39	R^{11}-21
1084.	Ar-1	XYZ-39	R^{11}-22
1085.	Ar-1	XYZ-39	R^{11}-23
1086.	Ar-1	XYZ-39	R^{11}-24

	Ar	-X-Y-Z-	R^{11}/R^{12}
1087.	Ar-1	XYZ-39	R^{11}-25
1088.	Ar-1	XYZ-39	R^{11}-26
1089.	Ar-1	XYZ-39	R^{11}-27
1090.	Ar-1	XYZ-39	R^{11}-28
1091.	Ar-1	XYZ-39	R^{11}-29
1092.	Ar-1	XYZ-40	R^{11}-1
1093.	Ar-1	XYZ-40	R^{11}-2
1094.	Ar-1	XYZ-40	R^{11}-3
1095.	Ar-1	XYZ-40	R^{11}-4
1096.	Ar-1	XYZ-40	R^{11}-5
1097.	Ar-1	XYZ-40	R^{11}-6
1098.	Ar-1	XYZ-40	R^{11}-7
1099.	Ar-1	XYZ-40	R^{11}-8
1100.	Ar-1	XYZ-40	R^{11}-9
1101.	Ar-1	XYZ-40	R^{11}-10
1102.	Ar-1	XYZ-40	R^{11}-11
1103.	Ar-1	XYZ-40	R^{11}-12
1104.	Ar-1	XYZ-40	R^{11}-13
1105.	Ar-1	XYZ-40	R^{11}-14
1106.	Ar-1	XYZ-40	R^{11}-15
1107.	Ar-1	XYZ-40	R^{11}-16
1108.	Ar-1	XYZ-40	R^{11}-17
1109.	Ar-1	XYZ-40	R^{11}-18
1110.	Ar-1	XYZ-40	R^{11}-19
1111.	Ar-1	XYZ-40	R^{11}-20
1112.	Ar-1	XYZ-40	R^{11}-21
1113.	Ar-1	XYZ-40	R^{11}-22
1114.	Ar-1	XYZ-40	R^{11}-23
1115.	Ar-1	XYZ-40	R^{11}-24
1116.	Ar-1	XYZ-40	R^{11}-25
1117.	Ar-1	XYZ-40	R^{11}-26
1118.	Ar-1	XYZ-40	R^{11}-27
1119.	Ar-1	XYZ-40	R^{11}-28
1120.	Ar-1	XYZ-40	R^{11}-29
1121.	Ar-1	XYZ-41	R^{11}-1
1122.	Ar-1	XYZ-41	R^{11}-2
1123.	Ar-1	XYZ-41	R^{11}-3
1124.	Ar-1	XYZ-41	R^{11}-4

	Ar	-X-Y-Z-	R^{11}/R^{12}
1125.	Ar-1	XYZ-41	R^{11}-5
1126.	Ar-1	XYZ-41	R^{11}-6
1127.	Ar-1	XYZ-41	R^{11}-7
1128.	Ar-1	XYZ-41	R^{11}-8
1129.	Ar-1	XYZ-41	R^{11}-9
1130.	Ar-1	XYZ-41	R^{11}-10
1131.	Ar-1	XYZ-41	R^{11}-11
1132.	Ar-1	XYZ-41	R^{11}-12
1133.	Ar-1	XYZ-41	R^{11}-13
1134.	Ar-1	XYZ-41	R^{11}-14
1135.	Ar-1	XYZ-41	R^{11}-15
1136.	Ar-1	XYZ-41	R^{11}-16
1137.	Ar-1	XYZ-41	R^{11}-17
1138.	Ar-1	XYZ-41	R^{11}-18
1139.	Ar-1	XYZ-41	R^{11}-19
1140.	Ar-1	XYZ-41	R^{11}-20
1141.	Ar-1	XYZ-41	R^{11}-21
1142.	Ar-1	XYZ-41	R^{11}-22
1143.	Ar-1	XYZ-41	R^{11}-23
1144.	Ar-1	XYZ-41	R^{11}-24
1145.	Ar-1	XYZ-41	R^{11}-25
1146.	Ar-1	XYZ-41	R^{11}-26
1147.	Ar-1	XYZ-41	R^{11}-27
1148.	Ar-1	XYZ-41	R^{11}-28
1149.	Ar-1	XYZ-41	R^{11}-29
1150.	Ar-1	XYZ-42	R^{11}-1
1151.	Ar-1	XYZ-42	R^{11}-2
1152.	Ar-1	XYZ-42	R^{11}-3
1153.	Ar-1	XYZ-42	R^{11}-4
1154.	Ar-1	XYZ-42	R^{11}-5
1155.	Ar-1	XYZ-42	R^{11}-6
1156.	Ar-1	XYZ-42	R^{11}-7
1157.	Ar-1	XYZ-42	R^{11}-8
1158.	Ar-1	XYZ-42	R^{11}-9
1159.	Ar-1	XYZ-42	R^{11}-10
1160.	Ar-1	XYZ-42	R^{11}-11
1161.	Ar-1	XYZ-42	R^{11}-12
1162.	Ar-1	XYZ-42	R^{11}-13

	Ar	-X-Y-Z-	R^{11}/R^{12}
1163.	Ar-1	XYZ-42	R^{11}-14
1164.	Ar-1	XYZ-42	R^{11}-15
1165.	Ar-1	XYZ-42	R^{11}-16
1166.	Ar-1	XYZ-42	R^{11}-17
1167.	Ar-1	XYZ-42	R^{11}-18
1168.	Ar-1	XYZ-42	R^{11}-19
1169.	Ar-1	XYZ-42	R^{11}-20
1170.	Ar-1	XYZ-42	R^{11}-21
1171.	Ar-1	XYZ-42	R^{11}-22
1172.	Ar-1	XYZ-42	R^{11}-23
1173.	Ar-1	XYZ-42	R^{11}-24
1174.	Ar-1	XYZ-42	R^{11}-25
1175.	Ar-1	XYZ-42	R^{11}-26
1176.	Ar-1	XYZ-42	R^{11}-27
1177.	Ar-1	XYZ-42	R^{11}-28
1178.	Ar-1	XYZ-42	R^{11}-29
1179.	Ar-1	XYZ-43	R^{11}-1
1180.	Ar-1	XYZ-43	R^{11}-2
1181.	Ar-1	XYZ-43	R^{11}-3
1182.	Ar-1	XYZ-43	R^{11}-4
1183.	Ar-1	XYZ-43	R^{11}-5
1184.	Ar-1	XYZ-43	R^{11}-6
1185.	Ar-1	XYZ-43	R^{11}-7
1186.	Ar-1	XYZ-43	R^{11}-8
1187.	Ar-1	XYZ-43	R^{11}-9
1188.	Ar-1	XYZ-43	R^{11}-10
1189.	Ar-1	XYZ-43	R^{11}-11
1190.	Ar-1	XYZ-43	R^{11}-12
1191.	Ar-1	XYZ-43	R^{11}-13
1192.	Ar-1	XYZ-43	R^{11}-14
1193.	Ar-1	XYZ-43	R^{11}-15
1194.	Ar-1	XYZ-43	R^{11}-16
1195.	Ar-1	XYZ-43	R^{11}-17
1196.	Ar-1	XYZ-43	R^{11}-18
1197.	Ar-1	XYZ-43	R^{11}-19
1198.	Ar-1	XYZ-43	R^{11}-20
1199.	Ar-1	XYZ-43	R^{11}-21
1200.	Ar-1	XYZ-43	R^{11}-22

	Ar	-X-Y-Z-	R^{11}/R^{12}
1201.	Ar-1	XYZ-43	R^{11}-23
1202.	Ar-1	XYZ-43	R^{11}-24
1203.	Ar-1	XYZ-43	R^{11}-25
1204.	Ar-1	XYZ-43	R^{11}-26
1205.	Ar-1	XYZ-43	R^{11}-27
1206.	Ar-1	XYZ-43	R^{11}-28
1207.	Ar-1	XYZ-43	R^{11}-29
1208.	Ar-1	XYZ-44	R^{11}-1
1209.	Ar-1	XYZ-44	R^{11}-2
1210.	Ar-1	XYZ-44	R^{11}-3
1211.	Ar-1	XYZ-44	R^{11}-4
1212.	Ar-1	XYZ-44	R^{11}-5
1213.	Ar-1	XYZ-44	R^{11}-6
1214.	Ar-1	XYZ-44	R^{11}-7
1215.	Ar-1	XYZ-44	R^{11}-8
1216.	Ar-1	XYZ-44	R^{11}-9
1217.	Ar-1	XYZ-44	R^{11}-10
1218.	Ar-1	XYZ-44	R^{11}-11
1219.	Ar-1	XYZ-44	R^{11}-12
1220.	Ar-1	XYZ-44	R^{11}-13
1221.	Ar-1	XYZ-44	R^{11}-14
1222.	Ar-1	XYZ-44	R^{11}-15
1223.	Ar-1	XYZ-44	R^{11}-16
1224.	Ar-1	XYZ-44	R^{11}-17
1225.	Ar-1	XYZ-44	R^{11}-18
1226.	Ar-1	XYZ-44	R^{11}-19
1227.	Ar-1	XYZ-44	R^{11}-20
1228.	Ar-1	XYZ-44	R^{11}-21
1229.	Ar-1	XYZ-44	R^{11}-22
1230.	Ar-1	XYZ-44	R^{11}-23
1231.	Ar-1	XYZ-44	R^{11}-24
1232.	Ar-1	XYZ-44	R^{11}-25
1233.	Ar-1	XYZ-44	R^{11}-26
1234.	Ar-1	XYZ-44	R^{11}-27
1235.	Ar-1	XYZ-44	R^{11}-28
1236.	Ar-1	XYZ-44	R^{11}-29
1237.	Ar-1	XYZ-45	R^{11}-1
1238.	Ar-1	XYZ-45	R^{11}-2

	Ar	-X-Y-Z-	R^{11}/R^{12}
1239.	Ar-1	XYZ-45	R^{11}-3
1240.	Ar-1	XYZ-45	R^{11}-4
1241.	Ar-1	XYZ-45	R^{11}-5
1242.	Ar-1	XYZ-45	R^{11}-6
1243.	Ar-1	XYZ-45	R^{11}-7
1244.	Ar-1	XYZ-45	R^{11}-8
1245.	Ar-1	XYZ-45	R^{11}-9
1246.	Ar-1	XYZ-45	R^{11}-10
1247.	Ar-1	XYZ-45	R^{11}-11
1248.	Ar-1	XYZ-45	R^{11}-12
1249.	Ar-1	XYZ-45	R^{11}-13
1250.	Ar-1	XYZ-45	R^{11}-14
1251.	Ar-1	XYZ-45	R^{11}-15
1252.	Ar-1	XYZ-45	R^{11}-16
1253.	Ar-1	XYZ-45	R^{11}-17
1254.	Ar-1	XYZ-45	R^{11}-18
1255.	Ar-1	XYZ-45	R^{11}-19
1256.	Ar-1	XYZ-45	R^{11}-20
1257.	Ar-1	XYZ-45	R^{11}-21
1258.	Ar-1	XYZ-45	R^{11}-22
1259.	Ar-1	XYZ-45	R^{11}-23
1260.	Ar-1	XYZ-45	R^{11}-24
1261.	Ar-1	XYZ-45	R^{11}-25
1262.	Ar-1	XYZ-45	R^{11}-26
1263.	Ar-1	XYZ-45	R^{11}-27
1264.	Ar-1	XYZ-45	R^{11}-28
1265.	Ar-1	XYZ-45	R^{11}-29
1266.	Ar-1	XYZ-46	R^{11}-1
1267.	Ar-1	XYZ-46	R^{11}-2
1268.	Ar-1	XYZ-46	R^{11}-3
1269.	Ar-1	XYZ-46	R^{11}-4
1270.	Ar-1	XYZ-46	R^{11}-5
1271.	Ar-1	XYZ-46	R^{11}-6
1272.	Ar-1	XYZ-46	R^{11}-7
1273.	Ar-1	XYZ-46	R^{11}-8
1274.	Ar-1	XYZ-46	R^{11}-9
1275.	Ar-1	XYZ-46	R^{11}-10
1276.	Ar-1	XYZ-46	R^{11}-11

	Ar	-X-Y-Z-	R^{11}/R^{12}
1277.	Ar-1	XYZ-46	R^{11}-12
1278.	Ar-1	XYZ-46	R^{11}-13
1279.	Ar-1	XYZ-46	R^{11}-14
1280.	Ar-1	XYZ-46	R^{11}-15
1281.	Ar-1	XYZ-46	R^{11}-16
1282.	Ar-1	XYZ-46	R^{11}-17
1283.	Ar-1	XYZ-46	R^{11}-18
1284.	Ar-1	XYZ-46	R^{11}-19
1285.	Ar-1	XYZ-46	R^{11}-20
1286.	Ar-1	XYZ-46	R^{11}-21
1287.	Ar-1	XYZ-46	R^{11}-22
1288.	Ar-1	XYZ-46	R^{11}-23
1289.	Ar-1	XYZ-46	R^{11}-24
1290.	Ar-1	XYZ-46	R^{11}-25
1291.	Ar-1	XYZ-46	R^{11}-26
1292.	Ar-1	XYZ-46	R^{11}-27
1293.	Ar-1	XYZ-46	R^{11}-28
1294.	Ar-1	XYZ-46	R^{11}-29
1295.	Ar-1	XYZ-47	R^{11}-1
1296.	Ar-1	XYZ-47	R^{11}-2
1297.	Ar-1	XYZ-47	R^{11}-3
1298.	Ar-1	XYZ-47	R^{11}-4
1299.	Ar-1	XYZ-47	R^{11}-5
1300.	Ar-1	XYZ-47	R^{11}-6
1301.	Ar-1	XYZ-47	R^{11}-7
1302.	Ar-1	XYZ-47	R^{11}-8
1303.	Ar-1	XYZ-47	R^{11}-9
1304.	Ar-1	XYZ-47	R^{11}-10
1305.	Ar-1	XYZ-47	R^{11}-11
1306.	Ar-1	XYZ-47	R^{11}-12
1307.	Ar-1	XYZ-47	R^{11}-13
1308.	Ar-1	XYZ-47	R^{11}-14
1309.	Ar-1	XYZ-47	R^{11}-15
1310.	Ar-1	XYZ-47	R^{11}-16
1311.	Ar-1	XYZ-47	R^{11}-17
1312.	Ar-1	XYZ-47	R^{11}-18
1313.	Ar-1	XYZ-47	R^{11}-19
1314.	Ar-1	XYZ-47	R^{11}-20

	Ar	-X-Y-Z-	R^{11}/R^{12}
1315.	Ar-1	XYZ-47	R^{11}-21
1316.	Ar-1	XYZ-47	R^{11}-22
1317.	Ar-1	XYZ-47	R^{11}-23
1318.	Ar-1	XYZ-47	R^{11}-24
1319.	Ar-1	XYZ-47	R^{11}-25
1320.	Ar-1	XYZ-47	R^{11}-26
1321.	Ar-1	XYZ-47	R^{11}-27
1322.	Ar-1	XYZ-47	R^{11}-28
1323.	Ar-1	XYZ-47	R^{11}-29
1324.	Ar-1	XYZ-48	R^{11}-1
1325.	Ar-1	XYZ-48	R^{11}-2
1326.	Ar-1	XYZ-48	R^{11}-3
1327.	Ar-1	XYZ-48	R^{11}-4
1328.	Ar-1	XYZ-48	R^{11}-5
1329.	Ar-1	XYZ-48	R^{11}-6
1330.	Ar-1	XYZ-48	R^{11}-7
1331.	Ar-1	XYZ-48	R^{11}-8
1332.	Ar-1	XYZ-48	R^{11}-9
1333.	Ar-1	XYZ-48	R^{11}-10
1334.	Ar-1	XYZ-48	R^{11}-11
1335.	Ar-1	XYZ-48	R^{11}-12
1336.	Ar-1	XYZ-48	R^{11}-13
1337.	Ar-1	XYZ-48	R^{11}-14
1338.	Ar-1	XYZ-48	R^{11}-15
1339.	Ar-1	XYZ-48	R^{11}-16
1340.	Ar-1	XYZ-48	R^{11}-17
1341.	Ar-1	XYZ-48	R^{11}-18
1342.	Ar-1	XYZ-48	R^{11}-19
1343.	Ar-1	XYZ-48	R^{11}-20
1344.	Ar-1	XYZ-48	R^{11}-21
1345.	Ar-1	XYZ-48	R^{11}-22
1346.	Ar-1	XYZ-48	R^{11}-23
1347.	Ar-1	XYZ-48	R^{11}-24
1348.	Ar-1	XYZ-48	R^{11}-25
1349.	Ar-1	XYZ-48	R^{11}-26
1350.	Ar-1	XYZ-48	R^{11}-27
1351.	Ar-1	XYZ-48	R^{11}-28
1352.	Ar-1	XYZ-48	R^{11}-29

	Ar	-X-Y-Z-	R^{11}/R^{12}
1353.	Ar-1	XYZ-49	R^{11}-1
1354.	Ar-1	XYZ-49	R^{11}-2
1355.	Ar-1	XYZ-49	R^{11}-3
1356.	Ar-1	XYZ-49	R^{11}-4
1357.	Ar-1	XYZ-49	R^{11}-5
1358.	Ar-1	XYZ-49	R^{11}-6
1359.	Ar-1	XYZ-49	R^{11}-7
1360.	Ar-1	XYZ-49	R^{11}-8
1361.	Ar-1	XYZ-49	R^{11}-9
1362.	Ar-1	XYZ-49	R^{11}-10
1363.	Ar-1	XYZ-49	R^{11}-11
1364.	Ar-1	XYZ-49	R^{11}-12
1365.	Ar-1	XYZ-49	R^{11}-13
1366.	Ar-1	XYZ-49	R^{11}-14
1367.	Ar-1	XYZ-49	R^{11}-15
1368.	Ar-1	XYZ-49	R^{11}-16
1369.	Ar-1	XYZ-49	R^{11}-17
1370.	Ar-1	XYZ-49	R^{11}-18
1371.	Ar-1	XYZ-49	R^{11}-19
1372.	Ar-1	XYZ-49	R^{11}-20
1373.	Ar-1	XYZ-49	R^{11}-21
1374.	Ar-1	XYZ-49	R^{11}-22
1375.	Ar-1	XYZ-49	R^{11}-23
1376.	Ar-1	XYZ-49	R^{11}-24
1377.	Ar-1	XYZ-49	R^{11}-25
1378.	Ar-1	XYZ-49	R^{11}-26
1379.	Ar-1	XYZ-49	R^{11}-27
1380.	Ar-1	XYZ-49	R^{11}-28
1381.	Ar-1	XYZ-49	R^{11}-29
1382.	Ar-1	XYZ-50	R^{11}-1
1383.	Ar-1	XYZ-50	R^{11}-2
1384.	Ar-1	XYZ-50	R^{11}-3
1385.	Ar-1	XYZ-50	R^{11}-4
1386.	Ar-1	XYZ-50	R^{11}-5
1387.	Ar-1	XYZ-50	R^{11}-6
1388.	Ar-1	XYZ-50	R^{11}-7
1389.	Ar-1	XYZ-50	R^{11}-8
1390.	Ar-1	XYZ-50	R^{11}-9

	Ar	-X-Y-Z-	R^{11}/R^{12}
1391.	Ar-1	XYZ-50	R^{11}-10
1392.	Ar-1	XYZ-50	R^{11}-11
1393.	Ar-1	XYZ-50	R^{11}-12
1394.	Ar-1	XYZ-50	R^{11}-13
1395.	Ar-1	XYZ-50	R^{11}-14
1396.	Ar-1	XYZ-50	R^{11}-15
1397.	Ar-1	XYZ-50	R^{11}-16
1398.	Ar-1	XYZ-50	R^{11}-17
1399.	Ar-1	XYZ-50	R^{11}-18
1400.	Ar-1	XYZ-50	R^{11}-19
1401.	Ar-1	XYZ-50	R^{11}-20
1402.	Ar-1	XYZ-50	R^{11}-21
1403.	Ar-1	XYZ-50	R^{11}-22
1404.	Ar-1	XYZ-50	R^{11}-23
1405.	Ar-1	XYZ-50	R^{11}-24
1406.	Ar-1	XYZ-50	R^{11}-25
1407.	Ar-1	XYZ-50	R^{11}-26
1408.	Ar-1	XYZ-50	R^{11}-27
1409.	Ar-1	XYZ-50	R^{11}-28
1410.	Ar-1	XYZ-50	R^{11}-29
1411.	Ar-1	XYZ-51	R^{11}-1
1412.	Ar-1	XYZ-51	R^{11}-2
1413.	Ar-1	XYZ-51	R^{11}-3
1414.	Ar-1	XYZ-51	R^{11}-4
1415.	Ar-1	XYZ-51	R^{11}-5
1416.	Ar-1	XYZ-51	R^{11}-6
1417.	Ar-1	XYZ-51	R^{11}-7
1418.	Ar-1	XYZ-51	R^{11}-8
1419.	Ar-1	XYZ-51	R^{11}-9
1420.	Ar-1	XYZ-51	R^{11}-10
1421.	Ar-1	XYZ-51	R^{11}-11
1422.	Ar-1	XYZ-51	R^{11}-12
1423.	Ar-1	XYZ-51	R^{11}-13
1424.	Ar-1	XYZ-51	R^{11}-14
1425.	Ar-1	XYZ-51	R^{11}-15
1426.	Ar-1	XYZ-51	R^{11}-16
1427.	Ar-1	XYZ-51	R^{11}-17
1428.	Ar-1	XYZ-51	R^{11}-18

	Ar	-X-Y-Z-	R^{11}/R^{12}
1429.	Ar-1	XYZ-51	R^{11}-19
1430.	Ar-1	XYZ-51	R^{11}-20
1431.	Ar-1	XYZ-51	R^{11}-21
1432.	Ar-1	XYZ-51	R^{11}-22
1433.	Ar-1	XYZ-51	R^{11}-23
1434.	Ar-1	XYZ-51	R^{11}-24
1435.	Ar-1	XYZ-51	R^{11}-25
1436.	Ar-1	XYZ-51	R^{11}-26
1437.	Ar-1	XYZ-51	R^{11}-27
1438.	Ar-1	XYZ-51	R^{11}-28
1439.	Ar-1	XYZ-51	R^{11}-29
1440.	Ar-1	XYZ-52	R^{11}-1
1441.	Ar-1	XYZ-52	R^{11}-2
1442.	Ar-1	XYZ-52	R^{11}-3
1443.	Ar-1	XYZ-52	R^{11}-4
1444.	Ar-1	XYZ-52	R^{11}-5
1445.	Ar-1	XYZ-52	R^{11}-6
1446.	Ar-1	XYZ-52	R^{11}-7
1447.	Ar-1	XYZ-52	R^{11}-8
1448.	Ar-1	XYZ-52	R^{11}-9
1449.	Ar-1	XYZ-52	R^{11}-10
1450.	Ar-1	XYZ-52	R^{11}-11
1451.	Ar-1	XYZ-52	R^{11}-12
1452.	Ar-1	XYZ-52	R^{11}-13
1453.	Ar-1	XYZ-52	R^{11}-14
1454.	Ar-1	XYZ-52	R^{11}-15
1455.	Ar-1	XYZ-52	R^{11}-16
1456.	Ar-1	XYZ-52	R^{11}-17
1457.	Ar-1	XYZ-52	R^{11}-18
1458.	Ar-1	XYZ-52	R^{11}-19
1459.	Ar-1	XYZ-52	R^{11}-20
1460.	Ar-1	XYZ-52	R^{11}-21
1461.	Ar-1	XYZ-52	R^{11}-22
1462.	Ar-1	XYZ-52	R^{11}-23
1463.	Ar-1	XYZ-52	R^{11}-24
1464.	Ar-1	XYZ-52	R^{11}-25
1465.	Ar-1	XYZ-52	R^{11}-26
1466.	Ar-1	XYZ-52	R^{11}-27

	Ar	-X-Y-Z-	R^{11}/R^{12}
1467.	Ar-1	XYZ-52	R^{11}-28
1468.	Ar-1	XYZ-52	R^{11}-29
1469.	Ar-1	XYZ-53	R^{11}-1
1470.	Ar-1	XYZ-53	R^{11}-2
1471.	Ar-1	XYZ-53	R^{11}-3
1472.	Ar-1	XYZ-53	R^{11}-4
1473.	Ar-1	XYZ-53	R^{11}-5
1474.	Ar-1	XYZ-53	R^{11}-6
1475.	Ar-1	XYZ-53	R^{11}-7
1476.	Ar-1	XYZ-53	R^{11}-8
1477.	Ar-1	XYZ-53	R^{11}-9
1478.	Ar-1	XYZ-53	R^{11}-10
1479.	Ar-1	XYZ-53	R^{11}-11
1480.	Ar-1	XYZ-53	R^{11}-12
1481.	Ar-1	XYZ-53	R^{11}-13
1482.	Ar-1	XYZ-53	R^{11}-14
1483.	Ar-1	XYZ-53	R^{11}-15
1484.	Ar-1	XYZ-53	R^{11}-16
1485.	Ar-1	XYZ-53	R^{11}-17
1486.	Ar-1	XYZ-53	R^{11}-18
1487.	Ar-1	XYZ-53	R^{11}-19
1488.	Ar-1	XYZ-53	R^{11}-20
1489.	Ar-1	XYZ-53	R^{11}-21
1490.	Ar-1	XYZ-53	R^{11}-22
1491.	Ar-1	XYZ-53	R^{11}-23
1492.	Ar-1	XYZ-53	R^{11}-24
1493.	Ar-1	XYZ-53	R^{11}-25
1494.	Ar-1	XYZ-53	R^{11}-26
1495.	Ar-1	XYZ-53	R^{11}-27
1496.	Ar-1	XYZ-53	R^{11}-28
1497.	Ar-1	XYZ-53	R^{11}-29
1498.	Ar-1	XYZ-54	R^{11}-1
1499.	Ar-1	XYZ-54	R^{11}-2
1500.	Ar-1	XYZ-54	R^{11}-3
1501.	Ar-1	XYZ-54	R^{11}-4
1502.	Ar-1	XYZ-54	R^{11}-5
1503.	Ar-1	XYZ-54	R^{11}-6
1504.	Ar-1	XYZ-54	R^{11}-7

	Ar	-X-Y-Z-	R^{11}/R^{12}
1505.	Ar-1	XYZ-54	R^{11}-8
1506.	Ar-1	XYZ-54	R^{11}-9
1507.	Ar-1	XYZ-54	R^{11}-10
1508.	Ar-1	XYZ-54	R^{11}-11
1509.	Ar-1	XYZ-54	R^{11}-12
1510.	Ar-1	XYZ-54	R^{11}-13
1511.	Ar-1	XYZ-54	R^{11}-14
1512.	Ar-1	XYZ-54	R^{11}-15
1513.	Ar-1	XYZ-54	R^{11}-16
1514.	Ar-1	XYZ-54	R^{11}-17
1515.	Ar-1	XYZ-54	R^{11}-18
1516.	Ar-1	XYZ-54	R^{11}-19
1517.	Ar-1	XYZ-54	R^{11}-20
1518.	Ar-1	XYZ-54	R^{11}-21
1519.	Ar-1	XYZ-54	R^{11}-22
1520.	Ar-1	XYZ-54	R^{11}-23
1521.	Ar-1	XYZ-54	R^{11}-24
1522.	Ar-1	XYZ-54	R^{11}-25
1523.	Ar-1	XYZ-54	R^{11}-26
1524.	Ar-1	XYZ-54	R^{11}-27
1525.	Ar-1	XYZ-54	R^{11}-28
1526.	Ar-1	XYZ-54	R^{11}-29
1527.	Ar-1	XYZ-55	R^{11}-1
1528.	Ar-1	XYZ-55	R^{11}-2
1529.	Ar-1	XYZ-55	R^{11}-3
1530.	Ar-1	XYZ-55	R^{11}-4
1531.	Ar-1	XYZ-55	R^{11}-5
1532.	Ar-1	XYZ-55	R^{11}-6
1533.	Ar-1	XYZ-55	R^{11}-7
1534.	Ar-1	XYZ-55	R^{11}-8
1535.	Ar-1	XYZ-55	R^{11}-9
1536.	Ar-1	XYZ-55	R^{11}-10
1537.	Ar-1	XYZ-55	R^{11}-11
1538.	Ar-1	XYZ-55	R^{11}-12
1539.	Ar-1	XYZ-55	R^{11}-13
1540.	Ar-1	XYZ-55	R^{11}-14
1541.	Ar-1	XYZ-55	R^{11}-15
1542.	Ar-1	XYZ-55	R^{11}-16

	Ar	-X-Y-Z-	R^{11}/R^{12}
1543.	Ar-1	XYZ-55	R^{11}-17
1544.	Ar-1	XYZ-55	R^{11}-18
1545.	Ar-1	XYZ-55	R^{11}-19
1546.	Ar-1	XYZ-55	R^{11}-20
1547.	Ar-1	XYZ-55	R^{11}-21
1548.	Ar-1	XYZ-55	R^{11}-22
1549.	Ar-1	XYZ-55	R^{11}-23
1550.	Ar-1	XYZ-55	R^{11}-24
1551.	Ar-1	XYZ-55	R^{11}-25
1552.	Ar-1	XYZ-55	R^{11}-26
1553.	Ar-1	XYZ-55	R^{11}-27
1554.	Ar-1	XYZ-55	R^{11}-28
1555.	Ar-1	XYZ-55	R^{11}-29
1556.	Ar-1	XYZ-56	R^{11}-1
1557.	Ar-1	XYZ-56	R^{11}-2
1558.	Ar-1	XYZ-56	R^{11}-3
1559.	Ar-1	XYZ-56	R^{11}-4
1560.	Ar-1	XYZ-56	R^{11}-5
1561.	Ar-1	XYZ-56	R^{11}-6
1562.	Ar-1	XYZ-56	R^{11}-7
1563.	Ar-1	XYZ-56	R^{11}-8
1564.	Ar-1	XYZ-56	R^{11}-9
1565.	Ar-1	XYZ-56	R^{11}-10
1566.	Ar-1	XYZ-56	R^{11}-11
1567.	Ar-1	XYZ-56	R^{11}-12
1568.	Ar-1	XYZ-56	R^{11}-13
1569.	Ar-1	XYZ-56	R^{11}-14
1570.	Ar-1	XYZ-56	R^{11}-15
1571.	Ar-1	XYZ-56	R^{11}-16
1572.	Ar-1	XYZ-56	R^{11}-17
1573.	Ar-1	XYZ-56	R^{11}-18
1574.	Ar-1	XYZ-56	R^{11}-19
1575.	Ar-1	XYZ-56	R^{11}-20
1576.	Ar-1	XYZ-56	R^{11}-21
1577.	Ar-1	XYZ-56	R^{11}-22
1578.	Ar-1	XYZ-56	R^{11}-23
1579.	Ar-1	XYZ-56	R^{11}-24
1580.	Ar-1	XYZ-56	R^{11}-25

	Ar	-X-Y-Z-	R^{11}/R^{12}
1581.	Ar-1	XYZ-56	R^{11}-26
1582.	Ar-1	XYZ-56	R^{11}-27
1583.	Ar-1	XYZ-56	R^{11}-28
1584.	Ar-1	XYZ-56	R^{11}-29
1585.	Ar-1	XYZ-57	R^{11}-1
1586.	Ar-1	XYZ-57	R^{11}-2
1587.	Ar-1	XYZ-57	R^{11}-3
1588.	Ar-1	XYZ-57	R^{11}-4
1589.	Ar-1	XYZ-57	R^{11}-5
1590.	Ar-1	XYZ-57	R^{11}-6
1591.	Ar-1	XYZ-57	R^{11}-7
1592.	Ar-1	XYZ-57	R^{11}-8
1593.	Ar-1	XYZ-57	R^{11}-9
1594.	Ar-1	XYZ-57	R^{11}-10
1595.	Ar-1	XYZ-57	R^{11}-11
1596.	Ar-1	XYZ-57	R^{11}-12
1597.	Ar-1	XYZ-57	R^{11}-13
1598.	Ar-1	XYZ-57	R^{11}-14
1599.	Ar-1	XYZ-57	R^{11}-15
1600.	Ar-1	XYZ-57	R^{11}-16
1601.	Ar-1	XYZ-57	R^{11}-17
1602.	Ar-1	XYZ-57	R^{11}-18
1603.	Ar-1	XYZ-57	R^{11}-19
1604.	Ar-1	XYZ-57	R^{11}-20
1605.	Ar-1	XYZ-57	R^{11}-21
1606.	Ar-1	XYZ-57	R^{11}-22
1607.	Ar-1	XYZ-57	R^{11}-23
1608.	Ar-1	XYZ-57	R^{11}-24
1609.	Ar-1	XYZ-57	R^{11}-25
1610.	Ar-1	XYZ-57	R^{11}-26
1611.	Ar-1	XYZ-57	R^{11}-27
1612.	Ar-1	XYZ-57	R^{11}-28
1613.	Ar-1	XYZ-57	R^{11}-29
1614.	Ar-1	XYZ-58	R^{11}-1
1615.	Ar-1	XYZ-58	R^{11}-2
1616.	Ar-1	XYZ-58	R^{11}-3
1617.	Ar-1	XYZ-58	R^{11}-4
1618.	Ar-1	XYZ-58	R^{11}-5

	Ar	-X-Y-Z-	R^{11}/R^{12}
1619.	Ar-1	XYZ-58	R^{11}-6
1620.	Ar-1	XYZ-58	R^{11}-7
1621.	Ar-1	XYZ-58	R^{11}-8
1622.	Ar-1	XYZ-58	R^{11}-9
1623.	Ar-1	XYZ-58	R^{11}-10
1624.	Ar-1	XYZ-58	R^{11}-11
1625.	Ar-1	XYZ-58	R^{11}-12
1626.	Ar-1	XYZ-58	R^{11}-13
1627.	Ar-1	XYZ-58	R^{11}-14
1628.	Ar-1	XYZ-58	R^{11}-15
1629.	Ar-1	XYZ-58	R^{11}-16
1630.	Ar-1	XYZ-58	R^{11}-17
1631.	Ar-1	XYZ-58	R^{11}-18
1632.	Ar-1	XYZ-58	R^{11}-19
1633.	Ar-1	XYZ-58	R^{11}-20
1634.	Ar-1	XYZ-58	R^{11}-21
1635.	Ar-1	XYZ-58	R^{11}-22
1636.	Ar-1	XYZ-58	R^{11}-23
1637.	Ar-1	XYZ-58	R^{11}-24
1638.	Ar-1	XYZ-58	R^{11}-25
1639.	Ar-1	XYZ-58	R^{11}-26
1640.	Ar-1	XYZ-58	R^{11}-27
1641.	Ar-1	XYZ-58	R^{11}-28
1642.	Ar-1	XYZ-58	R^{11}-29
1643.	Ar-1	XYZ-59	R^{11}-1
1644.	Ar-1	XYZ-59	R^{11}-2
1645.	Ar-1	XYZ-59	R^{11}-3
1646.	Ar-1	XYZ-59	R^{11}-4
1647.	Ar-1	XYZ-59	R^{11}-5
1648.	Ar-1	XYZ-59	R^{11}-6
1649.	Ar-1	XYZ-59	R^{11}-7
1650.	Ar-1	XYZ-59	R^{11}-8
1651.	Ar-1	XYZ-59	R^{11}-9
1652.	Ar-1	XYZ-59	R^{11}-10
1653.	Ar-1	XYZ-59	R^{11}-11
1654.	Ar-1	XYZ-59	R^{11}-12
1655.	Ar-1	XYZ-59	R^{11}-13
1656.	Ar-1	XYZ-59	R^{11}-14

	Ar	-X-Y-Z-	R^{11}/R^{12}
1657.	Ar-1	XYZ-59	R^{11}-15
1658.	Ar-1	XYZ-59	R^{11}-16
1659.	Ar-1	XYZ-59	R^{11}-17
1660.	Ar-1	XYZ-59	R^{11}-18
1661.	Ar-1	XYZ-59	R^{11}-19
1662.	Ar-1	XYZ-59	R^{11}-20
1663.	Ar-1	XYZ-59	R^{11}-21
1664.	Ar-1	XYZ-59	R^{11}-22
1665.	Ar-1	XYZ-59	R^{11}-23
1666.	Ar-1	XYZ-59	R^{11}-24
1667.	Ar-1	XYZ-59	R^{11}-25
1668.	Ar-1	XYZ-59	R^{11}-26
1669.	Ar-1	XYZ-59	R^{11}-27
1670.	Ar-1	XYZ-59	R^{11}-28
1671.	Ar-1	XYZ-59	R^{11}-29
1672.	Ar-1	XYZ-60	R^{11}-1
1673.	Ar-1	XYZ-60	R^{11}-2
1674.	Ar-1	XYZ-60	R^{11}-3
1675.	Ar-1	XYZ-60	R^{11}-4
1676.	Ar-1	XYZ-60	R^{11}-5
1677.	Ar-1	XYZ-60	R^{11}-6
1678.	Ar-1	XYZ-60	R^{11}-7
1679.	Ar-1	XYZ-60	R^{11}-8
1680.	Ar-1	XYZ-60	R^{11}-9
1681.	Ar-1	XYZ-60	R^{11}-10
1682.	Ar-1	XYZ-60	R^{11}-11
1683.	Ar-1	XYZ-60	R^{11}-12
1684.	Ar-1	XYZ-60	R^{11}-13
1685.	Ar-1	XYZ-60	R^{11}-14
1686.	Ar-1	XYZ-60	R^{11}-15
1687.	Ar-1	XYZ-60	R^{11}-16
1688.	Ar-1	XYZ-60	R^{11}-17
1689.	Ar-1	XYZ-60	R^{11}-18
1690.	Ar-1	XYZ-60	R^{11}-19
1691.	Ar-1	XYZ-60	R^{11}-20
1692.	Ar-1	XYZ-60	R^{11}-21
1693.	Ar-1	XYZ-60	R^{11}-22
1694.	Ar-1	XYZ-60	R^{11}-23

	Ar	-X-Y-Z-	R^{11}/R^{12}
1695.	Ar-1	XYZ-60	R^{11}-24
1696.	Ar-1	XYZ-60	R^{11}-25
1697.	Ar-1	XYZ-60	R^{11}-26
1698.	Ar-1	XYZ-60	R^{11}-27
1699.	Ar-1	XYZ-60	R^{11}-28
1700.	Ar-1	XYZ-60	R^{11}-29
1701.	Ar-1	XYZ-61	R^{11}-1
1702.	Ar-1	XYZ-61	R^{11}-2
1703.	Ar-1	XYZ-61	R^{11}-3
1704.	Ar-1	XYZ-61	R^{11}-4
1705.	Ar-1	XYZ-61	R^{11}-5
1706.	Ar-1	XYZ-61	R^{11}-6
1707.	Ar-1	XYZ-61	R^{11}-7
1708.	Ar-1	XYZ-61	R^{11}-8
1709.	Ar-1	XYZ-61	R^{11}-9
1710.	Ar-1	XYZ-61	R^{11}-10
1711.	Ar-1	XYZ-61	R^{11}-11
1712.	Ar-1	XYZ-61	R^{11}-12
1713.	Ar-1	XYZ-61	R^{11}-13
1714.	Ar-1	XYZ-61	R^{11}-14
1715.	Ar-1	XYZ-61	R^{11}-15
1716.	Ar-1	XYZ-61	R^{11}-16
1717.	Ar-1	XYZ-61	R^{11}-17
1718.	Ar-1	XYZ-61	R^{11}-18
1719.	Ar-1	XYZ-61	R^{11}-19
1720.	Ar-1	XYZ-61	R^{11}-20
1721.	Ar-1	XYZ-61	R^{11}-21
1722.	Ar-1	XYZ-61	R^{11}-22
1723.	Ar-1	XYZ-61	R^{11}-23
1724.	Ar-1	XYZ-61	R^{11}-24
1725.	Ar-1	XYZ-61	R^{11}-25
1726.	Ar-1	XYZ-61	R^{11}-26
1727.	Ar-1	XYZ-61	R^{11}-27
1728.	Ar-1	XYZ-61	R^{11}-28
1729.	Ar-1	XYZ-61	R^{11}-29
1730.	Ar-1	XYZ-62	R^{11}-1
1731.	Ar-1	XYZ-62	R^{11}-2
1732.	Ar-1	XYZ-62	R^{11}-3

	Ar	-X-Y-Z-	R^{11}/R^{12}
1733.	Ar-1	XYZ-62	R^{11}-4
1734.	Ar-1	XYZ-62	R^{11}-5
1735.	Ar-1	XYZ-62	R^{11}-6
1736.	Ar-1	XYZ-62	R^{11}-7
1737.	Ar-1	XYZ-62	R^{11}-8
1738.	Ar-1	XYZ-62	R^{11}-9
1739.	Ar-1	XYZ-62	R^{11}-10
1740.	Ar-1	XYZ-62	R^{11}-11
1741.	Ar-1	XYZ-62	R^{11}-12
1742.	Ar-1	XYZ-62	R^{11}-13
1743.	Ar-1	XYZ-62	R^{11}-14
1744.	Ar-1	XYZ-62	R^{11}-15
1745.	Ar-1	XYZ-62	R^{11}-16
1746.	Ar-1	XYZ-62	R^{11}-17
1747.	Ar-1	XYZ-62	R^{11}-18
1748.	Ar-1	XYZ-62	R^{11}-19
1749.	Ar-1	XYZ-62	R^{11}-20
1750.	Ar-1	XYZ-62	R^{11}-21
1751.	Ar-1	XYZ-62	R^{11}-22
1752.	Ar-1	XYZ-62	R^{11}-23
1753.	Ar-1	XYZ-62	R^{11}-24
1754.	Ar-1	XYZ-62	R^{11}-25
1755.	Ar-1	XYZ-62	R^{11}-26
1756.	Ar-1	XYZ-62	R^{11}-27
1757.	Ar-1	XYZ-62	R^{11}-28
1758.	Ar-1	XYZ-62	R^{11}-29
1759.	Ar-1	XYZ-63	R^{11}-1
1760.	Ar-1	XYZ-63	R^{11}-2
1761.	Ar-1	XYZ-63	R^{11}-3
1762.	Ar-1	XYZ-63	R^{11}-4
1763.	Ar-1	XYZ-63	R^{11}-5
1764.	Ar-1	XYZ-63	R^{11}-6
1765.	Ar-1	XYZ-63	R^{11}-7
1766.	Ar-1	XYZ-63	R^{11}-8
1767.	Ar-1	XYZ-63	R^{11}-9
1768.	Ar-1	XYZ-63	R^{11}-10
1769.	Ar-1	XYZ-63	R^{11}-11
1770.	Ar-1	XYZ-63	R^{11}-12

	Ar	-X-Y-Z-	R^{11}/R^{12}
1771.	Ar-1	XYZ-63	R^{11}-13
1772.	Ar-1	XYZ-63	R^{11}-14
1773.	Ar-1	XYZ-63	R^{11}-15
1774.	Ar-1	XYZ-63	R^{11}-16
1775.	Ar-1	XYZ-63	R^{11}-17
1776.	Ar-1	XYZ-63	R^{11}-18
1777.	Ar-1	XYZ-63	R^{11}-19
1778.	Ar-1	XYZ-63	R^{11}-20
1779.	Ar-1	XYZ-63	R^{11}-21
1780.	Ar-1	XYZ-63	R^{11}-22
1781.	Ar-1	XYZ-63	R^{11}-23
1782.	Ar-1	XYZ-63	R^{11}-24
1783.	Ar-1	XYZ-63	R^{11}-25
1784.	Ar-1	XYZ-63	R^{11}-26
1785.	Ar-1	XYZ-63	R^{11}-27
1786.	Ar-1	XYZ-63	R^{11}-28
1787.	Ar-1	XYZ-63	R^{11}-29
1788.	Ar-1	XYZ-64	R^{11}-1
1789.	Ar-1	XYZ-64	R^{11}-2
1790.	Ar-1	XYZ-64	R^{11}-3
1791.	Ar-1	XYZ-64	R^{11}-4
1792.	Ar-1	XYZ-64	R^{11}-5
1793.	Ar-1	XYZ-64	R^{11}-6
1794.	Ar-1	XYZ-64	R^{11}-7
1795.	Ar-1	XYZ-64	R^{11}-8
1796.	Ar-1	XYZ-64	R^{11}-9
1797.	Ar-1	XYZ-64	R^{11}-10
1798.	Ar-1	XYZ-64	R^{11}-11
1799.	Ar-1	XYZ-64	R^{11}-12
1800.	Ar-1	XYZ-64	R^{11}-13
1801.	Ar-1	XYZ-64	R^{11}-14
1802.	Ar-1	XYZ-64	R^{11}-15
1803.	Ar-1	XYZ-64	R^{11}-16
1804.	Ar-1	XYZ-64	R^{11}-17
1805.	Ar-1	XYZ-64	R^{11}-18
1806.	Ar-1	XYZ-64	R^{11}-19
1807.	Ar-1	XYZ-64	R^{11}-20
1808.	Ar-1	XYZ-64	R^{11}-21

	Ar	-X-Y-Z-	R^{11}/R^{12}
1809.	Ar-1	XYZ-64	R^{11}-22
1810.	Ar-1	XYZ-64	R^{11}-23
1811.	Ar-1	XYZ-64	R^{11}-24
1812.	Ar-1	XYZ-64	R^{11}-25
1813.	Ar-1	XYZ-64	R^{11}-26
1814.	Ar-1	XYZ-64	R^{11}-27
1815.	Ar-1	XYZ-64	R^{11}-28
1816.	Ar-1	XYZ-64	R^{11}-29
1817.	Ar-1	XYZ-65	R^{11}-1
1818.	Ar-1	XYZ-65	R^{11}-2
1819.	Ar-1	XYZ-65	R^{11}-3
1820.	Ar-1	XYZ-65	R^{11}-4
1821.	Ar-1	XYZ-65	R^{11}-5
1822.	Ar-1	XYZ-65	R^{11}-6
1823.	Ar-1	XYZ-65	R^{11}-7
1824.	Ar-1	XYZ-65	R^{11}-8
1825.	Ar-1	XYZ-65	R^{11}-9
1826.	Ar-1	XYZ-65	R^{11}-10
1827.	Ar-1	XYZ-65	R^{11}-11
1828.	Ar-1	XYZ-65	R^{11}-12
1829.	Ar-1	XYZ-65	R^{11}-13
1830.	Ar-1	XYZ-65	R^{11}-14
1831.	Ar-1	XYZ-65	R^{11}-15
1832.	Ar-1	XYZ-65	R^{11}-16
1833.	Ar-1	XYZ-65	R^{11}-17
1834.	Ar-1	XYZ-65	R^{11}-18
1835.	Ar-1	XYZ-65	R^{11}-19
1836.	Ar-1	XYZ-65	R^{11}-20
1837.	Ar-1	XYZ-65	R^{11}-21
1838.	Ar-1	XYZ-65	R^{11}-22
1839.	Ar-1	XYZ-65	R^{11}-23
1840.	Ar-1	XYZ-65	R^{11}-24
1841.	Ar-1	XYZ-65	R^{11}-25
1842.	Ar-1	XYZ-65	R^{11}-26
1843.	Ar-1	XYZ-65	R^{11}-27
1844.	Ar-1	XYZ-65	R^{11}-28
1845.	Ar-1	XYZ-65	R^{11}-29
1846.	Ar-1	XYZ-66	R^{11}-1

	Ar	-X-Y-Z-	R^{11}/R^{12}
1847.	Ar-1	XYZ-66	R^{11}-2
1848.	Ar-1	XYZ-66	R^{11}-3
1849.	Ar-1	XYZ-66	R^{11}-4
1850.	Ar-1	XYZ-66	R^{11}-5
1851.	Ar-1	XYZ-66	R^{11}-6
1852.	Ar-1	XYZ-66	R^{11}-7
1853.	Ar-1	XYZ-66	R^{11}-8
1854.	Ar-1	XYZ-66	R^{11}-9
1855.	Ar-1	XYZ-66	R^{11}-10
1856.	Ar-1	XYZ-66	R^{11}-11
1857.	Ar-1	XYZ-66	R^{11}-12
1858.	Ar-1	XYZ-66	R^{11}-13
1859.	Ar-1	XYZ-66	R^{11}-14
1860.	Ar-1	XYZ-66	R^{11}-15
1861.	Ar-1	XYZ-66	R^{11}-16

	Ar	-X-Y-Z-	R^{11}/R^{12}
1862.	Ar-1	XYZ-66	R^{11}-17
1863.	Ar-1	XYZ-66	R^{11}-18
1864.	Ar-1	XYZ-66	R^{11}-19
1865.	Ar-1	XYZ-66	R^{11}-20
1866.	Ar-1	XYZ-66	R^{11}-21
1867.	Ar-1	XYZ-66	R^{11}-22
1868.	Ar-1	XYZ-66	R^{11}-23
1869.	Ar-1	XYZ-66	R^{11}-24
1870.	Ar-1	XYZ-66	R^{11}-25
1871.	Ar-1	XYZ-66	R^{11}-26
1872.	Ar-1	XYZ-66	R^{11}-27
1873.	Ar-1	XYZ-66	R^{11}-28
1874.	Ar-1	XYZ-66	R^{11}-29

Particular preferred examples of compounds are selected from the group consisting of the following compounds:

(2Z)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-3-(2-isopropylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]-4-(trifluoromethyl)thiazolidin-4-ol, (E)-3-(2-isopropylphenyl)-4-methyl-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazol-2-imine, (2Z)-3-(2,6-dimethylphenyl)-4-methyl-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one, (2Z)-2-(2,6-dimethylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one, (E)-3-(2-isopropylphenyl)-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]-1,3-thiazetidin-2-imine, (E)-3-(2,6-dimethylphenyl)-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]-benzimidazol-7-yl]methyleneamino]-1,3-thiazetidin-2-imine, (2Z)-3-(2,6-dimethylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]-4-(trifluoromethyl)thiazolidin-4-ol, 3-(2,6-dimethylphenyl)-N2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidine-2,4-diimine, [(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, 1-[(2-isopropylphenyl)carbamothioyl]-3-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]ethyl]urea, (2Z)-3-(2,6-dimethylphenyl)-4-methyl-2-[(E)-[3-[6-(trifluoromethyl)pyridazine-3-yl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[3-[6-(trifluoromethyl)pyridazine-3-yl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-3-(2-isopropyl-5-methyl-phenyl)-4-methyl-2-[(E)-[3-[6-(trifluoromethyl)pyridazin-3-yl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol,

(2Z)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]-4,5-dihydrobenzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-2-[(E)-[5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[3,4-d]imidazol-7-yl]methylenehydrazono]-3-(2-isopropylphenyl)-4-methyl-thiazolidin-4-ol, (2Z)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-3-(2,6-dimethylphenyl)-2-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]-benzimidazol-7-yl]cyclopropyl]imino-thiazolidin-4-one, (2Z)-3-(2,6-dimethylphenyl)-2-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]ethylimino]thiazolidin-4-one, (2Z)-3-(2,6-dimethylphenyl)-2-[[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylimino]thiazolidin-4-one, (NE)-N-[(2Z)-3-(2,6-dimethylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]-benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ylidene]acetamide, (E)-[(2Z)-3-(2,6-dimethylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ylidene]cyanamide, 1-(2,6-dimethylphenyl)-3-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]cyclopropyl]thiourea, 1-(2,6-dimethylphenyl)-3-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]ethyl]thiourea, 1-(2,6-dimethylphenyl)-3-[[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyl]thiourea, 3-(2,6-dimethylphenyl)-N4-methyl-N2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidine-2,4-diimine, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, (E)-1-[3-(p-tolyl)benzo[e]benzimidazol-7-yl]-N-[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-methanimine, (E)-N-[(2S,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-1-[3-(p-tolyl)benzo[e]benzimidazol-7-yl]methanimine, (2Z)-2-(2,6-dimethylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]-1,3-thiazinan-4-one, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]-4,5-dihydrobenzo[e]benzimidazol-7-yl]carbamate, [(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]-4,5-dihydrobenzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3R,4R,5S,6S)-3,5-dimethoxy-6-methyl-4-propoxy-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-3,5-dimethoxy-6-methyl-4-propoxy-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(1,1,2,2,2-pentafluoroethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(1,1,2,2,2-pentafluoroethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3R,4R,5S,6S)-4-ethoxy-3,5-di-

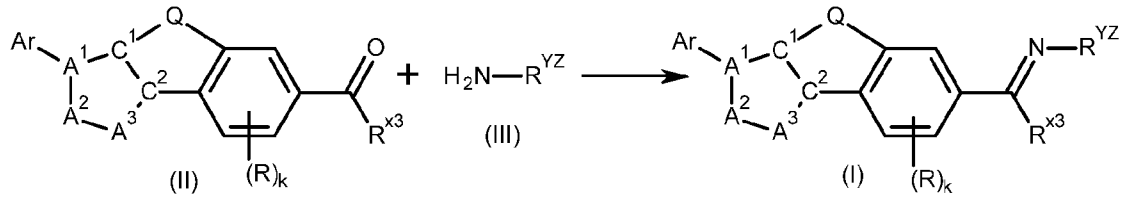
methoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(1,1,2,2,2-pentafluoroethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(1,1,2,2,2-pentafluoroethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-3,5-dimethoxy-6-methyl-4-propoxy-tetrahydropyran-2-yl] N-[3-[4-(1,1,2,2,2-pentafluoroethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-3,5-dimethoxy-6-methyl-4-propoxy-tetrahydropyran-2-yl] N-[3-[4-(1,1,2,2,2-pentafluoroethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, (E)-1-[3-(p-tolyl)benzo[e]benzimidazol-7-yl]-N-[(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-methanimine, (E)-N-[(2R,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-1-[3-(p-tolyl)benzo[e]benzimidazol-7-yl]methanimine, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[2-methyl-3-[4-(trifluoromethoxy)phenyl]-4,5-dihydrobenzo[g]indazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[2-methyl-3-[4-(trifluoromethoxy)phenyl]benzo[g]indazol-7-yl]carbamate, (2Z)-2-[3-(2-isopropylphenyl)-4-oxo-thiazolidin-2-ylidene]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]acetamide, 3-(2-isopropylanilino)-3-thioxo-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanamide, (2Z)-2-cyano-2-[3-(2-isopropylphenyl)-4-oxo-thiazolidin-2-ylidene]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]acetamide, 2-cyano-3-(2-isopropylanilino)-3-thioxo-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanamide, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S)-3,4,5-trimethoxytetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3S,4R,5S,6S)-3,4,5-trimethoxy-6-(methoxymethyl)tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3S,4R,5S)-3,4,5-trimethoxytetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-(methoxymethyl)tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, (E)-N-[(2S,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methanimine, (E)-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]-N-[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-methanimine, (E)-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]-N-[(2S,3R,4R,5S,6S)-3,4,5-trimet[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[6-(trifluoromethyl)pyridazin-3-yl]benzo[e]benzimidazol-7-yl]carbamate, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]methyleneamino]thiazolidin-4-one, (2E)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]methylenehydrazono]thiazolidin-4-ol, 1-(2-isopropylphenyl)-3-[(E)-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]cyclopropyl]methyleneamino]thiourea, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]imidazo[4,5-c]isoquinolin-7-yl]methyleneamino]thiazolidin-4-one, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(1,1,2,2,2-pentafluoroethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[5-(trifluoromethyl)-1,3,4-thiadiazol-2-yl]benzo[e]benzimidazol-7-

yl]methyleneamino]thiazolidin-4-onehoxy-6-methyl-tetrahydropyran-2-yl]oxy-ethanimine, and the N-oxides, stereoisomers, tautomers and agriculturally or veterinarily acceptable salts thereof.

The compounds of the formula (I) can be prepared by the standard methods of organic chemistry, e.g. by the methods described hereinafter in schemes 1 to 25 and in the synthesis descriptions of the working examples. In schemes 1 to 25, the radicals Ar, A^1, A^2, A^3, C^1, C^2, Q, X, Y, Z, R, R^1, R^{11}, R^{Q3}, R^{Q3a}, R^{Q3b}, R^{Q4}, R^{Q4a}, R^{Q4b}, R^{x3}, R^{x3a}, R^{x1a}, R^{y1}, R^{y2}, R^z and the index k are as defined above for formula (I), if not otherwise specified.

Compounds of formula (I) in which X' is -C(R^{x3})=N- can be performed by analogy to the methods described in WO 2011/017504, as depicted in scheme 1:

Scheme 1:



In Scheme 1, R^{YZ} represents a radical Y-Z^2-R^{12}, Y-Z^3-R^{11}, Y'-Z^4-R^{11}, or Y''-Z^5-R^{11}, respectively, or a suitable precursor radical, e.g. OH, NH-R^{y1}, NH-R^{y2} etc., which can be functionalized to generate the required moiety Y-Z^2-R^{12}, Y-Z^3-R^{11}, Y'-Z^4-R^{11}, or Y''-Z^5-R^{11}, respectively.

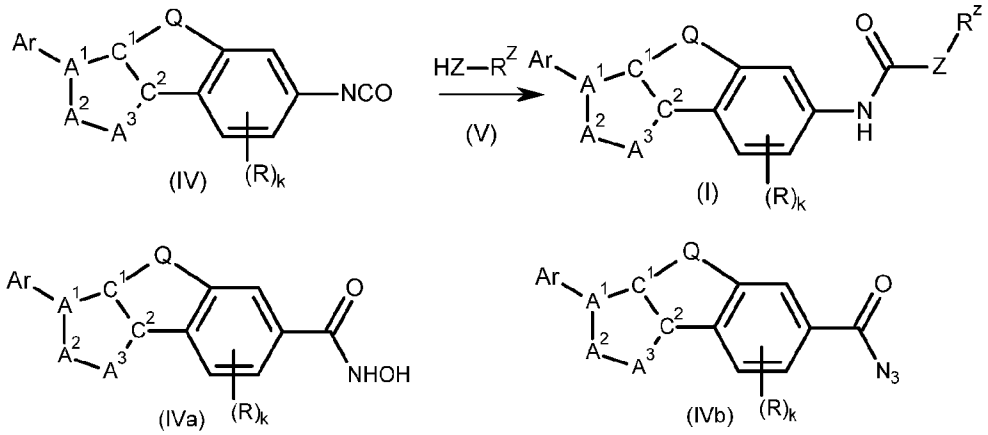
For this, an aldehyde or ketone compound of the formula (II) is reacted with a compound of the formula (III) in the presence or in the absence of a solvent. Suitable solvents are polar protic solvents. If the reaction is performed in the absence of a solvent, the thiosemicarbazide compound of the formula (III) usually also act as solvent. Compounds of the formula (III) are commercially available or can be prepared according to standard procedures of the organic chemistry.

According to an embodiment of Scheme 1, an aldehyde or ketone compound of the formula (II) is first reacted with a hydrazine of the formula $R^{y1}NHNH_2$ or $R^{y2}NHNH_2$ followed by the reaction with an isocyanate of the formula R^{12}-NCO or with an isothiocyanate R^{12}-NCS to yield a compound of the formula (I), wherein Y-Z^2-R^{12} is N(R^{y1})-C(O)-NHR^{12} or N(R^{y2})-C(S)-NHR^{12}. Usually, the reaction is carried out in a polar aprotic solvent such as tetrahydrofuran.

According to another embodiment of Scheme 1, an aldehyde or ketone compound of the formula (II) is first reacted with a hydroxylamine followed by the reaction with a compounds R^{12}-L, where L is a suitable leaving group, such as halogen or activated OH. Thereby, a compound of the formula (I) will result, wherein Y is a single bond and Z^2 is O.

Compounds of the formula (I), wherein X' is a single bond and Y is NH-C(O)- or X' is NH-C(O)- can be prepared as shown in the Scheme 2 below by analogy to the method described in Synthesis, 2010, 2990-2966.

Scheme 2:

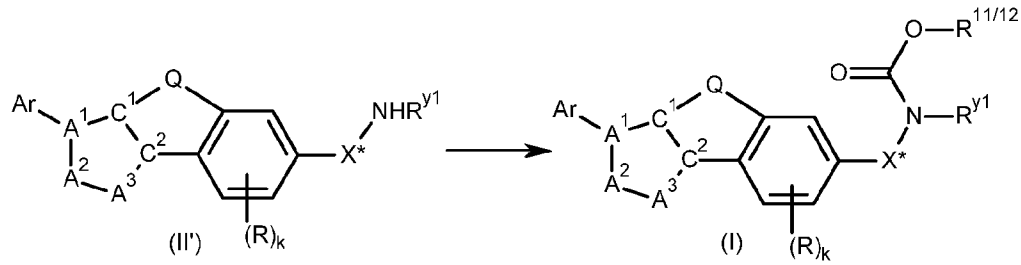


In scheme 2, Z is O or NH and R^Z corresponds to R^{12} or Z^4-R^{11} or Z-R^z corresponds to Y-Z^2-R^{12}, Y-Z^3-R^{11}, Y'-Z^4-R^{11} or Y''-Z^5-R^{11}. According to the method depicted in scheme 2, an isocyanate compound of the formula IV is reacted with the compound of formula (V) by standard methods of isocyanate chemistry. The isocyanate of the formula (IV) may be obtained e.g. via Lossen rearrangement of the corresponding hydroxamic acid (IVa). The isocyanate of the formula (IV) may also be obtained via Curtius rearrangement of the corresponding azide of the formula (IVb), e.g. by analogy to the method described in WO 2014/204622. To this end, the hydroxamic acid is reacted with 1-propanephosphonic acid cyclic anhydride (T3P) in the presence of a base. The base is preferably N-methylmorpholine.

For converting compounds of formula (I) in which R^{x2} or R^{y1} is H into compounds (I) in which R^{x2} or R^{y1} is not H, compounds of formula (I) in which R^{x2} or R^{y1} is H can be reacted with compounds of formulae R^{x2}-Lg or R^{y1}-Lg, wherein R^{x2} or R^{y1} is not H and Lg is a leaving group, such as a Br, Cl or I atom or a tosylate, mesylate or triflate, to yield compounds of formula (I), wherein R^{x2} or R^{y1} is different from H. The reaction is suitably carried out in the presence of a base such as sodium hydride or potassium hydride, suitably in a polar aprotic solvent such as N,N-dimethylformamide, tetrahydrofuran, dioxane, acetonitrile, dimethylsulfoxide or pyridine, or mixtures of these solvents, in a temperature range of from 0°C and 100 C.

Carbamate compounds of the formula (I), in which Y is -N(R^{y1})-C(=O)-, and Z^1 or Z^2, respectively, is O can also be prepared as shown in Scheme 3 below and by analogy to the methods described in WO 2011/017513.

Scheme 3:



In scheme 3 X* corresponds to X or to X' with X' being a xingle bond, $(CHR^{xa})_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl or cyclopropane-1,2-diyl, respectively. $R^{11/12}$ corresponds

to radicals R^{11} or R^{12}, respectively. The reaction shown in scheme 3 can be performed by analogy to conventional methods of preparing carbamates. According to a first embodiment, the amine of the formula (II') is converted into either an isocyanate or p-nitrophenyl carbamate followed by treatment with an alcohol of the formula R^{11}-OH or R^{12}-OH, respectively, in the presence of an organic or inorganic base. According to another embodiment, the compound of the formula (II') is reacted with a chloroformate of the formula $R^{11/12}$-O-C(=O)-Cl. The chloroformate is prepared from the alcohols $R^{11/12}$OH by treatment with phosgene or triphosgene in the presence of a base, e.g. pyridine.

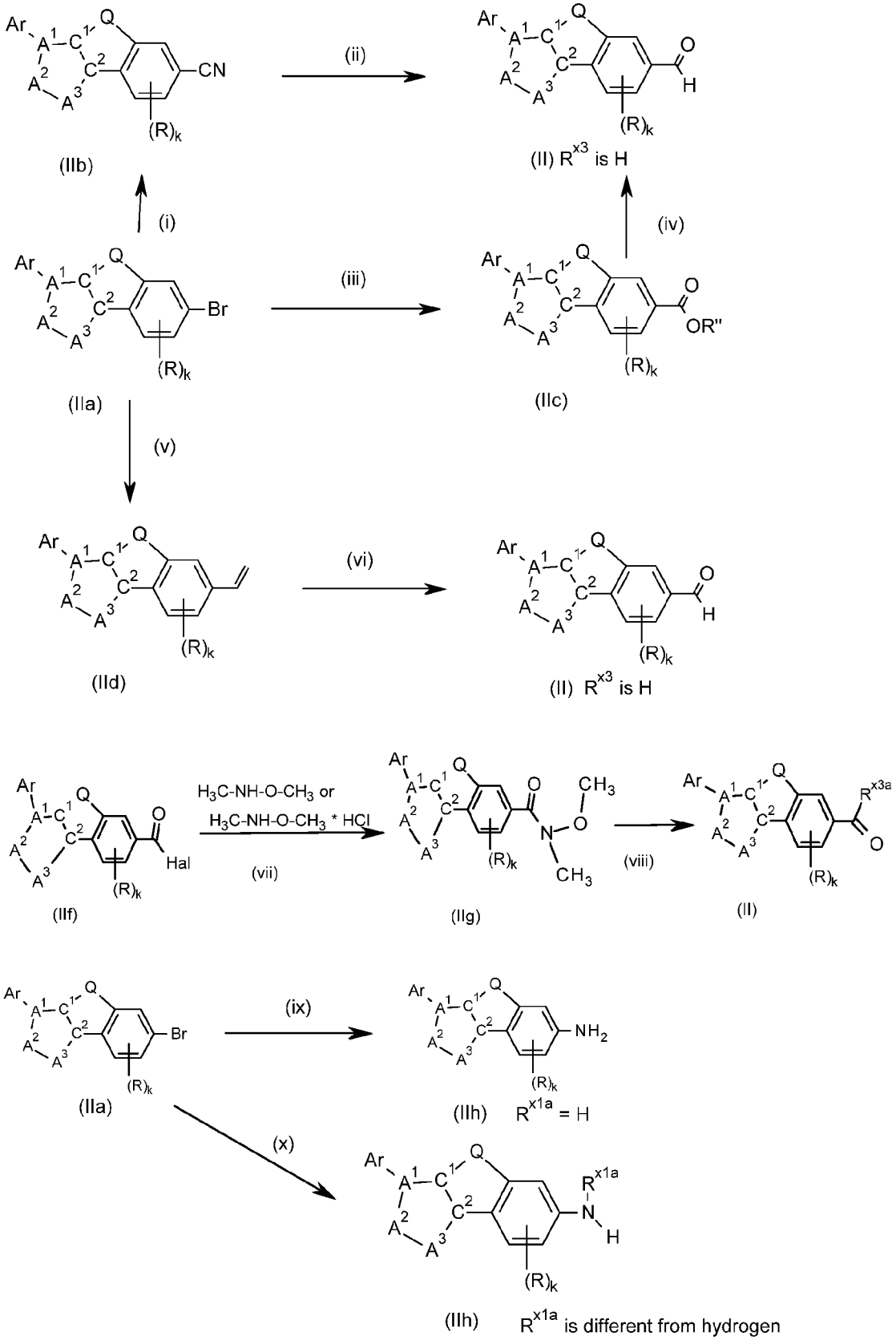
Compounds of formula (I), in which X' is -N(R^{x2})-C(=O)-, Y or Y'' is -N=C(($S)_p$-R^{y3}) can be prepared by analogy to the methods described in WO 2013/009791, especially in schemes 1 to 11 described therein..

Compounds of formula (I), in which X' is -N(R^{x2})-C(=O)-, Y or Y'' is -N=C(($O)_p$-R^{y3}) can be prepared by analogy to the methods described in WO 2013/009791, especially in schemes 1, 2 and 3 described therein, or by the methods described in in US 2012/0202687.

Compounds of formula (I), where R^1 is a moiety X-Y-Z^1-R^{11} or a moietyl -X'-Y-Z^2-R^{12} , a moiety -X'-Y-Z^3-R^{11}, a moiety –X'-Y'-Z^4-R^{11} or a moiety –X'-Y''-Z^5-R^{11} in which X' is (CHR^{xa})$_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl or cyclopropane-1,2-diyl can be prepared by analogy to the methods depicted in schemes 2 to 3.

Compounds of the formula (II) and (II)' can be prepared by analogy to the methods described in in literature and in accordance with the methods described in the examples. Usually compounds of the formula (II) are prepared by the reactions shown in the following Scheme 4.

Scheme 4:


(IIb)
(II) R^{x3} is H
(IIa)
(IIc)
(IId)
(II) R^{x3} is H
(IIf)
H_3C-NH-O-CH_3 or
H_3C-NH-O-CH_3 * HCl
(vii)
(IIg)
(viii)
(II)
(IIa)
(IIh) R^{x1a} = H
(IIh) R^{x1a} is different from hydrogen

5

In Scheme 4, R'' is C_1-C_6-alkyl and Hal is halogen, preferably Cl or Br, in particular Br.

Suitable reaction conditions for performing the preparation of the cyanide compound of the formula (IIb) (reaction step (i) of Scheme 4) by a Pd-catalyzed aromatic cyanation reaction of an aryl bromide of the formula (IIa) with an alkalimetal cyanide, preferably NaCN, can be taken from Journal of the American Chemical Society, 133 (28), 10999-11005; 2011.The reduction of a cyanide compound (IIb) to an aldehyde compound (II) shown in step (ii) of Scheme 4 can be performed with a metal alkoxyaluminum hydride. Suitable alkoxyaluminum hydrides are lithium alkoxyaluminum hydrides and sodium alkoxyaluminum hydrides, e.g. $Na[Al(OC_2H_5)_3H]$. Suitable reaction conditions for step (ii) of Scheme 4 can be taken from Organic Reactions (Hooboken, NJ, United States), pp 36, 1988. The conversion of the aryl bromide (IIa) into the ester compound (IIc) is shown in reaction step (iii) of Scheme 4. Suitable reaction conditions for the palladium-catalysed reaction can be taken from Journal of Medicinal Chemistry, 52 (22), 7258-7272; 2009. Suitable reaction conditions for performing the palladium catalyzed reaction step (iv) of Scheme 4 can be taken from Synlett, (6), 869-872; 2006. Suitable reaction conditions for performing the reaction step (v) of Scheme 5 can be taken from Journal of the American Chemical Society, 124(22), 6343-6348, 2002. Suitable reaction conditions for performing the reaction step (vi) of Scheme 5 can be taken from European Journal of Medicinal Chemistry, 49, 310-323; 2012.

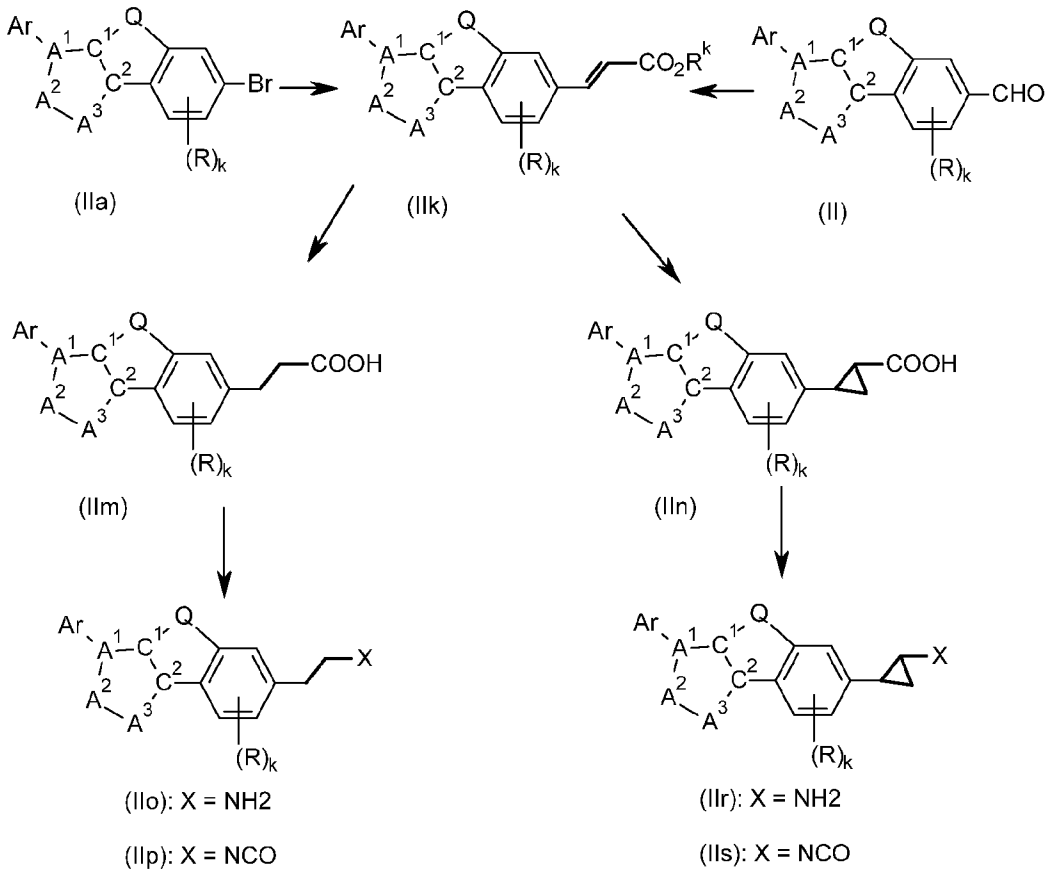
Compounds of the formula (IIe) can be prepared by reacting methyl or ethyl carboxylic esters of the formula (IIc) with hydroxylamine. The reaction can be performed in analogy to the method described in J. Org. Chem., 2009, 74, 3540-3543.

Compounds of the formula (II) can also be prepared by reacting an acid halide of the formula (IIf) with N,O-dimethylhydroxyamide or N,O-dimethylhydroxyamide hydrochloride to give the corresponding Weinreb-amide of the formula (IIg) as shown in reaction step (vii) of Scheme 4, followed by treating the Weinreb-amide (IIg) with an organometallic reagent, e.g. a Grignard reagent of the formula $R^{x3a}MgBr$ or an organolithium reagent of the formula $R^{x3a}Li$ as shown in step (viii) of Scheme 4. Reduction of the Weinreb amide (IIg) with lithium aluminum hydride affords compounds of the formula (II), wherein R^{x3} is hydrogen.The acid halide of the formula (IIf) can be prepared from the ester compound of the formula (IIc) according to standard methods.

Compounds of the formula (IIh), wherein R^{x1a} is hydrogen, can be prepared by reacting a compound of the formula (IIa) with an alkali metal azide, preferably sodium azide in the presence of copper(I) as shown in reaction step (ix) of Scheme 4. Compounds of the formula (IIh), wherein R^{x1a} is different from hydrogen can be prepared by reacting a compound of the formula (IIa) with a primary amine of the formula $R^{x1a}NH_2$ in the sense of a Buchwald-Hartwig amination as shown in reaction step (x) of Scheme 4.

Compounds of the formula (II'), wherein X and X' are $(CHR^{xa})_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl or cyclopropane-1,2-diyl, the compounds wherein X and X' are -T-$C(R^{x3})$=N, -T-$N(R^{x1})$-C(=O) or -T-$N(R^{x2})$-C(=S) and likewise the corresponding isocyanates can be prepared by applying conventional C-C-coupling reactions, starting from the either Br compounds of formula (IIh) or from the corresponding Cl or I compounds or from the aldehydes of the formula (II). Suitable reaction sequences are depicted in scheme 5.

Scheme 5:



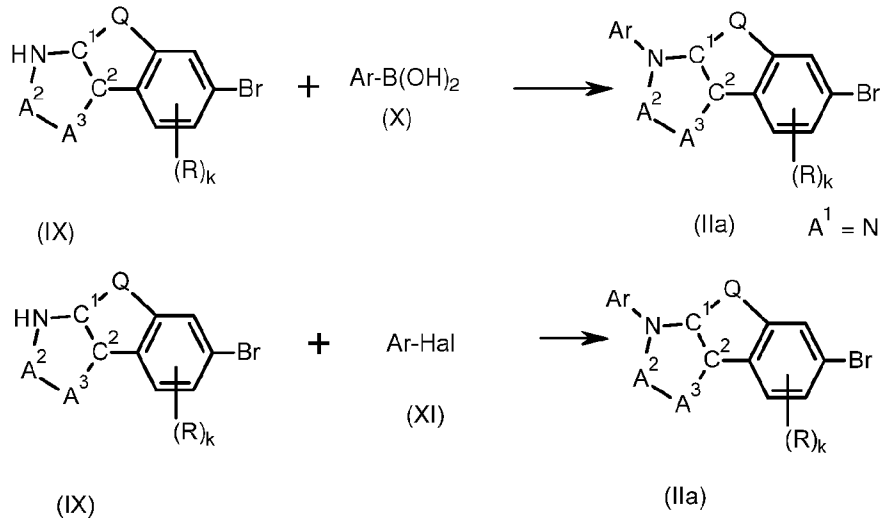
In scheme 5, R^k is alkyl such asCH_3, C_2H_5 or tert.-butyl. For example, compounds of the formula (II'), where X (or X') is is CH_2CH_2 and R^{y1} is H can be prepared by reacting a compound of the formula (IIh) with a C_1-C_4-alkylacrylate in the presenece of a transition metal catalyst, to yield a propenoic ester derivative of the formula (IIk). The propenoic ester derivative of the formula (IIk) may also be prepared starting from the aldehyde of the formula (II) using a Wittig or Wittig Horner reaction as described in US 2012/0202688. The propenoic ester derivative (IIk) is either hydrogenated followed by subsequent saponification to yield the corresponding propanoic acid derivative of the formula (IIm). In an alternative embodiment the propenoic acid derivative of the formula (IIk) is subjected to a cyclopropanation reaction to yield the cyclopropanecarboxylic acid derivative of the formula (IIn). The cyclopropanation can be performed by analogy to the method described in US 2012/0202688. The thus obtained carboxylic acids of the formulae (IIm) and (IIn) can be converted in the corresponding amines or isocyanates (IIo), (IIp), (IIr or (IIs), respectively, using Hofman, Curtius, Schmidt or Lossen reaction sequences as described in US 2012/0202688.

The carboxylic acids of the formulae (IIm) and (IIn) may also be reduced to the corresponding amine or converted into the corresponding nitrile or aldehyde, which themselves may be reacted as depicted in schemes 1 to 4.

One may also start from the nitriles of formula (IIb) or the aldehydes of formula (II), which can converter to the corresponding hydroxymethyl compounds or aminomethyl compounds, which can be used for producing compounds of the formula (I), wherein X or X', respectively, is CH_2.

Compounds of the formula IIa, wherein A^1 is N can be prepared by analogy to the methods described in literature and in accordance with the methods described in the examples. Usually compounds of the formula (IIa), where A^1 is N, are prepared as shown in the following Scheme 6.

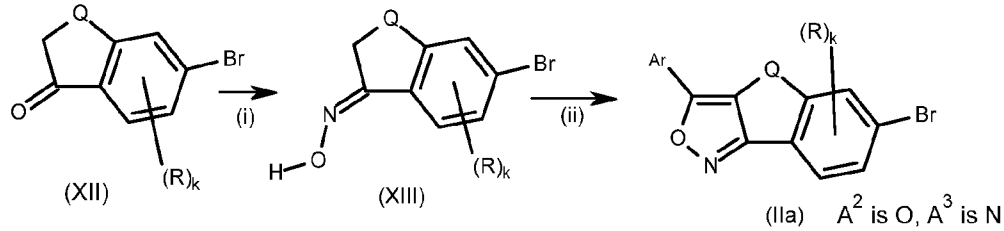
Scheme 6



In Scheme 6, Hal is Br or I, preferably Br. Compounds of the formula (IIa), where A^1 is N can be prepared via copper-catalyzed coupling of an arylbromide compound of the formula (IX) with a boronic acid of the formula (X) in the presence of a base in analogy to the method shown in ACS Medicinal Chemistry Letters, 4(2), 293-296; 2013. Alternatively, the compound of formula (IIa), where A^1 is N, can be prepared by reacting a compound of formula (IX) with an aryl halide of the formula (XI) in analogy to the method shown in Journal of Medicinal Chemistry, 56(5), 1865-1877, 2013. Compounds of the formula (X) and (XI) are known.

Compounds of the formula IIa, wherein A^1 is C, A^2 is O, A^3 is N and Q is $-C(R^{Q3a}R^{Q3b})-C(R^{Q4a}R^{Q4b})-$, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 7.

Scheme 7

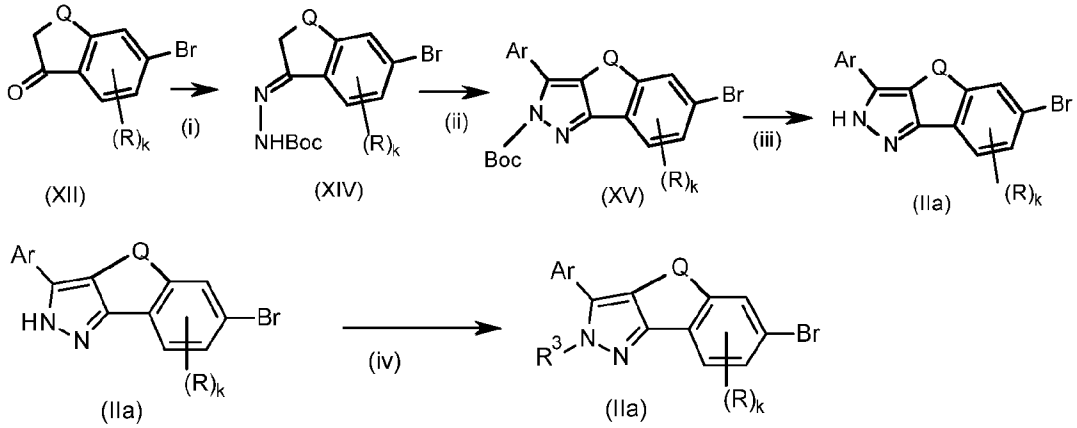


Suitable reaction conditions for performing the reaction step (i) of scheme 7, namely the reaction of the ketone compound of the formula (XII) with hydroxylamine or hydroxylamine hydrochloride in the presence of a base to give the oxime compound of the formula (XIII) can be taken from Central European Journal of Chemistry 10(2), 360-367; 2012. Cyclisation with an ester of the formula Ar-C(=O)OR', where R' is C_1-C_6-alkyl, or an acid halide of the formula Ar-

C(=O)Hal, where Hal is halogen, preferably Cl, in the presence of a base followed by dehydration using sulfuric acid or Burgees reagent yield the compound of formula (IIa) as outlined in step (ii) of scheme 7. Step (ii) of scheme 7 can be performed in analogy to the methods described in WO 2011/059784.

Compounds of the formula IIa, wherein A^1 is C, A^2 is NH, A^3 is N and Q is -C($R^{Q3a}R^{Q3b}$)-C($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 8.

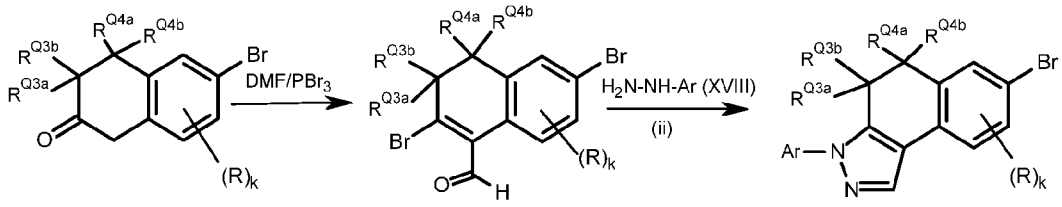
Scheme 8



In Scheme 8, Boc means tert-butyloxycarbonyl. Step (i) of Scheme 8 can be performed by analogy to a conventional derivatization of ketones into their hydrazones by reacting a ketone compound (XII) with hydrazinecarboxylic acid 1,1-dimethylester to give a corresponding hydrazone compound (XIII). A suitable method has been described in Synthetic Communications, 26(19), 3659-3669 (1996). In step (ii) of Scheme 8, the hyrazone compound (XIII) is metalated with a strong base, e.g. a lithium amide base such as lithium diisopropylamide, and then reacted with the aromatic ester of the formula Ar-C(=O)OR, where R is C_1-C_6-alkyl followed by acid cyclization to give the Boc-protected pyrazole of the formula (XIV) in analogy to the method described in Synthetic Communications, 26(19), 3659-3669 (1996). Removal of the tert-butyloxycarbonyl group from the compound (XIV) to give the compound of formula (IIa) is shown in step (iii) of Scheme 8. The removal can be performed by analogy to conventional methods. For converting compounds of formula (IIa) in which R^3 is H into compounds (IIa) in which R^3 is not H, compounds of formula (IIa) in which R^3 is H can be reacted with compounds of formula R^3-Lg, wherein R^3 is not H and Lg is a leaving group, such as a Br, Cl or I atom or a tosylate, mesylate or triflate, to yield compounds of formula (I), wherein R^{y1} is different from H.

Compounds of the formula IIa, wherein A^1 is N, A^2 is N, A^3 is C(R^7) with R^7 is hydrogen and Q is -C($R^{Q3a}R^{Q3b}$)-C($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 9.

Scheme 9

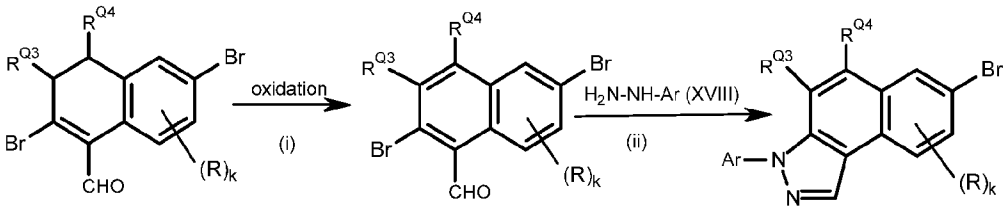


(XVI) (XVII) (IIa)

In Scheme 9, DMF means N,N-dimethylformamide. In step (i) of Scheme 9, the cyclohexanone compound of the formula (XVI) is treated with dimethylformamide and phosphorus tribromide or phosphorus oxybromide in the sense of a Vilsmeier-Haack reaction to give the aldehyde compound (XVII). The reaction is usually carried out in a chlorinated hydrocarbon such as dichloromethane or trichloroethylene. The reaction can be performed in analogy to the method described in Chemical Communications, 48(89), 10975-10977; 2012. In step (ii) of Scheme 9, the aldehyde compound (XVII) is cyclized with an arylhydrazine of the formula (XVIII) in the presence of a palladium catalyst and a phosphorus chelating ligand together with a base such as NaO-tert-butyl to give 1-aryl-1H-pyrazole compounds (IIa). The reaction can be performed in analogy to the method described in Tetrahedron, 62 (26), p. 6133-6442 (2006).

Compounds of the formula IIa, wherein A^1 is N, A^2 is N, A^3 is $C(R^7)$ and R^7 is hydrogen and Q is $-C(R^{Q3a})=C(R^{Q4a})-$, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 10.

Scheme 10

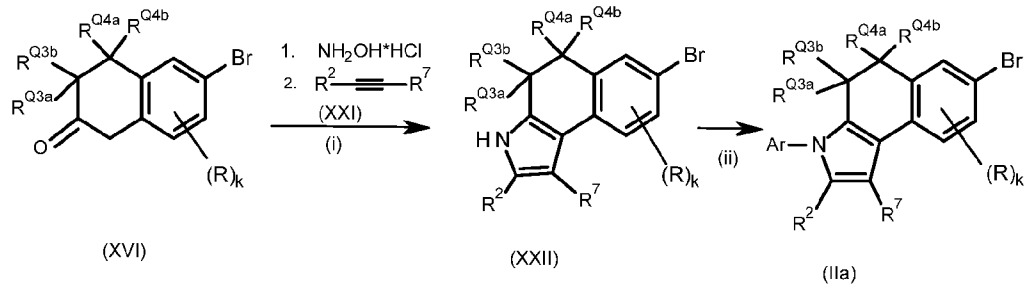


(XIX) (XX) (IIa)

In step (i) of Scheme 10, the 1,2-dihydronaphthalene compound (XIX) is converted to the naphthalene compound (XX) by oxidation with an oxidation agent. A suitable oxidation agent is 2,3-dichloro-5,6-dicyanobenzoquinone. Suitable reaction conditions for performing step (i) of scheme 10 can be taken from Bioorganic & Medicinal Chemistry 11(4), 521-528, 2003. Step (ii) of Scheme 10 can be performed in analogy to step (ii) of Scheme 9. The 1,2-dihydronaphthalene compound (XIX) can be obtained in analogy to the method described for the preparation of compounds of formula (XVI), where R^{Q3a} and R^{Q4a} are each hydrogen.

Compounds of the formula IIa, wherein A^1 is N, A^2 is CR^2, A^3 is CR^7 and Q is $-C(R^{Q3a}R^{Q3b})-C(R^{Q4a}R^{Q4b})-$, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 11.

Scheme 11

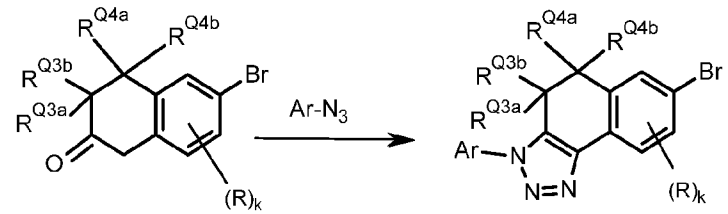


(XVI) (XXII) (IIa)

In step (i) of Scheme 11, the ketone compound (XVI), hydroxylamine hydrochloride and an acetylene compound (XXI) react in a one pot reaction to give 4,5-dihydrobenz[e]indole of the formula (XXII). The reaction in step (i) of Scheme 10 can be performed in analogy to the method described in Tetrahedron 51(13),1690-1692, 2010. Step (ii) of Scheme 11 can be performed in analogy to the method described in Scheme 5.

Compounds of the formula IIa, wherein A^1 is N, A^2 is N, A^3 is N and Q is -C($R^{Q3a}R^{Q3b}$)-C($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 12.

Scheme 12

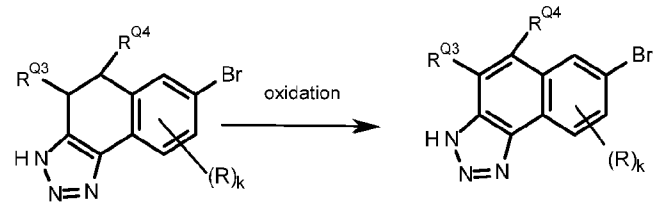


(XVI) (IIa)

According to scheme 12, compounds of the formula (IIa) can be prepared by reacting a ketone compound of the formula (XV) with an arylazide in a sense of a Huisgen [3+2] cycloaddition. This reaction can be performed by analogy to the method described in Chemistry – A European Journal, 18(19), 6088-6093, S6088/1-6088/47; 2012.

Compounds of the formula IIa, wherein A^1 is N, A^2 is N, A^3 is N and Q is -C(R^{Q3})=C(R^{Q4})-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 13.

Scheme 13



(XXIII) (IIa)

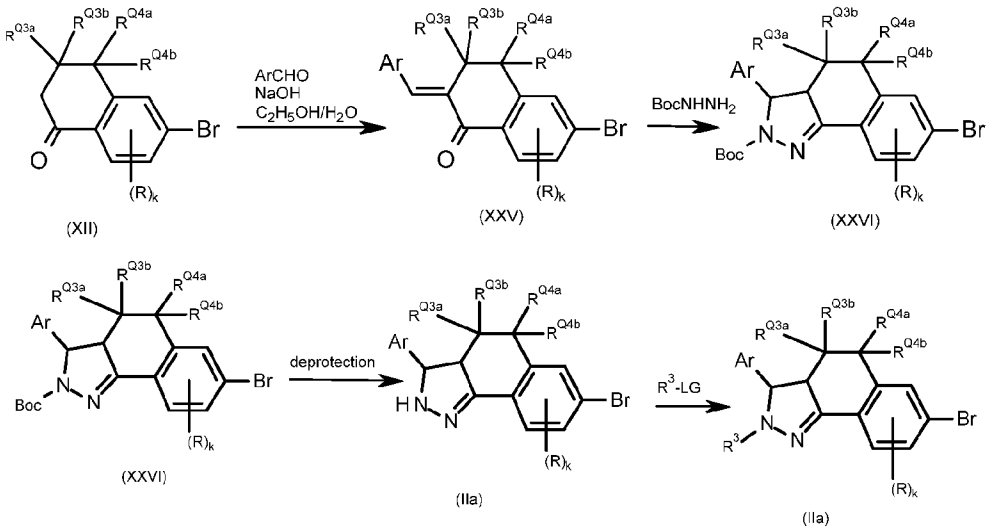
The oxidation in Scheme 13 can be performed in analogy to step (i) of Scheme 10. The compounds of the formula (XXIII) can be prepared in analogy to the reaction shown in Scheme 12.

As a rule, compounds of the formula (IIa), where Q is -C($R^{Q3a}R^{Q3b}$)-C($R^{Q4a}R^{Q4b}$)- can be converted into compounds of the formula (IIa), where Q is Q is -C(R^{Q3})=C(R^{Q4})- according to the method described in step (i) of Scheme 10. (korrekt?)

Some of the reactions shown in the Schemes below may be performed in analogy to the reactions shown in the Schemes above.

Compounds of the formula IIa, wherein A^1 is C, A^2 is N(R^3), A^3 is N, C^1 is CH and Q is -C($R^{Q3a}R^{Q3b}$)-C($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 14.

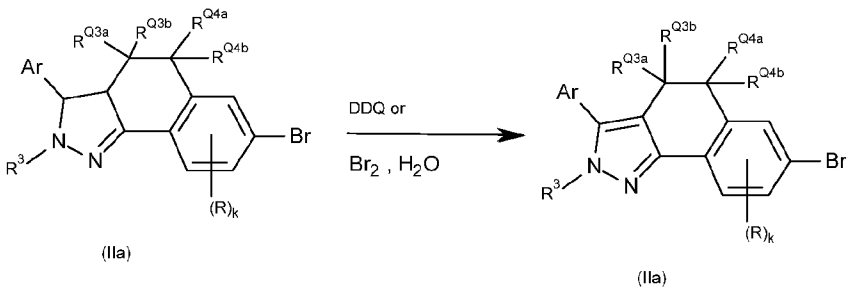
Scheme 14



In Scheme 14, Boc means tert-butyloxycarbonyl and LG is a leaving group, such as a Br, Cl or I atom or a tosylate, mesylate or triflate.

Compounds of the formula IIa, wherein A^1 is C, A^2 is N(R^3), A^3 is N, C^1 is C and Q is -C($R^{Q3a}R^{Q3b}$)-C($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 15.

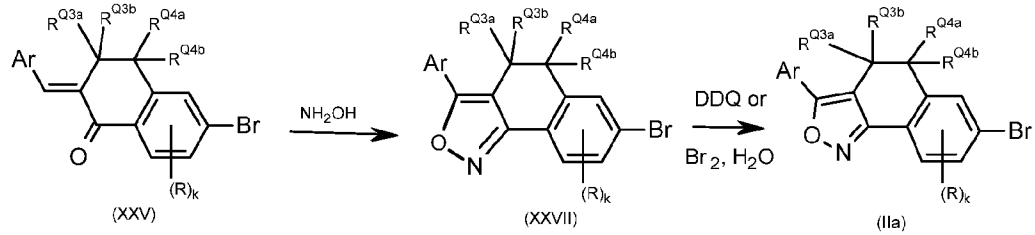
Scheme 15



In Scheme 15, DDQ is 2,3-dichloro-5,6-dicyano-1,4-benzoquinone.

Compounds of the formula IIa, wherein A^1 is C, A^2 is O, A^3 is N, C^1 is C and Q is -C($R^{Q3a}R^{Q3b}$)-C($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 16.

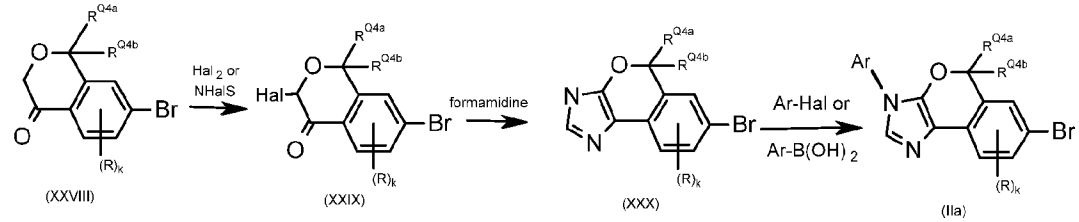
Scheme 16



In Scheme 16, DDQ is 2,3-dichloro-5,6-dicyano-1,4-benzoquinone.

Compounds of the formula IIa, wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is -OC($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 17.

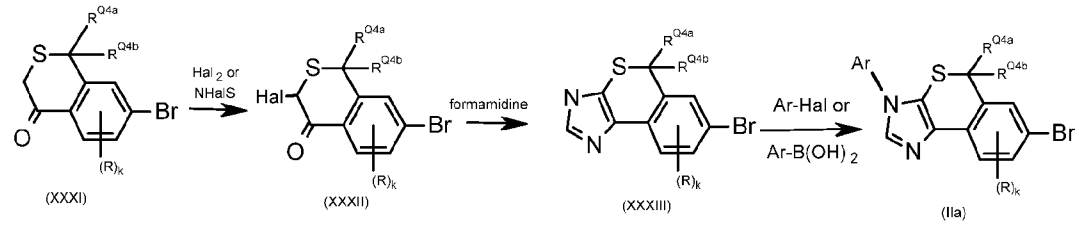
Scheme 17



In Scheme 17, Hal is halogen, preferably Br, Cl or I and NHalS is N-halogenosuccinimide, preferably N-bromosuccinimide.

Compounds of the formula IIa, wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is -SC($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 18.

Scheme 18

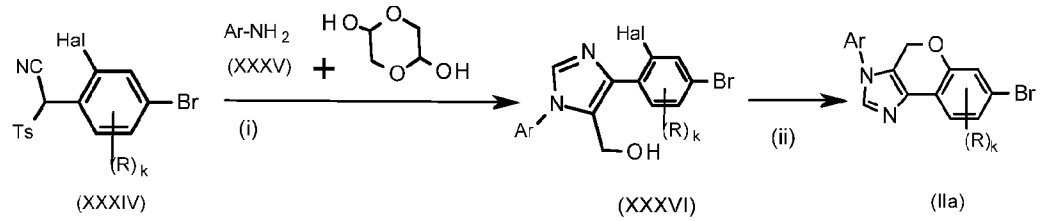


In Scheme 18, Hal is halogen, preferably Br, Cl or I and NHalS is N-halogenosuccinimide, preferably N-bromosuccinimide.

Compounds of the formula IIa, wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is –S(=O)C($R^{Q4a}R^{Q4b}$)- or –S(=O)$_2$C($R^{Q4a}R^{Q4b}$)-, can be prepared by treating a compound of the formula (IIa), where A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is -SC($R^{Q4a}R^{Q4b}$)-, with an oxidazing agent such as 3-chloroperoxybenzoic acid or $RuCl_3/NaIO_4$.

Compounds of the formula IIa, wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is CH and Q is -C($R^{Q4a}R^{Q4b}$)-O-, where R^{Q4a} and R^{Q4b} are both hydrogen, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 19.

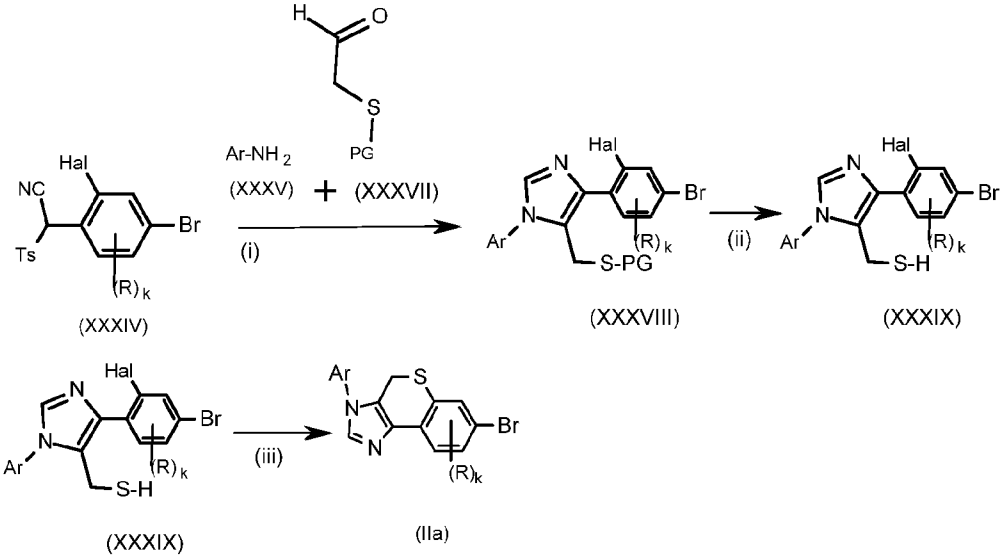
Scheme 19



In Scheme 19, Ts is tosyl and Hal is halogen. In step (i) of Scheme 19, the cyano compound (XXXIV) is treated with an amine (XXXV) and glyoaldehyde, dimer to form the imidazolyl compound (XXXVI). The reaction can be performed in analogy to the method described in WO 2004/013141. Step (ii) of Scheme 19 is performed under copper or palladium catalysis.

Compounds of the formula IIa, wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is CH and Q is -C($R^{Q4a}R^{Q4b}$)-S-, where R^{Q4a} and R^{Q4b} are both hydrogen,can be prepared by analogy to the methods described in literature and as shown in the following Scheme 20.

Scheme 20



In Scheme 20, Ts is tosyl, Hal is halogen and PG is a sulfur protection group such as PMB (p-methoxybenzyl).

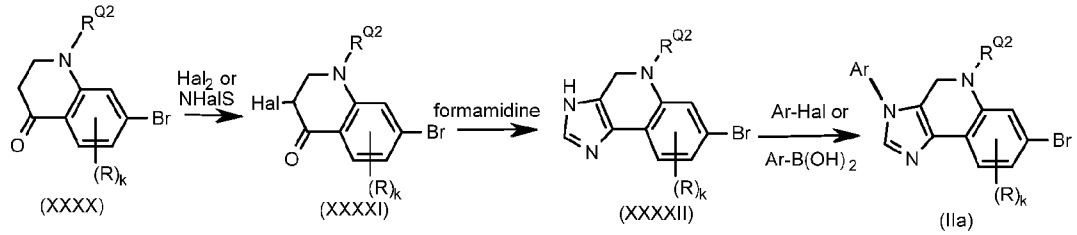
In step (i) of Scheme 20, the cyano compound (XXXIV) is treated with an amine (XXXV) and a protected sulfanylacetaldehyde (XXXVII) to form the imidazolyl compound (XXXVIII). In step (ii) of Scheme 20, the sulfur is deprotected according to standard methods in the organic

chemistry. Step (iii) of Scheme 20 is performed under copper or palladium catalysis to give the compound (IIa).

Compounds of the formula IIa, wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is CH and Q is -C($R^{Q4a}R^{Q4b}$)-S(O)- or C($R^{Q4a}R^{Q4b}$)-$S(O)_2$-, where R^{Q4a} and R^{Q4b} are both hydrogen can be prepared by treating a compound of the formula (IIa), where A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is -SC($R^{Q4a}R^{Q4b}$)-, with an oxidazing agent such as 3-chloroperoxybenzoic acid or $RuCl_3/NaIO_4$.

Compounds of the formula (IIa), wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is -N(R^{Q2})-C(=O)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 21.

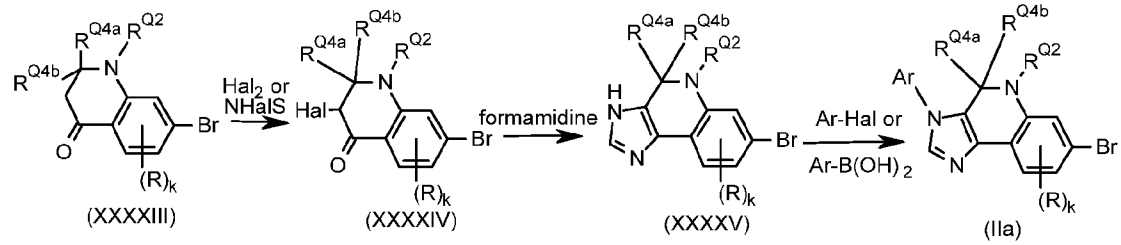
Scheme 21



In Scheme 21, Hal is halogen, preferably Br, Cl or I and NHalS is N-halogenosuccinimide, preferably N-bromosuccinimide.

Compounds of the formula (IIa), wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is -C($R^{Q4a}R^{Q4b}$)-N(R^{Q2})-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 22.

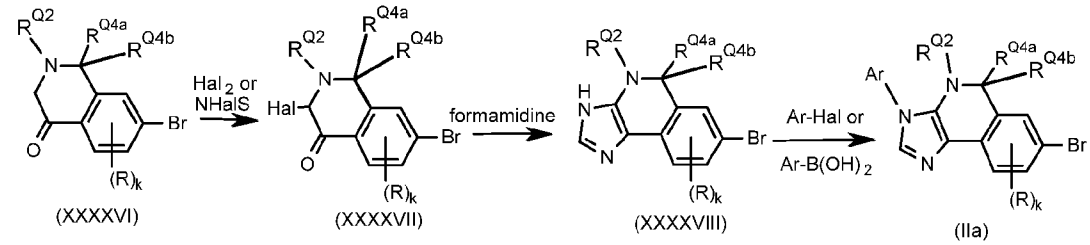
Scheme 22



In Scheme 22, Hal is halogen, preferably Br, Cl or I and NHalS is N-halogenosuccinimide, preferably N-bromosuccinimide.

Compounds of the formula (IIa), wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is -N(R^{Q2})-C($R^{Q4a}R^{Q4b}$)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 23.

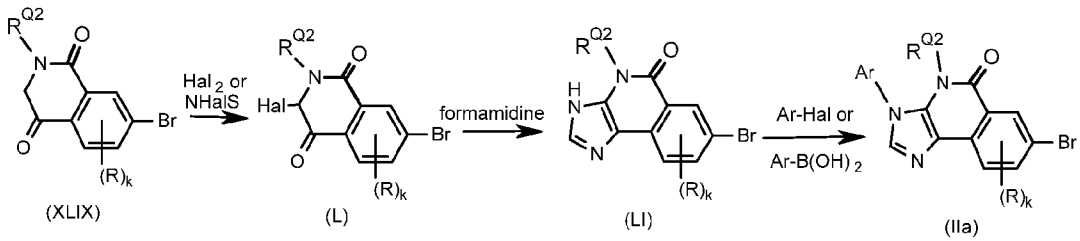
Scheme 23



In Scheme 23, Hal is halogen, preferably Br, Cl or I and NHalS is N-halogenosuccinimide, preferably N-bromosuccinimide.

Compounds of the formula (IIa), wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is -N(R^{Q2})-C(O)-, can be prepared by analogy to the methods described in literature and as shown in the following Scheme 24.

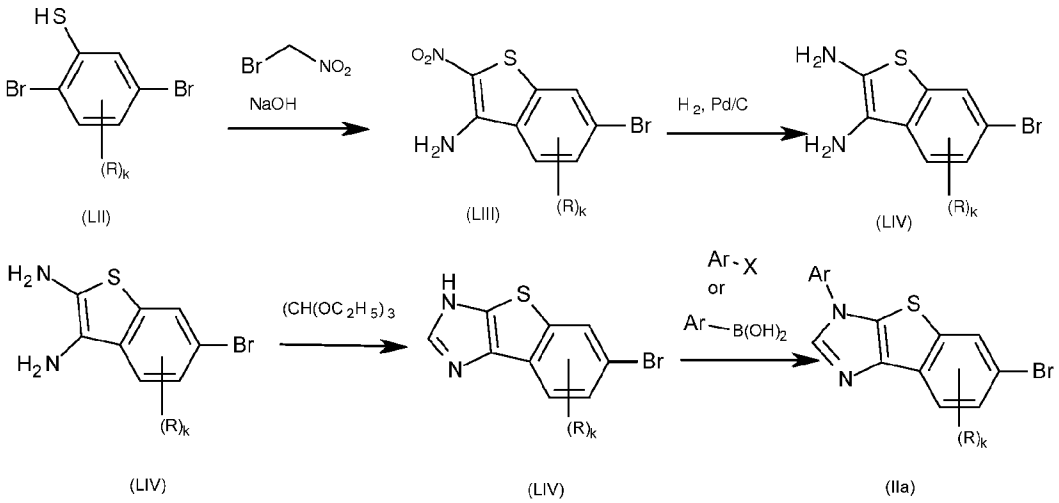
Scheme 24



In Scheme 24, Hal is halogen, preferably Br, Cl or I and NHalS is N-halogenosuccinimide, preferably N-bromosuccinimide.

Compounds of the formula (IIa), wherein A^1 is N, A^2 is CH, A^3 is N, C^1 is C and Q is S can be prepared by analogy to the methods described in literature and as shown in the following Scheme 25.

Scheme 25



As a rule, the compounds of formula (I), especially (Ia), (Ib), (Ic) and (Id), including their stereoisomers, N-oxides and salts, as well as their precursors in the synthesis process, can be prepared by the methods described above or by customary modifications of the synthesis routes described. If individual compounds can not be prepared via the above-described routes, they can be prepared by derivatization of other compounds (I) or the respective precursor. For example, in individual cases, certain compounds of formula (I) can advantageously be prepared from other compounds of formula (I) by derivatization, e.g. by ester hydrolysis, amidation, esterification, ether cleavage, olefination, reduction, oxidation and the like, or by customary modifications

of the synthesis routes described.

The reaction mixtures are worked up in the customary manner, for example by mixing with water, separating the phases, and, if appropriate, purifying the crude products by chromatography, for example on alumina or on silica gel. Some of the intermediates and end products may be obtained in the form of colorless or pale brown viscous oils which are freed or purified from volatile components under reduced pressure and at moderately elevated temperature. If the intermediates and end products are obtained as solids, they may be purified by recrystallization or trituration with an appropriate solvent.

Due to their excellent activity, the compounds of the present invention may be used for controlling invertebrate pests.

Accordingly, the present invention also provides a method for controlling invertebrate pests which method comprises treating the pests, their food supply, their habitat or their breeding ground or a cultivated plant, plant propagation materials (such as seed), soil, area, material or environment in which the pests are growing or may grow, or the materials, cultivated plants, plant propagation materials (such as seed), soils, surfaces or spaces to be protected from pest attack or infestation with a pesticidally effective amount of a compound of the present invention or a composition as defined above. The invention also relates to the use of a compound of the invention, of a stereoisomer and/or of an agriculturally or veterinarily acceptable salt thereof for combating invertebrate pests.

Preferably, the method of the invention serves for protecting plant propagation material (such as seed) and the plant which grows therefrom from invertebrate pest attack or infestation and comprises treating the plant propagation material (such as seed) with a pesticidally effective amount of a compound of the present invention as defined above or with a pesticidally effective amount of an agricultural composition as defined above and below. The method of the invention is not limited to the protection of the "substrate" (plant, plant propagation materials, soil material etc.) which has been treated according to the invention, but also has a preventive effect, thus, for example, according protection to a plant which grows from a treated plant propagation materials (such as seed), the plant itself not having been treated.

Alternatively preferably, the method of the invention serves for protecting plants from attack or infestation by invertebrate pests, which method comprises treating the plants with a pesticidally effective amount of at least one compound of the invention, a stereoisomer thereof and/or at least one agriculturally acceptable salt thereof.

In the sense of the present invention, "invertebrate pests" are preferably selected from arthropods and nematodes, more preferably from harmful insects, arachnids and nematodes, and even more preferably from insects, acarids and nematodes. In the sense of the present invention, "invertebrate pests" are most preferably insects.

The invention further provides an agricultural composition for combating invertebrate pests, which comprises such an amount of at least one compound according to the invention and at least one inert liquid and/or solid agronomically acceptable carrier that has a pesticidal action and, if desired, at least one surfactant.

Such a composition may comprise a single active compound of the present invention or a mixture of several active compounds of the present invention. The composition according to the

present invention may comprise an individual isomer or mixtures of isomers or a salt as well as individual tautomers or mixtures of tautomers.

The compounds of the present invention, including their salts, stereoisomers and tautomers, are in particular suitable for efficiently controlling arthropodal pests such as arachnids, myriapedes and insects as well as nematodes. They are especially suitable for efficiently combating or controlling the following pests:

The compounds of the formula I are especially suitable for efficiently combating animal pests such as arthropods, gastropods and nematodes including but not limited to:

insects from the order of **Lepidoptera**, for example *Achroia grisella*, *Acleris* spp. such as *A. fimbriana, A. gloverana, A. variana; Acrolepiopsis assectella, Acronicta major, Adoxophyes* spp. such as *A. cyrtosema, A. orana; Aedia leucomelas, Agrotis* spp. such as *A. exclamationis, A. fucosa, A. ipsilon, A. orthogoma, A. segetum, A. subterranea; Alabama argillacea, Aleurodicus dispersus, Alsophila pometaria, Ampelophaga rubiginosa, Amyelois transitella, Anacampsis sarcitella, Anagasta kuehniella, Anarsia lineatella, Anisota senatoria, Antheraea pernyi, Anticarsia (=Thermesia)* spp. such as *A. gemmatalis; Apamea spp , Aproaerema modicella, Archips* spp. such as *A. argyrospila, A. fuscocupreanus, A. rosana, A. xyloseanus; Argyresthia conjugella, Argyroploce* spp., *Argyrotaenia* spp. such as *A. velutinana; Athetis mindara, Austroasca viridigrisea, Autographa gamma, Autographa nigrisigna, Barathra brassicae, Bedellia* spp., *Bonagota salubricola, Borbo cinnara, Bucculatrix thurberiella, Bupalus piniarius, Busseola* spp., *Cacoecia* spp. such as *C. murinana, C. podana; Cactoblastis cactorum, Cadra cautella, Calingo braziliensis, Caloptilis theivora, Capua reticulana, Carposina* spp. such as *C. niponensis, C. sasakii; Cephus spp, Chaetocnema aridula, Cheimatobia brumata, Chilo* spp. such as *C. Indicus, C. suppressalis, C. partellus; Choreutis pariana, Choristoneura* spp. such as *C. conflictana, C. fumiferana, C. longicellana, C. murinana, C. occidentalis, C. rosaceana; Chrysodeixis (=Pseudoplusia) spp. such as C. eriosoma, C. includens; Cirphis unipuncta, Clysia ambiguella, Cnaphalocerus* spp., *Cnaphalocrocis medinalis, Cnephasia* spp., *Cochylis hospes, Coleophora* spp., *Colias eurytheme, Conopomorpha* spp., *Conotrachelus* spp., *Copitarsia* spp., *Corcyra cephalonica, Crambus caliginosellus, Crambus teterrellus, Crocidosema (=Epinotia) aporema, Cydalima (=Diaphania) perspectalis, Cydia (=Carpocapsa)* spp. such as *C. pomonella, C. latiferreana; Dalaca noctuides, Datana integerrima, Dasychira pinicola, Dendrolimus* spp. such as *D. pini, D. spectabilis, D. sibiricus; Desmia funeralis, Diaphania* spp. such as *D. nitidalis, D. hyalinata; Diatraea grandiosella, Diatraea saccharalis, Diphthera festiva, Earias* spp. such as *E. insulana, E. vittella; Ecdytolopha aurantianu, Egira (=Xylomyges) curialis, Elasmopalpus lignosellus, Eldana saccharina, Endopiza viteana, Ennomos subsignaria, Eoreuma loftini, Ephestia* spp. such as *E. cautella, E. elutella, E. kuehniella; Epinotia aporema, Epiphyas postvittana, Erannis tiliaria, Erionota thrax, Etiella* spp., *Eulia* spp., *Eupoecilia ambiguella, Euproctis chrysorrhoea, Euxoa* spp., *Evetria bouliana, Faronta albilinea, Feltia* spp. such as *F. subterranean; Galleria mellonella, Gracillaria* spp., *Grapholita* spp. such as *G. funebrana, G. molesta, G. inopinata; Halysidota* spp., *Harrisina americana, Hedylepta* spp., *Helicoverpa* spp. such as *H. armigera (=Heliothis armigera), H. zea (=Heliothis zea); Heliothis* spp. such as *H. assulta, H. subflexa, H. virescens; Hellula* spp. such as *H. undalis, H. rogatalis;*

Helocoverpa gelotopoeon, Hemileuca oliviae, Herpetogramma licarsisalis, Hibernia defoliaria, Hofmannophila pseudospretella, Homoeosoma electellum, Homona magnanima, Hypena scabra, Hyphantria cunea, Hyponomeuta padella, Hyponomeuta malinellus, Kakivoria flavofasciata, Keiferia lycopersicella, Lambdina fiscellaria fiscellaria, Lambdina fiscellaria lugubrosa, Lamprosema indicata, Laspeyresia molesta, Leguminivora glycinivorella, Lerodea eufala, Leucinodes orbonalis, Leucoma salicis, Leucoptera spp. such as *L. coffeella, L. scitella; Leuminivora lycinivorella, Lithocolletis blancardella, Lithophane antennata, Llattia octo (=Amyna axis), Lobesia botrana, Lophocampa* spp., *Loxagrotis albicosta, Loxostege* spp. such as *L. sticticalis, L. cereralis; Lymantria* spp. such as *L. dispar, L. monacha; Lyonetia clerkella, Lyonetia prunifoliella, Malacosoma* spp. such as *M. americanum, M. californicum, M. constrictum, M. neustria; Mamestra* spp. such as *M. brassicae, M. configurata; Mamstra brassicae, Manduca* spp. such as *M. quinquemaculata, M. sexta; Marasmia spp, Marmara* spp., *Maruca testulalis, Megalopyge lanata, Melanchra picta, Melanitis leda, Mocis* spp. such as *M. lapites, M. repanda; Mocis latipes, Monochroa fragariae, Mythimna separata, Nemapogon cloacella, Neoleucinodes elegantalis, Nepytia* spp., *Nymphula* spp., *Oiketicus* spp., *Omiodes indicata, Omphisa anastomosalis, Operophtera brumata, Orgyia pseudotsugata, Oria* spp., *Orthaga thyrisalis, Ostrinia* spp. such as *O. nubilalis; Oulema oryzae, Paleacrita vernata, Panolis flammea, Parnara* spp., *Papaipema nebris, Papilio cresphontes, Paramyelois transitella, Paranthrene regalis, Paysandisia archon, Pectinophora* spp. such as *P. gossypiella; Peridroma saucia, Perileucoptera* spp., such as *P. coffeella; Phalera bucephala, Phryganidia californica, Phthorimaea* spp. such as *P. operculella; Phyllocnistis citrella, Phyllonorycter* spp. such as *P. blancardella, P. crataegella, P. issikii, P. ringoniella; Pieris* spp. such as *P. brassicae, P. rapae, P. napi; Pilocrocis tripunctata, Plathypena scabra, Platynota* spp. such as *P. flavedana, P. idaeusalis, P. stultana; Platyptilia carduidactyla, Plebejus argus, Plodia interpunctella, Plusia spp, Plutella maculipennis, Plutella xylostella, Pontia protodica, Prays* spp., *Prodenia* spp., *Proxenus lepigone, Pseudaletia* spp. such as *P. sequax, P. unipuncta; Pyrausta nubilalis, Rachiplusia nu, Richia albicosta, Rhizobius ventralis, Rhyacionia frustrana, Sabulodes aegrotata, Schizura concinna, Schoenobius* spp., *Schreckensteinia festaliella, Scirpophaga* spp. such as *S. incertulas, S. innotata; Scotia segetum, Sesamia spp.* such as *S. inferens, Seudyra subflava, Sitotroga cerealella, Sparganothis pilleriana, Spilonota lechriaspis, S. ocellana, Spodoptera (=Lamphygma)* spp. such as *S. eridania, S. exigua, S. frugiperda, S. latisfascia, S. littoralis, S. litura, S. omithogalli; Stigmella* spp., *Stomopteryx subsecivella, Strymon bazochii, Sylepta derogata, Synanthedon* spp. such as S. exitiosa, *Tecia solanivora, Telehin licus. Thaumatopoea pityocampa, Thaumatotibia (=Cryptophlebia) leucotreta, Thaumetopoea pityocampa, Thecla* spp., *Theresimima ampelophaga, Thyrinteina* spp, *Tildenia inconspicuella, Tinea* spp. such as *T. cloacella, T. pellionella; Tineola bisselliella, Tortrix* spp. such as *T. viridana; Trichophaga tapetzella, Trichoplusia* spp. such as *T. ni; Tuta (=Scrobipalpula) absoluta, Udea* spp. such as *U. rubigalis, U. rubigalis; Virachola* spp, *Yponomeuta padella, and Zeiraphera canadensis.*

insects from the order of **Coleoptera**, for example *Acalymma vittatum, Acanthoscehdes obtectus, Adoretus* spp., *Agelastica alni, Agrilus* spp. such as *A. anxius, A. planipennis, A.*

sinuatus; Agriotes spp. such as *A. fuscicollis, A. lineatus, A. obscurus; Alphitobius diaperinus, Amphimallus solstitialis, Anisandrus dispar, Anisoplia austriaca, Anobium punctatum, Anomala corpulenta, Anomala rufocuprea, Anoplophora* spp. such as *A. glabripennis; Anthonomus* spp. such as *A. eugenii, A. grandis, A. pomorum; Anthrenus* spp., *Aphthona euphoridae, Apion* spp., *Apogonia* spp., *Athous haemorrhoidalis, Atomaria* spp. such as *A. linearis; Attagenus* spp., *Aulacophora femoralis, Blastophagus piniperda, Blitophaga undata, Bruchidius obtectus, Bruchus* spp. such as *B. lentis, B. pisorum, B. rufimanus; Byctiscus betulae, Callidiellum rufipenne, Callopistria floridensis, Callosobruchus chinensis, Cameraria ohridella, Cassida nebulosa, Cerotoma trifurcata, Cetonia aurata, Ceuthorhynchus* spp. such as *C. assimilis, C. napi; Chaetocnema tibialis, Cleonus mendicus, Conoderus* spp. such as *C. vespertinus; Conotrachelus nenuphar, Cosmopolites* spp., *Costelytra zealandica, Crioceris asparagi, Cryptolestes ferrugineus, Cryptorhynchus lapathi, Ctenicera* spp. such as *C. destructor; Curculio* spp., *Cylindrocopturus* spp., *Cyclocephala spp, Dactylispa balyi, Dectes texanus, Dermestes* spp., *Diabrotica* spp. such as *D. undecimpunctata, D. speciosa, D. longicornis, D. semipunctata, D. virgifera; Diaprepes abbreviates, Dichocrocis* spp., *Dicladispa armigera, Diloboderus abderus, Diocalandra frumenti (Diocalandra stigmaticollis), Enaphalodes rufulus, Epilachna* spp. such as *E. varivestis, E. vigintioctomaculata; Epitrix* spp. such as *E. hirtipennis, E. similaris; Eutheola humilis, Eutinobothrus brasiliensis, Faustinus cubae, Gibbium psylloides, Gnathocerus cornutus, Hellula undalis, Heteronychus arator, Hylamorpha elegans, Hylobius abietis, Hylotrupes bajulus, Hypera* spp. such as *H. brunneipennis, H. postica; Hypomeces squamosus, Hypothenemus* spp., *Ips typographus, Lachnosterna consanguinea, Lasioderma serricorne, Latheticus oryzae, Lathridius* spp., *Lema* spp. such as *L. bilineata, L. melanopus; Leptinotarsa* spp. such as *L. decemlineata; Leptispa pygmaea, Limonius californicus, Lissorhoptrus oryzophilus, Lixus* spp., *Luperodes* spp., *Lyctus* spp. such as *L. bruneus; Liogenys fuscus , Macrodactylus* spp. such as *M. subspinosus; Maladera matrida, Megaplatypus mutates, Megascelis* spp., *Melanotus communis, Meligethes* spp. such as *M. aeneus; Melolontha* spp. such as *M. hippocastani, M. melolontha; Metamasius hemipterus, Microtheca spp, Migdolus* spp. such as *M. fryanus, Monochamus* spp. such as *M. alternatus; Naupactus xanthographus, Niptus hololeucus, Oberia brevis, Oemona hirta, Oryctes rhinoceros, Oryzaephilus surinamensis, Oryzaphagus oryzae, Otiorrhynchus sulcatus, Otiorrhynchus ovatus, Otiorrhynchus sulcatus, Oulema melanopus, Oulema oryzae, Oxycetonia jucunda, Phaedon* spp. such as *P. brassicae, P. cochleariae; Phoracantha recurva, Phyllobius pyri, Phyllopertha horticola, Phyllophaga* spp. such as *P. helleri; Phyllotreta* spp. such as *P. chrysocephala, P. nemorum, P. striolata, P. vittula; Phyllopertha horticola, Popillia japonica, Premnotrypes* spp., *Psacothea hilaris, Psylliodes chrysocephala, Prostephanus truncates, Psylliodes* spp., *Ptinus* spp., *Pulga saltona, Rhizopertha dominica, Rhynchophorus* spp. such as *R. billineatus, R. ferrugineus, R. palmarum, R. phoenicis, R. vulneratus; Saperda candida, Scolytus schevyrewi, Scyphophorus acupunctatus, Sitona lineatus, Sitophilus* spp. such as *S. granaria, S. oryzae, S. zeamais; Sphenophorus* spp. such as *S. levis; Stegobium paniceum, Sternechus* spp. such as *S. subsignatus; Strophomorphus ctenotus, Symphyletes* spp., *Tanymecus* spp., *Tenebrio molitor, Tenebrioides mauretanicus, Tribolium* spp. such as *T.*

castaneum; Trogoderma spp., *Tychius* spp., *Xylotrechus* spp. such as *X. pyrrhoderus; and, Zabrus* spp. *such as Z. tenebrioides,*

insects from the order of **Diptera** for example *Aedes* spp. such as *A. aegypti, A. albopictus, A. vexans; Anastrepha ludens, Anopheles* spp. such as *A. albimanus, A. crucians, A. freeborni, A. gambiae, A. leucosphyrus, A. maculipennis, A. minimus, A. quadrimaculatus, A. sinensis; Bactrocera invadens, Bibio hortulanus, Calliphora erythrocephala, Calliphora vicina, Ceratitis capitata, Chrysomyia* spp. such as *C. bezziana, C. hominivorax, C. macellaria; Chrysops atlanticus, Chrysops discalis, Chrysops silacea, Cochliomyia* spp. such as *C. hominivorax; Contarinia* spp. such as *C. sorghicola; Cordylobia anthropophaga, Culex* spp. such as *C. nigripalpus, C. pipiens, C. quinquefasciatus, C. tarsalis, C. tritaeniorhynchus; Culicoides furens, Culiseta inornata, Culiseta melanura, Cuterebra* spp., *Dacus cucurbitae, Dacus oleae, Dasineura brassicae, Dasineura oxycoccana, Delia* spp. such as *D. antique, D. coarctata, D. platura, D. radicum; Dermatobia hominis, Drosophila* spp. such as *D. suzukii, Fannia* spp. such as *F. canicularis; Gastraphilus* spp. such as *G. intestinalis; Geomyza tipunctata, Glossina* spp. such as *G. fuscipes, G. morsitans, G. palpalis, G. tachinoides; Haematobia irritans, Haplodiplosis equestris, Hippelates* spp., Hylemyia spp. such as *H. platura; Hypoderma* spp. such as *H. lineata; Hyppobosca* spp., *Hydrellia philippina, Leptoconops torrens, Liriomyza* spp. such as *L. sativae, L. trifolii; Lucilia* spp. such as *L. caprina, L. cuprina, L. sericata; Lycoria pectoralis, Mansonia titillanus, Mayetiola* spp. such as *M. destructor; Musca* spp. such as *M. autumnalis, M. domestica; Muscina stabulans, Oestrus* spp. such as *O. ovis; Opomyza florum, Oscinella* spp. such as *O. frit; Orseolia oryzae, Pegomya hysocyami, Phlebotomus argentipes, Phorbia* spp. such as *P. antiqua, P. brassicae, P. coarctata; Phytomyza gymnostoma, Prosimulium mixtum, Psila rosae, Psorophora columbiae, Psorophora discolor, Rhagoletis* spp. such as *R. cerasi, R. cingulate, R. indifferens, R. mendax, R. pomonella; Rivellia quadrifasciata, Sarcophaga* spp. such as *S. haemorrhoidalis; Simulium vittatum, Sitodiplosis mosellana, Stomoxys* spp. such as *S. calcitrans; Tabanus* spp. such as *T. atratus, T. bovinus, T. lineola, T. similis; Tannia spp., Thecodiplosis japonensis, Tipula oleracea, Tipula paludosa,* and *Wohlfahrtia* spp.

insects from the order of **Thysanoptera** for example, *Baliothrips biformis, Dichromothrips corbetti, Dichromothrips* ssp., *Echinothrips americanus, Enneothrips flavens, Frankliniella* spp. such as *F. fusca, F. occidentalis, F. tritici; Heliothrips* spp., *Hercinothrips femoralis, Kakothrips* spp., *Microcephalothrips abdominalis, Neohydatothrips samayunkur, Pezothrips kellyanus, Rhipiphorothrips cruentatus, Scirtothrips* spp. such as *S. citri, S. dorsalis, S. perseae; Stenchaetothrips spp, Taeniothrips cardamoni, Taeniothrips inconsequens, Thrips* spp. such as *T. imagines, T. hawaiiensis, T. oryzae, T. palmi, T. parvispinus, T. tabaci.*

insects from the order of **Hemiptera** for example, *Acizzia jamatonica, Acrosternum* spp. such as *A. hilare;* Acyrthosipon spp. such as *A. onobrychis, A. pisum; Adelges laricis, Adelges tsugae, Adelphocoris* spp., such as *A. rapidus, A. superbus; Aeneolamia* spp., *Agonoscena* spp., *Aulacorthum solani, Aleurocanthus woglumi, Aleurodes* spp., *Aleurodicus disperses, Aleurolobus barodensis, Aleurothrixus* spp., *Amrasca* spp., *Anasa tristis, Antestiopsis* spp., *Anuraphis cardui,*

Aonidiella spp., *Aphanostigma piri, Aphidula nasturtii, Aphis* spp. such as *A. craccivora, A. fabae, A. forbesi, A. gossypii, A. grossulariae, A. maidiradicis, A. pomi, A. sambuci, A. schneideri, A. spiraecola; Arboridia apicalis, Arilus critatus, Aspidiella* spp., *Aspidiotus* spp., *Atanus* spp., *Aulacaspis yasumatsui, Aulacorthum solani, Bactericera cockerelli (Paratrioza cockerelli), Bemisia* spp. such as *B. argentifolii, B. tabaci (Aleurodes tabaci); Blissus* spp. such as *B. leucopterus; Brachycaudus* spp. such as *B. cardui, B. helichrysi, B. persicae, B. prunicola; Brachycolus* spp., *Brachycorynella asparagi, Brevicoryne brassicae, Cacopsylla* spp. such as *C. fulguralis, C. pyricola (Psylla piri); Calligypona marginata, Calocoris* spp., *Campylomma livida, Capitophorus horni, Carneocephala fulgida, Cavelerius* spp., *Ceraplastes* spp., *Ceratovacuna lanigera, Ceroplastes ceriferus, Cerosipha gossypii, Chaetosiphon fragaefolii, Chionaspis tegalensis, Chlorita onukii, Chromaphis juglandicola, Chrysomphalus ficus, Cicadulina mbila, Cimex* spp. such as *C. hemipterus, C. lectularius; Coccomytilus halli, Coccus* spp. such as *C. hesperidum, C. pseudomagnoliarum; Corythucha arcuata, Creontiades dilutus, Cryptomyzus ribis, Chrysomphalus aonidum, Cryptomyzus ribis, Ctenarytaina spatulata, Cyrtopeltis notatus, Dalbulus* spp., *Dasynus piperis, Dialeurodes* spp. such as *D. citrifolii; Dalbulus maidis, Diaphorina* spp. such as *D. citri; Diaspis* spp. such as *D. bromeliae; Dichelops furcatus, Diconocoris hewetti, Doralis* spp., *Dreyfusia nordmannianae, Dreyfusia piceae, Drosicha* spp., *Dysaphis* spp. such as *D. plantaginea, D. pyri, D. radicola; Dysaulacorthum pseudosolani, Dysdercus* spp. such as *D. cingulatus, D. intermedius; Dysmicoccus* spp., *Edessa spp, Geocoris spp, Empoasca* spp. such as *E. fabae, E. solana; Epidiaspis leperii, Eriosoma* spp. such as *E. lanigerum, E. pyricola; Erythroneura* spp., *Eurygaster* spp. such as *E. integriceps; Euscelis bilobatus, Euschistus* spp. such as *E. heros, E. impictiventris, E. servus; Fiorinia theae, Geococcus coffeae, Glycaspis brimblecombei, Halyomorpha* spp. such as *H. halys; Heliopeltis* spp., *Homalodisca vitripennis (=H. coagulata), Horcias nobilellus, Hyalopterus pruni, Hyperomyzus lactucae, Icerya* spp. such as *I. purchase; Idiocerus* spp., *Idioscopus* spp., *Laodelphax striatellus, Lecanium* spp., *Lecanoideus floccissimus, Lepidosaphes* spp. such as *L. ulmi; Leptocorisa* spp., *Leptoglossus phyllopus, Lipaphis erysimi, Lygus* spp. such as *L. hesperus, L. lineolaris, L. pratensis; Maconellicoccus hirsutus, Marchalina hellenica, Macropes excavatus, Macrosiphum* spp. such as *M. rosae, M. avenae, M. euphorbiae; Macrosteles quadrilineatus, Mahanarva fimbriolata, Megacopta cribraria, Megoura viciae, Melanaphis pyrarius, Melanaphis sacchari, Melanocallis (=Tinocallis) caryaefoliae, Metcafiella* spp., *Metopolophium dirhodum, Monellia costalis, Monelliopsis pecanis, Myzocallis coryli, Murgantia spp, Myzus* spp. such as *M. ascalonicus, M. cerasi, M. nicotianae, M. persicae, M. varians; Nasonovia ribis-nigri, Neotoxoptera formosana, Neomegalotomus spp, Nephotettix* spp. such as *N. malayanus, N. nigropictus, N. parvus, N. virescens; Nezara* spp. such as *N. viridula; Nilaparvata lugens, Nysius huttoni, Oebalus* spp. such as *O. pugnax; Oncometopia* spp., *Orthezia praelonga, Oxycaraenus hyalinipennis, Parabemisia myricae, Parlatoria* spp., *Parthenolecanium* spp. such as *P. corni, P. persicae; Pemphigus* spp. such as *P. bursarius, P. populivenae; Peregrinus maidis, Perkinsiella saccharicida, Phenacoccus* spp. such as *P. aceris, P. gossypii; Phloeomyzus passerinii, Phorodon humuli, Phylloxera* spp. such as *P. devastatrix, Piesma quadrata, Piezodorus* spp. such as *P. guildinii; Pinnaspis aspidistrae, Planococcus* spp. such as *P. citri, P. ficus; Prosapia bicincta, Protopulvinaria pyriformis, Psallus seriatus, Pseudacysta persea, Pseudaulacaspis pentagona, Pseudococcus*

spp. such as *P. comstocki; Psylla* spp. such as *P. mali; Pteromalus* spp., *Pulvinaria amygdali, Pyrilla* spp., *Quadraspidiotus* spp., such as *Q. perniciosus; Quesada gigas, Rastrococcus* spp., *Reduvius senilis, Rhizoecus americanus, Rhodnius* spp., *Rhopalomyzus ascalonicus, Rhopalosiphum* spp. such as *R. pseudobrassicas, R. insertum, R. maidis, R. padi; Sagatodes* spp., *Sahlbergella singularis, Saissetia* spp., *Sappaphis mala, Sappaphis mali, Scaptocoris spp, Scaphoides titanus, Schizaphis graminum, Schizoneura lanuginosa, Scotinophora* spp., *Selenaspidus articulatus, Sitobion avenae, Sogata* spp., *Sogatella furcifera, Solubea insularis, Spissistilus festinus (=Stictocephala festina); Stephanitis nashi, Stephanitis pyrioides, Stephanitis takeyai, Tenalaphara malayensis, Tetraleurodes perseae, Therioaphis maculate, Thyanta* spp. such as *T. accerra, T. perditor; Tibraca* spp., *Tomaspis* spp., *Toxoptera* spp. such as *T. aurantii; Trialeurodes* spp. such as *T. abutilonea, T. ricini, T. vaporariorum; Triatoma* spp., *Trioza* spp., *Typhlocyba* spp., *Unaspis* spp. such as *U. citri, U. yanonensis; and Viteus vitifolii,*

Insects from the order **Hymenoptera** for example *Acanthomyops interjectus*, *Athalia rosae, Atta spp such as A. capiguara, A. cephalotes, A. cephalotes, A. laevigata, A. robusta, A. sexdens, A. texana, Bombus spp., Brachymyrmex* spp., *Camponotus spp such as C. floridanus, C. pennsylvanicus, C. modoc; Cardiocondyla nuda, Chalibion sp, Crematogaster spp., Dasymutilla occidentalis, Diprion spp., Dolichovespula maculata, Dorymyrmex* spp, *Dryocosmus kuriphilus, Formica spp, Hoplocampa* spp. such as *H. minuta, H. testudinea; Iridomyrmex humilis,* Lasius spp. such as *L. niger, Linepithema humile, Liometopum spp, Leptocybe invasa, Monomorium spp such as M. pharaonis, Monomorium, Nylandria fulva, Pachycondyla chinensis, Paratrechina longicornis, Paravespula spp such as P. germanica, P. pennsylvanica, P. vulgaris; Pheidole spp such as P. megacephala; Pogonomyrmex spp such as P. barbatus, P. californicus, Polistes rubiginosa, Prenolepis impairs, Pseudomyrmex gracilis, Schelipron spp, Sirex cyaneus, Solenopsis spp such as S. geminata, S.invicta, S. molesta, S. richteri, S. xyloni, Sphecius speciosus, Sphex spp, Tapinoma spp such as T. melanocephalum, T. sessile; Tetramorium spp such as T. caespitum, T. bicarinatum,* Vespa spp. such as *V. crabro; Vespula spp such as V. squamosal; Wasmannia auropunctata*, *Xylocopa* sp

Insects from the order **Orthoptera** for example *Acheta domesticus, Calliptamus italicus, Chortoicetes terminifera, Ceuthophilus spp, Diastrammena asynamora, Dociostaurus maroccanus, Gryllotalpa spp such as G. africana, G. gryllotalpa; Gryllus spp, Hieroglyphus daganensis, Kraussaria angulifera, Locusta* spp. such as *L. migratoria, L. pardalina; Melanoplus spp such as M. bivittatus, M. femurrubrum, M. mexicanus, M. sanguinipes, M. spretus; Nomadacris septemfasciata, Oedaleus senegalensis, Scapteriscus spp, Schistocerca spp such as S. americana, S. gregaria, Stemopelmatus spp, Tachycines asynamorus, and Zonozerus variegatus*

Pests from the Class **Arachnida** for example **Acari**,e.g. of the families Argasidae, Ixodidae and Sarcoptidae, such as Amblyomma spp. (e.g. *A. americanum, A. variegatum, A. maculatum*), Argas spp. such as *A. persicu*), *Boophilus* spp. such as *B. annulatus, B. decoloratus, B. microplus, Dermacentor spp such as D.silvarum, D. andersoni, D. variabilis, Hyalomma* spp.

such as *H. truncatum, Ixodes* spp. such as *I. ricinus, I. rubicundus, I. scapularis, I. holocyclus, I. pacificus, Rhipicephalus sanguineus, Ornithodorus* spp. such as *O. moubata, O. hermsi, O. turicata*), *Ornithonyssus bacoti, Otobius megnini, Dermanyssus gallinae, Psoroptes* spp such as *P. ovis, Rhipicephalus* spp such as *R. sanguineus, R. appendiculatus, Rhipicephalus evertsi), Rhizoglyphus spp; Sarcoptes* spp. such as *S. Scabiei*; and Family **Eriophyidae** including *Aceria spp such as A. sheldoni, A. anthocoptes, Acallitus* spp; *Aculops* spp. such as *A. lycopersici, A. pelekassi; Aculus* spp such as *A. schlechtendali; Colomerus vitis, Epitrimerus pyri, Phyllocoptruta oleivora; Eriophytes ribis* and *Eriophyes* spp such as *Eriophyes sheldoni*; Family **Tarsonemidae** including *Hemitarsonemus spp., Phytonemus pallidus and Polyphagotarsonemus latus, Stenotarsonemus spp. Steneotarsonemus spinki*; Family **Tenuipalpidae** including Brevipalpus spp. such as *B. phoenicis*; Family **Tetranychidae** including *Eotetranychus spp., Eutetranychus spp., Oligonychus spp., Petrobia latens, Tetranychus spp such as T. cinnabarinus, T. evansi, T. kanzawai, T, pacificus, T. phaseulus, T. telarius* and *T. urticae*; *Bryobia praetiosa*; *Panonychus* spp. such as *P. ulmi, P. citri*;, *Metatetranychus spp.* and *Oligonychus* spp. such as *O. pratensis, O. perseae*), *Vasates lycopersici*; *Raoiella indica, Family* **Carpoglyphidae** including *Carpoglyphus spp; Penthaleidae* spp such as *Halotydeus destructor*; Family **Demodicidae** with species such a *Demodex* spp; Family **Trombicidea** including *Trombicula spp*:; Family **Macronyssidae** including *Ornothonyssus* spp; Family **Pyemotidae** including *Pyemotes tritici*; *Tyrophagus putrescentiae*; Family Acaridae including *Acarus siro*; Family **Araneida** including *Latrodectus mactans, Tegenaria agrestis, Chiracanthium sp, Lycosa sp Achaearanea tepidariorum* and *Loxosceles reclusa*.

Pests from the Phylum **Nematoda**, for example, plant parasitic nematodes such as root-knot nematodes, *Meloidogyne* spp. such as *M. hapla, M. incognita, M. javanica;* cyst-forming nematodes, *Globodera* spp. such as *G. rostochiensis; Heterodera* spp. such as *H. avenae, H. glycines, H. schachtii, H. trifolii;* Seed gall nematodes, *Anguina* spp.; Stem and foliar nematodes, *Aphelenchoides* spp. such as *A. besseyi;* Sting nematodes, *Belonolaimus* spp. such as *B. longicaudatus;* Pine nematodes, *Bursaphelenchus* spp. such as *B. lignicolus, B. xylophilus;* Ring nematodes, *Criconema* spp.*; Criconemella* spp. such as *C. xenoplax* and *C. ornata;* and, *Criconemoides* spp. such as *Criconemoides informis; Mesocriconema* spp.*;* Stem and bulb nematodes, *Ditylenchus* spp. such as *D. destructor, D. dipsaci;* Awl nematodes, *Dolichodorus* spp.*;* Spiral nematodes, *Heliocotylenchus multicinctus;* Sheath and sheathoid nematodes, *Hemicycliophora* spp. and *Hemicriconemoides* spp.*; Hirshmanniella* spp.*;* Lance nematodes, *Hoploaimus* spp.*;* False rootknot nematodes, *Nacobbus* spp.*;* Needle nematodes, *Longidorus* spp. such as *L. elongatus;* Lesion nematodes, *Pratylenchus* spp. such as *P. brachyurus, P. neglectus, P. penetrans, P. curvitatus, P. goodeyi;* Burrowing nematodes, *Radopholus* spp. such as *R. similis; Rhadopholus* spp.*; Rhodopholus* spp.*;* Reniform nematodes, *Rotylenchus* spp. such as *R. robustus, R. reniformis; Scutellonema* spp.*;* Stubby-root nematode, *Trichodorus* spp. such as *T. obtusus, T. primitivus; Paratrichodorus* spp. such as *P. minor;* Stunt nematodes, *Tylenchorhynchus* spp. such as *T. claytoni, T. dubius;* Citrus nematodes, *Tylenchulus* spp. such as *T. semipenetrans;* Dagger nematodes, *Xiphinema* spp.*;* and other plant parasitic nematode species.

Insects from the order **Isoptera** for example *Calotermes flavicollis, Coptotermes spp such as C. formosanus, C. gestroi, C. acinaciformis; Cornitermes cumulans, Cryptotermes spp such as C. brevis, C. cavifrons; Globitermes sulfureus, Heterotermes spp such as H. aureus, H. longiceps, H. tenuis; Leucotermes flavipes, Odontotermes spp., Incisitermes spp such as I. minor, I. Snyder, Marginitermes hubbardi, Mastotermes spp such as M. darwiniensis Neocapritermes spp such as N. opacus, N. parvus; Neotermes spp, Procornitermes spp, Zootermopsis spp such as Z. angusticollis, Z. nevadensis, Reticulitermes* spp. such as *R. hesperus, R. tibialis, R. speratus, R. flavipes, R. grassei, R. lucifugus, R. santonensis, R. virginicus; Termes natalensis,*

Insects from the order **Blattaria** for example *Blatta spp such as B. orientalis, B. lateralis; Blattella spp such as B. asahinae, B. germanica; Leucophaea maderae, Panchlora nivea, Periplaneta spp such as P. americana, P. australasiae, P. brunnea, P. fuligginosa, P. japonica; Supella longipalpa, Parcoblatta pennsylvanica, Eurycotis floridana, Pycnoscelus surinamensis,*

Insects from the order **Siphonoptera** for example *Cediopsylla simples, Ceratophyllus spp., Ctenocephalides spp such as C. felis, C. canis, Xenopsylla cheopis, Pulex irritans, Trichodectes canis, Tunga penetrans*, and *Nosopsyllus fasciatus,*

Insects from the order **Thysanura** for example *Lepisma saccharina* , *Ctenolepisma urbana*, and *Thermobia domestica,*

Pests from the class **Chilopoda** for example *Geophilus spp.,* Scutigera spp. such as *Scutigera coleoptrata*;

Pests from the class **Diplopoda** for example *Blaniulus guttulatus, Julus spp , Narceus spp.*,

Pests from the class **Symphyla** for example *Scutigerella immaculata.*

Insects from the order **Dermaptera**, for example *Forficula auricularia*,

Insects from the order **Collembola**, for example *Onychiurus* spp. such as *Onychiurus armatus.*

Pests from the order **Isopoda** for example, *Armadillidium vulgare, Oniscus asellus, Porcellio scaber.*

Insects from the order **Phthiraptera**, for example *Damalinia spp.*, Pediculus spp. such as *Pediculus humanus capitis, Pediculus humanus corporis, Pediculus humanus humanus; Pthirus pubis*, Haematopinus spp. such as *Haematopinus eurysternus, Haematopinus suis*; Linognathus spp. such as *Linognathus vituli; Bovicola bovis, Menopon gallinae, Menacanthus stramineus* and *Solenopotes capillatus, Trichodectes spp.,*

Examples of further pest species which may be controlled by compounds of fomula (I) include: from the Phylum **Mollusca**, class **Bivalvia,** for example, *Dreissena spp.*; class **Gastropoda**, for example, *Arion spp., Biomphalaria spp., Bulinus spp., Deroceras spp., Galba spp., Lymnaea spp., Oncomelania spp., Pomacea canaliclata, Succinea spp.;* from the class of the ***helminths***, for example, *Ancylostoma duodenale, Ancylostoma ceylanicum, Acylostoma braziliensis, Ancylostoma spp., Ascaris lubricoides, Ascaris spp., Brugia malayi, Brugia timori, Bunostomum spp., Chabertia spp., Clonorchis spp., Cooperia spp., Dicrocoelium spp., Dictyocaulus filaria, Diphyllobothrium latum, Dracunculus medinensis, Echinococcus granulosus, Echinococcus multilocularis, Enterobius vermicularis, Faciola spp.,* Haemonchus spp. such as *Haemonchus contortus; Heterakis spp., Hymenolepis nana, Hyostrongulus spp., Loa Loa, Nematodirus spp., Oesophagostomum spp., Opisthorchis spp., Onchocerca volvulus, Ostertagia spp., Paragonimus spp., Schistosomen spp., Strongyloides fuelleborni, Strongyloides stercora lis, Stronyloides spp., Taenia saginata, Taenia solium, Trichinella spiralis, Trichinella nativa, Trichinella britovi, Trichinella nelsoni, Trichinella pseudopsiralis, Trichostrongulus spp., Trichuris trichuria, Wuchereria bancrofti;*

The compounds of the present invention, including their salts, stereoisomers and tautomers, are particularly useful for controlling insects, preferably sucking or piercing and chewing and biting insects such as insects from the genera Lepidoptera, Coleoptera and Hemiptera, in particular Lepidoptera, Coleoptera and true bugs.

The compounds of the present invention, including their salts, stereoisomers and tautomers, are moreover useful for controlling insects of the orders Thysanoptera, Diptera (especially flies, mosquitos), Hymenoptera (especially ants) and Isoptera (especially termites.

The compounds of the present invention, including their salts, stereoisomers and tautomers, are particularly useful for controlling insects of the orders Lepidoptera and Coleoptera.

The invention also relates to agrochemical compositions comprising an auxiliary and at least one compound I according to the invention.

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

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

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

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

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

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

Suitable surfactants are surface-active compounds, such as anionic, cationic, nonionic and amphoteric surfactants, block polymers, polyelectrolytes, and mixtures thereof. Such surfactants can be used as emusifier, dispersant, solubilizer, wetter, penetration enhancer, protective colloid, or adjuvant. Examples of surfactants are listed in McCutcheon's, Vol.1: Emulsifiers & Detergents, McCutcheon's Directories, Glen Rock, USA, 2008 (International Ed. or North American Ed.).

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

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

based surfactants are sorbitans, ethoxylated sorbitans, sucrose and glucose esters or alkylpolyglucosides. Examples of polymeric surfactants are home- or copolymers of vinylpyrrolidone, vinylalcohols, or vinylacetate.

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

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

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

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

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

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

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

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

Examples for composition types and their preparation are:

i) Water-soluble concentrates (SL, LS)

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

ii) Dispersible concentrates (DC)

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

iii) Emulsifiable concentrates (EC)

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

iv) Emulsions (EW, EO, ES)

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

v) Suspensions (SC, OD, FS)

In an agitated ball mill, 20-60 wt% of a compound I according to the invention are comminuted with addition of 2-10 wt% dispersants and wetting agents (e.g. sodium lignosulfonate and alcohol ethoxylate), 0,1-2 wt% thickener (e.g. xanthan gum) and water ad 100 wt% to give a fine active substance suspension. Dilution with water gives a stable suspension of the active substance. For FS type composition up to 40 wt% binder (e.g. polyvinylalcohol) is added.

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

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

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

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

viii) Gel (GW, GF)

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

iv) Microemulsion (ME)

5-20 wt% of a compound I according to the invention are added to 5-30 wt% organic solvent blend (e.g. fatty acid dimethylamide and cyclohexanone), 10-25 wt% surfactant blend (e.g. alkohol ethoxylate and arylphenol ethoxylate), and water ad 100 %. This mixture is stirred for 1 h to produce spontaneously a thermodynamically stable microemulsion.

iv) Microcapsules (CS)

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

alcohol). The addition of a polyamine (e.g. hexamethylenediamine) results in the formation of a polyurea microcapsules. The monomers amount to 1-10 wt%. The wt% relate to the total CS composition.

ix) Dustable powders (DP, DS)

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

x) Granules (GR, FG)

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

xi) Ultra-low volume liquids (UL)

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

The compositions types i) to xi) may optionally comprise further auxiliaries, such as 0,1-1 wt% bactericides, 5-15 wt% anti-freezing agents, 0,1-1 wt% anti-foaming agents, and 0,1-1 wt% colorants.

The agrochemical compositions generally comprise between 0.01 and 95%, preferably between 0.1 and 90%, and in particular between 0.5 and 75%, by weight of active substance. The active substances are employed in a purity of from 90% to 100%, preferably from 95% to 100% (according to NMR spectrum).

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

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

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

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

active substance per cubic meter of treated material.

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

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

According to one embodiment, individual components of the composition according to the invention such as parts of a kit or parts of a binary or ternary mixture may be mixed by the user himself in a spray tank and further auxiliaries may be added, if appropriate.

In a further embodiment, either individual components of the composition according to the invention or partially premixed components, e.g. components comprising compounds I and/or active substances from the groups M) or F) (see below), may be mixed by the user in a spray tank and further auxiliaries and additives may be added, if appropriate.

In a further embodiment, either individual components of the composition according to the invention or partially premixed components, e. g. components comprising compounds I and/or active substances from the groups M.1 to M.UN.X or F.I to F.XII, can be applied jointly (e.g. after tank mix) or consecutively.

The following list M of pesticides, grouped according the Mode of Action Classification of the Insecticide Resistance Action Committee (IRAC), together with which the compounds according to the invention can be used and with which potential synergistic effects might be produced, is intended to illustrate the possible combinations, but not to impose any limitation:

M.1 Acetylcholine esterase (AChE) inhibitors from the class of

M.1A carbamates, for example aldicarb, alanycarb, bendiocarb, benfuracarb, butocarboxim, butoxycarboxim, carbaryl, carbofuran, carbosulfan, ethiofencarb, fenobucarb, formetanate, furathiocarb, isoprocarb, methiocarb, methomyl, metolcarb, oxamyl, pirimicarb, propoxur, thiodicarb, thiofanox, trimethacarb, XMC, xylylcarb and triazamate; or from the class of

M.1B organophosphates, for example acephate, azamethiphos, azinphos-ethyl, azinphosmethyl, cadusafos, chlorethoxyfos, chlorfenvinphos, chlormephos, chlorpyrifos, chlorpyrifos-methyl, coumaphos, cyanophos, demeton-S-methyl, diazinon, dichlorvos/ DDVP, dicrotophos, dimethoate, dimethylvinphos, disulfoton, EPN, ethion, ethoprophos, famphur, fenamiphos, fenitrothion, fenthion, fosthiazate, heptenophos, imicyafos, isofenphos, isopropyl O- (methoxyaminothiophosphoryl) salicylate, isoxathion, malathion, mecarbam, methamidophos, methidathion, mevinphos, monocrotophos, naled, omethoate, oxydemeton-methyl, parathion, parathion-methyl, phenthoate, phorate, phosalone, phosmet, phosphamidon, phoxim, pirimiphos-CH_3,

profenofos, propetamphos, prothiofos, pyraclofos, pyridaphenthion, quinalphos, sulfotep, tebupirimfos, temephos, terbufos, tetrachlorvinphos, thiometon, triazophos, trichlorfon and vamidothion;

M.2. GABA-gated chloride channel antagonists such as:

M.2A cyclodiene organoCl compounds, as for example endosulfan or chlordane; or

M.2B fiproles (phenylpyrazoles), as for example ethiprole, fipronil, flufiprole, pyrafluprole and pyriprole;

M.3 Sodium channel modulators from the class of

M.3A pyrethroids, for example acrinathrin, allethrin, d-cis-trans allethrin, d-trans allethrin, bifenthrin, bioallethrin, bioallethrin S-cylclopentenyl, bioresmethrin, cycloprothrin, cyfluthrin, beta-cyfluthrin, cyhalothrin, lambda-cyhalothrin, gamma-cyhalothrin, cypermethrin, alpha-cypermethrin, beta-cypermethrin, theta-cypermethrin, zeta-cypermethrin, cyphenothrin, deltamethrin, empenthrin, esfenvalerate, etofenprox, fenpropathrin, fenvalerate, flucythrinate, flumethrin, taufluvalinate, halfenprox, heptafluthrin, imiprothrin, meperfluthrin,metofluthrin, momfluorothrin, permethrin, phenothrin, prallethrin, profluthrin, pyrethrin (pyrethrum), resmethrin, silafluofen, tefluthrin, tetramethylfluthrin, tetramethrin, tralomethrin and transfluthrin; or

M.3B sodium channel modulators such as DDT or methoxychlor;

M.4 Nicotinic acetylcholine receptor agonists (nAChR) from the class of

M.4A neonicotinoids, for example acteamiprid, chlothianidin, cycloxaprid, dinotefuran, imidacloprid, nitenpyram, thiacloprid and thiamethoxam; or the compounds

M.4A.2: (2E-)-1-[(6-Chloropyridin-3-yl)methyl]-N'-nitro-2-pentylidenehydrazinecarboximidamide; or

M4.A.3: 1-[(6-Chloropyridin-3-yl)methyl]-7-methyl-8-nitro-5-propoxy-1,2,3,5,6,7-hexahydroimidazo[1,2-a]pyridine;

or from the class M.4B nicotine;

M.5 Nicotinic acetylcholine receptor allosteric activators from the class of spinosyns, for example spinosad or spinetoram;

M.6 Chloride channel activators from the class of avermectins and milbemycins, for example abamectin, emamectin benzoate, ivermectin, lepimectin or milbemectin;

M.7 Juvenile hormone mimics, such as

M.7A juvenile hormone analogues as hydroprene, kinoprene and methoprene; or others as M.7B fenoxycarb or M.7C pyriproxyfen;

M.8 miscellaneous non-specific (multi-site) inhibitors, for example

M.8A alkyl halides as methyl bromide and other alkyl halides, or

M.8B chloropicrin, or M.8C sulfuryl fluoride, or M.8D borax, or M.8E tartar emetic;

M.9 Selective homopteran feeding blockers, for example

M.9B pymetrozine, or M.9C flonicamid;

M.10 Mite growth inhibitors, for example

M.10A clofentezine, hexythiazox and diflovidazin, or M.10B etoxazole;

M.11 Microbial disruptors of insect midgut membranes, for example *bacillus thuringiensis* or *bacillus sphaericus* and the insecticdal proteins they produce such as *bacillus thuringiensis*

subsp. israelensis, *bacillus sphaericus*, *bacillus thuringiensis subsp. aizawai*, *bacillus thuringiensis subsp. kurstaki* and *bacillus thuringiensis subsp. tenebrionis*, or the Bt crop proteins: Cry1Ab, Cry1Ac, Cry1Fa, Cry2Ab, mCry3A, Cry3Ab, Cry3Bb and Cry34/35Ab1;

M.12 Inhibitors of mitochondrial ATP synthase, for example

M.12A diafenthiuron, or

M.12B organotin miticides such as azocyclotin, cyhexatin or fenbutatin oxide, or M.12C propargite, or M.12D tetradifon;

M.13 Uncouplers of oxidative phosphorylation via disruption of the proton gradient, for example chlorfenapyr, DNOC or sulfluramid;

M.14 Nicotinic acetylcholine receptor (nAChR) channel blockers, for example nereistoxin analogues as bensultap, cartap hydrochloride, thiocyclam or thiosultap sodium;

M.15 Inhibitors of the chitin biosynthesis type 0, such as benzoylureas as for example bistrifluron, chlorfluazuron, diflubenzuron, flucycloxuron, flufenoxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, teflubenzuron or triflumuron;

M.16 Inhibitors of the chitin biosynthesis type 1, as for example buprofezin;

M.17 Moulting disruptors, Dipteran, as for example cyromazine;

M.18 Ecdyson receptor agonists such as diacylhydrazines, for example methoxyfenozide, tebufenozide, halofenozide, fufenozide or chromafenozide;

M.19 Octopamin receptor agonists, as for example amitraz;

M.20 Mitochondrial complex III electron transport inhibitors, for example

M.20A hydramethylnon, or M.20B acequinocyl, or M.20C fluacrypyrim;

M.21 Mitochondrial complex I electron transport inhibitors, for example

M.21A METI acaricides and insecticides such as fenazaquin, fenpyroximate, pyrimidifen, pyridaben, tebufenpyrad or tolfenpyrad, or M.21B rotenone;

M.22 Voltage-dependent sodium channel blockers, for example

M.22A indoxacarb, or M.22B metaflumizone, or M.22B.1: 2-[2-(4-Cyanophenyl)-1-[3-(trifluoromethyl)phenyl]ethylidene]-N-[4-(difluoromethoxy)phenyl]-hydrazinecarboxamide or M.22B.2: N-(3-Chloro-2-methylphenyl)-2-[(4-chlorophenyl)[4-[methyl(methylsulfonyl)amino]phenyl]methylene]-hydrazinecarboxamide;

M.23 Inhibitors of the of acetyl CoA carboxylase, such as Tetronic and Tetramic acid derivatives, for example spirodiclofen, spiromesifen or spirotetramat;

M.24 Mitochondrial complex IV electron transport inhibitors, for example

M.24A phosphine such as aluminium phosphide, calcium phosphide, phosphine or zinc phosphide, or M.24B cyanide;

M.25 Mitochondrial complex II electron transport inhibitors, such as beta-ketonitrile derivatives, for example cyenopyrafen or cyflumetofen;

M.28 Ryanodine receptor-modulators from the class of diamides, as for example flubendiamide, chlorantraniliprole (rynaxypyr®), cyantraniliprole (cyazypyr®), or the phthalamide compounds M.28.1: (R)-3-Chlor-N1-{2-methyl-4-[1,2,2,2 –tetrafluor-1-(trifluormethyl)ethyl]phenyl}-N2-(1-methyl-2-methylsulfonylethyl)phthalamid and M.28.2: (S)-3-Chlor-N1-{2-methyl-4-[1,2,2,2 –tetrafluor-1-(trifluormethyl)ethyl]phenyl}-N2-(1-methyl-2-methylsulfonylethyl)phthalamid, or the

compound M.28.3: 3-bromo-N-{2-bromo-4-chloro-6-[(1-cyclopropylethyl)carbamoyl]phenyl}-1-(3-chlorpyridin-2-yl)-1H-pyrazole-5-carboxamide (proposed ISO name: cyclaniliprole), or the compound M.28.4: methyl-2-[3,5-dibromo-2-({[3-bromo-1-(3-chlorpyridin-2-yl)-1H-pyrazol-5-yl]carbonyl}amino)benzoyl]-1,2-dimethylhydrazinecarboxylate; or a compound selected from M.28.5a) to M.28.5l): M.28.5a) N-[4,6-dichloro-2-[(diethyl-lambda-4-sulfanylidene)carbamoyl]-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide; M.28.5b) N-[4-chloro-2-[(diethyl-lambda-4-sulfanylidene)carbamoyl]-6-methyl-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide; M.28.5c) N-[4-chloro-2-[(di-2-propyl-lambda-4-sulfanylidene)carbamoyl]-6-methyl-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide; M.28.5d) N-[4,6-dichloro-2-[(di-2-propyl-lambda-4-sulfanylidene)carbamoyl]-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide; M.28.5e) N-[4,6-dichloro-2-[(diethyl-lambda-4-sulfanylidene)carbamoyl]-phenyl]-2-(3-chloro-2-pyridyl)-5-(difluoromethyl)pyrazole-3-carboxamide; M.28.5f) N-[4,6-dibromo-2-[(di-2-propyl-lambda-4-sulfanylidene)carbamoyl]-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide; M.28.5g) N-[4-chloro-2-[(di-2-propyl-lambda-4-sulfanylidene)carbamoyl]-6-cyano-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide; M.28.5h) N-[4,6-dibromo-2-[(diethyl-lambda-4-sulfanylidene)carbamoyl]-phenyl]-2-(3-chloro-2-pyridyl)-5-(trifluoromethyl)pyrazole-3-carboxamide; M.28.5i) N-[2-(5-Amino-1,3,4-thiadiazol-2-yl)-4-chloro-6-methylphenyl]-3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxamide; M.28.5j) 3-Chloro-1-(3-chloro-2-pyridinyl)-N-[2,4-dichloro-6-[[(1-cyano-1-methylethyl)amino]carbonyl]phenyl]-1H-pyrazole-5-carboxamide; M.28.5k) 3-Bromo-N-[2,4-dichloro-6-(methylcarbamoyl)phenyl]-1-(3,5-dichloro-2-pyridyl)-1H-pyrazole-5-carboxamide; M.28.5l) N-[4-Chloro-2-[[(1,1-dimethylethyl)amino]carbonyl]-6-methylphenyl]-1-(3-chloro-2-pyridinyl)-3-(fluoromethoxy)-1H-pyrazole-5-carboxamide; or a compound selected from M.28.6: N-(2-cyanopropan-2-yl)-N-(2,4-dimethylphenyl)-3-iodobenzene-1,2-dicarboxamide; or M.28.7: 3-Chloro-N-(2-cyanopropan-2-yl)-N-(2,4-dimethylphenyl)-benzene-1,2-dicarboxamide; M.28.8a) 1-(3-Chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino)carbonyl]phenyl]-3-[[5-(trifluoromethyl)-2H-tetrazol-2-yl]methyl]-1H-pyrazole-5-carboxamide; or M.28.8b) 1-(3-Chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino)carbonyl]phenyl]-3-[[5-(trifluoromethyl)-1H-tetrazol-1-yl]methyl]-1H-pyrazole-5-carboxamide;

M.UN. insecticidal active compounds of unknown or uncertain mode of action, as for example afidopyropen, afoxolaner, azadirachtin, amidoflumet, benzoximate, bifenazate, bromopropylate, chinomethionat, cryolite, dicofol, dicloromezotiaz (common name of 1-[(2-Chloro-1,3-thiazol-5-yl)methyl]-3-(3,5-dichlorophenyl)-9-methyl-4-oxo-4H-pyrido[1,2-a]pyrimidin-1-ium-2-olate), flufenerim, flometoquin, fluensulfone, fluopyram, flupyradifurone, fluralaner, metoxadiazone, piperonyl butoxide, pyflubumide, pyridalyl, pyrifluquinazon, sulfoxaflor, tioxazafen, triflumezopyrim, or the compounds M.UN.3: 11-(4-chloro-2,6-dimethylphenyl)-12-hydroxy-1,4-dioxa-9-aza-dispiro[4.2.4.2]-tetradec-11-en-10-one, or the compound M.UN.4: 3-(4'-fluoro-2,4-dimethylbiphenyl-3-yl)-4-hydroxy-8-oxa-1-azaspiro[4.5]dec-3-en-2-one, or the compound M.UN.5: 1-[2-fluoro-4-methyl-5-[(2,2,2-trifluoroethyl)sulfinyl]phenyl]-3-(trifluoromethyl)-1H-1,2,4-triazole-5-amine, or actives on basis of *bacillus firmus* (Votivo, I-1582); or a compound selected from the group of M.UN.6, wherein the compound is selected from M.UN.6a) to M.UN.6k): M.UN.6a) (E/Z)-N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide; M.UN.6b) (E/Z)-

N-[1-[(6-chloro-5-fluoro-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide; M.UN.6c) (E/Z)-2,2,2-trifluoro-N-[1-[(6-fluoro-3-pyridyl)methyl]-2-pyridylidene]acetamide; M.UN.6d) (E/Z)-N-[1-[(6-bromo-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide; M.UN.6e) (E/Z)-N-[1-[1-(6-chloro-3-pyridyl)ethyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide; M.UN.6f) (E/Z)-N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2-difluoro-acetamide; M.UN.6g) (E/Z)-2-chloro-N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2-difluoro-acetamide; M.UN.6h) (E/Z)-N-[1-[(2-chloropyrimidin-5-yl)methyl]-2-pyridylidene]-2,2,2-trifluoro-acetamide; M.UN.6i) (E/Z)-N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2,3,3,3-pentafluoro-propanamide.); M.UN.6j) N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-thioacetamide or of the compound M.UN.6k) N-[1-[(6-chloro-3-pyridyl)methyl]-2-pyridylidene]-2,2,2-trifluoro-N'-isopropyl-acetamidine or the compounds M.UN.8: 8-chloro-N-[2-chloro-5-methoxyphenyl)sulfonyl]-6-trifluoromethyl)-imidazo[1,2-a]pyridine-2-carboxamide; or M.UN.9: 4-[5-(3,5-dichlorophenyl)-5-(trifluoromethyl)-4H-isoxazol-3-yl]-2-methyl-N-(1-oxothietan-3-yl)benzamide; or M.UN.10: 5-[3-[2,6-dichloro-4-(3,3-dichloroallyloxy)phenoxy]propoxy]-1H-pyrazole; or a compound selected from the group of M.UN.11, wherein the compound is selected from M.UN.11a) to M.UN.11p): M.UN.11.a) 3-[benzoyl(methyl)amino]-N-[2-bromo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]-2-fluoro-benzamide; M.UN.11.b) 3-(benzoylmethylamino)-N-[2-bromo-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]-6-(trifluoromethyl)phenyl]-2-fluoro-benzamide; M.UN.11.c) 3-(benzoylmethylamino)-2-fluoro-N-[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]-benzamide; M.UN.11.d) N-[3-[[[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]phenyl]-N-methyl-benzamide; M.UN.11.e) N-[3-[[[2-bromo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]-2-fluorophenyl]-4-fluoro-N-methyl-benzamide; M.UN.11.f) 4-fluoro-N-[2-fluoro-3-[[[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]phenyl]-N-methyl-benzamide; M.UN.11.g) 3-fluoro-N-[2-fluoro-3-[[[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]phenyl]-N-methyl-benzamide; M.UN.11.h) 2-chloro-N-[3-[[[2-iodo-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]amino]carbonyl]phenyl]- 3-pyridinecarboxamide; M.UN.11.i) 4-cyano-N-[2-cyano-5-[[2,6-dibromo-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]phenyl]carbamoyl]phenyl]-2-methyl-benzamide; M.UN.11.j) 4-cyano-3-[(4-cyano-2-methyl-benzoyl)amino]-N-[2,6-dichloro-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]phenyl]-2-fluoro-benzamide; M.UN.11.k) N-[5-[[2-chloro-6-cyano-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]phenyl]carbamoyl]-2-cyano-phenyl]-4-cyano-2-methyl-benzamide; M.UN.11.l) N-[5-[[2-bromo-6-chloro-4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]carbamoyl]-2-cyano-phenyl]-4-cyano-2-methyl-benzamide; M.UN.11.m) N-[5-[[2-bromo-6-chloro-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]phenyl]carbamoyl]-2-cyano-phenyl]-4-cyano-2-methyl-benzamide; M.UN.11.n) 4-cyano-N-[2-cyano-5-[[2,6-dichloro-4-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]phenyl]carbamoyl]phenyl]-2-methyl-benzamide; M.UN.11.o) 4-cyano-N-[2-cyano-5-[[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]carbamoyl]phenyl]-2-methyl-benzamide; M.UN.11.p) N-[5-[[2-bromo-6-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]carbamoyl]-2-cyano-phenyl]-4-cyano-2-methyl-benzamide; or a compound selected from the group of M.UN.12, wherein the compound is selected from M.UN.12a) to M.UN.12m): M.UN.12.a) 2-(1,3-Dioxan-2-yl)-6-[2-(3-

pyridinyl)-5-thiazolyl]-pyridine; M.UN.12.b) 2-[6-[2-(5-Fluoro-3-pyridinyl)-5-thiazolyl]-2-pyridinyl]-pyrimidine; M.UN.12.c) 2-[6-[2-(3-Pyridinyl)-5-thiazolyl]-2-pyridinyl]-pyrimidine; M.UN.12.d) N-Methylsulfonyl-6-[2-(3-pyridyl)thiazol-5-yl]pyridine-2-carboxamide; M.UN.12.e) N-Methylsulfonyl-6-[2-(3-pyridyl)thiazol-5-yl]pyridine-2-carboxamide; M.UN.12.f) N-Ethyl-N-[4-methyl-2-(3-pyridyl)thiazol-5-yl]-3-methylthio-propanamide; M.UN.12.g) N-Methyl-N-[4-methyl-2-(3-pyridyl)thiazol-5-yl]-3-methylthio-propanamide; M.UN.12.h) N,2-Dimethyl-N-[4-methyl-2-(3-pyridyl)thiazol-5-yl]-3-methylthio-propanamide; M.UN.12.i) N-Ethyl-2-methyl-N-[4-methyl-2-(3-pyridyl)thiazol-5-yl]-3-methylthio-propanamide; M.UN.12.j) N-[4-Chloro-2-(3-pyridyl)thiazol-5-yl]-N-ethyl-2-methyl-3-methylthio-propanamide; M.UN.12.k) N-[4-Chloro-2-(3-pyridyl)thiazol-5-yl]-N,2-dimethyl-3-methylthio-propanamide; M.UN.12.l) N-[4-Chloro-2-(3-pyridyl)thiazol-5-yl]-N-methyl-3-methylthio-propanamide; M.UN.12.m) N-[4-Chloro-2-(3-pyridyl)thiazol-5-yl]-N-ethyl-3-methylthio-propanamide; or the compound M.UN.13: 2-(4-methoxyiminocyclohexyl)-2-(3,3,3-trifluoropropylsulfonyl)acetonitrile; or the compounds M.UN.14a) 1-[(6-Chloro-3-pyridinyl)methyl]-1,2,3,5,6,7-hexahydro-5-methoxy-7-methyl-8-nitro-imidazo[1,2-a]pyridine; or M.UN.14b) 1-[(6-Chloropyridin-3-yl)methyl]-7-methyl-8-nitro-1,2,3,5,6,7-hexahydroimidazo[1,2-a]pyridin-5-ol; or the compound M.UN.15: 1-[(2-Chloro-1,3-thiazol-5-yl)methyl]-3-(3,5-dichlorophenyl)-9-methyl-4-oxo-4H-pyrido[1,2-a]pyrimidin-1-ium-2-olate.

The commercially available compounds of the group M listed above may be found in The Pesticide Manual, 15th Edition, C. D. S. Tomlin, British Crop Protection Council (2011) among other publications.

The neonicotinoid cycloxaprid is known from WO20120/069266 and WO2011/06946, and the neonicotinoid compound M.4A.2, sometimes also to be named as Guadipyr, is known from WO2013/003977, and the neonicotinoid compound M.4A.3. (approved as paichongding in China) is known from WO2010/069266. The Metaflumizone analogue M.22B.1 is described in CN 10171577 and the analogue M.22B.2 in CN102126994. The phthalamides M.28.1 and M.28.2 are both known from WO 2007/101540. The anthranilamide M.28.3 has been described in WO2005/077934. The hydrazide compound M.28.4 has been described in WO 2007/043677. The anthranilamides M.28.5a) to M.28.5h) can be prepared as described in WO 2007/006670, WO2013/024009 and WO2013/024010, the anthranilamide compound M.28.5i) is described in WO2011/085575, the compound M.28.5j) in WO2008/134969, the compound M.28.5k) in US2011/046186 and the compound M.28.5l) in WO2012/034403. The diamide compounds M.28.6 and M.28.7 can be found in CN102613183. The anthranilamide compounds M.28.8a) and M.28.8b) are known from WO2010/069502.

The quinoline derivative flometoquin is shown in WO2006/013896. The aminofuranone compounds flupyradifurone is known from WO 2007/115644. The sulfoximine compound sulfoxaflor is known from WO2007/149134. From the pyrethroids group momfluorothrin is known from US6908945 and heptafluthrin from WO10133098. The oxadiazolone compound metoxadiazone can be found in JP13/166707. The pyrazole acaricide pyflubumide is known from WO2007/020986. The isoxazoline compounds have been described in following publications: fluralaner in WO2005/085216, afoxolaner in WO2009/002809 and in WO2011/149749 and the isoxazoline compound M.UN.9 in WO2013/050317. The pyripyropene derivative afidopyropen

has been described in WO 2006/129714. The nematicide tioxazafen has been disclosed in WO09023721 and nematicide fluopyram in WO2008126922, nematicidal mixtures comprising flupyram in WO2010108616. The triflumezopyrim compound was described in WO2012/092115.

The spiroketal-substituted cyclic ketoenol derivative M.UN.3 is known from WO2006/089633 and the biphenyl-substituted spirocyclic ketoenol derivative M.UN.4 from WO2008/067911. The triazoylphenylsulfide M.UN.5 has been described in WO2006/043635, and biological control agents on basis of *bacillus firmus* in WO2009/124707.

The compounds M.UN.6a) to M.UN.6i) listed under M.UN.6 have been described in WO2012/029672 and compounds M.UN.6j) and M.UN.6k) in WO2013129688. The nematicide compound M.UN.8 in WO2013/055584 and the Pyridalyl-type analogue M.UN.10 in WO2010/060379. The carboxamide compounds M.UN.11.a) to M.UN.11.h) can be prepared as described in WO 2010/018714 and the carboxamide M.UN.11i) to M.UN.11.p) are described WO2010/127926. The pyridylthiazoles M.UN.12.a) to M.UN.12.c) are known from WO2010/006713, M.UN.12.c) and M.UN.12.d) WO2012000896 and M.UN.12.f) to M.UN.12.m) in WO2010129497. The malononitrile compound M.UN.13 was described in WO2009/005110. The compounds M.UN.14a) and M.UN.14b) are known from WO2007/101369. The compound M.UN.15 can be found in WO13192035.

The following list F of active substances, in conjunction with which the compounds according to the invention can be used, is intended to illustrate the possible combinations but does not limit them:

F.I) Respiration Inhibitors

F.I-1) Inhibitors of complex III at Qo site:

strobilurins: azoxystrobin, coumethoxystrobin, coumoxystrobin, dimoxystrobin, enestroburin, fluoxastrobin, kresoxim-methyl, metominostrobin, orysastrobin, picoxystrobin, pyraclostrobin, pyrametostrobin, pyraoxystrobin, pyribencarb, triclopyricarb/chlorodincarb, trifloxystrobin, 2-[2-(2,5-dimethyl-phenoxymethyl)-phenyl]-3-methoxy-acrylic acid methyl ester and 2 (2-(3-(2,6-dichlorophenyl)-1-methyl-allylideneaminooxymethyl)-phenyl)-2-methoxyimino-N methyl-acetamide;

oxazolidinediones and imidazolinones: famoxadone, fenamidone;

F.I-2) Inhibitors of complex II (e.g. carboxamides):

carboxanilides: benodanil, benzovindiflupyr, bixafen, boscalid, carboxin, fenfuram, fenhexamid, fluopyram, flutolanil, furametpyr, isopyrazam, isotianil, mepronil, oxycarboxin, penflufen, penthiopyrad, sedaxane, tecloftalam, thifluzamide, tiadinil, 2-amino-4 methyl-thiazole-5-carboxanilide, N-(3',4',5' trifluorobiphenyl-2 yl)-3-difluoromethyl-1-methyl-1H-pyrazole-4 carboxamide (fluxapyroxad), N-(4'-trifluoromethylthiobiphenyl-2-yl)-3 difluoromethyl-1-methyl-1H pyrazole-4-carboxamide, N-(2-(1,3,3-trimethyl-butyl)-phenyl)-1,3-dimethyl-5 fluoro-1H-pyrazole-4 carboxamide, 3-(difluoromethyl)-1-methyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 3-(trifluoromethyl)-1-methyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 1,3-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 3-(trifluoromethyl)-1,5-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 3-(difluoromethyl)-1,5-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 1,3,5-trimethyl-N-(1,1,3-trimethylindan-4-

yl)pyrazole-4-carboxamide, 3-(difluoromethyl)-1-methyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 3-(trifluoromethyl)-1-methyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 1,3-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 3-(trifluoromethyl)-1,5-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 3-(difluoromethyl)-1,5-dimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide, 1,3,5-trimethyl-N-(1,1,3-trimethylindan-4-yl)pyrazole-4-carboxamide;

F.I-3) Inhibitors of complex III at Qi site: cyazofamid, amisulbrom, [(3S,6S,7R,8R)-8-benzyl-3-[(3-acetoxy-4-methoxy-pyridine-2-carbonyl)amino]-6-methyl-4,9-dioxo-1,5-dioxonan-7-yl] 2-methylpropanoate, [(3S,6S,7R,8R)-8-benzyl-3-[[3-(acetoxymethoxy)-4-methoxy-pyridine-2-carbonyl]amino]-6-methyl-4,9-dioxo-1,5-dioxonan-7-yl] 2-methylpropanoate, [(3S,6S,7R,8R)-8-benzyl-3-[(3-isobutoxycarbonyloxy-4-methoxy-pyridine-2-carbonyl)amino]-6-methyl-4,9-dioxo-1,5-dioxonan-7-yl] 2-methylpropanoate, [(3S,6S,7R,8R)-8-benzyl-3-[[3-(1,3-benzodioxol-5-ylmethoxy)-4-methoxy-pyridine-2-carbonyl]amino]-6-methyl-4,9-dioxo-1,5-dioxonan-7-yl] 2-methylpropanoate, 3*S*,6*S*,7*R*,8*R*)-3-[[(3-hydroxy-4-methoxy-2-pyridinyl)carbonyl]amino]-6-methyl-4,9-dioxo-8-(phenylmethyl)-1,5-dioxonan-7-yl 2-methylpropanoate;

F.I-4) Other respiration inhibitors (complex I, uncouplers) diflumetorim; (5,8-difluoroquinazolin-4-yl)-{2-[2-fluoro-4-(4-trifluoromethylpyridin-2-yloxy)-phenyl]-ethyl}-amine; tecnazen; ametoctradin; silthiofam; nitrophenyl derivates: binapacryl, dinobuton, dinocap, fluazinam, ferimzone, nitrthal-isopropyl,

and including organometal compounds: fentin salts, such as fentin-acetate, fentin chloride or fentin hydroxide;

F.II) Sterol biosynthesis inhibitors (SBI fungicides)

F.II-1) C14 demethylase inhibitors (DMI fungicides, e.g. triazoles, imidazoles)

triazoles: azaconazole, bitertanol, bromuconazole, cyproconazole, difenoconazole, diniconazole, diniconazole-M, epoxiconazole, fenbuconazole, fluquinconazole, flusilazole, flutriafol, hexaconazole, imibenconazole, ipconazole, metconazole, myclobutanil, paclobutrazole, penconazole, propiconazole, prothioconazole, simeconazole, tebuconazole, tetraconazole, triadimefon, triadimenol, triticonazole, uniconazole, 1-[*rel*-(2*S*;3*R*)-3-(2-chlorophenyl)-2-(2,4-difluorophenyl)-oxiranylmethyl]-5-thiocyanato-1H-[1,2,4]triazole, 2-[*rel*-(2*S*;3*R*)-3-(2-chlorophenyl)-2-(2,4-difluorophenyl)-oxiranylmethyl]-2H-[1,2,4]triazole-3-thiol;

imidazoles: imazalil, pefurazoate, oxpoconazole, prochloraz, triflumizole;

pyrimidines, pyridines and piperazines: fenarimol, nuarimol, pyrifenox, triforine, 1-[rel-(2*S*;3*R*)-3-(2-chlorophenyl)-2-(2,4-difluorophenyl)-oxiranylmethyl]-5-thiocyanato-1H-[1,2,4]triazole, 2-[rel-(2S;3R)-3-(2-chlorophenyl)-2-(2,4-difluorophenyl)-oxiranylmethyl]-2H-[1,2,4]triazole-3-thiol;

F.II-2) Delta14-reductase inhitors (Amines, e.g. morpholines, piperidines)

morpholines: aldimorph, dodemorph, dodemorph-acetate, fenpropimorph, tridemorph;

piperidines: fenpropidin, piperalin; spiroketalamines: spiroxamine;

F.II-3) Inhibitors of 3-keto reductase: hydroxyanilides: fenhexamid;

F.III) Nucleic acid synthesis inhibitors

F.III-1) RNA, DNA synthesis

phenylamides or acyl amino acid fungicides: benalaxyl, benalaxyl-M, kiralaxyl, metalaxyl, metalaxyl-M (mefenoxam), ofurace, oxadixyl;

isoxazoles and iosothiazolones: hymexazole, octhilinone;

F.III-2) DNA topisomerase inhibitors: oxolinic acid;

F.III-3) Nucleotide metabolism (e.g. adenosin-deaminase), hydroxy (2-amino)-pyrimidines: bupirimate;

F.IV) Inhibitors of cell division and or cytoskeleton

F.IV-1) Tubulin inhibitors: benzimidazoles and thiophanates: benomyl, carbendazim, fuberidazole, thiabendazole, thiophanate-methyl;

triazolopyrimidines: 5-chloro-7 (4-methylpiperidin-1-yl)-6-(2,4,6-trifluorophenyl)-[1,2,4]triazolo[1,5 a]pyrimidine;

F.IV-2) Other cell division inhibitors

benzamides and phenyl acetamides: diethofencarb, ethaboxam, pencycuron, fluopicolide, zoxamide;

F.IV-3) Actin inhibitors: benzophenones: metrafenone, pyriofenone;

F.V) Inhibitors of amino acid and protein synthesis

F.V-1) Methionine synthesis inhibitors (anilino-pyrimidines)

anilino-pyrimidines: cyprodinil, mepanipyrim, nitrapyrin, pyrimethanil;

F.V-2) Protein synthesis inhibitors (anilino-pyrimidines)

antibiotics: blasticidin-S, kasugamycin, kasugamycin hydrochloride-hydrate, mildiomycin, streptomycin, oxytetracyclin, polyoxine, validamycin A;

F.VI) Signal transduction inhibitors

F.VI-1) MAP / Histidine kinase inhibitors (e.g. anilino-pyrimidines)

dicarboximides: fluoroimid, iprodione, procymidone, vinclozolin;

phenylpyrroles: fenpiclonil, fludioxonil;

F.VI-2) G protein inhibitors: quinolines: quinoxyfen;

F.VII) Lipid and membrane synthesis inhibitors

F.VII-1) Phospholipid biosynthesis inhibitors

organophosphorus compounds: edifenphos, iprobenfos, pyrazophos;

dithiolanes: isoprothiolane;

F.VII-2) Lipid peroxidation: aromatic hydrocarbons: dicloran, quintozene, tecnazene, tolclofos-methyl, biphenyl, chloroneb, etridiazole;

F.VII-3) Carboxyl acid amides (CAA fungicides)

cinnamic or mandelic acid amides: dimethomorph, flumorph, mandiproamid, pyrimorph;

valinamide carbamates: benthiavalicarb, iprovalicarb, pyribencarb, valifenalate and N-(1-(1-(4-cyano-phenyl)ethanesulfonyl)-but-2-yl) carbamic acid-(4-fluorophenyl) ester;

F.VII-4) Compounds affecting cell membrane permeability and fatty acids:

1-[4-[4-[5-(2,6-difluorophenyl)-4,5-dihydro-3-isoxazolyl]-2-thiazolyl]-1-piperidinyl]-2-[5-methyl-3-(trifluoromethyl)-1H-pyrazol-1-yl]ethanone, carbamates: propamocarb, propamocarb-hydrochlorid,

F.VII-5) fatty acid amide hydrolase inhibitors: 1-[4-[4-[5-(2,6-difluorophenyl)-4,5-dihydro-3-isoxazolyl]-2-thiazolyl]-1-piperidinyl]-2-[5-methyl-3-(trifluoromethyl)-1H-pyrazol-1-yl]ethanone;

F.VIII) Inhibitors with Multi Site Action

F.VIII-1) Inorganic active substances: Bordeaux mixture, copper acetate, copper hydroxide, copper oxychloride, basic copper sulfate, sulfur;

F.VIII-2) Thio- and dithiocarbamates: ferbam, mancozeb, maneb, metam, methasulphocarb, metiram, propineb, thiram, zineb, ziram;

F.VIII-3) OrganoCl compounds (e.g. phthalimides, sulfamides, chloronitriles):

anilazine, chlorothalonil, captafol, captan, folpet, dichlofluanid, dichlorophen, flusulfamide, hexachlorobenzene, pentachlorphenole and its salts, phthalide, tolylfluanid, N-(4-chloro-2-nitro-phenyl)-N-ethyl-4-methyl-benzenesulfonamide;

F.VIII-4) Guanidines and other: guanidine, dodine, dodine free base, guazatine, guazatine-acetate, iminoctadine, iminoctadine-triacetate, iminoctadine-tris(albesilate), 2,6-dimethyl-1H,5H-[1,4]dithiino[2,3-c:5,6-c']dipyrrole-1,3,5,7(2H,6H)-tetraone;

F.VIII-5) Ahtraquinones: dithianon;

F.IX) Cell wall synthesis inhibitors

F.IX-1) Inhibitors of glucan synthesis: validamycin, polyoxin B;

F.IX-2) Melanin synthesis inhibitors: pyroquilon, tricyclazole, carpropamide, dicyclomet, fenoxanil;

F.X) Plant defence inducers

F.X-1) Salicylic acid pathway: acibenzolar-*S*-methyl;

F.X-2) Others: probenazole, isotianil, tiadinil, prohexadione-calcium;

phosphonates: fosetyl, fosetyl-aluminum, phosphorous acid and its salts;

F.XI) Unknown mode of action:bronopol, chinomethionat, cyflufenamid, cymoxanil, dazomet, debacarb, diclomezine, difenzoquat, difenzoquat-methylsulfate, diphenylamin, fenpyrazamine, flumetover, flusulfamide, flutianil, methasulfocarb, nitrapyrin, nitrothal-isopropyl, oxathiapiprolin, oxin-copper, proquinazid, tebufloquin, tecloftalam, triazoxide, 2-butoxy-6-iodo-3-propylchromen-4-one, N-(cyclopropylmethoxyimino-(6-difluoro-methoxy-2,3-difluoro-phenyl)-methyl)-2-phenyl acetamide, N'-(4-(4-chloro-3-trifluoromethyl-phenoxy)-2,5-dimethyl-phenyl)-N-ethyl-N methyl formamidine, N' (4-(4-fluoro-3-trifluoromethyl-phenoxy)-2,5-dimethyl-phenyl)-N-ethyl-N-methyl formamidine, N'-(2-methyl-5-trifluoromethyl-4-(3-trimethylsilanyl-propoxy)-phenyl)-N-ethyl-N-methyl formamidine, N'-(5-difluoromethyl-2 methyl-4-(3-trimethylsilanyl-propoxy)-phenyl)-N-ethyl-N-methyl formamidine, 2-{1-[2-(5-methyl-3-trifluoromethyl-pyrazole-1-yl)-acetyl]-piperidin-4-yl}-thiazole-4-carboxylic acid methyl-(1,2,3,4-tetrahydro-naphthalen-1-yl)-amide, 2-{1-[2-(5-methyl-3-trifluoromethyl-pyrazole-1-yl)-acetyl]-piperidin-4-yl}-thiazole-4-carboxylic acid methyl-(*R*)-1,2,3,4-tetrahydro-naphthalen-1-yl-amide, methoxy-acetic acid 6-tert-butyl-8-fluoro-2,3-dimethyl-quinolin-4-yl ester and N-Methyl-2-{1-[(5-methyl-3-trifluoromethyl-1H-pyrazol-1-yl)-acetyl]-piperidin-4-yl}-N-[(1*R*)-1,2,3,4-tetrahydronaphthalen-1-yl]-4-thiazolecarboxamide, 3-[5-(4-chloro-phenyl)-2,3-dimethyl-isoxazolidin-3 yl]-pyridine, pyrisoxazole, 5-amino-2-isopropyl-3-oxo-4-ortho-tolyl-2,3-dihydro-pyrazole-1 carbothioic acid *S*-allyl ester, N-(6-methoxy-pyridin-3-yl) cyclopropanecarboxylic acid amide, 5-chloro-1 (4,6-dimethoxy-pyrimidin-2-yl)-2-methyl-1H-benzoimidazole, 2-(4-chloro-phenyl)-N-[4-(3,4-dimethoxy-phenyl)-isoxazol-5-yl]-2-prop-2-ynyloxy-acetamide,.

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

The commercially available compounds II of the group F listed above may be found in The Pesticide Manual, 15th Edition, C. D. S. Tomlin, British Crop Protection Council (2011) among other publications. Their preparation and their activity against harmful fungi is known (cf.: http://www.alanwood.net/pesticides/); these substances are commercially available. The compounds described by IUPAC nomenclature, their preparation and their fungicidal activity are also known (cf. Can. J. Plant Sci. 48(6), 587-94, 1968; EP A 141 317; EP-A 152 031; EP-A 226 917; EP A 243 970; EP A 256 503; EP-A 428 941; EP-A 532 022; EP-A 1 028 125; EP-A 1 035 122; EP A 1 201 648; EP A 1 122 244, JP 2002316902; DE 19650197; DE 10021412; DE 102005009458; US 3,296,272; US 3,325,503; WO 98/46608; WO 99/14187; WO 99/24413; WO 99/27783; WO 00/29404; WO 00/46148; WO 00/65913; WO 01/54501; WO 01/56358; WO 02/22583; WO 02/40431; WO 03/10149; WO 03/11853; WO 03/14103; WO 03/16286; WO 03/53145; WO 03/61388; WO 03/66609; WO 03/74491; WO 04/49804; WO 04/83193; WO 05/120234; WO 05/123689; WO 05/123690; WO 05/63721; WO 05/87772; WO 05/87773; WO 06/15866; WO 06/87325; WO 06/87343; WO 07/82098; WO 07/90624, WO 11/028657).

The compounds of the invention may be mixed with soil, peat or other rooting media for the protection of plants against seed-borne, soil-borne or foliar fungal diseases.

Examples of suitable synergists for use in the compositions include piperonyl butoxide, sesamex, safroxan and dodecyl imidazole.

Suitable herbicides and plant-growth regulators for inclusion in the compositions will depend upon the intended target and the effect required.

An example of a rice selective herbicide which may be included is propanil. An example of a plant growth regulator for use in cotton is PIX™.

Some mixtures may comprise active ingredients which have significantly different physical, chemical or biological properties such that they do not easily lend themselves to the same.

The invertebrate pest (also referred to as "animal pest"), i.e. the insects, arachnids and nematodes, the plant, soil or water in which the plant is growing or may grow can be contacted with the compounds of the present invention or composition(s) comprising them by any application method known in the art. As such, "contacting" includes both direct contact (applying the compounds/compositions directly on the invertebrate pest or plant - typically to the foliage, stem or roots of the plant) and indirect contact (applying the compounds/compositions to the locus of the invertebrate pest or plant).

The compounds of the present invention or the pesticidal compositions comprising them may be used to protect growing plants and crops from attack or infestation by animal pests, especially insects, acaridae or arachnids by contacting the plant/crop with a pesticidally effective

amount of compounds of the present invention. The term "crop" refers both to growing and harvested crops.

The compounds of the present invention and the compositions comprising them are particularly important in the control of a multitude of insects on various cultivated plants, such as cereal, root crops, oil crops, vegetables, spices, ornamentals, for example seed of durum and other wheat, barley, oats, rye, maize (fodder maize and sugar maize / sweet and field corn), soybeans, oil crops, crucifers, cotton, sunflowers, bananas, rice, oilseed rape, turnip rape, sugarbeet, fodder beet, eggplants, potatoes, grass, lawn, turf, fodder grass, tomatoes, leeks, pumpkin/squash, cabbage, iceberg lettuce, pepper, cucumbers, melons, Brassica species, melons, beans, peas, garlic, onions, carrots, tuberous plants such as potatoes, sugar cane, tobacco, grapes, petunias, geranium/pelargoniums, pansies and impatiens.

The compounds of the present invention are employed as such or in form of compositions by treating the insects or the plants, plant propagation materials, such as seeds, soil, surfaces, materials or rooms to be protected from insecticidal attack with an insecticidally effective amount of the active compounds. The application can be carried out both before and after the infection of the plants, plant propagation materials, such as seeds, soil, surfaces, materials or rooms by the insects.

Moreover, invertebrate pests may be controlled by contacting the target pest, its food supply, habitat, breeding ground or its locus with a pesticidally effective amount of compounds of the present invention. As such, the application may be carried out before or after the infection of the locus, growing crops, or harvested crops by the pest.

The compounds of the present invention can also be applied preventively to places at which occurrence of the pests is expected.

The compounds of the present invention may be also used to protect growing plants from attack or infestation by pests by contacting the plant with a pesticidally effective amount of compounds of the present invention. As such, "contacting" includes both direct contact (applying the compounds/compositions directly on the pest and/or plant - typically to the foliage, stem or roots of the plant) and indirect contact (applying the compounds/compositions to the locus of the pest and/or plant).

"Locus" means a habitat, breeding ground, plant, seed, soil, area, material or environment in which a pest or parasite is growing or may grow.

In general, "pesticidally effective amount" means the amount of active ingredient needed to achieve an observable effect on growth, including the effects of necrosis, death, retardation, prevention, and removal, destruction, or otherwise diminishing the occurrence and activity of the target organism. The pesticidally effective amount can vary for the various compounds/compositions used in the invention. A pesticidally effective amount of the compositions will also vary according to the prevailing conditions such as desired pesticidal effect and duration, weather, target species, locus, mode of application, and the like.

In the case of soil treatment or of application to the pests dwelling place or nest, the quantity of active ingredient ranges from 0.0001 to 500 g per 100 m^2, preferably from 0.001 to 20 g per 100 m^2.

Customary application rates in the protection of materials are, for example, from 0.01 g to 1000 g of active compound per m^2 treated material, desirably from 0.1 g to 50 g per m^2.

Insecticidal compositions for use in the impregnation of materials typically contain from 0.001 to 95 weight %, preferably from 0.1 to 45 weight %, and more preferably from 1 to 25 weight % of at least one repellent and/or insecticide.

For use in treating crop plants, the rate of application of the active ingredients of this invention may be in the range of 0.1 g to 4000 g per hectare, desirably from 5 g to 500 g per hectare, more desirably from 5 g to 200 g per hectare.

The compounds of the present invention are effective through both contact (via soil, glass, wall, bed net, carpet, plant parts or animal parts), and ingestion (bait, or plant part).

The compounds of the present invention may also be applied against non-crop insect pests, such as ants, termites, wasps, flies, mosquitos, crickets, or cockroaches. For use against said non-crop pests, compounds of the present invention are preferably used in a bait composition.

The bait can be a liquid, a solid or a semisolid preparation (e.g. a gel). Solid baits can be formed into various shapes and forms suitable to the respective application e.g. granules, blocks, sticks, disks. Liquid baits can be filled into various devices to ensure proper application, e.g. open containers, spray devices, droplet sources, or evaporation sources. Gels can be based on aqueous or oily matrices and can be formulated to particular necessities in terms of stickyness, moisture retention or aging characteristics.

The bait employed in the composition is a product, which is sufficiently attractive to incite insects such as ants, termites, wasps, flies, mosquitos, crickets etc. or cockroaches to eat it. The attractiveness can be manipulated by using feeding stimulants or sex pheromones. Food stimulants are chosen, for example, but not exclusively, from animal and/or plant proteins (meat-, fish- or blood meal, insect parts, egg yolk), from fats and oils of animal and/or plant origin, or mono-, oligo- or polyorganosaccharides, especially from sucrose, lactose, fructose, dextrose, glucose, starch, pectin or even molasses or honey. Fresh or decaying parts of fruits, crops, plants, animals, insects or specific parts thereof can also serve as a feeding stimulant. Sex pheromones are known to be more insect specific. Specific pheromones are described in the literature and are known to those skilled in the art.

For use in bait compositions, the typical content of active ingredient is from 0.001 weight % to 15 weight %, desirably from 0.001 weight % to 5% weight % of active ingredient.

Formulations of compounds of the present invention as aerosols (e.g in spray cans), oil sprays or pump sprays are highly suitable for the non-professional user for controlling pests such as flies, fleas, ticks, mosquitos or cockroaches. Aerosol recipes are preferably composed of the active compound, solvents such as lower alcohols (e.g. methanol, ethanol, propanol, butanol), ketones (e.g. acetone, methyl ethyl ketone), paraffin hydrocarbons (e.g. kerosenes) having boiling ranges of approximately 50 to 250°C, dimethylformamide, N-methylpyrrolidone, dimethyl sulfoxide, aromatic hydrocarbons such as toluene, xylene, water, furthermore auxiliaries such as emulsifiers such as sorbitol monooleate, oleyl ethoxylate having 3-7 mol of ethylene oxide, fatty alcohol ethoxylate, perfume oils such as ethereal oils, esters of medium fatty acids with

lower alcohols, aromatic carbonyl compounds, if appropriate stabilizers such as sodium benzoate, amphoteric surfactants, lower epoxides, triethyl orthoformate and, if required, propellants such as propane, butane, nitrogen, compressed air, dimethyl ether, carbon dioxide, nitrous oxide, or mixtures of these gases.

The oil spray formulations differ from the aerosol recipes in that no propellants are used.

For use in spray compositions, the content of active ingredient is from 0.001 to 80 weights %, preferably from 0.01 to 50 weight % and most preferably from 0.01 to 15 weight %.

The compounds of the present invention and its respective compositions can also be used in mosquito and fumigating coils, smoke cartridges, vaporizer plates or long-term vaporizers and also in moth papers, moth pads or other heat-independent vaporizer systems.

Methods to control infectious diseases transmitted by insects (e.g. malaria, dengue and yellow fever, lymphatic filariasis, and leishmaniasis) with compounds of the present invention and its respective compositions also comprise treating surfaces of huts and houses, air spraying and impregnation of curtains, tents, clothing items, bed nets, tsetse-fly trap or the like. Insecticidal compositions for application to fibers, fabric, knitgoods, nonwovens, netting material or foils and tarpaulins preferably comprise a mixture including the insecticide, optionally a repellent and at least one binder. Suitable repellents for example are N,N-Diethyl-meta-toluamide (DEET), N,N-diethylphenylacetamide (DEPA), 1-(3-cyclohexan-1-yl-carbonyl)-2-methylpiperine, (2-hydroxymethylcyclohexyl) acetic acid lactone, 2-ethyl-1,3-hexandiol, indalone, Methyl-neodecanamide (MNDA), a pyrethroid not used for insect control such as {(+/-)-3-allyl-2-methyl-4-oxocyclopent-2-(+)-enyl-(+)-trans-chrysantemate (Esbiothrin), a repellent derived from or identical with plant extracts like limonene, eugenol, (+)-Eucamalol (1), (-)-1-epi-eucamalol or crude plant extracts from plants like Eucalyptus maculata, Vitex rotundifolia, Cymbopogan martinii, Cymbopogan citratus (lemon grass), Cymopogan nartdus (citronella). Suitable binders are selected for example from polymers and copolymers of vinyl esters of aliphatic acids (such as such as vinyl acetate and vinyl versatate), acrylic and methacrylic esters of alcohols, such as butyl acrylate, 2-ethylhexylacrylate, and methyl acrylate, mono- and di-ethylenically unsaturated hydrocarbons, such as styrene, and aliphatic diens, such as butadiene.

The impregnation of curtains and bednets is done in general by dipping the textile material into emulsions or dispersions of the insecticide or spraying them onto the nets.

The compounds of the present invention and their compositions can be used for protecting wooden materials such as trees, board fences, sleepers, etc. and buildings such as houses, outhouses, factories, but also construction materials, furniture, leathers, fibers, vinyl articles, electric wires and cables etc. from ants and/or termites, and for controlling ants and termites from doing harm to crops or human being (e.g. when the pests invade into houses and public facilities). The compounds of the present invention are applied not only to the surrounding soil surface or into the under-floor soil in order to protect wooden materials but it can also be applied to lumbered articles such as surfaces of the under-floor concrete, alcove posts, beams, plywoods, furniture, etc., wooden articles such as particle boards, half boards, etc. and vinyl articles such as coated electric wires, vinyl sheets, heat insulating material such as styrene foams, etc. In case of application against ants doing harm to crops or human beings, the ant controller of the

present invention is applied to the crops or the surrounding soil, or is directly applied to the nest of ants or the like.

The compounds of the present invention are also suitable for the treatment of plant propagation material, especially seeds, in order to protect them from insect pest, in particular from soil-living insect pests and the resulting plant's roots and shoots against soil pests and foliar insects.

The compounds of the present invention are particularly useful for the protection of the seed from soil pests and the resulting plant's roots and shoots against soil pests and foliar insects. The protection of the resulting plant's roots and shoots is preferred. More preferred is the protection of resulting plant's shoots from piercing and sucking insects, wherein the protection from aphids is most preferred.

The present invention therefore comprises a method for the protection of seeds from insects, in particular from soil insects and of the seedlings' roots and shoots from insects, in particular from soil and foliar insects, said method comprising contacting the seeds before sowing and/or after pregermination with a compound of the present invention, including a salt thereof. Particularly preferred is a method, wherein the plant's roots and shoots are protected, more preferably a method, wherein the plants shoots are protected form piercing and sucking insects, most preferably a method, wherein the plants shoots are protected from aphids.

The term seed embraces seeds and plant propagules of all kinds including but not limited to true seeds, seed pieces, suckers, corms, bulbs, fruit, tubers, grains, cuttings, cut shoots and the like and means in a preferred embodiment true seeds.

The term seed treatment comprises all suitable seed treatment techniques known in the art, such as seed dressing, seed coating, seed dusting, seed soaking and seed pelleting.

The present invention also comprises seeds coated with or containing the active compound.

The term "coated with and/or containing" generally signifies that the active ingredient is for the most part on the surface of the propagation product at the time of application, although a greater or lesser part of the ingredient may penetrate into the propagation product, depending on the method of application. When the said propagation product is (re)planted, it may absorb the active ingredient.

Suitable seed is seed of cereals, root crops, oil crops, vegetables, spices, ornamentals, for example seed of durum and other wheat, barley, oats, rye, maize (fodder maize and sugar maize / sweet and field corn), soybeans, oil crops, crucifers, cotton, sunflowers, bananas, rice, oilseed rape, turnip rape, sugarbeet, fodder beet, eggplants, potatoes, grass, lawn, turf, fodder grass, tomatoes, leeks, pumpkin/squash, cabbage, iceberg lettuce, pepper, cucumbers, melons, Brassica species, melons, beans, peas, garlic, onions, carrots, tuberous plants such as potatoes, sugar cane, tobacco, grapes, petunias, geranium/pelargoniums, pansies and impatiens.

In addition, the active compound may also be used for the treatment seeds from plants, which tolerate the action of herbicides or fungicides or insecticides owing to breeding, including genetic engineering methods.

For example, the active compound can be employed in treatment of seeds from plants, which are resistant to herbicides from the group consisting of the sulfonylureas, imidazolinones,

glufosinate-ammonium or glyphosate-isopropylammonium and analogous active substances (see for example, EP-A 242 236, EP-A 242 246) (WO 92/00377) (EP-A 257 993, U.S. 5,013,659) or in transgenic crop plants, for example cotton, with the capability of producing Bacillus thuringiensis toxins (Bt toxins) which make the plants resistant to certain pests (EP-A 142 924, EP-A 193 259),

Furthermore, the active compound can be used also for the treatment of seeds from plants, which have modified characteristics in comparison with existing plants consist, which can be generated for example by traditional breeding methods and/or the generation of mutants, or by recombinant procedures). For example, a number of cases have been described of recombinant modifications of crop plants for the purpose of modifying the starch synthesized in the plants (e.g. WO 92/11376, WO 92/14827, WO 91/19806) or of transgenic crop plants having a modified fatty acid composition (WO 91/13972).

The seed treatment application of the active compound is carried out by spraying or by dusting the seeds before sowing of the plants and before emergence of the plants.

Compositions which are especially useful for seed treatment are e.g.:

A Soluble concentrates (SL, LS)
D Emulsions (EW, EO, ES)
E Suspensions (SC, OD, FS)
F Water-dispersible granules and water-soluble granules (WG, SG)
G Water-dispersible powders and water-soluble powders (WP, SP, WS)
H Gel-Formulations (GF)
I Dustable powders (DP, DS)

Conventional seed treatment formulations include for example flowable concentrates FS, solutions LS, powders for dry treatment DS, water dispersible powders for slurry treatment WS, water-soluble powders SS and emulsion ES and EC and gel formulation GF. These formulations can be applied to the seed diluted or undiluted. Application to the seeds is carried out before sowing, either directly on the seeds or after having pregerminated the latter.

In a preferred embodiment a FS formulation is used for seed treatment. Typcially, a FS formulation may comprise 1-800 g/l of active ingredient, 1-200 g/l Surfactant, 0 to 200 g/l antifreezing agent, 0 to 400 g/l of binder, 0 to 200 g/l of a pigment and up to 1 liter of a solvent, preferably water.

Especially preferred FS formulations of compounds of the present invention for seed treatment usually comprise from 0.1 to 80% by weight (1 to 800 g/l) of the active ingredient, from 0.1 to 20% by weight (1 to 200 g/l) of at least one surfactant, e.g. 0.05 to 5% by weight of a wetter and from 0.5 to 15% by weight of a dispersing agent, up to 20% by weight, e.g. from 5 to 20% of an anti-freeze agent, from 0 to 15% by weight, e.g. 1 to 15% by weight of a pigment and/or a dye, from 0 to 40% by weight, e.g. 1 to 40% by weight of a binder (sticker /adhesion agent), optionally up to 5% by weight, e.g. from 0.1 to 5% by weight of a thickener, optionally from 0.1 to 2% of an anti-foam agent, and optionally a preservative such as a biocide, antioxidant or the like, e.g. in an amount from 0.01 to 1% by weight and a filler/vehicle up to 100% by weight.

Seed Treatment formulations may additionally also comprise binders and optionally colorants.

Binders can be added to improve the adhesion of the active materials on the seeds after treatment. Suitable binders are homo- and copolymers from alkylene oxides like ethylene oxide or propylene oxide, polyvinylacetate, polyvinylalcohols, polyvinylpyrrolidones, and copolymers thereof, ethylene-vinyl acetate copolymers, acrylic homo- and copolymers, polyethyleneamines, polyethyleneamides and polyethyleneimines, polysaccharides like celluloses, tylose and starch, polyolefin homo- and copolymers like olefin/maleic anhydride copolymers, polyurethanes, polyesters, polystyrene homo and copolymers.

Optionally, also colorants can be included in the formulation. Suitable colorants or dyes for seed treatment formulations are Rhodamin B, C.I. Pigment Red 112, C.I. Solvent Red 1, pigment blue 15:4, pigment blue 15:3, pigment blue 15:2, pigment blue 15:1, pigment blue 80, pigment yellow 1, pigment yellow 13, pigment red 112, pigment red 48:2, pigment red 48:1, pigment red 57:1, pigment red 53:1, pigment orange 43, pigment orange 34, pigment orange 5, pigment green 36, pigment green 7, pigment white 6, pigment brown 25, basic violet 10, basic violet 49, acid red 51, acid red 52, acid red 14, acid blue 9, acid yellow 23, basic red 10, basic red 108.

Examples of a gelling agent is carrageen (Satiagel®)

In the treatment of seed, the application rates of the compounds of the present invention are generally from 0.01 g to 10 kg per 100 kg of seed, preferably from 0.05 g to 5 kg per 100 kg of seed, more preferably from 0.1 g to 1000 g per 100 kg of seed and in particular from 0.1 g to 200 g per 100 kg of seed.

The invention therefore also relates to seed comprising a compound of the present invention, including an agriculturally useful salt of it, as defined herein. The amount of the compound of the present invention, including an agriculturally useful salt thereof will in general vary from 0.01 g to 10 kg per 100 kg of seed, preferably from 0.05 g to 5 kg per 100 kg of seed, in particular from 0.1 g to 1000 g per 100 kg of seed. For specific crops such as lettuce the rate can be higher.

Methods which can be employed for treating the seed are, in principle, all suitable seed treatment and especially seed dressing techniques known in the art, such as seed coating (e.g. seed pelleting), seed dusting and seed imbibition (e.g. seed soaking). Here, "seed treatment" refers to all methods that bring seeds and the compounds of the present invention into contact with each other, and "seed dressing" to methods of seed treatment which provide the seeds with an amount of the compounds of the present invention, i.e. which generate a seed comprising a compound of the present invention. In principle, the treatment can be applied to the seed at any time from the harvest of the seed to the sowing of the seed. The seed can be treated immediately before, or during, the planting of the seed, for example using the "planter's box" method. However, the treatment may also be carried out several weeks or months, for example up to 12 months, before planting the seed, for example in the form of a seed dressing treatment, without a substantially reduced efficacy being observed.

Expediently, the treatment is applied to unsown seed. As used herein, the term "unsown seed" is meant to include seed at any period from the harvest of the seed to the sowing of the seed in the ground for the purpose of germination and growth of the plant.

Specifically, a procedure is followed in the treatment in which the seed is mixed, in a suitable device, for example a mixing device for solid or solid/liquid mixing partners, with the desired amount of seed treatment formulations, either as such or after previous dilution with water, until the composition is distributed uniformly on the seed. If appropriate, this is followed by a drying step.

The compounds of the present invention, including their stereoisomers, veterinarily acceptable salts or N-oxides, are in particular also suitable for being used for combating parasites in and on animals.

An object of the present invention is therefore also to provide new methods to control parasites in and on animals. Another object of the invention is to provide safer pesticides for animals. Another object of the invention is further to provide pesticides for animals that may be used in lower doses than existing pesticides. And another object of the invention is to provide pesticides for animals, which provide a long residual control of the parasites.

The invention also relates to compositions comprising a parasiticidally effective amount of compounds of the present invention, including their stereoisomers, veterinarily acceptable salts or N-oxides, and an acceptable carrier, for combating parasites in and on animals.

The present invention also provides a method for treating, controlling, preventing and protecting animals against infestation and infection by parasites, which comprises orally, topically or parenterally administering or applying to the animals a parasiticidally effective amount of a compound of the present invention, including its stereoisomers, veterinarily acceptable salts or N-oxides, or a composition comprising it.

The invention also provides the use of a compound of the present invention, including its stereoisomers, veterinarily acceptable salts or N-oxides, for treating or protecting an animal from infestation or infection by invertebrate pests.

The invention also provides a process for the preparation of a composition for treating, controlling, preventing or protecting animals against infestation or infection by parasites which comprises a parasiticidally effective amount of a compound of the present invention, including its stereoisomers, veterinarily acceptable salts or N-oxides, or a composition comprising it.

Activity of compounds against agricultural pests does not suggest their suitability for control of endo- and ectoparasites in and on animals which requires, for example, low, non-emetic dosages in the case of oral application, metabolic compatibility with the animal, low toxicity, and a safe handling.

Surprisingly it has now been found that compounds of formula (I) and their stereoisomers, veterinarily acceptable salts, tautomers and N-oxides, are suitable for combating endo- and ectoparasites in and on animals.

The compounds of the present invention, especially compounds of formula (I) and their stereoisomers, veterinarily acceptable salts, tautomers and N-oxides, and compositions comprising them are preferably used for controlling and preventing infestations of and infections in animals including warm-blooded animals (including humans) and fish. They are for example

suitable for controlling and preventing infestations and infections in mammals such as cattle, sheep, swine, camels, deer, horses, pigs, poultry, rabbits, goats, dogs and cats, water buffalo, donkeys, fallow deer and reindeer, and also in fur-bearing animals such as mink, chinchilla and raccoon, birds such as hens, geese, turkeys and ducks and fish such as fresh- and salt-water fish such as trout, carp and eels.

Compounds of the present invention, including their stereoisomers, veterinarily acceptable salts or N-oxides, and compositions comprising them are preferably used for controlling and preventing infestations and infections in domestic animals, such as dogs or cats.

Infestations in warm-blooded animals and fish include, but are not limited to, lice, biting lice, ticks, nasal bots, keds, biting flies, muscoid flies, flies, myiasitic fly larvae, chiggers, gnats, mosquitoes and fleas.

The compounds of the present invention, including their stereoisomers, veterinarily acceptable salts or N-oxides, and compositions comprising them are suitable for systemic and/or non-systemic control of ecto- and/or endoparasites. They are active against all or some stages of development.

The compounds of the present invention are especially useful for combating parasites of the following orders and species, respectively:

fleas (Siphonaptera), e.g. Ctenocephalides felis, Ctenocephalides canis, Xenopsylla cheopis, Pulex irritans, Tunga penetrans, and Nosopsyllus fasciatus,

cockroaches (Blattaria - Blattodea), e.g. Blattella germanica, Blattella asahinae, Periplaneta americana, Periplaneta japonica, Periplaneta brunnea, Periplaneta fuligginosa, Periplaneta australasiae, and Blatta orientalis,

flies, mosquitoes (Diptera), e.g. Aedes aegypti, Aedes albopictus, Aedes vexans, Anastrepha ludens, Anopheles maculipennis, Anopheles crucians, Anopheles albimanus, Anopheles gambiae, Anopheles freeborni, Anopheles leucosphyrus, Anopheles minimus, Anopheles quadrimaculatus, Calliphora vicina, Chrysomya bezziana, Chrysomya hominivorax, Chrysomya macellaria, Chrysops discalis, Chrysops silacea, Chrysops atlanticus, Cochliomyia hominivorax, Cordylobia anthropophaga, Culicoides furens, Culex pipiens, Culex nigripalpus, Culex quinquefasciatus, Culex tarsalis, Culiseta inornata, Culiseta melanura, Dermatobia hominis, Fannia canicularis, Gasterophilus intestinalis, Glossina morsitans, Glossina palpalis, Glossina fuscipes, Glossina tachinoides, Haematobia irritans, Haplodiplosis equestris, Hippelates spp., Hypoderma lineata, Leptoconops torrens, Lucilia caprina, Lucilia cuprina, Lucilia sericata, Lycoria pectoralis, Mansonia spp., Musca domestica, Muscina stabulans, Oestrus ovis, Phlebotomus argentipes, Psorophora columbiae, Psorophora discolor, Prosimulium mixtum, Sarcophaga haemorrhoidalis, Sarcophaga sp., Simulium vittatum, Stomoxys calcitrans, Tabanus bovinus, Tabanus atratus, Tabanus lineola, and Tabanus similis,

lice (Phthiraptera), e.g. Pediculus humanus capitis, Pediculus humanus corporis, Pthirus pubis, Haematopinus eurysternus, Haematopinus suis, Linognathus vituli, Bovicola bovis, Menopon gallinae, Menacanthus stramineus and Solenopotes capillatus.

ticks and parasitic mites (Parasitiformes): ticks (Ixodida), e.g. Ixodes scapularis, Ixodes holocyclus, Ixodes pacificus, Rhiphicephalus sanguineus, Dermacentor andersoni, Dermacentor

variabilis, Amblyomma americanum, Ambryomma maculatum, Ornithodorus hermsi, Ornithodorus turicata and parasitic mites (Mesostigmata), e.g. Ornithonyssus bacoti and Dermanyssus gallinae,

Actinedida (Prostigmata) und Acaridida (Astigmata) e.g. Acarapis spp., Cheyletiella spp., Ornithocheyletia spp., Myobia spp., Psorergates spp., Demodex spp., Trombicula spp., Listrophorus spp., Acarus spp., Tyrophagus spp., Caloglyphus spp., Hypodectes spp., Pterolichus spp., Psoroptes spp., Chorioptes spp., Otodectes spp., Sarcoptes spp., Notoedres spp.,Knemidocoptes spp., Cytodites spp., and Laminosioptes spp.,

Bugs (Heteropterida): Cimex lectularius, Cimex hemipterus, Reduvius senilis, Triatoma spp., Rhodnius ssp., Panstrongylus ssp. and Arilus critatus,

Anoplurida, e.g. Haematopinus spp., Linognathus spp., Pediculus spp., Phtirus spp., and Solenopotes spp,

Mallophagida (suborders Arnblycerina and Ischnocerina), e.g. Trimenopon spp., Menopon spp., Trinoton spp., Bovicola spp., Werneckiella spp., Lepikentron spp., Trichodectes spp., and Felicola spp,

Roundworms Nematoda:

Wipeworms and Trichinosis (Trichosyringida), e.g. Trichinellidae (Trichinella spp.), (Trichuridae) Trichuris spp., Capillaria spp,

Rhabditida, e.g. Rhabditis spp, Strongyloides spp., Helicephalobus spp,

Strongylida, e.g. Strongylus spp., Ancylostoma spp., Necator americanus, Bunostomum spp. (Hookworm), Trichostrongylus spp., Haemonchus contortus., Ostertagia spp., Cooperia spp., Nematodirus spp., Dictyocaulus spp., Cyathostoma spp., Oesophagostomum spp., Stephanurus dentatus, Ollulanus spp., Chabertia spp., Stephanurus dentatus, Syngamus trachea, Ancylostoma spp., Uncinaria spp., Globocephalus spp., Necator spp., Metastrongylus spp., Muellerius capillaris, Protostrongylus spp., Angiostrongylus spp., Parelaphostrongylus spp. Aleurostrongylus abstrusus, and Dioctophyma renale,

Intestinal roundworms (Ascaridida), e.g. Ascaris lumbricoides, Ascaris suum, Ascaridia galli, Parascaris equorum, Enterobius vermicularis (Threadworm), Toxocara canis, Toxascaris leonine, Skrjabinema spp., and Oxyuris equi,

Camallanida, e.g. Dracunculus medinensis (guinea worm)

Spirurida, e.g. Thelazia spp. Wuchereria spp., Brugia spp., Onchocerca spp., Dirofilari spp.a, Dipetalonema spp., Setaria spp., Elaeophora spp., Spirocerca lupi, and Habronema spp.,

Thorny headed worms (Acanthocephala), e.g. Acanthocephalus spp., Macracanthorhynchus hirudinaceus and Oncicola spp.,

Planarians (Plathelminthes):

Flukes (Trematoda), e.g. Faciola spp., Fascioloides magna, Paragonimus spp., Dicrocoelium spp., Fasciolopsis buski, Clonorchis sinensis, Schistosoma spp., Trichobilharzia spp., Alaria alata, Paragonimus spp., and Nanocyetes spp.,

Cercomeromorpha, in particular Cestoda (Tapeworms), e.g. Diphyllobothrium spp., Tenia spp., Echinococcus spp., Dipylidium caninum, Multiceps spp., Hymenolepis spp., Mesocestoides spp., Vampirolepis spp., Moniezia spp., Anoplocephala spp., Sirometra spp., Anoplocephala spp., and Hymenolepis spp.

The present invention relates to the therapeutic and the non-therapeutic use of compounds of the present invention and compositions comprising them for controlling and/or combating parasites in and/or on animals. The compounds of the present invention and compositions comprising them may be used to protect the animals from attack or infestation by parasites by contacting them with a parasiticidally effective amount of compounds of the present invention and compositions containing them.

The compounds of the present invention and compositions comprising them can be effective through both contact (via soil, glass, wall, bed net, carpet, blankets or animal parts) and ingestion (e.g. baits). As such, "contacting" includes both direct contact (applying the pesticidal mixtures/compositions containing the compounds of the present invention directly on the parasite, which may include an indirect contact at its locus-P, and optionally also administrating the pesticidal mixtures/composition directly on the animal to be protected) and indirect contact (applying the compounds/compositions to the locus of the parasite). The contact of the parasite through application to its locus is an example of a non-therapeutic use of compounds of the present invention. "Locus-P" as used above means the habitat, food supply, breeding ground, area, material or environment in which a parasite is growing or may grow outside of the animal.

In general, "parasiticidally effective amount" means the amount of active ingredient needed to achieve an observable effect on growth, including the effects of necrosis, death, retardation, prevention, and removal, destruction, or otherwise diminishing the occurrence and activity of the target organism. The parasiticidally effective amount can vary for the various compounds/compositions of the present invention. A parasiticidally effective amount of the compositions will also vary according to the prevailing conditions such as desired parasiticidal effect and duration, target species, mode of application, and the like.

The compounds of the present invention can also be applied preventively to places at which occurrence of the pests or parasites are expected.

Administration can be carried out both prophylactically and therapeutically.

Administration of the active compounds is carried out directly or in the form of suitable preparations, orally, topically/dermally or parenterally.

Examples

The present invention is now illustrated in further details by the following examples.

Compounds can be characterized e.g. by coupled High Performance Liquid Chromatography / mass spectrometry (HPLC/MS), by ^{1}H-NMR and/or by their melting points.

Analytical HPLC:

Method 1: Phenomenex Kinetex 1,7µm XB-C18 100A; 50 x 2,1 mm. Elution: acetonitrile + 0.1% trifluoroacetic acid (TFA) / water + 0.1% trifluoroacetic acid (TFA) in a ratio of from 5:95 to 95:5 in 1.5 minutes at 50°C.

Method 2: BEH C18 1.7µm; 50 x 2,1 mm. Elution: acetonitrile + 0.1% formic acid (FA) / water + 0.1% 0.1% formic acid (FA) in a ratio of from 5:95 to 95:5 in 5 minutes at 40°C.

Method 3: Agilent Eclipse Plus C18, 50 X 4,6 mm, ID 5µm; Elution: A=10 mM Amm. Formate (0.1 % Formic Acid), B= Acetonitrile (0.1 % Formic Acid), Flow = 1.2 ml/min. at 30 °C; Gradient:= 10% B to 100% B - 3min, hold for 1min, 1min - 10% B. Run Time = 5.01 min.

^{1}H-NMR: The signals are characterized by chemical shift (ppm, δ [delta]) vs. tetramethylsilane, respectively $CDCl_3$ for ^{13}C-NMR, by their multiplicity and by their integral (relative number of hydrogen atoms given). The following abbreviations are used to characterize the multiplicity of the signals: m = multiplet, q = quartet, t = triplet, d = doublet and s = singlet.

Abbreviations used are: d for day(s), h for hour(s), min for minute(s), r.t./room temperature for 20-25°C, Rt for retention time; DMSO for dimethyl sulfoxide, OAc for acetate, EtOAc for ethyl acetate, THF for tetrahydrofuran, and t-BuOH for tert-butanol.

Example1: 3-(2-isopropylphenyl)-4-methyl-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazol-2-imine (compound C-3)

Step 1: 1-(2-isopropylphenyl)-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiourea (C-3)

To a solution of 3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazole-7-carbaldehyde (300 mg, 0.84 mmol) in 30 mL of ethanol was added 1-amino-3-(2-isopropylphenyl)thiourea (180 mg, 0.84 mmol). The mixture was heated at 80 °C for 12 h. The precipitated solid was filtered and washed with cold ethanol to afford the title compound (400 mg, 87%) as an off-white solid.

LC/MS (method 3): Rt: 3.42 min; MS: m/z = 546 (M^+).

^{1}H NMR (300 MHz, DMSO-d_6): δ 11.88 (s,1H), 10.09 (s,1H), 8.69 (s,1H), 8.52 – 8.44 (m, 2H), 8.37 (d, J = 9Hz, 2H), 7.94 – 7.91 (m, 3H), 7.79 – 7.68 (m, 3H), 7.39 – 7.24 (m, 2H), 7.23 – 7.21 (m, 2H), 3.19 (m, 1H), 1.20 (m, 6H).

Step 2: 3-(2-isopropylphenyl)-4-methyl-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazol-2-imine

To a solution of 1-(2-isopropylphenyl)-3-[(E)-[3-[4-(trifluoromethoxy)phenyl] benzo[e]benzimidazol-7-yl]methyleneamino]thiourea (150 mg, 0.27 mmol) and triethylamine (0.04 mL, 0.33 mmol) in 20 mL of 2-Butanone was added chloroacetone (0.03 mL, 0.33 mmol). The mixture was heated at 80 °C for 12 h. The reaction was allowed to cool to ambient temperature and water (20 mL) was subsequently added and the reaction was extracted with EtOAc (2 X 20 mL). The combined organic extracts were dried over anhydrous sodium sulfate and concentrated under vacuum and the residue was purified by silica gel flash column chromatography eluting with 70% Chloroform in heptane to afford 130 mg (81%) of the title compound as a yellow solid.

LC/MS (method 3): Rt: 3.9 min; MS: m/z = 586 (M^+).

^{1}H NMR (300 MHz, DMSO-d_6): δ 8.51 (s,1H), 8.48 (d, J = 9 Hz,1H), 8.26 (s, 1H), 8.14 (s,1H), 8.11 (d, J = 9 Hz, 1H), 7.94 – 7.90 (m, 2H), 7.89 – 7.77 (m, 2H), 7.71 (d, J = 9 Hz, 2H) 7.57 – 7.45 (m, 2H), 7.36 – 7.3 (m,1H), 7.27 – 7.24(m, 1H), 6.30 (s,1H), 2.74 (m, 1H), 1.77 (s, 3H), 1.15 (m, 6H).

Example 2: 2-(2,6-dimethylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl] benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one (compound C-6)

Step 1: 3-amino-2-(2,6-dimethylphenyl)imino-thiazolidin-4-one

To a solution of 1-amino-3-(2,6-dimethylphenyl)thiourea (200 mg, 1.02 mmol) and sodium acetate (170 mg, 2.05 mmol) in EtOH (20 mL) was added methyl bromoacetate (0.17 mL, 2.05

mmol) and the mixture stirred at 80 °C for 2 h. The reaction was evaporated under reduced pressure and water (20 mL) was added and the mixture was extracted with ethyl acetate (2 X 20 mL). The combined organic extract was dried over anhydrous sodium sulfate and concentrated under vacuum to yield the desired product as a white solid.

LC/MS (method 3): Rt: 2.1 min; MS: m/z = 236 (M^+).

^{1}H NMR (300 MHz, DMSO-d_6): δ 7.05 – 7.02 (m, 2H), 6.88 – 6.93 (m, 1H), 5.33 (s, 2H), 3.96 (s, 2H), 2.05 (s, 6H).

Step 2: 2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e] benzimidazol-7-yl]methyleneamino]thiazolidin-4-one

To a solution of 3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazole-7-carbaldehyde (100 mg, 0.28 mmol) in glacial acetic acid (10 mL) was added 3-amino-2-(2-isopropylphenyl) imino-thiazolidin-4-one (70 mg, 0.28 mmol). The mixture was heated at 60 °C for 1 h and was allowed to cool to room temperature and diluted with water (50 mL). The mixture was basified with sodium bicarbonate and was extracted with ethyl acetate (2 X 20 mL). The combined organic extracts were dried over anhydrous sodium sulfate and evaporated under vacuum and the residue obtained, was purified by silica gel flash column chromatography, eluting with 1% Methanol in Dichloromethane to afford the title compound (130 mg, 73 % yield) as an off white solid.

LC/MS (method 3): Rt: 3.47 min; MS: m/z = 574 (M^+).

^{1}H NMR (300 MHz, DMSO-d_6): δ 9.31 (s,1H), 8.75 (s,1H), 8.67 (d, J = 8.64 Hz,1H), 8.57 (s, 1H), 8.30 (d, J = 1 Hz, 1H), 8.27 (d, J = 1 Hz, 1H), 8.01 (d, J = 9 Hz, 1H), 7.92 – 7.96 (m, 2H), 7.86 (d, J = 9 Hz, 1H), 7.68 – 7.71 (m, 2H), 7.06 – 7.08 (m, 2H), 6.91 – 6.96 (m, 1H), 4.15 (s, 2H), 2.49 – 2.51 (m, 6H).

Example 3: 3-(2-isopropylphenyl)-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e] benzimidazol-7-yl]methyleneamino]-1,3-thiazetidin-2-imine (C-7)

To a solution of 1-(2-isopropylphenyl)-3-[(E)-[3-[4-(trifluoromethoxy)phenyl] benzo[e]benzimidazol-7-yl]methyleneamino]thiourea (150 mg, 0.27 mmol) in DMF (2 mL) at 0 °C was added Sodium hydride (30 mg, 0.6 mmol). The mixture was stirred for 5 min and Diiodomethane (0.03 mL, 0.33 mmol) was added and the reaction mixture was stirred at room temperature for 1 h. Ice cold water (50 mL) was added and the mixture was extracted with ethyl acetate (2 X 20 mL). The combined organic extract was dried over anhydrous sodium sulphate and evaporated under vacuum. The resulting residue was purified by silica gel flash column chromatography eluting with 60% chloroform in heptane to afford the title product (110 mg, 72% yield) as a white solid.

LC/MS (method 3): Rt: 3.79 min; MS: m/z = 560 (M^+).

^{1}H NMR (300 MHz, DMSO-d_6): δ 8.70 (s,1 H), 8.56 (d, J = 9 Hz,1H), 8.40 (s, 1H), 8.23 (d, J = 1Hz,1H), 8.10 (dd, J = 1 Hz, 9 Hz, 1H), 7.95 – 7.87 (m, 3H), 7.81 (d, J = 9 Hz, 1H), 7.70 (d, J = 9Hz, 2H), 7.53 (dd, J = 2Hz, 8Hz, 1H), 7.43 (dd, J = 2 Hz, 8 Hz, 1H), 7.35 (m, 1H), 7.28 (m, 1H), 5.12 (s, 2H), 3.3 (m, 1H), 1.25 (d, J = 7Hz, 6H).

Example 4: 3-(2,6-dimethylphenyl)-N2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]-benzimidazol-7-yl]methyleneamino]thiazolidine-2,4-diimine (compound C-10)

A stirred solution of 1-(2,6-dimethylphenyl)-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]-benzo[e]benzimidazol-7-yl]methyleneamino]thiourea (250 mg, 0.47 mmol), chloroacetonitrile (35 mg, 0.5 mmol), triethylamine (95 mg, 1 mmol) in dimethylformamide (5 mL) was heated at 80°C for 4 h. The reaction mixture was then concentrated to dryness and purified by reverse-phase column chromatography eluting with a gradient of acetonitrile/water to afford 3-(2,6-dimethylphenyl)-N2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidine-2,4-diimine (200 mg, 74% yield).

LC/MS (method 1): Rt: 1.10 min; MS: m / z = 573 $(M)^+$;

^{1}H NMR (500 MHz, $CDCl_3$) δ 8.67 (d, J = 8.6 Hz, 1H), 8.41 (s, 1H), 8.19 (dd, J = 8.6, 1.6 Hz, 1H), 8.16 (s, 1H), 8.07 (d, J = 1.5 Hz, 1H), 7.75 (d, J = 8.9 Hz, 1H), 7.64 – 7.53 (m, 3H), 7.51 – 7.41 (m, 2H), 7.32 (dd, J = 8.2, 6.9 Hz, 1H), 7.23 (d, J = 7.6 Hz, 2H), 4.17 (s, 2H), 2.22 (s, 5H), 2.27 – 2.14 (m, 1H), 1.99 (s, 1H).

Example 5: [(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate (compound C-11)

A stirred solution of 3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazole-7-carboxylic acid (400 mg, 1.07 mmol), diphenylphosphoryl azide (0.35 mL, 1.6 mmol), triethylamine (0.38 mL, 2.5 mmol) and L-2,3,4-O-trimethylrhamnopyranose (0.55 g, 2.7 mmol) in 1,2-dichloroethane (5 mL) was heated at 80°C for 16 h. The reaction mixture was allowed to cool to room temperature, diluted with CH_2Cl_2 and washed with an water. The organic layer was dried ($MgSO_4$) and purified by reverse-phase column chromatography acetonitrile/water to afford [(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate (35 mg, 15% yield).

LC/MS (method 1): Rt : 1.08 min; MS: m / z = 576 (M)+;

^{1}H NMR (500 MHz, $CDCl_3$) δ 8.64 (d, J = 8.8 Hz, 1H), 8.17 (d, J = 8.7 Hz, 2H), 7.70 (d, J = 8.9 Hz, 1H), 7.60 (dd, J = 13.6, 8.7 Hz, 4H), 7.46 (d, J = 8.3 Hz, 2H), 7.28 (d, J = 16.7 Hz, 2H), 5.71 (s, 1H), 3.84 (d, J = 2.8 Hz, 1H), 3.69 (s, 3H), 3.56 (dd, J = 18.2, 1.2 Hz, 6H), 3.47 – 3.37 (m, 1H), 3.33 – 3.27 (m, 1H), 3.23 – 3.13 (m, 2H), 1.36 (d, J = 6.1 Hz, 3H), 1.19 (d, J = 1.2 Hz, 2H).

Example 6: 1-[(2-isopropylphenyl)carbamothioyl]-3-[2-[3-[4-(trifluoromethoxy)phenyl] benzo[e]benzimidazol-7-yl]ethyl]urea (Compound C-12)

Step 1: Ethyl 3-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]prop-2-enoate

To a solution of 7-bromo-3-[4-trifluoromethoxy)phenyl]benzo[e]benzimidazole (3.0 g, 7.3 mmol), in Dimethyl acetamide (30 mL) was added Palldium (II) Acetate (170 mg, 0.74 mmol), K_3PO_4 (2.19 g, 10.31 mmol) and ethyl acrylate (0.89 g, 8.84 mmol) and the mixture was heated at 140 °C for 3 h. The reaction mixture was cooled to ambient temperature, diluted with water (30 mL) and extracted with Ethylacetate (2 X 50 mL). The combined organic extracts were dried over Na_2SO_4 and concentrated under reduced pressure. The residue obtained was purified by silica gel flash chromatography eluting with 12 – 14% EtOAc in Heptane to afford 3.0 g (93% yield) of title compound as an off white solid.

LC/MS (method 3): Rt : 3.4min; MS: m / z = 426.11 (M^+);

^{1}H NMR (300 MHz, DMSO-d_6): δ 8.70 (s, 1 H), 8.53 (d, J = 8.50 Hz, 1 H), 8.40 (s, 1 H), 8.07 (d, J = 8.69 Hz, 1 H), 7.89 – 7.95 (m, 3 H), 7.87 (d, J = 5.29 Hz, 1 H), 7.79 – 7.84 (m, 1 H), 7.70 (d, J = 8.31 Hz, 2 H), 6.80 (d, J = 15.9 Hz, 1H), 4.23 (q, J = 6.99 Hz, 2 H), 1.29 (t, J = 7.08 Hz, 3H).

Step 2: Ethyl 3-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanoate

To a solution of Ethyl 3-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]prop-2-enoate (3.0 g, 7.04 mmol) in Methanol (30 mL) was added 10% Pd in carbon (300 mg) at ambient temperature. The reaction was stirred under an atmosphere of Hydrogen gas for 3 h. The mixture was filtered through a celite bed and the filtrate was concentrated under reduced pressure. The residue obtained was purified by silica gel flash chromatography eluting with 10 – 12% Ethyl acetate in Heptane to afford 1.9 g (61.8% yield) of the title compound as an off white solid.

LC/MS (method 3): Rt: 3.30 min; MS: m/z = 428.13 (M^+).

^{1}H NMR (300 MHz, $CDCl_3$): δ 8.66 (d, J = 8.31 Hz, 1 H), 8.25 (s, 1 H), 7.80 (s, 1 H), 7.74 (d, J = 8.8 Hz, 1 H), 7.61 – 7.69 (m, 2 H), 7.54 – 7.61 (m, 2 H), 7.50 (d, J = 8.31 Hz, 2 H), 4.16 (q, J = 7.18 Hz, 2 H), 3.19 (m, 2 H), 2.77 (m, 2 H), 1.25 (t, J = 7.18 Hz, 3 H)

Step 3: 3-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanoic acid

To a solution of Ethyl 3-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanoate (1.9 g, 4.4 mmol) in 50 mL of Methanol was added lithium hydroxide (370 mg, 8.87 mmol) and the mixture was stirred at 80 °C for 2 h. The reaction was allowed to cool to ambient temperature and evaporated invacuo. The residue was diluted with water (20 ml) and the mixture was acidified to pH 5 – 6. The precipitated solid was filtered, triturated with pentane and dried to afford 1.7 g (90%) of the title compound as an off white solid.

LC/MS (method 3): Rt : 2.67 min; MS: m/z = 400.1 (M^-);

^{1}H NMR (300 MHz, DMSO-d_6): δ 8.63 (s, 1 H), 8.44 (d, J = 8.31 Hz, 1 H), 7.88 – 7.95 (m, 2 H), 7.87 (s, 1 H), 7.75 (d, J = 3.59 Hz, 2 H), 7.63 –7.71 (m, 2 H), 7.57 (dd, J = 8.31, 1.51 Hz, 1 H), 3.03 (t, J = 7.55 Hz, 2 H), 2.64 (t, J = 7.65 Hz, 2 H).

Step 4: 7-(2-isocyanatoethyl)-3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazole

To a solution of 3-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanoic acid (250 mg, 0.62 mmol) in Chloroform (10 mL) was added triethyl amine (70 mg, 0.69 mmol) and ethyl chloroformate (70 mg, 0.65 mmol) at 0 °C. The mixture was stirred at ambient temperature for 2 h. The reaction mixture was cooled to 0 °C and a solution of Sodium Azide (40 mg, 0.61 mmol) in water (0.8 mL) was added. The reaction mixture was stirred at ambient temperature for 2 h and water (10 mL) was subsequently added and the mixture was extracted with Ethyl acetate (2 X 20 mL). The combined ethyl acetate extracts were dried over sodium sulphate and concentrated under reduced pressure to afford 250 mg (55% yield) of the title compound as a yellow solid which was used as such for the next step.

LC/MS (method 1): Rt : 3.26 min; MS: m/z = 397.10 (M^+)

Step 5: 1-[(2-isopropylphenyl)carbamothioyl]-3-[2-[3-[4-trifluoromethoxy)phenyl] benzo [e]benzimidazol-7-yl]ethyl]urea

A solution of 7-(2-isocyanatoethyl)-3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazole (250 mg, 0.63 mmol) was dissolved in acetonitrile (2.5 mL) and heated to reflux for 2 h. The reaction mixture was cooled to ambient temperature and Cesium carbonate (270 mg, 0.82 mmol) and (2-

isopropylphenyl)thiourea (130 mg, 0.69 mmol) was added and stirred for 4 h. The reaction was evaporated under reduced pressure and the residue was suspended in acetone (15 ml) and filtered. The filtrate was concentrated under reduced pressure and the residue was purified by preparative silica gel thin Layer chromatography eluting with 2 % Methanol in Dichloromethane to afford 50 mg (11.8% yield) of the title compound as an off white solid.

LC/MS (method 3): Rt : 3.53 min; MS: m / z = 591.19 (M^+);

^{1}H NMR (300 MHz, DMSO-d_6): δ 11.95 (s, 1H), 10.12 (s, 1H), 8.65 (s, 1H), 8.51 (d, J = 8.31 Hz, 1H), 7.91 (d, J = 8.88 Hz, 3H), 7.80 (q, J = 8.88 Hz, 2H), 7.69 (d, J = 8.50 Hz, 2H), 7.61 (dd, J = 8.50, 1.32 Hz, 1H), 7.34 – 7.41 (m, 1H), 7.31 – 7.34 (m, 1H), 7.25 – 7.31 (m, 1H), 7.14 – 7.25 (m, 1H), 7.03 (t, 1H), 3.44 – 3.63 (m, 2H), 2.97 – 3.06 (m, 3H),1.14 (d, J = 6.80 Hz, 6H).

The compounds summarized in the following table were prepared by analogy to the methdos given in Examples 1 to 5:

Compound:	Name	M/z	Rt
C-1	(2Z)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol	604.0	3.543
C-2	(2Z)-3-(2-isopropylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]-4-(trifluoromethyl)thiazolidin-4-ol	658.0	3.681
C-3	(E)-3-(2-isopropylphenyl)-4-methyl-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazol-2-imine	586.0	3.900
C-4	(2Z)-3-(2,6-dimethylphenyl)-4-methyl-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol	590.0	3.776
C-5	(2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one	588.0	3.608
C-6	(2Z)-2-(2,6-dimethylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one	574.0	3.476
C-7	(E)-3-(2-isopropylphenyl)-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]-1,3-thiazetidin-2-imine	560.0	3.797
C-8	(E)-3-(2,6-dimethylphenyl)-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]-1,3-thiazetidin-2-imine	546.0	3.658

Com-pound:	Name	M/z	Rt
C-9	(2Z)-3-(2,6-dimethylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]-4-(trifluoromethyl)thiazolidin-4-ol	644.0	3.529
C-10	3-(2,6-dimethylphenyl)-N2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidine-2,4-diimine	573.1	1.099
C-11	[(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate	576.0	1.080
C-12	1-[(2-isopropylphenyl)carbamothioyl]-3-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]ethyl]urea	592.0	3.530
C-13	(2Z)-2-[3-(2-isopropylphenyl)-4-oxo-thiazolidin-2-ylidene]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]acetamide	603.1	1.224
C-14	3-(2-isopropylanilino)-3-thioxo-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanamide	563.0	1.224
C-15	(2Z)-2-cyano-2-[3-(2-isopropylphenyl)-4-oxo-thiazolidin-2-ylidene]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]acetamide	628.1	1.226
C-16	2-cyano-3-(2-isopropylanilino)-3-thioxo-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanamide	588.1	1.240
C-17	3-(2,6-dimethylphenyl)-N4-methyl-N2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidine-2,4-diimine	587.1	1.125
C-18	[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate	576.0	1.128
C-19	[(2S,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate	590.0	1.153
C-20	[(2S,3R,4R,5S)-3,4,5-trimethoxytetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate	562.0	1.059
C-21	[(2R,3S,4R,5S,6S)-3,4,5-trimethoxy-6-(methoxymethyl)tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate	606.0	1.138
C-22	[(2R,3S,4R,5S)-3,4,5-trimethoxytetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate	562.0	1.078
C-23	[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-(methoxymethyl)tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate	606.0	1.108

Com-pound:	Name	M/z	Rt
C-24	(E)-N-[(2S,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetra-hydropyran-2-yl]oxy-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]ben-zimidazol-7-yl]methanimine	574.2	1.327
C-25	(E)-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]-N-[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-methanimine	560.1	1.265
C-26	(E)-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]-N-[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-ethanimine	574.1	1.269
C-27	[(2R,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydro-pyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate	590.0	1.110
C-28	[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[6-(trifluoromethyl)pyridazin-3-yl]benzo[e]benzimidazol-7-yl]carbamate	562.0	1.122
C-29	(2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]me-thyleneamino]thiazolidin-4-one	654.0	1.914
C-30	(2E)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]methylenehydrazono]thiazolidin-4-ol	670.3	1.866
C-31	1-(2-isopropylphenyl)-3-[(E)-[2-[3-[4-(trifluoromethoxy)phe-nyl]benzo[e]benzimidazol-7-yl]cyclopropyl]methyleneamino]thiou-rea	588.4	1.314
C-32	(2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phe-nyl]imidazo[4,5-c]isoquinolin-7-yl]methyleneamino]thiazolidin-4-one	589.6	1.971
C-33	(2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(1,1,2,2,2-pentafluoro-ethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazoli-din-4-one	638.1	1.396
C-34	(2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[5-(trifluoromethyl)-1,3,4-thiadiazol-2-yl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazoli-din-4-one	580.0	1.414

Biology:

Example B1: Action on Yellow fever mosquito *(Aedes aegypti)*

For evaluating control of yellow fever mosquito (*Aedes aegypti*) the test unit consisted of 96-well-microtiter plates containing 200µl of tap water per well and 5-15 freshly hatched *A. aegypti* larvae.

The active compounds were formulated using a solution containing 75% (v/v) water and 25% (v/v) DMSO. Different concentrations of formulated compounds or mixtures were sprayed onto the insect diet at 2.5µl, using a custom built micro atomizer, at two replications.

After application, microtiter plates were incubated at 28 + 1°C, 80 + 5 % RH for 2 days. Larval mortality was then visually assessed.

In this test, compounds C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-17, C-18, C-19, C-20, C-21, C-22, C-23, C-25, C-28, C-29, C-30 at 800 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B2: Action on Orchid thrips (*dichromothrips corbetti*)

Dichromothrips corbetti adults used for bioassay were obtained from a colony maintained continuously under laboratory conditions. For testing purposes, the test compound is diluted in a 1:1 mixture of acetone:water (vol:vol), plus Kinetic® HV at a rate of 0.01% v/v.

Thrips potency of each compound was evaluated by using a floral-immersion technique. All petals of individual, intact orchid flowers were dipped into treatment solution and allowed to dry in Petri dishes. Treated petals were placed into individual re-sealable plastic along with about 20 adult thrips. All test arenas were held under continuous light and a temperature of about 28°C for duration of the assay. After 3 days, the numbers of live thrips were counted on each petal. The percent mortality was recorded 72 hours after treatment.

In this test, compounds C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-24, C-29, C-30, C-32 at 500 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B3: Action on Boll weevil (*Anthonomus grandis*)

For evaluating control of boll weevil (*Anthonomus grandis*) the test unit consisted of 96-well-microtiter plates containing an insect diet and 5-10 *A. grandis* eggs.

The compounds were formulated using a solution containing 75% v/v water and 25% v/v DMSO. Different concentrations of formulated compounds were sprayed onto the insect diet at 5 µl, using a custom built micro atomizer, at two replications.

After application, microtiter plates were incubated at about 25 ± 1°C and about 75 ± 5 % relative humidity for 5 days. Egg and larval mortality was then visually assessed.

In this test, compounds C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-15, C-17, C-18, C-19, C-20, C-21, C-22, C-23, C-25, C-28, C-29, C-30, C-31 at 800 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B4: Action on Silverleaf whitefly (*Bemisia argentifolii*) (adults)

The active compounds were formulated by a Tecan liquid handler in 100% cyclohexanone as a 10,000 ppm solution supplied in tubes. The 10,000 ppm solution was serially diluted in 100% cyclohexanone to make interim solutions. These served as stock solutions for which final dilutions were made by the Tecan in 50% acetone:50% water (v/v) into 5 or 10ml glass vials. A

nonionic surfactant (Kinetic®) was included in the solution at a volume of 0.01% (v/v). The vials were then inserted into an automated electrostatic sprayer equipped with an atomizing nozzle for application to plants/insects.

Cotton plants at the cotyledon stage (one plant per pot) were sprayed by an automated electrostatic plant sprayer equipped with an atomizing spray nozzle. The plants were dried in the sprayer fume hood and then removed from the sprayer. Each pot was pla-ced into a plastic cup and about 10 to 12 whitefly adults (approximately 3-5 days old) were introduced. The insects were collected using an aspirator and a nontoxic Tygon® tubing connected to a barrier pipette tip. The tip, containing the collected insects, was then gently inserted into the soil containing the treated plant, allowing insects to crawl out of the tip to reach the foliage for feeding. Cups were covered with a reusable screened lid. Test plants were maintained in a growth room at about 25°C and about 20-40% relative humidity for 3 days, avoiding direct exposure to fluorescent light (24 hour photoperiod) to prevent trapping of heat inside the cup. Mortality was assessed 3 days after treatment, compared to untreated control plants.

In this test, compounds C-1, C-2, C-3, C-4, C-7 at 500 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B5: Action on Mediterranean fruitfly (*Ceratitis capitata*)

For evaluating control of Mediterranean fruitfly (*Ceratitis capitata*) the test unit consisted of microtiter plates containing an insect diet and 50-80 *C. capitata* eggs.

The compounds were formulated using a solution containing 75% v/v water and 25% v/v DMSO. Different concentrations of formulated compounds were sprayed onto the insect diet at 5 µl, using a custom built micro atomizer, at two replications.

After application, microtiter plates were incubated at about 28 ± 1°C and about 80 ± 5 % relative humidity for 5 days. Egg and larval mortality was then visually assessed.

In this test, compounds C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-17, C-18, C-19, C-20, C-21, C-22, C-23, C-25, C-28, C-29, C-30, C-31 at 800 ppm showed at least 75% mortality in comparison with untreated controls.

Example B6: Action on Tobacco budworm (*Heliothis virescens*) I

For evaluating control of tobacco budworm (*Heliothis virescens*) the test unit consisted of 96-well-microtiter plates containing an insect diet and 15-25 *H. virescens* eggs.

The compounds were formulated using a solution containing 75% v/v water and 25% v/v DMSO. Different concentrations of formulated compounds were sprayed onto the insect diet at 10 µl, using a custom built micro atomizer, at two replications.

After application, microtiter plates were incubated at about 28 ± 1°C and about 80 ± 5 % relative humidity for 5 days. Egg and larval mortality was then visually assessed.

In this test, compounds C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-15, C-17, C-18, C-19, C-20, C-21, C-22, C-23, C-25, C-28, C-29, C-30, C-31 at 800 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B7: Action on Vetch aphid (*Megoura viciae*)

For evaluating control of vetch aphid (*Megoura viciae*) through contact or systemic means the test unit consisted of 24-well-microtiter plates containing broad bean leaf disks.

The compounds were formulated using a solution containing 75% v/v water and 25% v/v DMSO. Different concentrations of formulated compounds were sprayed onto the leaf disks at 2.5 µl, using a custom built micro atomizer, at two replications.

After application, the leaf disks were air-dried and 5 – 8 adult aphids placed on the leaf disks inside the microtiter plate wells. The aphids were then allowed to suck on the treated leaf disks and incubated at about 23 ± 1°C and about 50 ± 5 % relative humidity for 5 days. Aphid mortality and fecundity was then visually assessed.

In this test, compounds C-1, C-3, C-11, C-18 at 800 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B8: Action on Green Peach Aphid *(Myzus persicae*) (mixed life stages)

For evaluating control of green peach aphid (*Myzus persicae*) through systemic means the test unit consisted of 96-well-microtiter plates containing liquid artificial diet under an artificial membrane.

The compounds were formulated using a solution containing 75% v/v water and 25% v/v DMSO. Different concentrations of formulated compounds were pipetted into the aphid diet, using a custom built pipetter, at two replications.

After application, 5 – 8 adult aphids were placed on the artificial membrane inside the microtiter plate wells. The aphids were then allowed to suck on the treated aphid diet and incubated at about 23 ± 1°C and about 50 ± 5 % relative humidity for 3 days. Aphid mortality and fecundity was then visually assessed.

In this test, compounds C-3, C-6, C-8, C-12, C-18, C-19, C-29, C-30 at 800 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B9: Action on Rice green leafhopper (*Nephotettix virescens*)

Four to five-week old rice seedlings with cut upper leaf portion were cleaned and washed 24 hours before spraying. The active compounds were formulated in 1:1 acetone:water (vol:vol), and 0.01% vol/vol surfactant (Kinetic® HV) was added. Potted rice seedlings were sprayed with 5-6 ml test solution, air dried, covered with Mylar cages and inoculated with 10 adults. Treated rice plants were kept at about 28-29°C and relative humidity of about 50-60%. Percent mortality was recorded after 72 hours.

In this test, compounds C-4, C-30 at 500 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B10: Action on Rice brown plant hopper (*Nilaparvata lugens*)

Four to five-week old rice seedlings were cleaned and washed 24 hours before spraying. The active compounds were formulated in 1:1 acetone:water (vol:vol) and 0.01% vol/vol surfactant (Kinetic® HV) was added. Potted rice seedlings were sprayed with 5- 6 ml test solution, air dried, covered with Mylar cages and inoculated with 10 adults. Treated rice plants were kept at

about 28-29°C and relative humidity of about 50-60%. Percent mortality was recorded after 72 hours.

In this test, compounds C-5 at 500 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B11: Action on Diamond back moth (*Plutella xylostella*)

The active compound is dissolved at the desired concentration in a mixture of 1:1 (vol:vol) distilled water : acetone. Surfactant (Kinetic® HV) is added at a rate of 0.01% (vol/vol).The test solution is prepared at the day of use.

Leaves of cabbage were dipped in test solution and air-dried. Treated leaves were placed in petri dishes lined with moist filter paper and inoculated with ten 3rd instar larvae. Mortality was recorded 72 hours after treatment. Feeding damages were also recorded using a scale of 0-100%.

In this test, compounds C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-12, C-24, C-29, C-30, C-31, C-32 at 500 ppm showed at least 75 % mortality in comparison with untreated controls.

Example B12: Action on Southern armyworm (*Spodoptera eridania)*, 2nd instar larvae

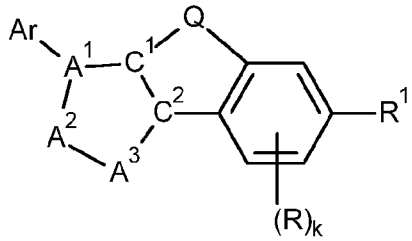
The active compounds were formulated by a Tecan liquid handler in 100% cyclohexanone as a 10,000 ppm solution supplied in tubes. The 10,000 ppm solution was serially diluted in 100% cyclohexanone to make interim solutions. These served as stock solutions for which final dilutions were made by the Tecan in 50% acetone:50% water (v/v) into 10 or 20ml glass vials. A nonionic surfactant (Kinetic®) was included in the solution at a volume of 0.01% (v/v). The vials were then inserted into an automated electrostatic sprayer equipped with an atomizing nozzle for application to plants/insects.

Lima bean plants (variety Sieva) were grown 2 plants to a pot and selected for treatment at the 1st true leaf stage. Test solutions were sprayed onto the foliage by an automated electrostatic plant sprayer equipped with an atomizing spray nozzle. The plants were dried in the sprayer fume hood and then removed from the sprayer. Each pot was placed into perforated plastic bags with a zip closure. About 10 to 11 armyworm larvae were placed into the bag and the bags zipped closed. Test plants were maintained in a growth room at about 25°C and about 20-40% relative humidity for 4 days, avoiding direct exposure to fluorescent light (24 hour photoperiod) to prevent trapping of heat inside the bags. Mortality and reduced feeding were assessed 4 days after treatment, compared to untreated control plants.

In this test, compounds C-1, C-2, C-3, C-4, C-9 at 500 ppm showed at least 75 % mortality in comparison with untreated controls.

Claims:

1. Compounds of the formula I



(I)

wherein

C^1 is C or CH

C^2 is C or CH

A^1 is N or C

A^2 is N, $C(R^2)$, $N(R^3)$, O, S or $C(R^4,R^5)$; and

A^3 is N, O, S, $N(R^6)$, $C(R^7)$ or $C(R^8,R^9)$;

where one or two non-adjacent bonds in the 5-membered ring formed by C^1, C^2, A^1, A^2 and A^3 are double bonds, while the others are single bonds, provided that the bond between A^1 and A^2 or the bond between A^1 and C^1 or the bond between A^2 and A^3 or the bond between C^1 and C^2 or the bond between A^3 and C^2 is a double bond further provided that at least one of A^1, A^2 and A^3 is N, $N(R^3)$ or $N(R^6)$,

and where

R^2, R^7 independently of each other, are selected from the group consisting of hydrogen, halogen, N_3, OH, CN, NO_2, -SCN, $-SF_5$, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$;

R^3, R^6 independently of each other, are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c,

$C(O)$-NR^bR^c, $C(O)$-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

R^4, R^5 independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio or $C(R^4,R^5)$ may be a carbonyl group or thiocarbonyl group;

R^8, R^9 independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio or $C(R^8,R^9)$ may be a carbonyl group or thiocarbonyl group;

Ar is phenyl or 5- or 6-membered hetaryl, which are unsubstituted or carry 1, 2, 3 or 4 radicals R^{Ar}, which are identical or different, where

R^{Ar} independently of each other, are selected from the group consisting of halogen, N_3, OH, CN, NO_2, -SCN, $-SF_5$,
C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
$C(O)$-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c,
$C(O)$-NR^bR^c, $C(O)$-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$, one radical may also be phenyl, phenoxy, phenylcarbonyl, phenylthio or benzyl, where the phenyl ring in the last 5 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

Q is -O-, -S-, -S(=O)-, $-S(=O)_2$-, $-C(R^{Q2a}R^{Q2b})$-, $-N(R^{Q1})$-, $-N(R^{Q2})$-C(=O)-, $-N(R^{Q2})$-C(=S)-, -O-C(=O)-, $-C(R^{Q3})=C(R^{Q4})$-, $-C(R^{Q3a}R^{Q3b})$-$C(R^{Q4a}R^{Q4b})$-, $-C(R^{Q3a}R^{Q3b})$-C(=O)-, -O-$C(R^{Q4a}R^{Q4b})$-, $-S(=O)_n$-$C(R^{Q4a}R^{Q4b})$-, $-N=C(R^{Q3c})$, $-S(=O)_n$-$N(R^{Q2})$- or $-N(R^{Q2})$-$C(R^{Q4a}R^{Q4b})$-, where

n is 0, 1 or 2;

R^{Q1}, R^{Q2} independently of each other are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
$C(O)$-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN,
$C(O)$-NR^bR^c, $C(O)$-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where

the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

R^{Q3}, R^{Q4} independently of each other, are selected from the group consisting of hydrogen, halogen, OH, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$;

R^{Q2a}, R^{Q2b} independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio or -$C(R^{Q2a}R^{Q2b})$- is C=O or C=S;

R^{Q3a}, R^{Q3b} independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio;

R^{Q3c} is selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio;

R^{Q4a}, R^{Q4b} independently of each other, are selected from the group consisting of hydrogen, halogen, CN, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylthio and C_1-C_4-haloalkylthio;

R^1 is a moiety of the formula -X-Y-Z^1-R^{11} , a moiety -X'-Y-Z^2-R^{12} , a moiety -X'-Y-Z^3-R^{11}, a moiety –X'-Y'-Z^4-R^{11} or a moiety –X'-Y''-Z^5-R^{11} where

X is $(CHR^{xa})_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl, cyclopropane-1,2-diyl or T-$C(R^{x3})$=N-,

X' is a single bond, $(CHR^{xa})_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl or cyclopropane-1,2-diyl, NR^{x1}, or a bivalent group
-$N(R^{x2})$-C(=O)-, where C=(O) is bound to Y, Y' or Y'', respectively,
-T-$N(R^{x2})$-C(=O)-, where C=(O) is bound to Y, Y' or Y'', respectively,
-$N(R^{x2})$-C(=S)-, where C=(S) is bound to Y, Y' or Y'', respectively,
-T-$N(R^{x2})$-C(=S)-, where C=(S) is bound to Y, Y' or Y'', respectively,
-$C(R^{x3})$=N-, where the nitrogen is bound to Y, Y' or Y'', respectively, or
-T-$C(R^{x3})$=N-, where the nitrogen is bound to Y, Y' or Y'', respectively;

T is $(CHR^{xa})_s$ with s being 1, 2, 3 or 4, cyclopropane-1,1-diyl or cyclopropane-1,2-diyl,

Y is a single bond, or one of the bivalent groups -$N(R^{y1})$-C(=O)-, -$N(R^{y2})$-C(=S)-, -$N(R^{y1})$-C(=O)-$N(R^{y1})$-C(=O)-, -$N(R^{y1})$-C(=O)-$N(R^{y2})$-C(=S)-, -$N(R^{y2})$-C(=S)-$N(R^{y1})$-C(=O)-, -N=C($(O)_p$-R^{y3})- or -N=C($(S)_p$-R^{y3})-, where the left hand nitrogen atom in the seven groups is bound to X or X', respectively, and where p is 0 or 1,

Y' is $N(R^{y4})$, O-$N(R^{y4})$, $N(R^{y44})$-$N(R^{y4})$,

Y'' is a bivalent group -N=C($(O)_v$-R^{y5})- or -N=C($(S)_v$-R^{y5})-, where the nitrogen atom in the two groups is bound to X' and where v is 0 or 1,

Z^1 is O, S or N-R^{z1},

Z^2 is O, S or N-R^{z2},

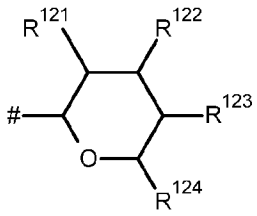
Z^3 is C(R^{z3})=C((S)$_q$-R^{z4})-N(R^{z5}), wherein R^{11} is bound to the nitrogen atom, which carries R^{z5}, and q is 0 or 1;

Z^4 is C(S-R^{Z6})=N, wherein R^{11} is bound to the nitrogen atom;

Z^5 is N-R^{z7},

R^{11} is selected from the group consisting of C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, C(O)-NR^bR^c, C(O)-R^d, aryl, arylcarbonyl, aryl-C_1-C_4-alkyl, aryloxy-C_1-C_4-alkyl, hetaryl, hetarylcarbonyl, hetaryl-C_1-C_4-alkyl and hetaryloxy-C_1-C_4-alkyl, where the aryl and hetaryl rings in the last 8 radicals are unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^g and where hetaryl is a 5- or 6-membered monocyclic hetaryl or a 8-, 9- or 10-membered bicyclic hetaryl;

R^{12} is a radical of the formula A;



(A)

wherein # indicates the point of attachment to Z^2;

R^{121}, R^{122}, R^{123} independently of each other are selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyloxy, C_2-C_6-alkynyloxy, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_1-C_6-alkylcarbonlyoxy, C_1-C_6-haloalkylcarbonlyoxy, C_1-C_6-alkenylcarbonlyoxy, C_3-C_6-cycloalkylcarbonlyoxy and NR^bR^c, or one of R^{121}, R^{122}, R^{123} may also be oxo;

R^{124} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy and C_2-C_6-alkenyloxy;

and where

R^{x1}, R^{x2} independently of each other, are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated,

$C(O)$-OR^a, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, $C(O)$-NR^bR^c, $C(O)$-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f;

R^{x3} is selected from the group consisting of hydrogen, halogen, CN, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, $C(O)$-NR^bR^c, $C(O)$-R^d, phenyl, phenoxy, phenylcarbonyl, phenylthio and benzyl, where the phenyl ring in the last 5 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f;

R^{xa}, R^{xb}, R^{xc} independently of each other, are selected from the group consisting of hydrogen, halogen and C_1-C_6-alkyl,

p is 0 or 1;

R^{y1}, R^{y2} independently of each other, are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated,
$C(O)$-OR^a, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, $C(O)$-NR^bR^c, $C(O)$-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

R^{y3} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, $C(O)$-NR^bR^c, $C(O)$-R^d, phenyl, phenylcarbonyl and benzyl, where the phenyl ring in the last 3 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

R^{y4} together with R^{z6} form a linear C_1-C_6-alkylene group or a linear C_2-C_6-alkenylene group, where in the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group or a group C=N-R' and/or wherein 1 or 2 CH_2 moieties may be replaced by O or S and/or wherein the linear C_1-C_6-alkylene group and the linear C_1-

C_6-alkenylene group may be unsubstituted or substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh} ;

R^{y5} together with R^{z7} form CH_2 or a linear C_2-C_6-alkenylene group, where in the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group or a group C=N-R' and/or wherein 1 or 2 CH_2 moieties may be replaced by O or S and/or wherein CH_2 and the linear C_2-C_6-alkenylene group may be unsubstituted or substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh}; or

R^{y5} together with R^{z7} form a linear C_2-C_6-alkylene group, where in the linear C_2-C_6-alkenylene group a CH_2 is replaced by a group C=N-R' and wherein the linear C_2-C_6-alkylene group may also be substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh}; or

R^{y5} together with R^{z7} form a linear C_2-C_6-alkylene group, where in the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group, wherein the linear C_2-C_6-alkylene group is substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh}, provided that at least one of R^{hh} is OH;

R^{y44} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C(O)-NR^bR^c, C(O)-R^d, phenyl, phenylcarbonyl and benzyl, where the phenyl ring in the last 3 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f;

R^{z1}, R^{z2} independently of each other are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated,
C(O)-OR^a, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN,
C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f, or
R^{z1} together with R^{y3}, if present, may also form a linear C_1-C_6-alkylene group or a linear C_2-C_6-alkenylene group, where in the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group or a group C=N-R' and/or wherein 1 or 2 CH_2 moieties may be replaced by O or S and/or wherein the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group may be unsubstituted or substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh} ;

R^{z2} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4

mentioned radicals are unsubstituted or partially or completely halogenated,
$C(O)-OR^a$, C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN,
$C(O)-NR^bR^c$, $C(O)-R^d$, $SO_2NR^bR^c$, $S(=O)_mR^e$, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f,

R^{z3} is selected from the group consisting of hydrogen, CN, halogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated,
phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f;

R^{z4}, $R^{z5}$and R^{z6} independently of each other, are selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last four mentioned radicals are unsubstituted or partially or completely halogenated,
phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carries 1, 2, 3, 4 or 5 radicals R^f; or

R^{z4} together with R^{z5}, if present, may also form a linear C_1-C_6-alkylene group or a linear C_2-C_6-alkenylene group, where in the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group a CH_2 moiety may be replaced by a carbonyl group or a group C=N-R' and/or wherein 1 or 2 CH_2 moieties may be replaced by O or S and/or wherein the linear C_1-C_6-alkylene group and the linear C_2-C_6-alkenylene group may be unsubstituted or substituted by 1, 2, 3, 4, 5 or 6 radicals R^{hh} ;

k is 0, 1, 2 or 3;

R is selected from the group consisting of halogen, N_3, OH, CN, NO_2, -SCN, $-SF_5$, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxyx-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
$C(O)-OR^a$, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c,
C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, $C(O)-NR^bR^c$, $C(O)-R^d$, $SO_2NR^bR^c$ and $S(=O)_mR^e$, one radical may also be phenyl, phenoxy, phenylcarbonyl, phenylthio or benzyl, where the phenyl ring in the last 5 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

it being possible for k = 2 or 3 that R are identical or different;

R' is selected from the group consisting of hydrogen, CN, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, phenyl, phenoxy, phenylcarbonyl, phenylthio and benzyl, where the phenyl ring in the last 5 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

and where

each m is independently 0, 1 or 2;

each R^a is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

each R^b is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-CN, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

each R^c is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated,
C_1-C_6-alkylen-CN, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

each moiety NR^bR^c may also form an N-bound, saturated 5- to 8-membered heterocycle, which in addition to the nitrogen atom may have 1 or 2 further heteroatoms or heteroatom moieties selected from O, $S(=O)_m$ and N-R', where R' is hydrogen or C_1-C_6-alkyl and where the N-bound heterocycle is unsubstituted or carries 1, 2, 3, 4, 5 or 6 radicals selected from halogen, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy and C_1-C_4-haloalkoxy;

each R^d is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 4 mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

each R^e is selected from the group consisting of C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, where the alkyl and cycloalkyl parts of the last 2 mentioned radicals are unsubstituted or partially or completely halogenated, phenyl and benzyl, where the phenyl ring in the last 2 radicals is unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^f;

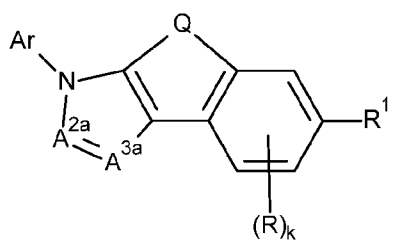
each R^f is selected from the group consisting of halogen, N_3, OH, CN, NO_2, -SCN, -SF_5, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxyx-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$;

each R^g is selected from the group consisting of halogen, N_3, OH, CN, NO_2, -SCN, -SF_5, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, tri-C_1-C_6-alkylsilyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy-C_1-C_4-alkyl, C_1-C_6-alkoxy-C_1-C_4-alkoxy, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkoxy, C_3-C_6-cycloalkyl-C_1-C_4-alkyl, C_3-C_6-cycloalkoxy-C_1-C_4-alkyl, where the alkyl, cycloalkyl, cycloalkoxy and alkoxy parts of the last 6 mentioned radicals are unsubstituted or partially or completely halogenated, C(O)-OR^a, NR^bR^c, C_1-C_6-alkylen-NR^bR^c, O-C_1-C_6-alkylen-NR^bR^c, C_1-C_6-alkylen-CN, NH-C_1-C_6-alkylen-NR^bR^c, C(O)-NR^bR^c, C(O)-R^d, $SO_2NR^bR^c$ and $S(=O)_mR^e$;

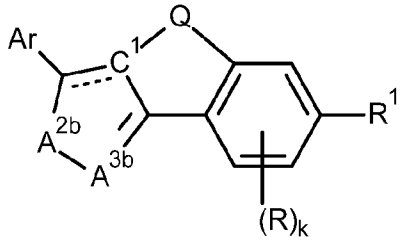
each R^{hh} is selected from halogen, OH, C_1-C_6-alkyl, C_3-C_6-cycloalkyl, or CN;

and the N-oxides, stereoisomers, tautomers and agriculturally or veterinarily acceptable salts thereof.

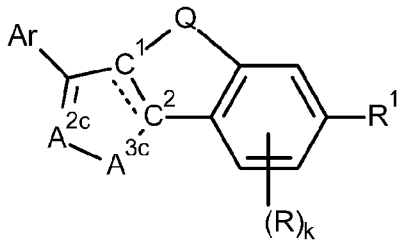
2. The compound of claim 1, which is a compound of the formulae Ia, Ib, Ic or Id, an N-oxide, stereoisomer, tautomer or agriculturally or veterinarily acceptable salt thereof



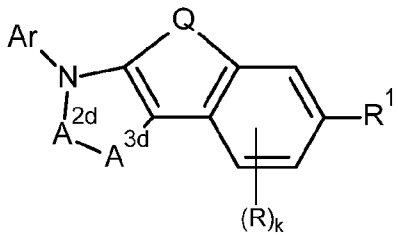
(Ia)



(Ib)



(Ic)



(Id)

where in formula Ia

A^{2a} is N or $C(R^2)$; and

A^{3a} is N or $C(R^7)$;

where in formula Ib

C^1 is CH or C, provided that ---- indicates a single bond, if C^1 is CH or a double bond, if C^1 is C,

A^{2b} is $N(R^3)$, O or S; and

A^{3b} is N or $C(R^7)$;

provided that one or both of A^{2b} and A^{3b} are N or $N(R^3)$, respectively;

where in formula Ic C^1 and C^2 are both CH or both C provided that ---- indicates a single bond, if C^1 and C^2 are CH or a double bond, if C^1 and C^2 are C,

A^{2c} is N or $C(R^2)$; and

A^{3c} is O, S, $N(R^6)$ or $C(R^8,R^9)$;

where in formula Id

A^{2d} is $N(R^3)$, O, S or $C(R^4,R^5)$; and

A^{3d} is O, S, $N(R^6)$ or $C(R^8,R^9)$;

provided that at least one of A^{2d} and A^{3d} is different from O and S and further provided that the bond between A^{2d} and A^{3d} is a single bond;

and where k, R, Ar, R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8 and R^9 are as defined in claim 1.

3. The compounds of claims 1 to 2, where Q is selected from the group consisting of O, S, $-CH_2-$, $-N(R^{Q1})-$, -CH=CH-, $-CH_2CH_2-$, -N=CH-, $O-CH_2$, $-S-CH_2$, $-S(=O)-CH_2-$, $-S(=O)_2-CH_2-$, $-N(R^{Q2})-C(=O)-$, $-N(R^{Q2})-C(=S)-$, $-N(R^{Q2})-S(=O)_2-$ and $-N(R^{Q2})-CH_2-$, where R^{Q1} and R^{Q2} are as defined in claim 1.

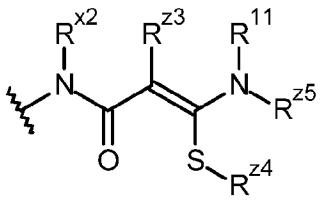
4. The compounds of claims1 to 3, where Ar is phenyl, pyridyl, pyrimidinyl or pyridazinyl, which are unsubstituted or carry 1, 2 or 3 radicals R^{Ar}.

5. The compounds of claims 1 to 4, where R^{Ar} is selected from the group consisting of halogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy and S-R^e, where R^e is C_1-C_6-alkyl or C_1-C_6-haloalkyl.

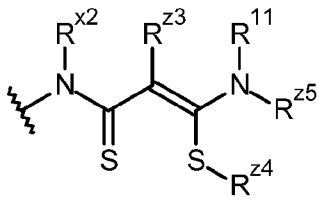
6. The compounds of claims 1 to 5, where R^1 is a moiety -X'-Y-Z^2-R^{12}, wherein,
X' is CH=N or NHC(O);
Y is a single bond;
Z^2 is O; and
R^{12} is a radical of the formula A, wherein
R^{121} is C_1-C_4-alkoxy;
R^{122} is C_1-C_4-alkoxy or C_3-C_4-alkenyloxy;
R^{123} is OH, C_1-C_4-alkoxy or C_3-C_4-alkenyloxy; and
R^{124} is C_1-C_4-alkyl or C_1-C_4-alkoxy-C_1-C_4-alkyl.

7. The compounds of claims 1 to 5, where R^1 is a moiety -X-Y-Z^1-R^{11}, a moiety -X'-Y-Z^3-R^{11}, a moiety –X'-Y'-Z^4-R^{11} or a moiety –X'-Y''-Z^5-R^{11}.

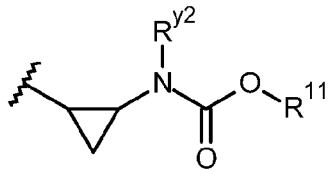
8. The compound of claim 7, where R^1 is a radical of one of the following formulae R^1-1 to R^1-39:



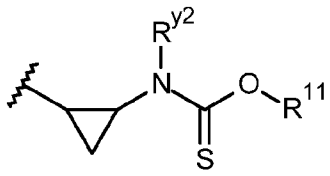
R^1-1



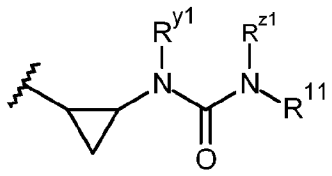
R^1-2



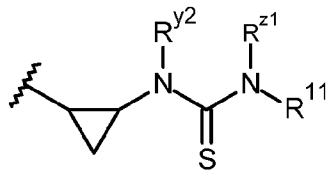
R^1-3



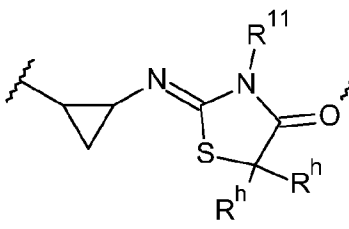
R^1-4



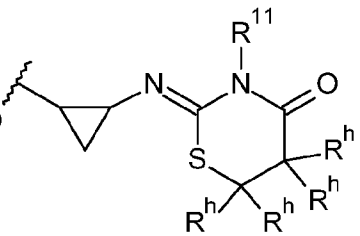
R^1-5



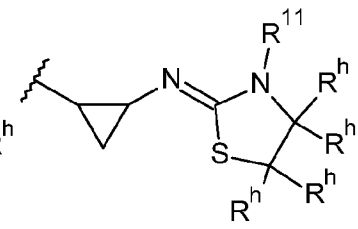
R^1-6



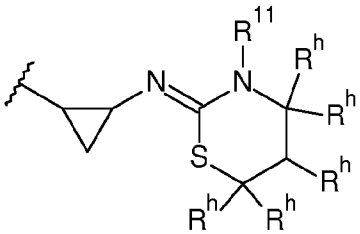
R^1-7



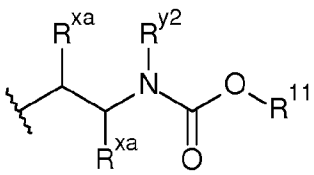
R^1-8



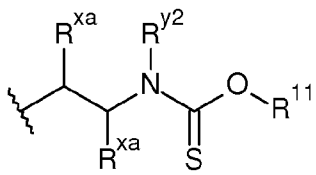
R^1-9



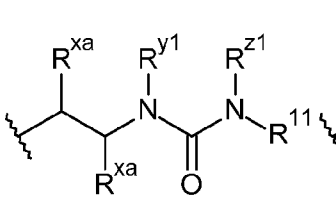
R^1-10



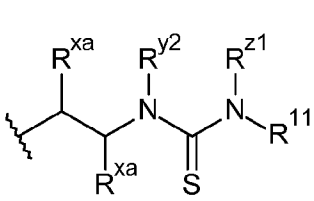
R^1-11



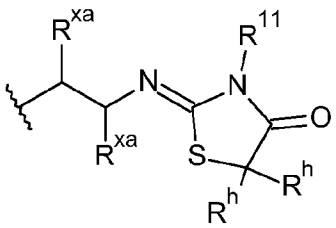
R^1-12



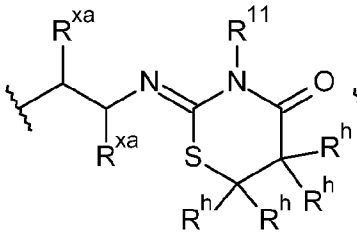
R1-13



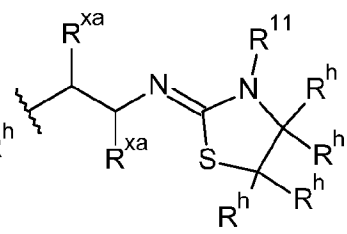
R1-14



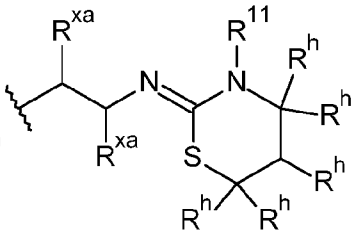
R1-15



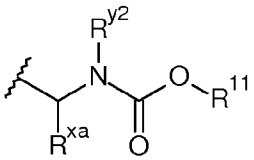
R1-16



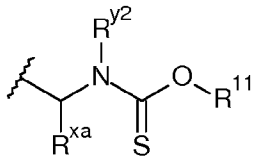
R1-17



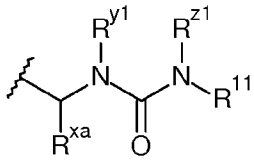
R1-18



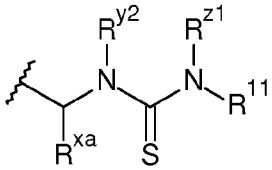
R1-19



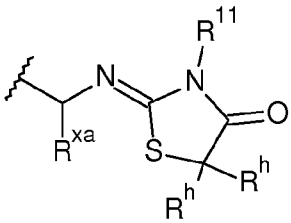
R1-20



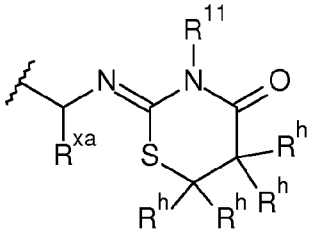
R1-21



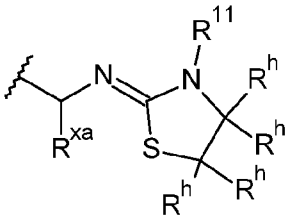
R1-22



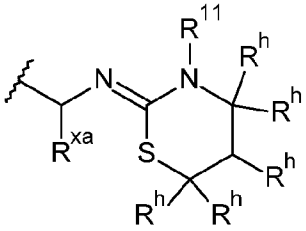
R1-23



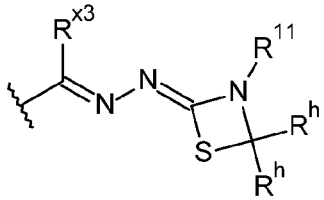
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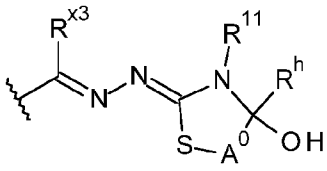
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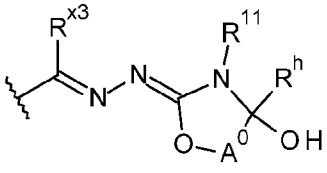
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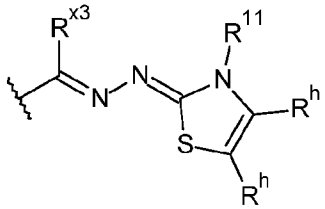
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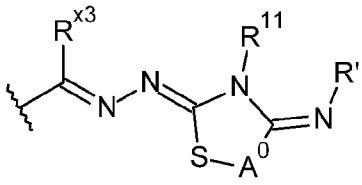
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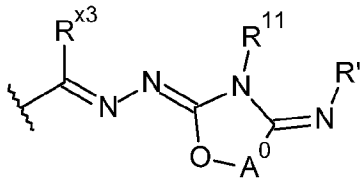
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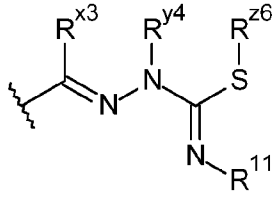
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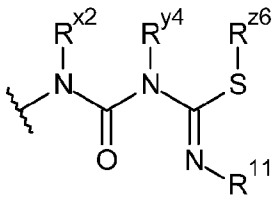
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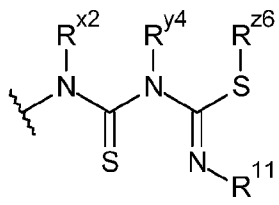
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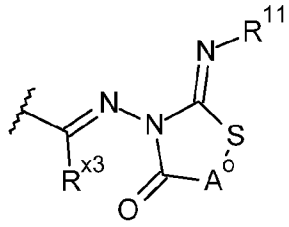
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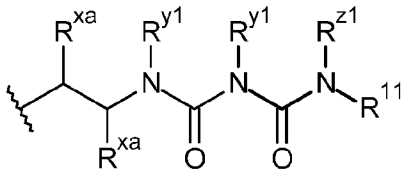
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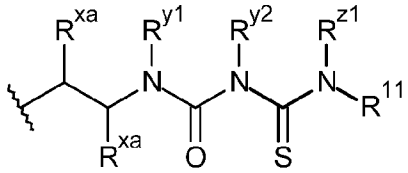
R1-35



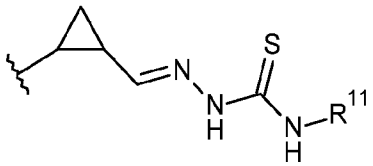
R1-36



R1-37



R1-38



R1-39

where

R', R^{11}, R^{x2}, R^{x3}, R^{y1}, R^{y2}, R^{y3}, R^{y4}, R^{z1}, R^{z3}, R^{z4}, R^{z5} and R^{z6} are as defined in claim 1, A^0 is $C(R^h)_2$ or $C(R^h)_2C(R^h)_2$ and R^h, irrespectively of its occurrence, is selected from hydrogen or has one of the meanings given for R^{hh}.

9. The compound of any of the preceding claims, where R^{11} is aryl, aryl-C_1-C_4-alkyl, hetaryl, or hetaryl-C_1-C_4-alkyl, where the aryl and hetaryl rings in the last 4 radicals are unsubstituted or carry 1, 2, 3, 4 or 5 radicals R^g and where hetaryl is a 5- or 6-membered monocyclic hetaryl.

10. The compound of any of the preceding claims, which is selected from the group consisting of compounds

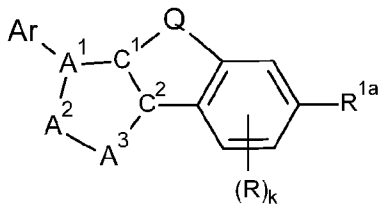
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oxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazol-2-imine, (2Z)-3-(2,6-dimethylphenyl)-4-methyl-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one, (2Z)-2-(2,6-dimethylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one, (E)-3-(2-isopropylphenyl)-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]-1,3-thiazetidin-2-imine, (E)-3-(2,6-dimethylphenyl)-N-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]-1,3-thiazetidin-2-imine, (2Z)-3-(2,6-dimethylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]-4-(trifluoromethyl)thiazolidin-4-ol, 3-(2,6-dimethylphenyl)-N2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidine-2,4-diimine, [(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, 1-[(2-isopropylphenyl)carbamothioyl]-3-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]ethyl]urea, (2Z)-3-(2,6-dimethylphenyl)-4-methyl-2-[(E)-[3-[6-(trifluoromethyl)pyridazine-3-yl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[3-[6-(trifluoromethyl)pyridazine-3-yl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-3-(2-isopropyl-5-methyl-phenyl)-4-methyl-2-[(E)-[3-[6-(trifluoromethyl)pyridazin-3-yl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]-4,5-dihydrobenzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-2-[(E)-[5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[3,4-d]imidazol-7-yl]methylenehydrazono]-3-(2-isopropylphenyl)-4-methyl-thiazolidin-4-ol, (2Z)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]methylenehydrazono]thiazolidin-4-ol, (2Z)-3-(2,6-dimethylphenyl)-2-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]cyclopropyl]imino-thiazolidin-4-one, (2Z)-3-(2,6-dimethylphenyl)-2-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]ethylimino]thiazolidin-4-one, (2Z)-3-(2,6-dimethylphenyl)-2-[[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylimino]thiazolidin-4-one, (NE)-N-[(2Z)-3-(2,6-dimethylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ylidene]acetamide, (E)-[(2Z)-3-(2,6-dimethylphenyl)-2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methylenehydrazono]thiazolidin-4-ylidene]cyanamide, 1-(2,6-dimethylphenyl)-3-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]cyclopropyl]thiourea, 1-(2,6-dimethylphenyl)-3-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]ethyl]thiourea, 1-(2,6-dimethylphenyl)-3-[[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyl]thiourea, 3-(2,6-dimethylphenyl)-N4-methyl-N2-[(E)-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidine-2,4-diimine, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]ben-

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(2Z)-2-cyano-2-[3-(2-isopropylphenyl)-4-oxo-thiazolidin-2-ylidene]-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]acetamide, 2-cyano-3-(2-isopropylanilino)-3-thioxo-N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]propanamide, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S)-3,4,5-trimethoxytetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3S,4R,5S,6S)-3,4,5-trimethoxy-6-(methoxymethyl)tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2R,3S,4R,5S)-3,4,5-trimethoxytetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, [(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-(methoxymethyl)tetrahydropyran-2-yl] N-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]carbamate, (E)-N-[(2S,3R,4R,5S,6S)-4-ethoxy-3,5-dimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]methanimine, (E)-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]-N-[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl]oxy-methanimine, (E)-1-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]-N-[(2S,3R,4R,5S,6S)-3,4,5-trimet[(2S,3R,4R,5S,6S)-3,4,5-trimethoxy-6-methyl-tetrahydropyran-2-yl] N-[3-[6-(trifluoromethyl)pyridazin-3-yl]benzo[e]benzimidazol-7-yl]carbamate, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]methyleneamino]thiazolidin-4-one, (2E)-3-(2-isopropylphenyl)-4-methyl-2-[(E)-[2-methyl-5,5-dioxo-3-[4-(trifluoromethoxy)phenyl]-4H-thiochromeno[4,3-c]pyrazol-7-yl]methylenehydrazono]thiazolidin-4-ol, 1-(2-isopropylphenyl)-3-[(E)-[2-[3-[4-(trifluoromethoxy)phenyl]benzo[e]benzimidazol-7-yl]cyclopropyl]methyleneamino]thiourea, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(trifluoromethoxy)phenyl]imidazo[4,5-c]isoquinolin-7-yl]methyleneamino]thiazolidin-4-one, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[4-(1,1,2,2,2-pentafluoroethoxy)phenyl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-one, (2Z)-2-(2-isopropylphenyl)imino-3-[(E)-[3-[5-(trifluoromethyl)-1,3,4-thiadiazol-2-yl]benzo[e]benzimidazol-7-yl]methyleneamino]thiazolidin-4-onehoxy-6-methyl-tetrahydropyran-2-yl]oxy-ethanimine, and the N-oxides, stereoisomers, tautomers and agriculturally or veterinarily acceptable salts thereof.

11. The compound of the formula (INT):



(INT)

where R^{1a} is –NCO or C(=O)-N_3 and where Ar, A^1, A^2, A^3, C^1, C^2, k, R and Q are as defined in any of the preceding claims and the salts thereof.

12. A composition comprising at least one compound of the formula I, as defined in any of claims 1 to 11, a stereoisomer thereof and/or at least one agriculturally or veterinarily acceptable salt thereof, and at least one inert liquid and/or solid agriculturally or veterinarily acceptable carrier.

13. The use of a compound as defined in any of claims 1 to 11, of a stereoisomer and/or of an agriculturally or veterinarily acceptable salt thereof for combating invertebrate pests.

14. The use of a compound as defined in any of claims 1 to 11, of a stereoisomer and/or of a veterinarily acceptable salt thereof, for treating or protecting an animal from infestation or infection by invertebrate pests.

15. A method for controlling invertebrate pests which method comprises treating the pests, their food supply, their habitat or their breeding ground or a plant, plant propagation material, soil, area, material or environment in which the pests are growing or may grow, or the materials, plants, plant propagation material, soils, surfaces or spaces to be protected from invertebrate pest attack or infestation with a pesticidally effective amount of at least one imine compound of the formula I as defined in any of claims 1 to 11, a stereoisomer thereof and/or at least one agriculturally acceptable salt thereof.

16. Plant propagation material, comprising at least one compound of the formula I as defined in any of claims 1 to 11, a stereoisomer thereof and/or at least one agriculturally acceptable salt thereof.

17. A method for treating or protecting an animal from infestation or infection by invertebrate pests which comprises bringing the animal in contact with a pesticidally effective amount of at least one compound of the formula I as defined in any of claims 1 to 11, a stereoisomer thereof and/or at least one veterinarily acceptable salt thereof.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2016/050480

A. CLASSIFICATION OF SUBJECT MATTER
INV. C07D235/02 C07D471/04 C07D495/04 A01N43/50
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
C07D A01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 2015/007682 A1 (BASF SE [DE]) 22 January 2015 (2015-01-22) claims 1, 24, 25; examples step 8; example 11	1-17
X	WO 00/27822 A2 (BASF AG [DE]; DOYLE KEVIN J [GB]; RAFFERTY PAUL [GB]; STEELE ROBERT W) 18 May 2000 (2000-05-18) claim 1 compounds 204, 207-209 3 compounds; page 167, line 12 - line 15	1

-/--

[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search	Date of mailing of the international search report
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