

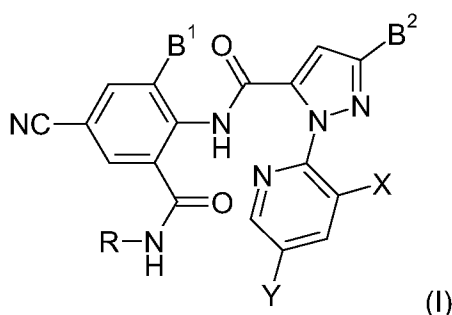
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(54) Title: PESTICIDAL MIXTURES



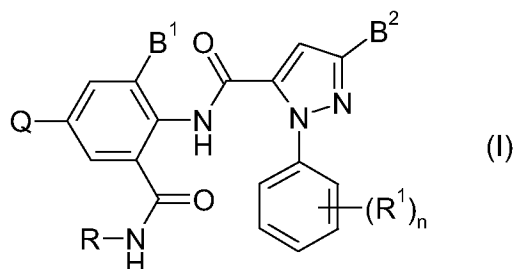
(57) Abstract: Pesticidal mixtures comprising, as active components, 1) an anthranilamid compound of the formula I wherein Q is H, Cl, Cr, I, CN or methyl; B¹ is halogen, alkyl, haloalkyl, or haloalkoxy; B² is halogen, haloalkyl, alkoxy, haloalkoxy, alkenyloxy, alkynyloxy, alkylthio, haloalkylthio, alkylsulfinyl, haloalkylsulfinyl, alkylsulfonyl, haloalkylsulfonyl, alkyl-S(=O)_x-O- or haloalkyl S(O)_x-O-, wherein x is 1 or 2 and the alkoxy radical may be substituted, or C(Rⁱ)=N-OR^j, C(Rⁱ)=N(R^k), wherein Rⁱ, R^j and R^k are hydrogen or alkyl; R is hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, alkylene-cycloalkyl, wherein these groups are optionally substituted; R¹ is F, Cl, Br, methyl or trifluoromethyl; or the enantiomers or salts or N-oxides thereof, n is 1, 2 or 3; and 2) one or more compounds II selected from group A consisting of organo(thio)-

phosphates, carbamates, pyrethroids, growth regulators, nicotinic receptor agonists/antagonists compounds, GABA antagonist compounds, macrocyclic lactone insecticides, METI I acaricides, METI II and III compounds, uncoupler compounds, oxidative phosphorylation inhibitor compounds, mixed function oxidase inhibitor compounds, sodium channel blocker compounds and others, all as defined in the description, in synergistically effective amounts, use of these mixture for combating insects, arachnids or nematodes in and on plants and for the protection of seeds, and for treating, controlling, preventing or protecting a warm-blooded animal or a fish against infestation or infection by parasites.

Pesticidal mixtures

The present invention relates to pesticidal mixtures comprising, as active components

- 5 Pesticidal mixtures comprising, as active components,
1) an anthranilamid compound of the formula I



wherein

- 10 Q is hydrogen, chloro, bromo, iodo, cyano or methyl;

B¹ is halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, or C₁-C₄-haloalkoxy;

- B² is halogen, C₁-C₄-haloalkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkoxy, C₁-C₄-alkenyloxy,
15 C₁-C₄-alkynyloxy, C₁-C₄-alkylthio, C₁-C₄-haloalkylthio, C₁-C₄-alkylsulfinyl, C₁-C₄-
haloalkylsulfinyl, C₁-C₄-alkylsulfonyl, C₁-C₄-haloalkylsulfonyl, C₁-C₄-alkyl-S(=O)_x-O- or
C₁-C₄-haloalkyl S(O)_x-O-, wherein x is 1 or 2 and the C₁-C₄-alkoxy radical may be
substituted with 1-6 groups selected from halogen, cyano, C₁-C₄-alkoxy, C₁-C₄-
alkoxycarbonyl or C(Rⁱ)=N-OR^j, C(Rⁱ)=N(R^jR^k), wherein Rⁱ, R^j and R^k are each
20 independently hydrogen or C₁-C₄-alkyl;

- R is hydrogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₃-C₆-cycloalkyl, C₁-C₄-
alkylene-C₃-C₆-cycloalkyl, wherein these groups are unsubstituted or substituted with
from 1 to 3 groups selected from halogen, cyano, nitro, C₁-C₆-alkyloxycarbonyl, amino,
25 C₁-C₆-alkylamino, di(C₁-C₆-alkyl)amino, C₁-C₆-alkoxy, C₁-C₆-thioalkyl, C₁-C₆-
alkylsulfinyl, C₁-C₆-alkylsulfonyl;

R¹ is fluoro, chloro, bromo, methyl, or trifluoromethyl;

- 30 n is 1, 2 or 3;

or the enantiomers or salts or N-oxides thereof, and

- 2) one or more compounds II selected from group A consisting of

A.1. Organo(thio)phosphates: acephate, azamethipos, azinphos-methyl, chlorpyrifos, chlorpyrifos-methyl, chlorfenvinphos, diazinon, dichlorvos, dicrotophos, dimethoate, disulfoton, ethion, fenitrothion, fenthion, isoxathion, malathion, methamidophos, methidathion, methyl-parathion, mevinphos, monocrotophos, oxydemeton-methyl, paraoxon, parathion, phenthoate, phosalone, phosmet, phosphamidon, phorate, phoxim, pirimiphos-methyl, profenofos, prothiofos, sulprophos, tetrachlorvinphos, terbufos, triazophos, trichlorfon;

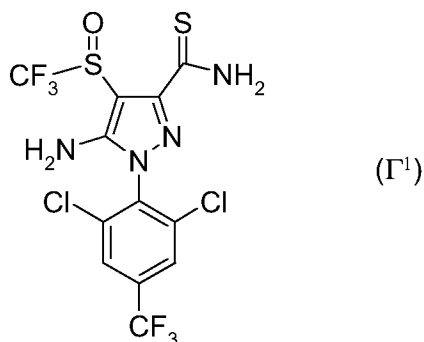
A.2. Carbamates: alanycarb, aldicarb, bendiocarb, benfuracarb, carbaryl, carbofuran, carbosulfan, fenoxycarb, furathiocarb, methiocarb, methomyl, oxamyl, pirimicarb, propoxur, thiodicarb, triazamate;

A.3. Pyrethroids: allethrin, bifenthrin, cyfluthrin, cyhalothrin, cyphenothrin, cypermethrin, alpha-cypermethrin, beta-cypermethrin, zeta-cypermethrin, deltamethrin, esfenvalerate, etofenprox, fenpropathrin, fenvalerate, imiprothrin, lambda-cyhalothrin, permethrin, prallethrin, pyrethrin I and II, resmethrin, silafluofen, tau-fluvalinate, tefluthrin, tetramethrin, tralomethrin, transluthrin, profluthrin, dimefluthrin;

A.4. Growth regulators: a) chitin synthesis inhibitors: benzoylureas: chlorfluazuron, cyramazin, diflubenzuron, flucyclozuron, flufenoxuron, hexaflumuron, lufenuron, novaluron, teflubenzuron, triflumuron; buprofezin, diofenolan, hexythiazox, etoxazole, clofentazine; b) ecdysone antagonists: halofenozide, methoxyfenozide, tebufenozide, azadirachtin; c) juvenoids: pyriproxyfen, methoprene, fenoxycarb; d) lipid biosynthesis inhibitors: spirotetramat, spiromesifen, spirotetramat;

A.5. Nicotinic receptor agonists/antagonists compounds: clothianidin, dinotefuran, imidacloprid, thiamethoxam, nitenpyram, acetamiprid, thiacloprid;

A.6. GABA antagonist compounds: acetoprole, endosulfan, ethiprole, fipronil, vaniliprole, pyrafluprole, pyriprole, the phenylpyrazole compound of formula Γ^1



A.7. Macrocylic lactone insecticides: abamectin, emamectin, milbemectin, lepimectin, spinosad;

A.8. METI I acaricides: fenazaquin, pyridaben, tebufenpyrad, tolfenpyrad, flufenerim;

A.9. METI II and III compounds: acequinocyl, fluacyprim, hydramethylnon;

5

A.10. Uncoupler compounds: chlorfenapyr;

A.11. Oxidative phosphorylation inhibitor compounds: cyhexatin, diafenthiuron, fenbutatin oxide, propargite;

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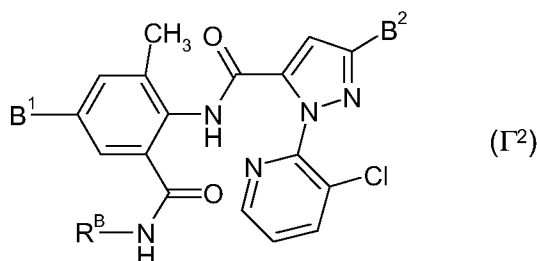
A.12. Moulting disruptor compounds: cryomazine;

A.13. Mixed Function Oxidase inhibitor compounds: piperonyl butoxide;

15 A.14. Sodium channel blocker compounds: indoxacarb, metaflumizone,

A.15. Various: benclonthiaz, bifenazate, cartap, flonicamid, pyridalyl, pymetrozine, sulfur, thiocyclam, flubendiamide, cyenopyrafen, flupyrazofos, cyflumetofen, amidoflumet, N-R'-2,2-dihalo-1-R''cyclo-propanecarboxamide-2-(2,6-dichloro- α,α,α - tri-fluoro-p-tolyl)hydrazone or N-R'-2,2-di(R''')propionamide-2-(2,6-dichloro- α,α,α - trifluoro-p-tolyl)-hydrazone, wherein R' is methyl or ethyl, halo is chloro or bromo, R'' is hydrogen or methyl and R''' is methyl or ethyl, wherein Rⁱ is -CH₂OCH₂CH₃ or H and Rⁱⁱ is CF₂CF₂CF₃ or CH₂CH(CH₃)₃, anthranilamide compounds of formula I²

20



25 wherein B¹ is hydrogen, CN or a chlorine atom, B² is a bromine or chlorine atom, CF₃, OCH₂CF₃, OCF₂H, CH=N-OCH₃, CH=NOCH₂CH₃, C(CF₃)=N-OCH₃, or C(CF₃)=N-OCH₂CH₃, and R^B is hydrogen, CH₃ or CH(CH₃)₂, and malononitrile compounds as described in JP 2002 284608, WO 02/89579, WO 02/90320, WO 02/90321, WO 04/06677, WO 04/20399, or JP 2004 99597,

30

in synergistically effective amounts.

The present invention also provides methods for the control of insects, acarids or nematodes comprising contacting the insect, acarid or nematode or their food supply,

habitat, breeding grounds or their locus with a pesticidally effective amount of mixtures of the compound I with one or more compounds II.

5 Moreover, the present invention also relates to a method of protecting plants from attack or infestation by insects, acarids or nematodes comprising contacting the plant, or the soil or water in which the plant is growing, with a pesticidally effective amount of a mixture of the compound I with one or more compounds II.

10 This invention also provides a method for treating, controlling, preventing or protecting an animal against infestation or infection by parasites which comprises orally, topically or parenterally administering or applying to the animals a parasitically effective amount of a mixture of the compound I with one or more compounds II.

15 The invention also provides a process for the preparation of a composition for treating, controlling, preventing or protecting a warm-blooded animal or a fish against infestation or infection by insects, acarids or nematodes which comprises a pesticidally effective amount of a mixture of the compound I with one or more compounds II.

20 One typical problem arising in the field of pest control lies in the need to reduce the dosage rates of the active ingredient in order to reduce or avoid unfavorable environmental or toxicological effects whilst still allowing effective pest control.

25 Another problem encountered concerns the need to have available pest control agents which are effective against a broad spectrum of pests.

There also exists the need for pest control agents that combine know-down activity with prolonged control, that is, fast action with long lasting action.

30 Another difficulty in relation to the use of pesticides is that the repeated and exclusive application of an individual pesticidal compound leads in many cases to a rapid selection of pests which have developed natural or adapted resistance against the active compound in question. Therefore there is a need for pest control agents that help prevent or overcome resistance.

35 It was therefore an object of the present invention to provide pesticidal mixtures which solve the problems of reducing the dosage rate and / or enhancing the spectrum of activity and / or combining know-down activity with prolonged control and / or to resistance management.

40 We have found that this object is in part or in whole achieved by the combination of active compounds defined at the outset. Moreover, we have found that simultaneous,

that is joint or separate, application of a compound I and one or more compounds II or successive application of a compound I and one or more compounds II allows enhanced control of pests compared to the control rates that are possible with the individual compounds.

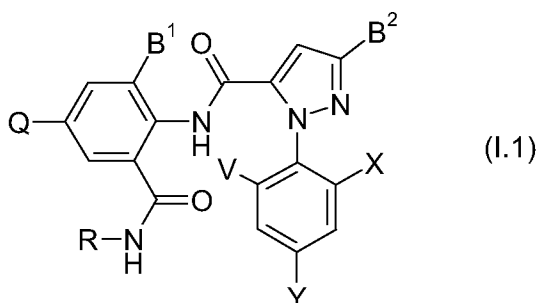
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Compounds of the formula I, their preparation and their action against insect and acarid pests are known, for example, from WO 05/118552 or WO 06/000336.

The commercially available compounds of the group A may be found in The Pesticide Manual, 13th Edition, British Crop Protection Council (2003) among other publications. Thiamides of formula Γ^2 and their preparation have been described in WO 98/28279. Lepimection is known from Agro Project, PJB Publications Ltd, November 2004. Benclothiaz and its preparation have been described in EP-A1 454621. Methidathion and Paraoxon and their preparation have been described in Farm Chemicals Handbook, Volume 88, Meister Publishing Company, 2001. Acetoprole and its preparation have been described in WO 98/28277. Metaflumizone and its preparation have been described in EP-A1 462 456. Flupyrazofos has been described in Pesticide Science 54, 1988, p.237-243 and in US 4822779. Pyrafluprole and its preparation have been described in JP 2002193709 and in WO 01/00614. Pyriprole and its preparation have been described in WO 98/45274 and in US 6335357. Amidoflumet and its preparation have been described in US 6221890 and in JP 21010907. Flufenerim and its preparation have been described in WO 03/007717 and in WO 03/007718. Cyflumetofen and its preparation have been described in WO 04/080180.

Mixtures, active against pests, of compounds of formula I with some of the compounds of formula II are described in WO 05/118552. The favourable synergistic effect of these mixtures is not mentioned in these documents but is described herein for the first time.

With regard to their use in the pesticidal mixtures of the present invention, compounds of formula I.1 are especially preferred:



wherein

Q is chloro, bromo, iodo or cyano;

- B¹ is chloro, bromo, iodo, or methyl;
- 5 B² is chloro, bromo, trifluoromethyl, 2,2,2-trifluoroethoxy, difluoromethyl, CH=N-OCH₃, or C(CF₃)=N-OCH₃;
- R is hydrogen or C₁-C₄-alkyl which may be substituted with CN or SCH₃;
- 10 X is fluoro, chloro or bromo;
- Y is hydrogen, fluoro or chloro;
- V is hydrogen, fluoro or chloro;
- 15 or the enantiomers or salts or N-oxides thereof.

Moreover, with regard to their use in the pesticidal mixtures of the present invention, compounds of formula I.1 are especially preferred wherein

- 20 Q is chloro or cyano;
- B¹ is chloro, bromo or methyl;
- B² is chloro, bromo or trifluoromethyl;
- 25 R is hydrogen, methyl, ethyl, isopropyl or tert.-butyl;
- X is fluoro, chloro or bromo;
- 30 Y is hydrogen, fluoro or chloro;
- V is hydrogen, fluoro or chloro;

35 or the enantiomers or salts or N-oxides thereof.

With respect to their use in the pesticidal mixtures of the present invention, particular preference is given to the compounds IA compiled in the tables below. Moreover, the groups mentioned for a substituent in the tables are on their own, independently of the combination in which they are mentioned, a particularly preferred embodiment of the

40 substituent in question.

Table 1

Compounds of the formula IA wherein Q is chlorine, X and Y are fluorine, V is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of

5 Table A.

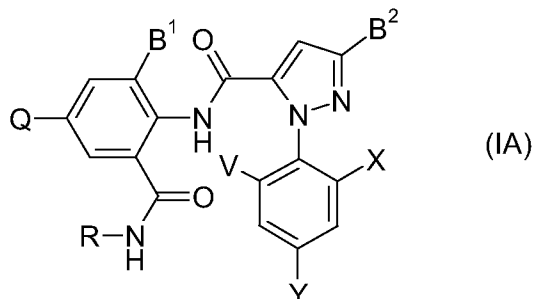


Table 2

Compounds of the formula IA wherein Q is chlorine, X and Y are chlorine, V is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of

10 Table A.

Table 3

Compounds of the formula IA wherein Q is chlorine, X and V are chlorine, Y is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of

15

Table A.

Table 4

Compounds of the formula IA wherein Q is chlorine, X and V are fluorine, Y is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of

20

Table A.

Table 5

Compounds of the formula IA wherein Q is chlorine, X is fluorine, Y are chlorine, V is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of

25

Table A.

Table 6

Compounds of the formula IA wherein Q is chlorine, X is chlorine, Y are fluorine, V is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of

30

Table A.

Table 7

Compounds of the formula IA wherein Q is chlorine, X is fluorine and Y and V are

hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 8

- 5 Compounds of the formula IA wherein Q is chlorine, X is chlorine and Y and V are hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 9

- 10 Compounds of the formula IA wherein Q is chlorine, X is bromine and Y and V are hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 10

- 15 Compounds of the formula IA wherein Q is chlorine, X, Y and V are chlorine and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 11

- 20 Compounds of the formula IA wherein Q is chlorine, X, Y and V are fluorine and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 12

- 25 Compounds of the formula IA wherein Q is cyano, X and Y are fluorine, V is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 13

- Compounds of the formula IA wherein Q is cyano, X and Y are chlorine, V is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

- 30 Table 14

Compounds of the formula IA wherein Q is cyano, X and V are chlorine, Y is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 15

- 35 Compounds of the formula IA wherein Q is cyano, X and V are fluorine, Y is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 16

Compounds of the formula IA wherein Q is cyano, X is fluorine, Y are chlorine, V is

hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 17

- 5 Compounds of the formula IA wherein Q is cyano, X is chlorine, Y are fluorine, V is hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 18

- 10 Compounds of the formula IA wherein Q is cyano, X is fluorine and Y and V are hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 19

- 15 Compounds of the formula IA wherein Q is cyano, X is chlorine and Y and V are hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 20

- 20 Compounds of the formula IA wherein Q is cyano, X is bromine and Y and V are hydrogen and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 21

- 25 Compounds of the formula IA wherein Q is cyano, X, Y and V are chlorine and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table 22

- 30 Compounds of the formula IA wherein Q is cyano, X, Y and V are fluorine and the combination of B¹, B² and R in each case corresponds to a row of Table A.

Table A

No.	B ¹	B ²	R
IA-1	Cl	Br	H
IA-2	Cl	Cl	H
IA-3	Cl	CF ₃	H
IA-4	Cl	OCH ₃	H
IA-5	Cl	OCH ₂ CH ₃	H
IA-6	Cl	OCH ₂ CF ₃	H
IA-7	Cl	OCF ₃	H

No.	B ¹	B ²	R
IA-8	Cl	OCFCF ₂	H
IA-9	Cl	OCH ₂ CN	H
IA-10	Cl	OCH ₂ CCH	H
IA-11	Cl	OCH ₂ CH ₂ OCH ₃	H
IA-12	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	H
IA-13	Cl	SCH ₃	H
IA-14	Cl	SCH ₂ CH ₃	H
IA-15	Cl	SCF ₃	H
IA-16	Cl	S(=O)CH ₃	H
IA-17	Cl	S(=O)CH ₂ CH ₃	H
IA-18	Cl	S(=O)CF ₃	H
IA-19	Cl	S(=O) ₂ CH ₃	H
IA-20	Cl	S(=O) ₂ CH ₂ CH ₃	H
IA-21	Cl	S(=O) ₂ CF ₃	H
IA-22	Cl	-O-S(=O) ₂ CH ₃	H
IA-23	Cl	-O-S(=O) ₂ CH ₂ CH ₃	H
IA-24	Cl	-OCH ₂ C(=O)OCH ₃	H
IA-25	Cl	CH=N-OCH ₃	H
IA-26	Cl	C(CF ₃)=N-OCH ₃	H
IA-27	CH ₃	Br	H
IA-28	CH ₃	Cl	H
IA-29	CH ₃	CF ₃	H
IA-30	CH ₃	OCH ₃	H
IA-31	CH ₃	OCH ₂ CH ₃	H
IA-32	CH ₃	OCH ₂ CF ₃	H
IA-33	CH ₃	OCF ₃	H
IA-34	CH ₃	OCFCF ₂	H
IA-35	CH ₃	OCH ₂ CN	H
IA-36	CH ₃	OCH ₂ CCH	H
IA-37	CH ₃	OCH ₂ CH ₂ OCH ₃	H
IA-38	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	H
IA-39	CH ₃	SCH ₃	H
IA-40	CH ₃	SCH ₂ CH ₃	H
IA-41	CH ₃	SCF ₃	H
IA-42	CH ₃	S(=O)CH ₃	H
IA-43	CH ₃	S(=O)CH ₂ CH ₃	H
IA-44	CH ₃	S(=O)CF ₃	H
IA-45	CH ₃	S(=O) ₂ CH ₃	H

No.	B ¹	B ²	R
IA-46	CH ₃	S(=O) ₂ CH ₂ CH ₃	H
IA-47	CH ₃	S(=O) ₂ CF ₃	H
IA-48	CH ₃	-O-S(=O) ₂ CH ₃	H
IA-49	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	H
IA-50	CH ₃	-OCH ₂ C(=O)OCH ₃	H
IA-51	CH ₃	CH=N-OCH ₃	H
IA-52	CH ₃	C(CF ₃)=N-OCH ₃	H
IA-53	Cl	Br	CH ₃
IA-54	Cl	Cl	CH ₃
IA-55	Cl	CF ₃	CH ₃
IA-56	Cl	OCH ₃	CH ₃
IA-57	Cl	OCH ₂ CH ₃	CH ₃
IA-58	Cl	OCH ₂ CF ₃	CH ₃
IA-59	Cl	OCF ₃	CH ₃
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IA-73	Cl	S(=O) ₂ CF ₃	CH ₃
IA-74	Cl	-O-S(=O) ₂ CH ₃	CH ₃
IA-75	Cl	-O-S(=O) ₂ CH ₂ CH ₃	CH ₃
IA-76	Cl	-OCH ₂ C(=O)OCH ₃	CH ₃
IA-77	Cl	CH=N-OCH ₃	CH ₃
IA-78	Cl	C(CF ₃)=N-OCH ₃	CH ₃
IA-79	CH ₃	Br	CH ₃
IA-80	CH ₃	Cl	CH ₃
IA-81	CH ₃	CF ₃	CH ₃
IA-82	CH ₃	OCH ₃	CH ₃
IA-83	CH ₃	OCH ₂ CH ₃	CH ₃

No.	B ¹	B ²	R
IA-84	CH ₃	OCH ₂ CF ₃	CH ₃
IA-85	CH ₃	OCF ₃	CH ₃
IA-86	CH ₃	OCFCF ₂	CH ₃
IA-87	CH ₃	OCH ₂ CN	CH ₃
IA-88	CH ₃	OCH ₂ CCH	CH ₃
IA-89	CH ₃	OCH ₂ CH ₂ OCH ₃	CH ₃
IA-90	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₃
IA-91	CH ₃	SCH ₃	CH ₃
IA-92	CH ₃	SCH ₂ CH ₃	CH ₃
IA-93	CH ₃	SCF ₃	CH ₃
IA-94	CH ₃	S(=O)CH ₃	CH ₃
IA-95	CH ₃	S(=O)CH ₂ CH ₃	CH ₃
IA-96	CH ₃	S(=O)CF ₃	CH ₃
IA-97	CH ₃	S(=O) ₂ CH ₃	CH ₃
IA-98	CH ₃	S(=O) ₂ CH ₂ CH ₃	CH ₃
IA-99	CH ₃	S(=O) ₂ CF ₃	CH ₃
IA-100	CH ₃	-O-S(=O) ₂ CH ₃	CH ₃
IA-101	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	CH ₃
IA-102	CH ₃	-OCH ₂ C(=O)OCH ₃	CH ₃
IA-103	CH ₃	CH=N-OCH ₃	CH ₃
IA-104	CH ₃	C(CF ₃)=N-OCH ₃	CH ₃
IA-105	Cl	Br	CH ₂ CH ₃
IA-106	Cl	Cl	CH ₂ CH ₃
IA-107	Cl	CF ₃	CH ₂ CH ₃
IA-108	Cl	OCH ₃	CH ₂ CH ₃
IA-109	Cl	OCH ₂ CH ₃	CH ₂ CH ₃
IA-110	Cl	OCH ₂ CF ₃	CH ₂ CH ₃
IA-111	Cl	OCF ₃	CH ₂ CH ₃
IA-112	Cl	OCFCF ₂	CH ₂ CH ₃
IA-113	Cl	OCH ₂ CN	CH ₂ CH ₃
IA-114	Cl	OCH ₂ CCH	CH ₂ CH ₃
IA-115	Cl	OCH ₂ CH ₂ OCH ₃	CH ₂ CH ₃
IA-116	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CH ₃
IA-117	Cl	SCH ₃	CH ₂ CH ₃
IA-118	Cl	SCH ₂ CH ₃	CH ₂ CH ₃
IA-119	Cl	SCF ₃	CH ₂ CH ₃
IA-120	Cl	S(=O)CH ₃	CH ₂ CH ₃
IA-121	Cl	S(=O)CH ₂ CH ₃	CH ₂ CH ₃

No.	B ¹	B ²	R
IA-122	Cl	S(=O)CF ₃	CH ₂ CH ₃
IA-123	Cl	S(=O) ₂ CH ₃	CH ₂ CH ₃
IA-124	Cl	S(=O) ₂ CH ₂ CH ₃	CH ₂ CH ₃
IA-125	Cl	S(=O) ₂ CF ₃	CH ₂ CH ₃
IA-126	Cl	-O-S(=O) ₂ CH ₃	CH ₂ CH ₃
IA-127	Cl	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CH ₃
IA-128	Cl	-OCH ₂ C(=O)OCH ₃	CH ₂ CH ₃
IA-129	Cl	CH=N-OCH ₃	CH ₂ CH ₃
IA-130	Cl	C(CF ₃)=N-OCH ₃	CH ₂ CH ₃
IA-131	CH ₃	Br	CH ₂ CH ₃
IA-132	CH ₃	Cl	CH ₂ CH ₃
IA-133	CH ₃	CF ₃	CH ₂ CH ₃
IA-134	CH ₃	OCH ₃	CH ₂ CH ₃
IA-135	CH ₃	OCH ₂ CH ₃	CH ₂ CH ₃
IA-136	CH ₃	OCH ₂ CF ₃	CH ₂ CH ₃
IA-137	CH ₃	OCF ₃	CH ₂ CH ₃
IA-138	CH ₃	OCFCF ₂	CH ₂ CH ₃
IA-139	CH ₃	OCH ₂ CN	CH ₂ CH ₃
IA-140	CH ₃	OCH ₂ CCH	CH ₂ CH ₃
IA-141	CH ₃	OCH ₂ CH ₂ OCH ₃	CH ₂ CH ₃
IA-142	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CH ₃
IA-143	CH ₃	SCH ₃	CH ₂ CH ₃
IA-144	CH ₃	SCH ₂ CH ₃	CH ₂ CH ₃
IA-145	CH ₃	SCF ₃	CH ₂ CH ₃
IA-146	CH ₃	S(=O)CH ₃	CH ₂ CH ₃
IA-147	CH ₃	S(=O)CH ₂ CH ₃	CH ₂ CH ₃
IA-148	CH ₃	S(=O)CF ₃	CH ₂ CH ₃
IA-149	CH ₃	S(=O) ₂ CH ₃	CH ₂ CH ₃
IA-150	CH ₃	S(=O) ₂ CH ₂ CH ₃	CH ₂ CH ₃
IA-151	CH ₃	S(=O) ₂ CF ₃	CH ₂ CH ₃
IA-152	CH ₃	-O-S(=O) ₂ CH ₃	CH ₂ CH ₃
IA-153	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CH ₃
IA-154	CH ₃	-OCH ₂ C(=O)OCH ₃	CH ₂ CH ₃
IA-155	CH ₃	CH=N-OCH ₃	CH ₂ CH ₃
IA-156	CH ₃	C(CF ₃)=N-OCH ₃	CH ₂ CH ₃
IA-157	Cl	Br	CH(CH ₃) ₂
IA-158	Cl	Cl	CH(CH ₃) ₂
IA-159	Cl	CF ₃	CH(CH ₃) ₂

No.	B ¹	B ²	R
IA-160	Cl	OCH ₃	CH(CH ₃) ₂
IA-161	Cl	OCH ₂ CH ₃	CH(CH ₃) ₂
IA-162	Cl	OCH ₂ CF ₃	CH(CH ₃) ₂
IA-163	Cl	OCF ₃	CH(CH ₃) ₂
IA-164	Cl	OCFCF ₂	CH(CH ₃) ₂
IA-165	Cl	OCH ₂ CN	CH(CH ₃) ₂
IA-166	Cl	OCH ₂ CCH	CH(CH ₃) ₂
IA-167	Cl	OCH ₂ CH ₂ OCH ₃	CH(CH ₃) ₂
IA-168	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	CH(CH ₃) ₂
IA-169	Cl	SCH ₃	CH(CH ₃) ₂
IA-170	Cl	SCH ₂ CH ₃	CH(CH ₃) ₂
IA-171	Cl	SCF ₃	CH(CH ₃) ₂
IA-172	Cl	S(=O)CH ₃	CH(CH ₃) ₂
IA-173	Cl	S(=O)CH ₂ CH ₃	CH(CH ₃) ₂
IA-174	Cl	S(=O)CF ₃	CH(CH ₃) ₂
IA-175	Cl	S(=O) ₂ CH ₃	CH(CH ₃) ₂
IA-176	Cl	S(=O) ₂ CH ₂ CH ₃	CH(CH ₃) ₂
IA-177	Cl	S(=O) ₂ CF ₃	CH(CH ₃) ₂
IA-178	Cl	-O-S(=O) ₂ CH ₃	CH(CH ₃) ₂
IA-179	Cl	-O-S(=O) ₂ CH ₂ CH ₃	CH(CH ₃) ₂
IA-180	Cl	-OCH ₂ C(=O)OCH ₃	CH(CH ₃) ₂
IA-181	Cl	CH=N-OCH ₃	CH(CH ₃) ₂
IA-182	Cl	C(CF ₃)=N-OCH ₃	CH(CH ₃) ₂
IA-183	CH ₃	Br	CH(CH ₃) ₂
IA-184	CH ₃	Cl	CH(CH ₃) ₂
IA-185	CH ₃	CF ₃	CH(CH ₃) ₂
IA-186	CH ₃	OCH ₃	CH(CH ₃) ₂
IA-187	CH ₃	OCH ₂ CH ₃	CH(CH ₃) ₂
IA-188	CH ₃	OCH ₂ CF ₃	CH(CH ₃) ₂
IA-189	CH ₃	OCF ₃	CH(CH ₃) ₂
IA-190	CH ₃	OCFCF ₂	CH(CH ₃) ₂
IA-191	CH ₃	OCH ₂ CN	CH(CH ₃) ₂
IA-192	CH ₃	OCH ₂ CCH	CH(CH ₃) ₂
IA-193	CH ₃	OCH ₂ CH ₂ OCH ₃	CH(CH ₃) ₂
IA-194	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	CH(CH ₃) ₂
IA-195	CH ₃	SCH ₃	CH(CH ₃) ₂
IA-196	CH ₃	SCH ₂ CH ₃	CH(CH ₃) ₂
IA-197	CH ₃	SCF ₃	CH(CH ₃) ₂

No.	B ¹	B ²	R
IA-198	CH ₃	S(=O)CH ₃	CH(CH ₃) ₂
IA-199	CH ₃	S(=O)CH ₂ CH ₃	CH(CH ₃) ₂
IA-200	CH ₃	S(=O)CF ₃	CH(CH ₃) ₂
IA-201	CH ₃	S(=O) ₂ CH ₃	CH(CH ₃) ₂
IA-202	CH ₃	S(=O) ₂ CH ₂ CH ₃	CH(CH ₃) ₂
IA-203	CH ₃	S(=O) ₂ CF ₃	CH(CH ₃) ₂
IA-204	CH ₃	-O-S(=O) ₂ CH ₃	CH(CH ₃) ₂
IA-205	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	CH(CH ₃) ₂
IA-206	CH ₃	-OCH ₂ C(=O)OCH ₃	CH(CH ₃) ₂
IA-207	CH ₃	CH=N-OCH ₃	CH(CH ₃) ₂
IA-208	CH ₃	C(CF ₃)=N-OCH ₃	CH(CH ₃) ₂
IA-209	Cl	Br	C(CH ₃) ₃
IA-210	Cl	Cl	C(CH ₃) ₃
IA-211	Cl	CF ₃	C(CH ₃) ₃
IA-212	Cl	OCH ₃	C(CH ₃) ₃
IA-213	Cl	OCH ₂ CH ₃	C(CH ₃) ₃
IA-214	Cl	OCH ₂ CF ₃	C(CH ₃) ₃
IA-215	Cl	OCF ₃	C(CH ₃) ₃
IA-216	Cl	OCFCF ₂	C(CH ₃) ₃
IA-217	Cl	OCH ₂ CN	C(CH ₃) ₃
IA-218	Cl	OCH ₂ CCH	C(CH ₃) ₃
IA-219	Cl	OCH ₂ CH ₂ OCH ₃	C(CH ₃) ₃
IA-220	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	C(CH ₃) ₃
IA-221	Cl	SCH ₃	C(CH ₃) ₃
IA-222	Cl	SCH ₂ CH ₃	C(CH ₃) ₃
IA-223	Cl	SCF ₃	C(CH ₃) ₃
IA-224	Cl	S(=O)CH ₃	C(CH ₃) ₃
IA-225	Cl	S(=O)CH ₂ CH ₃	C(CH ₃) ₃
IA-226	Cl	S(=O)CF ₃	C(CH ₃) ₃
IA-227	Cl	S(=O) ₂ CH ₃	C(CH ₃) ₃
IA-228	Cl	S(=O) ₂ CH ₂ CH ₃	C(CH ₃) ₃
IA-229	Cl	S(=O) ₂ CF ₃	C(CH ₃) ₃
IA-230	Cl	-O-S(=O) ₂ CH ₃	C(CH ₃) ₃
IA-231	Cl	-O-S(=O) ₂ CH ₂ CH ₃	C(CH ₃) ₃
IA-232	Cl	-OCH ₂ C(=O)OCH ₃	C(CH ₃) ₃
IA-233	Cl	CH=N-OCH ₃	C(CH ₃) ₃
IA-234	Cl	C(CF ₃)=N-OCH ₃	C(CH ₃) ₃
IA-235	CH ₃	Br	C(CH ₃) ₃

No.	B ¹	B ²	R
IA-236	CH ₃	Cl	C(CH ₃) ₃
IA-237	CH ₃	CF ₃	C(CH ₃) ₃
IA-238	CH ₃	OCH ₃	C(CH ₃) ₃
IA-239	CH ₃	OCH ₂ CH ₃	C(CH ₃) ₃
IA-240	CH ₃	OCH ₂ CF ₃	C(CH ₃) ₃
IA-241	CH ₃	OCF ₃	C(CH ₃) ₃
IA-242	CH ₃	OCFCF ₂	C(CH ₃) ₃
IA-243	CH ₃	OCH ₂ CN	C(CH ₃) ₃
IA-244	CH ₃	OCH ₂ CCH	C(CH ₃) ₃
IA-245	CH ₃	OCH ₂ CH ₂ OCH ₃	C(CH ₃) ₃
IA-246	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	C(CH ₃) ₃
IA-247	CH ₃	SCH ₃	C(CH ₃) ₃
IA-248	CH ₃	SCH ₂ CH ₃	C(CH ₃) ₃
IA-249	CH ₃	SCF ₃	C(CH ₃) ₃
IA-250	CH ₃	S(=O)CH ₃	C(CH ₃) ₃
IA-251	CH ₃	S(=O)CH ₂ CH ₃	C(CH ₃) ₃
IA-252	CH ₃	S(=O)CF ₃	C(CH ₃) ₃
IA-253	CH ₃	S(=O) ₂ CH ₃	C(CH ₃) ₃
IA-254	CH ₃	S(=O) ₂ CH ₂ CH ₃	C(CH ₃) ₃
IA-255	CH ₃	S(=O) ₂ CF ₃	C(CH ₃) ₃
IA-256	CH ₃	-O-S(=O) ₂ CH ₃	C(CH ₃) ₃
IA-257	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	C(CH ₃) ₃
IA-258	CH ₃	-OCH ₂ C(=O)OCH ₃	C(CH ₃) ₃
IA-259	CH ₃	CH=N-OCH ₃	C(CH ₃) ₃
IA-260	CH ₃	C(CF ₃)=N-OCH ₃	C(CH ₃) ₃
IA-261	Cl	Br	CH ₂ CHCH ₂
IA-262	Cl	Cl	CH ₂ CHCH ₂
IA-263	Cl	CF ₃	CH ₂ CHCH ₂
IA-264	Cl	OCH ₃	CH ₂ CHCH ₂
IA-265	Cl	OCH ₂ CH ₃	CH ₂ CHCH ₂
IA-266	Cl	OCH ₂ CF ₃	CH ₂ CHCH ₂
IA-267	Cl	OCF ₃	CH ₂ CHCH ₂
IA-268	Cl	OCFCF ₂	CH ₂ CHCH ₂
IA-269	Cl	OCH ₂ CN	CH ₂ CHCH ₂
IA-270	Cl	OCH ₂ CCH	CH ₂ CHCH ₂
IA-271	Cl	OCH ₂ CH ₂ OCH ₃	CH ₂ CHCH ₂
IA-272	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CHCH ₂
IA-273	Cl	SCH ₃	CH ₂ CHCH ₂

No.	B ¹	B ²	R
IA-274	Cl	SCH ₂ CH ₃	CH ₂ CHCH ₂
IA-275	Cl	SCF ₃	CH ₂ CHCH ₂
IA-276	Cl	S(=O)CH ₃	CH ₂ CHCH ₂
IA-277	Cl	S(=O)CH ₂ CH ₃	CH ₂ CHCH ₂
IA-278	Cl	S(=O)CF ₃	CH ₂ CHCH ₂
IA-279	Cl	S(=O) ₂ CH ₃	CH ₂ CHCH ₂
IA-280	Cl	S(=O) ₂ CH ₂ CH ₃	CH ₂ CHCH ₂
IA-281	Cl	S(=O) ₂ CF ₃	CH ₂ CHCH ₂
IA-282	Cl	-O-S(=O) ₂ CH ₃	CH ₂ CHCH ₂
IA-283	Cl	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CHCH ₂
IA-284	Cl	-OCH ₂ C(=O)OCH ₃	CH ₂ CHCH ₂
IA-285	Cl	CH=N-OCH ₃	CH ₂ CHCH ₂
IA-286	Cl	C(CF ₃)=N-OCH ₃	CH ₂ CHCH ₂
IA-287	CH ₃	Br	CH ₂ CHCH ₂
IA-288	CH ₃	Cl	CH ₂ CHCH ₂
IA-289	CH ₃	CF ₃	CH ₂ CHCH ₂
IA-290	CH ₃	OCH ₃	CH ₂ CHCH ₂
IA-291	CH ₃	OCH ₂ CH ₃	CH ₂ CHCH ₂
IA-292	CH ₃	OCH ₂ CF ₃	CH ₂ CHCH ₂
IA-293	CH ₃	OCF ₃	CH ₂ CHCH ₂
IA-294	CH ₃	OCFCF ₂	CH ₂ CHCH ₂
IA-295	CH ₃	OCH ₂ CN	CH ₂ CHCH ₂
IA-296	CH ₃	OCH ₂ CCH	CH ₂ CHCH ₂
IA-297	CH ₃	OCH ₂ CH ₂ OCH ₃	CH ₂ CHCH ₂
IA-298	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CHCH ₂
IA-299	CH ₃	SCH ₃	CH ₂ CHCH ₂
IA-300	CH ₃	SCH ₂ CH ₃	CH ₂ CHCH ₂
IA-301	CH ₃	SCF ₃	CH ₂ CHCH ₂
IA-302	CH ₃	S(=O)CH ₃	CH ₂ CHCH ₂
IA-303	CH ₃	S(=O)CH ₂ CH ₃	CH ₂ CHCH ₂
IA-304	CH ₃	S(=O)CF ₃	CH ₂ CHCH ₂
IA-305	CH ₃	S(=O) ₂ CH ₃	CH ₂ CHCH ₂
IA-306	CH ₃	S(=O) ₂ CH ₂ CH ₃	CH ₂ CHCH ₂
IA-307	CH ₃	S(=O) ₂ CF ₃	CH ₂ CHCH ₂
IA-308	CH ₃	-O-S(=O) ₂ CH ₃	CH ₂ CHCH ₂
IA-309	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CHCH ₂
IA-310	CH ₃	-OCH ₂ C(=O)OCH ₃	CH ₂ CHCH ₂
IA-311	CH ₃	CH=N-OCH ₃	CH ₂ CHCH ₂

No.	B ¹	B ²	R
IA-312	CH ₃	C(CF ₃)=N-OCH ₃	CH ₂ CHCH ₂
IA-313	Cl	Br	CH ₂ CCH
IA-314	Cl	Cl	CH ₂ CCH
IA-315	Cl	CF ₃	CH ₂ CCH
IA-316	Cl	OCH ₃	CH ₂ CCH
IA-317	Cl	OCH ₂ CH ₃	CH ₂ CCH
IA-318	Cl	OCH ₂ CF ₃	CH ₂ CCH
IA-319	Cl	OCF ₃	CH ₂ CCH
IA-320	Cl	OCFCF ₂	CH ₂ CCH
IA-321	Cl	OCH ₂ CN	CH ₂ CCH
IA-322	Cl	OCH ₂ CCH	CH ₂ CCH
IA-323	Cl	OCH ₂ CH ₂ OCH ₃	CH ₂ CCH
IA-324	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CCH
IA-325	Cl	SCH ₃	CH ₂ CCH
IA-326	Cl	SCH ₂ CH ₃	CH ₂ CCH
IA-327	Cl	SCF ₃	CH ₂ CCH
IA-328	Cl	S(=O)CH ₃	CH ₂ CCH
IA-329	Cl	S(=O)CH ₂ CH ₃	CH ₂ CCH
IA-330	Cl	S(=O)CF ₃	CH ₂ CCH
IA-331	Cl	S(=O) ₂ CH ₃	CH ₂ CCH
IA-332	Cl	S(=O) ₂ CH ₂ CH ₃	CH ₂ CCH
IA-333	Cl	S(=O) ₂ CF ₃	CH ₂ CCH
IA-334	Cl	-O-S(=O) ₂ CH ₃	CH ₂ CCH
IA-335	Cl	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CCH
IA-336	Cl	-OCH ₂ C(=O)OCH ₃	CH ₂ CCH
IA-337	Cl	CH=N-OCH ₃	CH ₂ CCH
IA-338	Cl	C(CF ₃)=N-OCH ₃	CH ₂ CCH
IA-339	CH ₃	Br	CH ₂ CCH
IA-340	CH ₃	Cl	CH ₂ CCH
IA-341	CH ₃	CF ₃	CH ₂ CCH
IA-342	CH ₃	OCH ₃	CH ₂ CCH
IA-343	CH ₃	OCH ₂ CH ₃	CH ₂ CCH
IA-344	CH ₃	OCH ₂ CF ₃	CH ₂ CCH
IA-345	CH ₃	OCF ₃	CH ₂ CCH
IA-346	CH ₃	OCFCF ₂	CH ₂ CCH
IA-347	CH ₃	OCH ₂ CN	CH ₂ CCH
IA-348	CH ₃	OCH ₂ CCH	CH ₂ CCH
IA-349	CH ₃	OCH ₂ CH ₂ OCH ₃	CH ₂ CCH

No.	B ¹	B ²	R
IA-350	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CCH
IA-351	CH ₃	SCH ₃	CH ₂ CCH
IA-352	CH ₃	SCH ₂ CH ₃	CH ₂ CCH
IA-353	CH ₃	SCF ₃	CH ₂ CCH
IA-354	CH ₃	S(=O)CH ₃	CH ₂ CCH
IA-355	CH ₃	S(=O)CH ₂ CH ₃	CH ₂ CCH
IA-356	CH ₃	S(=O)CF ₃	CH ₂ CCH
IA-357	CH ₃	S(=O) ₂ CH ₃	CH ₂ CCH
IA-358	CH ₃	S(=O) ₂ CH ₂ CH ₃	CH ₂ CCH
IA-359	CH ₃	S(=O) ₂ CF ₃	CH ₂ CCH
IA-360	CH ₃	-O-S(=O) ₂ CH ₃	CH ₂ CCH
IA-361	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CCH
IA-362	CH ₃	CH=N-OCH ₃	CH ₂ CCH
IA-363	CH ₃	C(CF ₃)=N-OCH ₃	CH ₂ CCH
IA-364	Cl	Br	CH ₂ CCH
IA-365	Cl	Cl	CH ₂ CCH
IA-366	Cl	CF ₃	CH ₂ CCH
IA-367	Cl	OCH ₃	CH ₂ CCH
IA-368	Cl	OCH ₂ CH ₃	CH ₂ CCH
IA-369	Cl	OCH ₂ CF ₃	CH ₂ CCH
IA-370	Cl	OCF ₃	CH ₂ CCH
IA-371	Cl	OCFCF ₂	CH ₂ CCH
IA-372	Cl	OCH ₂ CN	CH ₂ CCH
IA-373	Cl	OCH ₂ CCH	CH ₂ CCH
IA-374	Cl	OCH ₂ CH ₂ OCH ₃	CH ₂ CCH
IA-375	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CCH
IA-376	Cl	SCH ₃	CH ₂ CCH
IA-377	Cl	SCH ₂ CH ₃	CH ₂ CCH
IA-378	Cl	SCF ₃	CH ₂ CCH
IA-379	Cl	S(=O)CH ₃	CH ₂ CCH
IA-380	Cl	S(=O)CH ₂ CH ₃	CH ₂ CCH
IA-381	Cl	S(=O)CF ₃	CH ₂ CCH
IA-382	Cl	S(=O) ₂ CH ₃	CH ₂ CCH
IA-383	Cl	S(=O) ₂ CH ₂ CH ₃	CH ₂ CCH
IA-384	Cl	S(=O) ₂ CF ₃	CH ₂ CCH
IA-385	Cl	-O-S(=O) ₂ CH ₃	CH ₂ CCH
IA-386	Cl	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CCH
IA-387	Cl	-OCH ₂ C(=O)OCH ₃	CH ₂ CCH

No.	B ¹	B ²	R
IA-388	Cl	CH=N-OCH ₃	CH ₂ CCH
IA-389	Cl	C(CF ₃)=N-OCH ₃	CH ₂ CCH
IA-390	CH ₃	Br	CH ₂ CCH
IA-391	CH ₃	Cl	CH ₂ CCH
IA-392	CH ₃	CF ₃	CH ₂ CCH
IA-393	CH ₃	OCH ₃	CH ₂ CCH
IA-394	CH ₃	OCH ₂ CH ₃	CH ₂ CCH
IA-395	CH ₃	OCH ₂ CF ₃	CH ₂ CCH
IA-396	CH ₃	OCF ₃	CH ₂ CCH
IA-397	CH ₃	OCFCF ₂	CH ₂ CCH
IA-398	CH ₃	OCH ₂ CN	CH ₂ CCH
IA-399	CH ₃	OCH ₂ CCH	CH ₂ CCH
IA-400	CH ₃	OCH ₂ CH ₂ OCH ₃	CH ₂ CCH
IA-401	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CCH
IA-402	CH ₃	SCH ₃	CH ₂ CCH
IA-403	CH ₃	SCH ₂ CH ₃	CH ₂ CCH
IA-404	CH ₃	SCF ₃	CH ₂ CCH
IA-405	CH ₃	S(=O)CH ₃	CH ₂ CCH
IA-406	CH ₃	S(=O)CH ₂ CH ₃	CH ₂ CCH
IA-407	CH ₃	S(=O)CF ₃	CH ₂ CCH
IA-408	CH ₃	S(=O) ₂ CH ₃	CH ₂ CCH
IA-409	CH ₃	S(=O) ₂ CH ₂ CH ₃	CH ₂ CCH
IA-410	CH ₃	S(=O) ₂ CF ₃	CH ₂ CCH
IA-411	CH ₃	-O-S(=O) ₂ CH ₃	CH ₂ CCH
IA-412	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CCH
IA-413	CH ₃	-OCH ₂ C(=O)OCH ₃	CH ₂ CCH
IA-414	CH ₃	-OCH ₂ C(=O)OCH ₃	CH ₂ CCH
IA-415	CH ₃	CH=N-OCH ₃	CH ₂ CCH
IA-416	CH ₃	C(CF ₃)=N-OCH ₃	CH ₂ CCH
IA-417	Cl	Br	CH ₂ CN
IA-418	Cl	Cl	CH ₂ CN
IA-419	Cl	CF ₃	CH ₂ CN
IA-420	Cl	OCH ₃	CH ₂ CN
IA-421	Cl	OCH ₂ CH ₃	CH ₂ CN
IA-422	Cl	OCH ₂ CF ₃	CH ₂ CN
IA-423	Cl	OCF ₃	CH ₂ CN
IA-424	Cl	OCFCF ₂	CH ₂ CN
IA-425	Cl	OCH ₂ CN	CH ₂ CN

No.	B ¹	B ²	R
IA-426	Cl	OCH ₂ CCH	CH ₂ CN
IA-427	Cl	OCH ₂ CH ₂ OCH ₃	CH ₂ CN
IA-428	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CN
IA-429	Cl	SCH ₃	CH ₂ CN
IA-430	Cl	SCH ₂ CH ₃	CH ₂ CN
IA-431	Cl	SCF ₃	CH ₂ CN
IA-432	Cl	S(=O)CH ₃	CH ₂ CN
IA-433	Cl	S(=O)CH ₂ CH ₃	CH ₂ CN
IA-434	Cl	S(=O)CF ₃	CH ₂ CN
IA-435	Cl	S(=O) ₂ CH ₃	CH ₂ CN
IA-436	Cl	S(=O) ₂ CH ₂ CH ₃	CH ₂ CN
IA-437	Cl	S(=O) ₂ CF ₃	CH ₂ CN
IA-438	Cl	-O-S(=O) ₂ CH ₃	CH ₂ CN
IA-439	Cl	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CN
IA-440	Cl	-OCH ₂ C(=O)OCH ₃	CH ₂ CN
IA-441	Cl	CH=N-OCH ₃	CH ₂ CN
IA-442	Cl	C(CF ₃)=N-OCH ₃	CH ₂ CN
IA-443	CH ₃	Br	CH ₂ CN
IA-444	CH ₃	Cl	CH ₂ CN
IA-445	CH ₃	CF ₃	CH ₂ CN
IA-446	CH ₃	OCH ₃	CH ₂ CN
IA-447	CH ₃	OCH ₂ CH ₃	CH ₂ CN
IA-448	CH ₃	OCH ₂ CF ₃	CH ₂ CN
IA-449	CH ₃	OCF ₃	CH ₂ CN
IA-450	CH ₃	OCFCF ₂	CH ₂ CN
IA-451	CH ₃	OCH ₂ CN	CH ₂ CN
IA-452	CH ₃	OCH ₂ CCH	CH ₂ CN
IA-453	CH ₃	OCH ₂ CH ₂ OCH ₃	CH ₂ CN
IA-454	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ CN
IA-455	CH ₃	SCH ₃	CH ₂ CN
IA-456	CH ₃	SCH ₂ CH ₃	CH ₂ CN
IA-457	CH ₃	SCF ₃	CH ₂ CN
IA-458	CH ₃	S(=O)CH ₃	CH ₂ CN
IA-459	CH ₃	S(=O)CH ₂ CH ₃	CH ₂ CN
IA-460	CH ₃	S(=O)CF ₃	CH ₂ CN
IA-461	CH ₃	S(=O) ₂ CH ₃	CH ₂ CN
IA-462	CH ₃	S(=O) ₂ CH ₂ CH ₃	CH ₂ CN
IA-463	CH ₃	S(=O) ₂ CF ₃	CH ₂ CN

No.	B ¹	B ²	R
IA-464	CH ₃	-O-S(=O) ₂ CH ₃	CH ₂ CN
IA-465	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ CN
IA-466	CH ₃	-OCH ₂ C(=O)OCH ₃	CH ₂ CN
IA-467	CH ₃	CH=N-OCH ₃	CH ₂ CN
IA-468	CH ₃	C(CF ₃)=N-OCH ₃	CH ₂ CN
IA-469	Cl	Br	CH ₂ C(=O)OCH ₃
IA-470	Cl	Cl	CH ₂ C(=O)OCH ₃
IA-471	Cl	CF ₃	CH ₂ C(=O)OCH ₃
IA-472	Cl	OCH ₃	CH ₂ C(=O)OCH ₃
IA-473	Cl	OCH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-474	Cl	OCH ₂ CF ₃	CH ₂ C(=O)OCH ₃
IA-475	Cl	OCF ₃	CH ₂ C(=O)OCH ₃
IA-476	Cl	OCFCF ₂	CH ₂ C(=O)OCH ₃
IA-477	Cl	OCH ₂ CN	CH ₂ C(=O)OCH ₃
IA-478	Cl	OCH ₂ CCH	CH ₂ C(=O)OCH ₃
IA-479	Cl	OCH ₂ CH ₂ OCH ₃	CH ₂ C(=O)OCH ₃
IA-480	Cl	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-481	Cl	SCH ₃	CH ₂ C(=O)OCH ₃
IA-482	Cl	SCH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-483	Cl	SCF ₃	CH ₂ C(=O)OCH ₃
IA-484	Cl	S(=O)CH ₃	CH ₂ C(=O)OCH ₃
IA-485	Cl	S(=O)CH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-486	Cl	S(=O)CF ₃	CH ₂ C(=O)OCH ₃
IA-487	Cl	S(=O) ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-488	Cl	S(=O) ₂ CH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-489	Cl	S(=O) ₂ CF ₃	CH ₂ C(=O)OCH ₃
IA-490	Cl	-O-S(=O) ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-491	Cl	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-492	Cl	-OCH ₂ C(=O)OCH ₃	CH ₂ C(=O)OCH ₃
IA-493	Cl	CH=N-OCH ₃	CH ₂ C(=O)OCH ₃
IA-494	Cl	C(CF ₃)=N-OCH ₃	CH ₂ C(=O)OCH ₃
IA-495	CH ₃	Br	CH ₂ C(=O)OCH ₃
IA-496	CH ₃	Cl	CH ₂ C(=O)OCH ₃
IA-497	CH ₃	CF ₃	CH ₂ C(=O)OCH ₃
IA-498	CH ₃	OCH ₃	CH ₂ C(=O)OCH ₃
IA-499	CH ₃	OCH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-500	CH ₃	OCH ₂ CF ₃	CH ₂ C(=O)OCH ₃
IA-501	CH ₃	OCF ₃	CH ₂ C(=O)OCH ₃

No.	B ¹	B ²	R
IA-502	CH ₃	OCFCF ₂	CH ₂ C(=O)OCH ₃
IA-503	CH ₃	OCH ₂ CN	CH ₂ C(=O)OCH ₃
IA-504	CH ₃	OCH ₂ CCH	CH ₂ C(=O)OCH ₃
IA-505	CH ₃	OCH ₂ CH ₂ OCH ₃	CH ₂ C(=O)OCH ₃
IA-506	CH ₃	OCH ₂ CH ₂ OCH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-507	CH ₃	SCH ₃	CH ₂ C(=O)OCH ₃
IA-508	CH ₃	SCH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-509	CH ₃	SCF ₃	CH ₂ C(=O)OCH ₃
IA-510	CH ₃	S(=O)CH ₃	CH ₂ C(=O)OCH ₃
IA-511	CH ₃	S(=O)CH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-512	CH ₃	S(=O)CF ₃	CH ₂ C(=O)OCH ₃
IA-513	CH ₃	S(=O) ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-514	CH ₃	S(=O) ₂ CH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-515	CH ₃	S(=O) ₂ CF ₃	CH ₂ C(=O)OCH ₃
IA-516	CH ₃	-O-S(=O) ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-517	CH ₃	-O-S(=O) ₂ CH ₂ CH ₃	CH ₂ C(=O)OCH ₃
IA-518	CH ₃	-OCH ₂ C(=O)OCH ₃	CH ₂ C(=O)OCH ₃
IA-519	CH ₃	CH=N-OCH ₃	CH ₂ C(=O)OCH ₃
IA-520	CH ₃	C(CF ₃)=N-OCH ₃	CH ₂ C(=O)OCH ₃

With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.3 as defined above, especially beta-cyfluthrin, alpha-cypermethrin, deltamethrin, fenvalerate and lambda-cyhalothrin, are especially preferred.

Especially preferred are pesticidal mixtures containing alpha-cypermethrin as compound II.

10 With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.4 as defined above, especially flufenoxuron, etoxazole, tebufenozide, pyriproxyfen, fenoxycarb, spiroticlofen, spiromesifen and spirotetramat are especially preferred.

15 Especially preferred are pesticidal mixtures containing spiroticlofen, spiromesifen and spirotetramat as compound(s) II.

With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.5 as defined above, are especially preferred.

Epecially preferred are pesticidal mixtures containing clothianidine as compound II.

Epecially preferred are pesticidal mixtures containing dinetofuran as compound II.

5 Especially preferred are pesticidal mixtures containing imidacloprid as compound II.

Epecially preferred are pesticidal mixtures containing thiamethoxam as compound II.

10 Especially preferred are pesticidal mixtures containing nitenpyram as compound II.

Epecially preferred are pesticidal mixtures containing acetamiprid as compound II.

Epecially preferred are pesticidal mixtures containing thiacloprid as compound II.

15 With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.6 as defined above, especially endosulfan and fipronil, most preferably fipronil, are especially preferred.

20 With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.7 as defined above, especially abamectin, are especially preferred.

25 With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.8 as defined above, especially fenazaquin, pyridaben and tebufenpyrad are especially preferred.

30 With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.11 as defined above, especially diafenthiuron and propargite are especially preferred.

With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.13 as defined above, especially indoxacarb and metaflumizone, are especially preferred.

35 Moreover, with regard to its use in the pesticidal mixtures of the present invention, indoxacarb is especially preferred.

40 Moreover, with regard to its use in the pesticidal mixtures of the present invention, metaflumizone is especially preferred.

With regard to their use in the pesticidal mixtures of the present invention, the compounds II of group A.14 as defined above, especially flonicamid and pyridalyl, are especially preferred.

- 5 Moreover, with regard to its use in the pesticidal mixtures of the present invention, flonicamid is especially preferred.

Moreover, with regard to its use in the pesticidal mixtures of the present invention, pyridalyl is especially preferred.

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Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 1.

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Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 2.

Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 3.

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Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 4.

Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 8.

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Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 10.

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Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 11.

Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 12.

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Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 13.

Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 14.

40

Epecially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 15.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 21.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is alpha-cypermethrin and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 1.

15

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 2.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 3.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 4.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 10.

30

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 11.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 12.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 13.

Especially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 14.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 15.

Especially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 19.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 21.

Especially preferred are the inventive mixtures wherein the compound II of group A is spirodiclofen and the compound of formula I is a compound of Table 22.

15

Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 1.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 2.

Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 3.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 4.

Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 8.

30

Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 10.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 11.

Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 12.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 13.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 14.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 15.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 21.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is spiromesifen and the compound of formula I is a compound of Table 22.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 1.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 2.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 3.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 4.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 8.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 10.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 11.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 12.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 13.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 14.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 15.

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 19.

15

Epecially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 21.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is spirotetramat and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 1.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 2.

Epecially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 3.

30

Epecially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 4.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 10.

Epecially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 11.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 12.

Epecially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 13.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 14.

Epecially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 15.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 19.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 21.

Epecially preferred are the inventive mixtures wherein the compound II of group A is clothianidine and the compound of formula I is a compound of Table 22.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 1.

Epecially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 2.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 3.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 4.

Epecially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 10.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 11.

Epecially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 12.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 13.

Epecially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 14.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 15.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 21.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is dinetofuran and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 1.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 2.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 3.

Epecially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 4.

Epecially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 8.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 10.

Epecially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 11.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 12.

Epecially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 13.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 14.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 15.

Epecially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 19.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 21.

Epecially preferred are the inventive mixtures wherein the compound II of group A is imidacloprid and the compound of formula I is a compound of Table 22.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 1.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 2.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 3.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 4.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 10.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 11.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 12.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 13.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 14.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 15.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 21.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is thiamethoxam and the compound of formula I is a compound of Table 22.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 1.

Epecially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 2.

Epecially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 3.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 4.

Epecially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 8.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 10.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 11.

Epecially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 12.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 13.

Epecially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 14.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 15.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 21.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is nitenpyram and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is acetamidrid and the compound of formula I is a compound of Table 1.

Epecially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 2.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 3.

Epecially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 4.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 10.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 11.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 12.

Epecially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 13.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 14.

Epecially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 15.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 19.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 21.

Epecially preferred are the inventive mixtures wherein the compound II of group A is acetamiprid and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 1.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 2.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 3.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 4.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 8.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 10.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 11.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 12.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 13.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 14.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 15.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 21.

Epecially preferred are the inventive mixtures wherein the compound II of group A is thiacloprid and the compound of formula I is a compound of Table 22.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 1.

Epecially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 2.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 3.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 4.

Epecially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 8.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 10.

Epecially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 11.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 12.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 13.

Epecially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 14.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 15.

Epecially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 21.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is endosulfan and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 1.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 2.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 3.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 4.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 10.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 11.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 12.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 13.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 14.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 15.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 19.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 21.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fipronil and the compound of formula I is a compound of Table 22.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 1.

Epecially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 2.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 3.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 4.

Epecially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 8.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 10.

Epecially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 11.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 12.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 13.

Epecially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 14.

Epecially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 15.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 21.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is abamectin and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 1.

15

Epecially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 2.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 3.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 4.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 10.

30

Epecially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 11.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 12.

Epecially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 13.

Especially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 14.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 15.

Especially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 19.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 21.

Especially preferred are the inventive mixtures wherein the compound II of group A is fenazaquin and the compound of formula I is a compound of Table 22.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 1.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 2.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 3.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 4.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 8.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 10.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 11.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 12.

Epecially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 13.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 14.

Epecially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 15.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 21.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridaben and the compound of formula I is a compound of Table 22.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 1.

Epecially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 2.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 3.

Epecially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 4.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 8.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 10.

Epecially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 11.

Epecially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 12.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 13.

Epecially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 14.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 15.

Epecially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 19.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 21.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is tebufenpyrad and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 1.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 2.

Epecially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 3.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 4.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 10.

Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 11.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 12.

Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 13.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 14.

Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 15.

15

Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 19.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 21.

Especially preferred are the inventive mixtures wherein the compound II of group A is diafenthiuron and the compound of formula I is a compound of Table 22.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 1.

Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 2.

30

Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 3.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 4.

Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 8.

Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 10.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 11.

Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 12.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 13.

Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 14.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 15.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 19.

Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 21.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is propargite and the compound of formula I is a compound of Table 22.

Especially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 1.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 2.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 3.

Especially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 4.

Epecially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 8.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 10.

Epecially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 11.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 12.

Epecially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 13.

15

Epecially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 14.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 15.

Epecially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 19.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 21.

Epecially preferred are the inventive mixtures wherein the compound II of group A is indoxacarb and the compound of formula I is a compound of Table 22.

30

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 1.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 2.

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 3.

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 4.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 8.

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 10.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 11.

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 12.

15

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 13.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 14.

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 15.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 19.

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 21.

30

Epecially preferred are the inventive mixtures wherein the compound II of group A is metaflumizone and the compound of formula I is a compound of Table 22.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 1.

Epecially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 2.

Epecially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 3.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 4.

Epecially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 8.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 10.

Epecially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 11.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 12.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 13.

Epecially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 14.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 15.

Epecially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 19.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 21.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is flonicamid and the compound of formula I is a compound of Table 22.

Epecially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 1.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 2.

5 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 3.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 4.

10 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 8.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 10.

15 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 11.

20 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 12.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 13.

25 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 14.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 15.

30 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 19.

35 Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 21.

Especially preferred are the inventive mixtures wherein the compound II of group A is pyridalyl and the compound of formula I is a compound of Table 22.

When preparing the mixtures, it is preferred to employ the pure active compounds I and II, to which further active compounds, also against harmful fungi or else herbicidal or growth-regulating active compounds or fertilizers can be added.

- 5 The mixtures of compounds I and II, or the compounds I and II used simultaneously, that is jointly or separately, exhibit outstanding action against pests from the following orders:

10 insects from the order of the lepidopterans (*Lepidoptera*), for example *Agrotis ypsilon*,
Agrotis segetum, *Alabama argillacea*, *Anticarsia gemmatalis*, *Argyresthia conjugella*,
Autographa gamma, *Bupalus piniarius*, *Cacoecia murinana*, *Capua reticulana*,
Cheimatobia brumata, *Choristoneura fumiferana*, *Choristoneura occidentalis*, *Cirphis*
unipuncta, *Cydia pomonella*, *Dendrolimus pini*, *Diaphania nitidalis*, *Diatraea*
grandiosella, *Earias insulana*, *Elasmopalpus lignosellus*, *Eupoecilia ambiguella*, *Evetria*
15 *bouliana*, *Feltia subterranea*, *Galleria mellonella*, *Grapholitha funebrana*, *Grapholitha*
molesta, *Heliothis armigera*, *Heliothis virescens*, *Heliothis zea*, *Hellula undalis*, *Hibernia*
defoliaria, *Hyphantria cunea*, *Hyponomeuta malinellus*, *Keiferia lycopersicella*,
Lambdina fiscellaria, *Laphygma exigua*, *Leucoptera coffeella*, *Leucoptera scitella*,
Lithocolletis blancardella, *Lobesia botrana*, *Loxostege sticticalis*, *Lymantria dispar*,
20 *Lymantria monacha*, *Lyonetia clerkella*, *Malacosoma neustria*, *Mamestra brassicae*,
Orgyia pseudotsugata, *Ostrinia nubilalis*, *Panolis flammea*, *Pectinophora gossypiella*,
Peridroma saucia, *Phalera bucephala*, *Phthorimaea operculella*, *Phyllocnistis citrella*,
Pieris brassicae, *Plathypena scabra*, *Plutella xylostella*, *Pseudoplusia includens*,
Rhyacionia frustrana, *Scrobipalpula absoluta*, *Sitotroga cerealella*, *Sparganothis*
25 *pilleriana*, *Spodoptera frugiperda*, *Spodoptera littoralis*, *Spodoptera litura*,
Thaumatopoea pityocampa, *Tortrix viridana*, *Trichoplusia ni* and *Zeiraphera*
canadensis,

30 beetles (*Coleoptera*), for example *Agrilus sinuatus*, *Agriotes lineatus*, *Agriotes*
obscurus, *Amphimallus solstitialis*, *Anisandrus dispar*, *Anthonomus grandis*,
Anthonomus pomorum, *Aphthona euphoridae*, *Athous haemorrhoidalis*, *Atomaria*
linearis, *Blastophagus piniperda*, *Blitophaga undata*, *Bruchus rufimanus*, *Bruchus*
pisorum, *Bruchus lentis*, *Byctiscus betulae*, *Cassida nebulosa*, *Cerotoma trifurcata*,
Cetonia aurata, *Ceuthorrhynchus assimilis*, *Ceuthorrhynchus napi*, *Chaetocnema*
35 *tibialis*, *Conoderus vespertinus*, *Crioceris asparagi*, *Ctenicera ssp.*, *Diabrotica*
longicornis, *Diabrotica semipunctata*, *Diabrotica 12-punctata* *Diabrotica speciosa*,
Diabrotica virgifera, *Epilachna varivestis*, *Epitrix hirtipennis*, *Eutinobothrus brasiliensis*,
Hylobius abietis, *Hypera brunneipennis*, *Hypera postica*, *Ips typographus*, *Lema*
bilineata, *Lema melanopus*, *Leptinotarsa decemlineata*, *Limonius californicus*,
40 *Lissorhoptrus oryzophilus*, *Melanotus communis*, *Meligethes aeneus*, *Melolontha*

hippocastani, *Melolontha melolontha*, *Oulema oryzae*, *Ortiorrhynchus sulcatus*, *Otiorrhynchus ovatus*, *Phaedon cochleariae*, *Phyllobius pyri*, *Phyllotreta chrysocephala*, *Phyllophaga* sp., *Phyllopertha horticola*, *Phyllotreta nemorum*, *Phyllotreta striolata*, *Popillia japonica*, *Sitona lineatus* and *Sitophilus granaria*,

5

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*, *Ceratitis capitata*,

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Chrysomya bezziana, *Chrysomya hominivorax*, *Chrysomya macellaria*, *Chrysops discalis*, *Chrysops silacea*, *Chrysops atlanticus*, *Cochliomyia hominivorax*, *Contarinia sorghicola*, *Cordylobia anthropophaga*, *Culicoides furens*, *Culex pipiens*, *Culex nigripalpus*, *Culex quinquefasciatus*, *Culex tarsalis*, *Culiseta inornata*, *Culiseta melanura*, *Dacus cucurbitae*, *Dacus oleae*, *Dasineura brassicae*, *Delia antique*, *Delia*

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coarctata, *Delia platura*, *Delia radicum*, *Dermatobia hominis*, *Fannia canicularis*, *Geomyza Tripunctata*, *Gasterophilus intestinalis*, *Glossina morsitans*, *Glossina palpalis*, *Glossina fuscipes*, *Glossina tachinoides*, *Haematobia irritans*, *Haplodiplosis equestris*, *Hippelates* spp., *Hylemyia platura*, *Hypoderma lineata*, *Leptoconops torrens*, *Liriomyza sativae*, *Liriomyza trifolii*, *Lucilia caprina*, *Lucilia cuprina*, *Lucilia sericata*,

20

Lycoria pectoralis, *Mansonia titillanus*, *Mayetiola destructor*, *Musca domestica*, *Muscina stabulans*, *Oestrus ovis*, *Opomyza florum*, *Oscinella frit*, *Pegomya hysocyami*, *Phorbia antiqua*, *Phorbia brassicae*, *Phorbia coarctata*, *Phlebotomus argentipes*, *Psorophora columbiae*, *Psila rosae*, *Psorophora discolor*, *Prosimulium mixtum*, *Rhagoletis cerasi*, *Rhagoletis pomonella*, *Sarcophaga haemorrhoidalis*, *Sarcophaga*

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sp., *Simulium vittatum*, *Stomoxys calcitrans*, *Tabanus bovinus*, *Tabanus atratus*, *Tabanus lineola*, and *Tabanus similis*, *Tipula oleracea*, and *Tipula paludosa*

thrips (Thysanoptera), e.g. *Dichromothrips corbetti*, *Dichromothrips* ssp, *Frankliniella fusca*, *Frankliniella occidentalis*, *Frankliniella tritici*, *Scirtothrips citri*, *Thrips oryzae*, *Thrips palmi* and *Thrips tabaci*,

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termites (Isoptera), e.g. *Calotermes flavicollis*, *Leucotermes flavipes*, *Heterotermes aureus*, *Reticulitermes flavipes*, *Reticulitermes virginicus*, *Reticulitermes lucifugus*, *Termes natalensis*, and *Coptotermes formosanus*,

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cockroaches (Blattaria - Blattodea), e.g. *Blattella germanica*, *Blattella asahinae*, *Periplaneta americana*, *Periplaneta japonica*, *Periplaneta brunnea*, *Periplaneta fuliginosa*, *Periplaneta australasiae*, and *Blatta orientalis*,

true bugs (Hemiptera), e.g. *Acrosternum hilare*, *Blissus leucopterus*, *Cyrtopeltis notatus*, *Dysdercus cingulatus*, *Dysdercus intermedius*, *Eurygaster integriceps*, *Euschistus impictiventris*, *Leptoglossus phyllopus*, *Lygus lineolaris*, *Lygus pratensis*, *Nezara viridula*, *Piesma quadrata*, *Solubea insularis*, *Thyanta perditor*, *Acyrtosiphon*
 5 *onobrychis*, *Adelges laricis*, *Aphidula nasturtii*, *Aphis fabae*, *Aphis forbesi*, *Aphis pomi*,
Aphis gossypii, *Aphis grossulariae*, *Aphis schneideri*, *Aphis spiraeicola*, *Aphis sambuci*,
Acyrtosiphon pisum, *Aulacorthum solani*, *Bemisia argentifolii*, *Brachycaudus cardui*,
Brachycaudus helichrysi, *Brachycaudus persicae*, *Brachycaudus prunicola*,
Brevicoryne brassicae, *Capitophorus horni*, *Cerosipha gossypii*, *Chaetosiphon*
 10 *fragaefolii*, *Cryptomyzus ribis*, *Dreyfusia nordmanniana*, *Dreyfusia piceae*, *Dysaphis*
radicola, *Dysaulacorthum pseudosolani*, *Dysaphis plantaginea*, *Dysaphis pyri*,
Empoasca fabae, *Hyalopterus pruni*, *Hyperomyzus lactucae*, *Macrosiphum avenae*,
Macrosiphum euphorbiae, *Macrosiphon rosae*, *Megoura viciae*, *Melanaphis pyriarius*,
Metopolophium dirhodum, *Myzus persicae*, *Myzus ascalonicus*, *Myzus cerasi*, *Myzus*
 15 *varians*, *Nasonovia ribis-nigri*, *Nilaparvata lugens*, *Pemphigus bursarius*, *Perkinsiella*
saccharicida, *Phorodon humuli*, *Psylla mali*, *Psylla piri*, *Rhopalomyzus ascalonicus*,
Rhopalosiphum maidis, *Rhopalosiphum padi*, *Rhopalosiphum insertum*, *Sappaphis*
mala, *Sappaphis mali*, *Schizaphis graminum*, *Schizoneura lanuginosa*, *Sitobion*
avenae, *Trialeurodes vaporariorum*, *Toxoptera aurantiiand*, *Viteus vitifolii*, *Cimex*
 20 *lectularius*, *Cimex hemipterus*, *Reduvius senilis*, *Triatoma* spp., and *Arilus critatus*.

ants, bees, wasps, sawflies (Hymenoptera), e.g. *Athalia rosae*, *Atta cephalotes*, *Atta*
capiguara, *Atta cephalotes*, *Atta laevigata*, *Atta robusta*, *Atta sexdens*, *Atta texana*,
Crematogaster spp., *Hoplocampa minuta*, *Hoplocampa testudinea*, *Monomorium*
 25 *pharaonis*, *Solenopsis geminata*, *Solenopsis invicta*, *Solenopsis richteri*, *Solenopsis*
xyloni, *Pogonomyrmex barbatus*, *Pogonomyrmex californicus*, *Pheidole megacephala*,
Dasymutilla occidentalis, *Bombus* spp. *Vespula squamosa*, *Paravespula vulgaris*,
Paravespula pennsylvanica, *Paravespula germanica*, *Dolichovespula maculata*, *Vespa*
crabro, *Polistes rubiginosa*, *Camponotus floridanus*, and *Linepithema humile*,

30 crickets, grasshoppers, locusts (Orthoptera), e.g. *Acheta domestica*, *Gryllotalpa*
gryllotalpa, *Locusta migratoria*, *Melanoplus bivittatus*, *Melanoplus femurrubrum*,
Melanoplus mexicanus, *Melanoplus sanguinipes*, *Melanoplus spretus*, *Nomadacris*
septemfasciata, *Schistocerca americana*, *Schistocerca gregaria*, *Dociostaurus*
 35 *maroccanus*, *Tachycines asynamorus*, *Oedaleus senegalensis*, *Zonozerus variegatus*,
Hieroglyphus daganensis, *Kraussaria angulifera*, *Calliptamus italicus*, *Chortoicetes*
terminifera, and *Locustana pardalina*,

Arachnoidea, such as arachnids (Acarina), e.g. of the families Argasidae, Ixodidae and
 40 Sarcoptidae, such as *Amblyomma americanum*, *Amblyomma variegatum*, *Ambryomma*

- maculatum*, *Argas persicus*, *Boophilus annulatus*, *Boophilus decoloratus*, *Boophilus microplus*, *Dermacentor silvarum*, *Dermacentor andersoni*, *Dermacentor variabilis*, *Hyalomma truncatum*, *Ixodes ricinus*, *Ixodes rubicundus*, *Ixodes scapularis*, *Ixodes holocyclus*, *Ixodes pacificus*, *Ornithodoros moubata*, *Ornithodoros hermsi*,
5 *Ornithodoros turicata*, *Ornithonyssus bacoti*, *Otobius megnini*, *Dermanyssus gallinae*, *Psoroptes ovis*, *Rhipicephalus sanguineus*, *Rhipicephalus appendiculatus*, *Rhipicephalus evertsi*, *Sarcoptes scabiei*, and Eriophyidae spp. such as *Aculus schlechtendali*, *Phyllocoptrata oleivora* and *Eriophyes sheldoni*; Tarsonemidae spp. such as *Phytonemus pallidus* and *Polyphagotarsonemus latus*; Tenuipalpidae spp.
10 such as *Brevipalpus phoenicis*; Tetranychidae spp. such as *Tetranychus cinnabarinus*, *Tetranychus kanzawai*, *Tetranychus pacificus*, *Tetranychus telarius* and *Tetranychus urticae*, *Panonychus ulmi*, *Panonychus citri*, and *Oligonychus pratensis*; Araneida, e.g. *Latrodectus mactans*, and *Loxosceles reclusa*,

15 fleas (Siphonaptera), e.g. *Ctenocephalides felis*, *Ctenocephalides canis*, *Xenopsylla cheopis*, *Pulex irritans*, *Tunga penetrans*, and *Nosopsyllus fasciatus*,

silverfish, firebrat (Thysanura), e.g. *Lepisma saccharina* and *Thermobia domestica*,

20 centipedes (Chilopoda), e.g. *Scutigera coleoptrata*,

millipedes (Diplopoda), e.g. *Narceus spp.*,

Earwigs (Dermaptera), e.g. *forficula auricularia*,
25 lice (Phthiraptera), e.g. *Pediculus humanus capitis*, *Pediculus humanus corporis*, *Pthirus pubis*, *Haematopinus eurytenuis*, *Haematopinus suis*, *Linognathus vituli*, *Bovicola bovis*, *Menopon gallinae*, *Menacanthus stramineus* and *Solenopotes capillatus*.
30
Plant parasitic nematodes such as root-knot nematodes, *Meloidogyne arenaria*, *Meloidogyne chitwoodi*, *Meloidogyne exigua*, *Meloidogyne hapla*, *Meloidogyne incognita*, *Meloidogyne javanica* and other *Meloidogyne species*; cyst nematodes, *Globodera rostochiensis*, *Globodera pallida*, *Globodera tabacum* and other *Globodera species*, *Heterodera avenae*, *Heterodera glycines*, *Heterodera schachtii*, *Heterodera trifolii*, and other *Heterodera species*; seed gall nematodes, *Anguina funesta*, *Anguina tritici* and other *Anguina species*; stem and foliar nematodes, *Aphelenchoides besseyi*, *Aphelenchoides fragariae*, *Aphelenchoides ritzemabosi* and other *Aphelenchoides species*; sting nematodes, *Belonolaimus longicaudatus* and other *Belonolaimus*
35
40 *species*; pine nematodes, *Bursaphelenchus xylophilus* and other *Bursaphelenchus*

species; ring nematodes, *Criconema species*, *Criconemella species*, *Criconemoides species*, and *Mesocriconema species*; stem and bulb nematodes, *Ditylenchus destructor*, *Ditylenchus dipsaci*, *Ditylenchus myceliophagus* and other *Ditylenchus species*; awl nematodes, *Dolichodorus species*; spiral nematodes, *Helicotylenchus dihystra*, *Helicotylenchus multicinctus* and other *Helicotylenchus species*, *Rotylenchus robustus* and other *Rotylenchus species*; sheath nematodes, *Hemicycliophora species* and *Hemicriconemoides species*; *Hirshmanniella species*; lance nematodes, *Hoplolaimus columbus*, *Hoplolaimus galeatus* and other *Hoplolaimus species*; false root-knot nematodes, *Nacobbus aberrans* and other *Nacobbus species*; needle nematodes, *Longidorus elongates* and other *Longidorus species*; pin nematodes, *Pratylenchus species*; lesion nematodes, *Pratylenchus brachyurus*, *Pratylenchus coffeae*, *Pratylenchus curvatus*, *Pratylenchus goodeyi*, *Pratylenchus neglectus*, *Pratylenchus penetrans*, *Pratylenchus scribneri*, *Pratylenchus vulnus*, *Pratylenchus zaeae* and other *Pratylenchus species*; *Radinaphelenchus cocophilus* and other *Radinaphelenchus species*; burrowing nematodes, *Radopholus similis* and other *Radopholus species*; reniform nematodes, *Rotylenchulus reniformis* and other *Rotylenchulus species*; *Scutellonema species*; stubby root nematodes, *Trichodorus primitivus* and other *Trichodorus species*; *Paratrichodorus minor* and other *Paratrichodorus species*; stunt nematodes, *Tylenchorhynchus claytoni*, *Tylenchorhynchus dubius* and other *Tylenchorhynchus species* and *Merlinius species*; citrus nematodes, *Tylenchulus semipenetrans* and other *Tylenchulus species*; dagger nematodes, *Xiphinema americanum*, *Xiphinema index*, *Xiphinema diversicaudatum* and other *Xiphinema species*; and other plant parasitic nematode species.

Moreover, the inventive mixtures are especially useful for the control of Lepidoptera, Coleoptera, Diptera, Thysanoptera and Hymenoptera.

Moreover, the inventive mixtures are especially useful for the control of non-crop pests (household, turf, ornamental).

For use according to the present invention, the compounds I can be converted into the customary formulations.

The formulations are prepared in a known manner (see e.g. for review US 3,060,084, EP-A 707 445 (for liquid concentrates), Browning, "Agglomeration", Chemical Engineering, Dec. 4, 1967, 147-48, Perry's Chemical Engineer's Handbook, 4th Ed., McGraw-Hill, New York, 1963, pages 8-57 and et seq. WO 91/13546, US 4,172,714, US 4,144,050, US 3,920,442, US 5,180,587, US 5,232,701, US 5,208,030, GB 2,095,558, US 3,299,566, Klingman, Weed Control as a Science, John Wiley and Sons, Inc., New York, 1961, Hance et al., Weed Control Handbook, 8th Ed., Blackwell

Scientific Publications, Oxford, 1989 and Mollet, H., Grubemann, A., Formulation technology, Wiley VCH Verlag GmbH, Weinheim (Germany), 2001, 2. D. A. Knowles, Chemistry and Technology of Agrochemical Formulations, Kluwer Academic Publishers, Dordrecht, 1998 (ISBN 0-7514-0443-8), for example by extending the
5 active compound with auxiliaries suitable for the formulation of agrochemicals, such as solvents and/or carriers, if desired emulsifiers, surfactants and dispersants, preservatives, antifoaming agents, anti-freezing agents, for seed treatment formulation also optionally colorants and binders.

10 Examples of suitable solvents are water, aromatic solvents (for example Solvesso products, xylene), paraffins (for example mineral oil fractions), alcohols (for example methanol, butanol, pentanol, benzyl alcohol), ketones (for example cyclohexanone, gamma-butyrolactone), pyrrolidones (NMP, NOP), acetates (glycol diacetate), glycols, fatty acid dimethylamides, fatty acids and fatty acid esters. In principle, solvent
15 mixtures may also be used.

Examples of suitable carriers are ground natural minerals (for example kaolins, clays, talc, chalk) and ground synthetic minerals (for example highly disperse silica, silicates).

20 Suitable emulsifiers are nonionic and anionic emulsifiers (for example polyoxyethylene fatty alcohol ethers, alkylsulfonates and arylsulfonates).

Examples of dispersants are lignin-sulfite waste liquors and methylcellulose.

25 Suitable surfactants used are alkali metal, alkaline earth metal and ammonium salts of lignosulfonic acid, naphthalenesulfonic acid, phenolsulfonic acid, dibutylnaphthalenesulfonic acid, alkylarylsulfonates, alkyl sulfates, alkylsulfonates, fatty alcohol sulfates, fatty acids and sulfated fatty alcohol glycol ethers, furthermore condensates of sulfonated naphthalene and naphthalene derivatives with
30 formaldehyde, condensates of naphthalene or of naphthalenesulfonic acid with phenol and formaldehyde, polyoxyethylene octylphenol ether, ethoxylated isooctylphenol, octylphenol, nonylphenol, alkylphenol polyglycol ethers, tributylphenyl polyglycol ether, tristearylphenyl polyglycol ether, alkylaryl polyether alcohols, alcohol and fatty alcohol ethylene oxide condensates, ethoxylated castor oil, polyoxyethylene alkyl ethers,
35 ethoxylated polyoxypropylene, lauryl alcohol polyglycol ether acetal, sorbitol esters, lignosulfite waste liquors and methylcellulose.

Substances which are suitable for the preparation of directly sprayable solutions, emulsions, pastes or oil dispersions are mineral oil fractions of medium to high boiling
40 point, such as kerosene or diesel oil, furthermore coal tar oils and oils of vegetable or

animal origin, aliphatic, cyclic and aromatic hydrocarbons, for example toluene, xylene, paraffin, tetrahydronaphthalene, alkylated naphthalenes or their derivatives, methanol, ethanol, propanol, butanol, cyclohexanol, cyclohexanone, isophorone, highly polar solvents, for example dimethyl sulfoxide, N-methylpyrrolidone or water.

5

Also anti-freezing agents such as glycerin, ethylene glycol, propylene glycol and bactericides such as can be added to the formulation.

10 Suitable antifoaming agents are for example antifoaming agents based on silicon or magnesium stearate.

Powders, materials for spreading and dustable products can be prepared by mixing or concomitantly grinding the active substances with a solid carrier.

15 Granules, for example coated granules, impregnated granules and homogeneous granules, can be prepared by binding the active compounds to solid carriers. Examples of solid carriers are mineral earths such as silica gels, silicates, talc, kaolin, attaclay, limestone, lime, chalk, bole, loess, clay, dolomite, diatomaceous earth, calcium sulfate, magnesium sulfate, magnesium oxide, ground synthetic materials, fertilizers, such as,
20 for example, ammonium sulfate, ammonium phosphate, ammonium nitrate, ureas, and products of vegetable origin, such as cereal meal, tree bark meal, wood meal and nutshell meal, cellulose powders and other solid carriers.

25 In general, the formulations comprise from 0.01 to 95% by weight, preferably from 0.1 to 90% by weight, of the active compound(s). In this case, the active compound(s) are employed in a purity of from 90% to 100% by weight, preferably 95% to 100% by weight (according to NMR spectrum).

30 The compounds of formula I can be used as such, in the form of their formulations or the use forms prepared therefrom, for example in the form of directly sprayable solutions, powders, suspensions or dispersions, emulsions, oil dispersions, pastes, dustable products, materials for spreading, or granules, by means of spraying, atomizing, dusting, spreading or pouring. The use forms depend entirely on the intended purposes; they are intended to ensure in each case the finest possible
35 distribution of the active compound(s) according to the invention.

Aqueous use forms can be prepared from emulsion concentrates, pastes or wettable powders (sprayable powders, oil dispersions) by adding water. To prepare emulsions, pastes or oil dispersions, the substances, as such or dissolved in an oil or solvent, can
40 be homogenized in water by means of a wetter, tackifier, dispersant or emulsifier.

However, it is also possible to prepare concentrates composed of active substance, wetter, tackifier, dispersant or emulsifier and, if appropriate, solvent or oil, and such concentrates are suitable for dilution with water.

- 5 The active compound concentrations in the ready-to-use preparations can be varied within relatively wide ranges. In general, they are from 0.0001 to 10%, preferably from 0.01 to 1% per weight.

- 10 The active compound(s) may also be used successfully in the ultra-low-volume process (ULV), it being possible to apply formulations comprising over 95% by weight of active compound, or even to apply the active compound without additives.

The following are examples of formulations: 1. Products for dilution with water for foliar applications.

15

A) Water-soluble concentrates (SL, LS)

- 10 parts by weight of the active compound(s) are dissolved in 90 parts by weight of water or a water-soluble solvent. As an alternative, wetters or other auxiliaries are added. The active compound(s) dissolves upon dilution with water, whereby a
20 formulation with 10 % (w/w) of active compound(s) is obtained.

B) Dispersible concentrates (DC)

- 20 parts by weight of the active compound(s) are dissolved in 75 parts by weight of cyclohexanone with addition of 10 parts by weight of a dispersant, for example
25 polyvinylpyrrolidone. Dilution with water gives a dispersion, whereby a formulation with 20% (w/w) of active compound(s) is obtained.

C) Emulsifiable concentrates (EC)

- 15 parts by weight of the active compound(s) are dissolved in 75 parts by weight of
30 xylene with addition of calcium dodecylbenzenesulfonate and castor oil ethoxylate (in each case 5 parts by weight). Dilution with water gives an emulsion, whereby a formulation with 15% (w/w) of active compound(s) is obtained.

D) Emulsions (EW, EO, ES)

- 35 40 parts by weight of the active compound(s) are dissolved in 35 parts by weight of xylene with addition of calcium dodecylbenzenesulfonate and castor oil ethoxylate (in each case 5 parts by weight). This mixture is introduced into 30 parts by weight of water by means of an emulsifier machine (e.g. Ultraturrax) and made into a homogeneous emulsion. Dilution with water gives an emulsion, whereby a formulation
40 with 25% (w/w) of active compound(s) is obtained.

E) Suspensions (SC, OD, FS)

In an agitated ball mill, 20 parts by weight of the active compound(s) are comminuted with addition of 10 parts by weight of dispersants, wetters and 70 parts by weight of water or of an organic solvent to give a fine active compound(s) suspension. Dilution with water gives a stable suspension of the active compound(s), whereby a formulation with 20% (w/w) of active compound(s) is obtained.

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

50 parts by weight of the active compound(s) are ground finely with addition of 50 parts by weight of dispersants and wetters and made as water-dispersible or water-soluble granules by means of technical appliances (for example extrusion, spray tower, fluidized bed). Dilution with water gives a stable dispersion or solution of the active compound(s), whereby a formulation with 50% (w/w) of active compound(s) is obtained.

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

75 parts by weight of the active compound(s) are ground in a rotor-stator mill with addition of 25 parts by weight of dispersants, wetters and silica gel. Dilution with water gives a stable dispersion or solution of the active compound(s), whereby a formulation with 75% (w/w) of active compound(s) is obtained.

2. Products to be applied undiluted for foliar applications.

H) Dustable powders (DP, DS)

5 parts by weight of the active compound(s) are ground finely and mixed intimately with 95 parts by weight of finely divided kaolin. This gives a dustable product having 5% (w/w) of active compound(s)

I) Granules (GR, FG, GG, MG)

0.5 part by weight of the active compound(s) is ground finely and associated with 95.5 parts by weight of carriers, whereby a formulation with 0.5% (w/w) of active compound(s) is obtained. Current methods are extrusion, spray-drying or the fluidized bed. This gives granules to be applied undiluted for foliar use.

J) ULV solutions (UL)

10 parts by weight of the active compound(s) are dissolved in 90 parts by weight of an organic solvent, for example xylene. This gives a product having 10% (w/w) of active compound(s), which is applied undiluted for foliar use.

Various types of oils, wetters, adjuvants, herbicides, fungicides, other pesticides, or bactericides may be added to the active ingredients, if appropriate just immediately prior to use (tank mix). These agents usually are admixed with the agents according to the invention in a weight ratio of 1:10 to 10:1.

5

The compounds of formula I are effective through both contact and ingestion.

According to a preferred embodiment of the invention, the compounds of formula I are employed via soil application. Soil application is especially favorable for use against ants, termites, crickets, or cockroaches.

10

According to another preferred embodiment of the invention, for use against non crop pests such as ants, termites, wasps, flies, mosquitoes, crickets, locusts, or cockroaches the compounds of formula I are prepared into a bait preparation.

15

The bait can be a liquid, a solid or a semisolid preparation (e.g. a gel).

Compositions of this invention may also contain other active ingredients, for example fungicides, herbicides, fertilizers such as ammonium nitrate, urea, potash, and superphosphate, phytotoxicants and plant growth regulators and safeners. These additional ingredients may be used sequentially or in combination with the above-described compositions, if appropriate also added only immediately prior to use (tank mix). For example, the plant(s) may be sprayed with a composition of this invention either before or after being treated with other active ingredients.

20

The mixtures according to the invention can be applied to any and all developmental stages, such as egg, larva, pupa, and adult. The pests may be controlled by contacting the target pest, its food supply, habitat, breeding ground or its locus with a pesticidally effective amount of the inventive mixtures or of compositions comprising the mixtures.

25

"Locus" means a plant, seed, soil, area, material or environment in which a pest is growing or may grow.

In general, "pesticidally effective amount" means the amount of the inventive mixtures or of compositions comprising the mixtures 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 mixtures / compositions used in the invention. A pesticidally effective amount of the mixtures / compositions will also

30

35

vary according to the prevailing conditions such as desired pesticidal effect and duration, weather, target species, locus, mode of application, and the like.

5 The inventive mixtures or compositions of these mixtures can also be employed for protecting plants from attack or infestation by insects, acarids or nematodes comprising contacting a plant, or soil or water in which the plant is growing.

10 In the context of the present invention, the term plant refers to an entire plant, a part of the plant or the propagation material of the plant, that is, the seed or the seedling.

15 Plants which can be treated with the inventive mixtures include all genetically modified plants or transgenic plants, e.g. crops which tolerate the action of herbicides or fungicides or insecticides owing to breeding, including genetic engineering methods, or plants which have modified characteristics in comparison with existing plants, which can be generated for example by traditional breeding methods and/or the generation of mutants, or by recombinant procedures.

20 Some of the inventive mixtures have systemic action and can therefore be used for the protection of the plant shoot against foliar pests as well as for the treatment of the seed and roots against soil pests. 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.

25 The compounds I and the one or more compound(s) II can be applied simultaneously, that is jointly or separately, or in succession, the sequence, in the case of separate application, generally not having any effect on the result of the control measures.

30 The compounds I and the one or more compound(s) II are usually applied in a weight ratio of from 500:1 to 1:100, preferably from 20:1 to 1:50, in particular from 5:1 to 1:20. Depending on the desired effect, the application rates of the mixtures according to the invention are from 5 g/ha to 2000 g/ha, preferably from 50 to 1500 g/ha, in particular from 50 to 750 g/ha.

35 The inventive mixtures are also suitable for the protection of the seed and the seedlings' roots and shoots, preferably the seeds, against soil pests.

Conventional seed treatment formulations include for example flowable concentrates FS, solutions LS, powders for dry treatment DS, water dispersible powders WS or granules for slurry treatment, water soluble powders SS and emulsion ES. Application

to the seeds is carried out before sowing, either directly on the seeds. Preferred are FS formulations.

5 In the treatment of seed, the application rates of the inventive mixture are generally from 0,1 to 10 kg per 100 kg of seed. The separate or joint application of the compounds I and II or of the mixtures of the compounds I and II is carried out by spraying or dusting the seeds, the seedlings, the plants or the soils before or after sowing of the plants or before or after emergence of the plants.

10 The invention also relates to the propagation products of plants, and especially the seed comprising, that is, coated with and/or containing, a mixture as defined above or a composition containing the mixture of two or more active ingredients or a mixture of two or more compositions each providing one of the active ingredients. The seed
15 comprises the inventive mixtures in an amount of from 0,1 g to 10 kg per 100 kg of seed.

The inventive mixtures are effective through both contact (via soil, glass, wall, bed net, carpet, plant parts or animal parts), and ingestion (bait, or plant part) and through trophallaxis and transfer.

20

Preferred application methods are into water bodies, via soil, cracks and crevices, pastures, manure piles, sewers, into water, on floor, wall, or by perimeter spray application and bait.

25 According to another preferred embodiment of the invention, for use against non crop pests such as ants, termites, wasps, flies, mosquitoes, crickets, locusts, or cockroaches the inventive mixtures are prepared into a bait preparation.

30 The bait can be a liquid, a solid or a semisolid preparation (e.g. a gel). The bait employed in the composition is a product which is sufficiently attractive to incite insects such as ants, termites, wasps, flies, mosquitoes, crickets etc. or cockroaches to eat it. This attractant may be chosen from feeding stimulants or para and / or sex pheromones readily known in the art.

35 Methods to control infectious diseases transmitted by insects (e.g. malaria, dengue and yellow fever, lymphatic filariasis, and leishmaniasis) with the inventive mixtures and their 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 composition including the inventive mixtures, optionally a repellent and at least one binder.

5 The inventive mixtures and the compositions comprising them 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).

10

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 m², preferably from 0.001 to 20 g per 100 m².

15 Customary application rates in the protection of materials are, for example, from 0.01 g to 1000 g of active compound per m² treated material, desirably from 0.1 g to 50 g per m².

20 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.

25 For use in bait compositions, the typical content of active ingredient is from 0.0001 weight % to 15 weight %, desirably from 0.001 weight % to 5% weight % of active compound. The composition used may also comprise other additives such as a solvent of the active material, a flavoring agent, a preserving agent, a dye or a bitter agent. Its attractiveness may also be enhanced by a special color, shape or texture.

30 For use in spray compositions, the content of the mixture of the active ingredients is from 0.001 to 80 weights %, preferably from 0.01 to 50 weight % and most preferably from 0.01 to 15 weight %.

35 For use in treating crop plants, the rate of application of the mixture of the active ingredients of this invention may be in the range of 0.1 g to 4000 g per hectare, desirably from 25 g to 600 g per hectare, more desirably from 50 g to 500 g per hectare.

40 It was also an object of the present invention to provide mixtures suitable for treating, controlling, preventing and protecting warm-blooded animals, including humans, and fish against infestation and infection by pests. Problems that may be encountered with

pest control on or in animals and/or humans are similar to those described at the outset, namely the need for reduced dosage rates, and / or enhanced spectrum of activity and / or combination of know-down activity with prolonged control and / or resistance management.

5

This invention also provides a method for treating, controlling, preventing and protecting warm-blooded animals, including humans, and fish against infestation and infection by pests of the orders Siphonaptera, Hymenoptera, Hemiptera, Orthoptera, Acarina, Phthiraptera, and Diptera, which comprises orally, topically or parenterally administering or applying to said animals a pesticidally effective amount of mixtures according to the invention.

The invention also provides a process for the preparation of a composition for treating, controlling, preventing or protecting a warm-blooded animal or a fish against infestation or infection by pests of the Siphonaptera, Hymenoptera, Hemiptera, Orthoptera, Acarina, Phthiraptera, and Diptera orders which comprises a pesticidally effective amount of a mixture according to the invention.

The above method is particularly useful for controlling and preventing infestations and infections in warm-blooded animals such as cattle, sheep, swine, camels, deer, horses, poultry, goats, dogs and cats as well as humans.

Infestations in warm-blooded animals and fish including, but not limited to, lice, biting lice, ticks, nasal bots, keds, biting flies, muscoid flies, flies, myiasitic fly larvae, chiggers, gnats, mosquitoes and fleas may be controlled, prevented or eliminated by the mixtures according to the invention.

For oral administration to warm-blooded animals, the mixtures according to the invention may be formulated as animal feeds, animal feed premixes, animal feed concentrates, pills, solutions, pastes, suspensions, drenches, gels, tablets, boluses and capsules. In addition, the mixtures according to the invention may be administered to the animals in their drinking water. For oral administration, the dosage form chosen should provide the animal with 0.01 mg/kg to 100 mg/kg of animal body weight per day of the mixture.

35

Alternatively, the mixtures according to the invention may be administered to animals parenterally, for example, by intraruminal, intramuscular, intravenous or subcutaneous injection. The mixtures according to the invention may be dispersed or dissolved in a physiologically acceptable carrier for subcutaneous injection. Alternatively, the mixtures according to the invention may be formulated into an implant for subcutaneous

40

administration. In addition the mixtures according to the invention may be transdermally administered to animals. For parenteral administration, the dosage form chosen should provide the animal with 0,01 mg/kg to 100 mg/kg of animal body weight per day of the mixture.

5

The mixtures according to the invention may also be applied topically to the animals in the form of dips, dusts, powders, collars, medallions, sprays, spot-on and pour-on formulations. For topical application, dips and sprays usually contain 0,5 ppm to 5,000 ppm and preferably 1 ppm to 3,000 ppm of the inventive compounds. In addition, the

10 mixtures according to the invention may be formulated as ear tags for animals, particularly quadrupeds such as cattle and sheep.

The pesticidal action of the compounds and the mixtures can be demonstrated by the experiments below:

15

Southern armyworm (*Spodoptera eridania*), 2nd instar larvae

The active compounds are formulated for testing the activity against insects and arachnids as a 10.000 ppm solution in a mixture of 35% acetone and water, which is

20 diluted with water, if needed.

A Sieva lima bean leaf expanded to 7-8 cm in length is dipped in the test solution with agitation for 3 seconds and allowed to dry in a hood. The leaf is then placed in a 100 x 10 mm petri dish containing a damp filter paper on the bottom and ten 2nd instar

25 caterpillars. At 5 days, observations are made of mortality, reduced feeding, or any interference with normal molting.

Green Peach Aphid (*Myzus persicae*)

30

The active compounds are formulated in 50:50 acetone:water and 100 ppm Kinetic™ surfactant.

Pepper plants in the 2nd leaf-pair stage (variety 'California Wonder') are infested with approximately 40 laboratory-reared aphids by placing infested leaf sections on top of

35 the test plants. The leaf sections are removed after 24 hr. The leaves of the intact plants are dipped into gradient solutions of the test compound and allowed to dry. Test plants are maintained under fluorescent light (24 hour photoperiod) at about 25°C and 20-40% relative humidity. Aphid mortality on the treated plants, relative to mortality on check plants, is determined after 5 days.

40

Activity against tobacco budworm (*Heliothis virescens*)

Two-leaf cotton plants are utilized for bioassays. Excised plant leaves are dipped into 1:1 acetone/water dilutions of the active compounds. After the leaves have dried, they are individually placed onto water-moistened filter paper on the bottoms of Petri dishes. Each dish is infested with 5 – 7 larvae and covered with a lid. Each treatment dilution is replicated 4 times. Test dishes are held at approximately 27°C and 60% humidity. Numbers of live and morbid larvae are assessed in each dish at 5 days after treatment application, and percent mortality is calculated.

10

Activity against Argentine ant, harvester ant, acrobat ant, carpenter ant, fire ant, house fly, stable fly, flesh fly, yellowfever mosquito, house mosquito, malaria mosquito, German cockroach, cat flea, and brown dog tick via glass contact

15 Glass vials (20 ml scintillation vials) are treated with 0.5 ml of a solution of active ingredient in acetone. Each vial is rolled uncapped for ca. 10 minutes to allow the a.i. to completely coat the vial and to allow for full drying of the acetone. Insects or ticks are placed into each vial. The vials are kept at 22 °C and are observed for treatment effects at various time intervals.

20

To determine if an insecticidal mixture is synergistic, Limpel's formula is used:

$$E = X + Y - XY / 100$$

25 E = Expected % mortality of the mixture
X = % mortality of compound X, as measured independently
Y = % mortality of compound Y, as measured independently

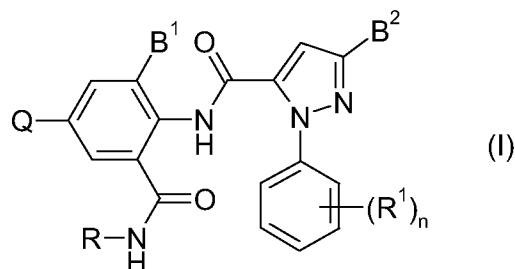
30 Synergism is evident if the % observed mortality for the mixture is greater than the % expected mortality.

The test results show that the mixtures according to the invention show a considerable enhanced activity demonstrating synergism compared to the calculated sum of the single activities.

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Claims:

1. Pesticidal mixtures comprising, as active components,
1) an anthranilamid compound of the formula I



5

wherein

Q is hydrogen, chloro, bromo, iodo, cyano, or methyl;

10 B¹ is halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, or C₁-C₄-haloalkoxy;

B² is halogen, C₁-C₄-haloalkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkoxy, C₁-C₄-alkenyloxy, C₁-C₄-alkynyloxy, C₁-C₄-alkylthio, C₁-C₄-haloalkylthio, C₁-C₄-alkylsulfinyl, C₁-C₄-haloalkylsulfinyl, C₁-C₄-alkylsulfonyl, C₁-C₄-haloalkylsulfonyl, C₁-C₄-alkyl-S(=O)_x-O- or C₁-C₄-haloalkyl S(O)_x-O-, wherein x is 1 or 2 and the C₁-C₄-alkoxy radical may be substituted with 1-6 groups selected from halogen, cyano, C₁-C₄-alkoxy, C₁-C₄-alkoxycarbonyl, or C(Rⁱ)=N-OR^j, C(Rⁱ)=N(R^jR^k), wherein Rⁱ, R^j and R^k are each independently hydrogen or C₁-C₄-alkyl;

15

R is hydrogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₃-C₆-cycloalkyl, C₁-C₄-alkylene-C₃-C₆-cycloalkyl, wherein these groups are unsubstituted or substituted with from 1 to 3 groups selected from halogen, cyano, nitro, C₁-C₆-alkyloxycarbonyl, amino, C₁-C₆-alkylamino, di(C₁-C₆-alkyl)amino, C₁-C₆-alkoxy, C₁-C₆-thioalkyl, C₁-C₆-alkylsulfinyl, C₁-C₆-alkylsulfonyl;

20

25

R¹ is fluoro, chloro, bromo, methyl, or trifluoromethyl;

n is 1, 2 or 3;

30

or the enantiomers or salts or N-oxides thereof, and

2) one or more compounds II selected from group A consisting of

A.1. Organo(thio)phosphates: acephate, azamethiphos, azinphos-methyl, chlorpyrifos, chlorpyrifos-methyl, chlorfenvinphos, diazinon, dichlorvos,

35

5 dicrotophos, dimethoate, disulfoton, ethion, fenitrothion, fenthion, isoxathion, malathion, methamidophos, methidathion, methyl-parathion, mevinphos, monocrotophos, oxydemeton-methyl, paraoxon, parathion, phenthoate, phosalone, phosmet, phosphamidon, phorate, phoxim, pirimiphos-methyl, profenofos, prothiofos, sulprophos, tetrachlorvinphos, terbufos, triazophos, trichlorfon;

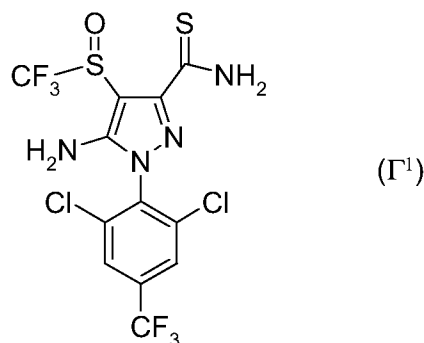
10 A.2. Carbamates: alanycarb, aldicarb, bendiocarb, benfuracarb, carbaryl, carbofuran, carbosulfan, fenoxycarb, furathiocarb, methiocarb, methomyl, oxamyl, pirimicarb, propoxur, thiodicarb, triazamate;

15 A.3. Pyrethroids: allethrin, bifenthrin, cyfluthrin, cyhalothrin, cyphenothrin, cypermethrin, alpha-cypermethrin, beta-cypermethrin, zeta-cypermethrin, deltamethrin, esfenvalerate, etofenprox, fenpropathrin, fenvalerate, imiprothrin, lambda-cyhalothrin, permethrin, prallethrin, pyrethrin I and II, resmethrin, silafluofen, tau-fluvalinate, tefluthrin, tetramethrin, tralomethrin, transfluthrin, profluthrin, dimefluthrin;

20 A.4. Growth regulators: a) chitin synthesis inhibitors: benzoylureas: chlorfluazuron, cyramazin, diflubenzuron, flucycloxuron, flufenoxuron, hexaflumuron, lufenuron, novaluron, teflubenzuron, triflumuron; buprofezin, diofenolan, hexythiazox, etoxazole, clofentazine; b) ecdysone antagonists: halofenozide, methoxyfenozide, tebufenozide, azadirachtin; c) juvenoids: pyriproxyfen, methoprene, fenoxycarb; d) lipid biosynthesis inhibitors: 25 spiroadiclofen, spiromesifen, spirotetramat;

A.5. Nicotinic receptor agonists/antagonists compounds: clothianidin, dinotefuran, imidacloprid, thiamethoxam, nitenpyram, acetamiprid, thiacloprid;

30 A.6. GABA antagonist compounds: acetoprole, endosulfan, ethiprole, fipronil, vanilprole, pyrafluprole, pyriprole, the phenylpyrazole compound of formula Γ^1



A.7. Macrocyclic lactone insecticides: abamectin, emamectin, milbemectin, lepimectin, spinosad;

5 A.8. METI I acaricides: fenazaquin, pyridaben, tebufenpyrad, tolfenpyrad, flufenerim;

A.9. METI II and III compounds: acequinocyl, fluacyprim, hydramethylnon;

10 A.10. Uncoupler compounds: chlorfenapyr;

A.11. Oxidative phosphorylation inhibitor compounds: cyhexatin, diafenthiuron, fenbutatin oxide, propargite;

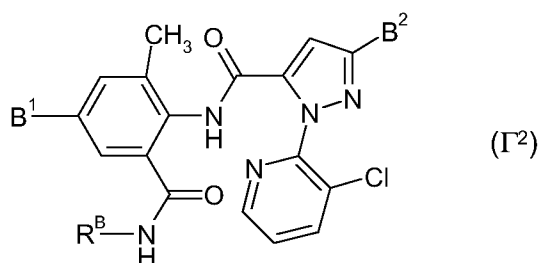
15 A.12. Moulting disruptor compounds: cryomazine;

A.13. Mixed Function Oxidase inhibitor compounds: piperonyl butoxide;

A.14. Sodium channel blocker compounds: indoxacarb, metaflumizone,

20 A.15. Various: benclothiaz, bifenazate, cartap, flonicamid, pyridalyl, pymetrozine, sulfur, thiocyclam, flubendiamide, cyenopyrafen, flupyrazofos, cyflumetofen, amidoflumet, N-Rⁱ-2,2-dihalo-1-Rⁱⁱcyclo-propanecarboxamide-2-(2,6-dichloro- α,α,α -tri-fluoro-p-tolyl)hydrazone or N-Rⁱ-2,2-di(Rⁱⁱⁱ)propionamide-2-(2,6-dichloro- α,α,α -trifluoro-p-tolyl)-hydrazone, wherein Rⁱ is methyl or ethyl, halo is chloro or bromo, Rⁱⁱ is hydrogen or methyl and Rⁱⁱⁱ is methyl or ethyl, wherein Rⁱ is -CH₂OCH₂CH₃ or H and Rⁱⁱ is CF₂CF₂CF₃ or CH₂CH(CH₃)₃, anthranilamide compounds of formula I²

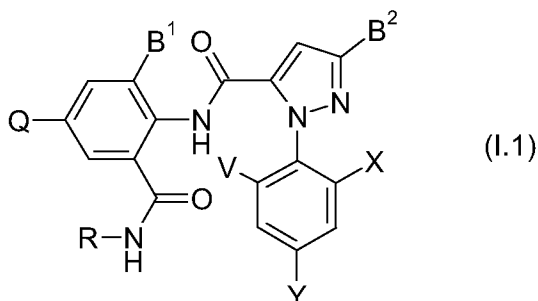
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30 wherein B¹ is hydrogen, CN or a chlorine atom, B² is a bromine or chlorine atom, CF₃, OCH₂CF₃, OCF₂H, CH=N-OCH₃, CH=NOCH₂CH₃, C(CF₃)=N-OCH₃, or C(CF₃)=N-OCH₂CH₃, and R^B is hydrogen, CH₃ or CH(CH₃)₂, and malononitrile compounds as described in JP 2002 284608, WO 02/89579, WO 02/90320, WO 02/90321, WO 04/06677, WO 04/20399, or JP 2004 99597,

35 in synergistically effective amounts.

2. Pesticidal mixtures as claimed in claim 1, wherein the compound of formula I is a compound of formula I.1



5 wherein

Q is chloro, bromo, iodo or cyano;

B¹ is chloro, bromo, iodo, or methyl;

10

B² is chloro, bromo, trifluoromethyl, 2,2,2-trifluoroethoxy, difluoromethyl, CH=N-OCH₃, or C(CF₃)=N-OCH₃;

R is hydrogen or C₁-C₄-alkyl which may be substituted with CN or SCH₃;

15

X is fluoro, chloro or bromo;

Y is hydrogen, fluoro or chloro;

20

V is hydrogen, fluoro or chloro;

or the enantiomers or salts or N-oxides thereof.

3. Pesticidal mixtures as claimed in claims 1 or 2, wherein the compound of formula II is selected from the group A-1 consisting of acetoprole, ethiprole, fipronil, vanilprole, indoxacarb, metaflumizone, flonicamid, and pyridalyl.

25

4. Pesticidal mixtures as claimed in claims 1 to 3, wherein the compound of formula II is fipronil.

30

5. Pesticidal mixtures as claimed in claims 1 to 3, wherein the compound of formula II is indoxacarb.

6. Pesticidal mixtures as claimed in claims 1 to 3, wherein the compound of formula II is metaflumizone.
7. Pesticidal mixtures as claimed in claims 1 to 3, wherein the compound of formula II is flonicamid.
8. Pesticidal mixtures as claimed in claims 1 to 3, wherein the compound of formula II is pyridalyl.
9. Pesticidal mixtures as claimed in claims 1 to 8, comprising the compound of the formula I and the compound of the formula II in a weight ratio of from 500:1 to 1:100.
10. Use of a mixture as defined in claims 1 to 9 for combating insects, arachnids or nematodes.
11. A method for protecting plants from attack or infestation by insects, acarids or nematodes comprising contacting the plant, or the soil or water in which the plant is growing, with a mixture as defined in claims 1 to 9 in pesticidally effective amounts.
12. A method for controlling insects, arachnids or nematode comprising contacting an insect, acarid or nematode or their food supply, habitat, breeding grounds or their locus with a mixture as defined in claims 1 to 9 in pesticidally effective amounts.
13. A method as claimed in claims 11 or 12, wherein the mixture as claimed in claims 1 to 9 is applied in an amount of from 5 g/ha to 2000 g/ha.
14. A method of protection of seed comprising contacting the seeds before sowing and/or after pregermination with a mixture as defined in claims 1 to 9 in pesticidally effective amounts.
15. A method as claimed in claim 14 wherein the mixture as claimed in claims 1 to 9 is applied in an amount of from 0,1 g to 10 kg per 100 kg of seeds.
16. Seed, comprising the mixture as claimed in claims 1 to 9 in an amount of from 0,1 g to 10 kg per 100 kg of seeds.

17. A method as claimed in claims 11 to 15 wherein the compounds I and II as defined in claims 1 to 9 are applied simultaneously, that is jointly or separately, or in succession.
- 5 18. A method for treating, controlling, preventing or protecting a warm-blooded animal or a fish against infestation or infection by parasites which comprises orally, topically or parenterally administering or applying to said animal or fish a parasitically effective amount of a mixture as defined in claims 1 to 9.
- 10 19. A process for the preparation of a composition for treating, controlling, preventing or protecting a warm-blooded animal or a fish against infestation or infection by insects or acarids which comprises a pesticidally effective amount of a mixture as defined in claims 1 to 9.
- 15 20. A pesticidal or parasitidal composition, comprising a liquid or solid carrier and a mixture as claimed in claims 1 to 9.