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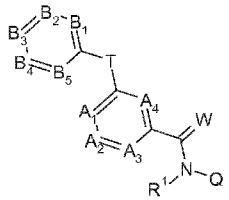
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(54) Title: ANTIPARASITIC COMBINATIONS



(I)

(57) Abstract: The invention relates to antiparasitic combinations comprising *inter alia* to compounds of the general formula (I) in which the A_1-A_4, T, n, W, Q, R^1 and B_1 -B_4 radicals are each as defined in the description. Also described are processes for preparing the compounds of the formula (I). The combinations further comprise ectoparasiciticides, anthelmintics or anti-protozoal agents. The combinations are especially suitable for controlling ectoparasites, helminths and/or protozoa on or in animals.

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Antiparasitic combinations

Introduction

The present application relates to combinations of active compounds which are useful for controlling animal pests in the field of animal health.

It is known that particular halogen-substituted compounds have insecticidal activity (EP 1 911 751, WO2012/069366, WO2012/080376, WO2012/107434 and WO2012/175474).

WO 2011/113756 discloses triazole derivatives having insecticidal activity.

It is also known that particular halogen-substituted compounds have cytokine-inhibiting activities (WO 2000/07980).

Modern antiparasitic compositions have to meet many demands, for example in relation to efficacy, persistence and spectrum of action, and possible use. Questions of toxicity and of combinability with other active ingredients or formulation auxiliaries play a role, as does the question of the expense that the synthesis of an active ingredient requires. In addition, resistances can occur. For all these reasons, the search for novel antiparasitic agents can never be considered to be complete, and there is a constant need for novel compounds and combinations thereof having properties improved over the known compounds at least in relation to individual aspects.

It was an object of the present invention to provide combinations which widen the spectrum of the pesticides in various aspects and/or improve their activity.

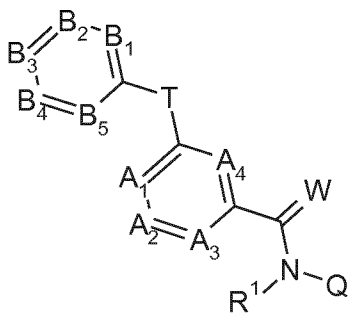
It has been found that combinations of particular halogen-substituted compounds and salts thereof with other active ingredients have biological properties and are especially suitable for controlling animal pests, and therefore have particularly good usability in the animal health sector.

Similar compounds are already known from WO 2010/051926. The copending patent applications PCT/EP2014/073794 and PCT/EP2014/073795 (both filed 5 Nov. 2014) are directed to the halogen-substituted compounds of formula (I) as described below, as well as to methods of making these compounds and to their use.

Summary

The present invention provides: Combinations of compounds of the formula (I), as defined below, with ectoparasiticides, anthelmintics or anti-protozoal agents.

The compounds of formula (I) are the following:



(I)

in which

R^1 is H, in each case optionally substituted C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_7-cycloalkyl, C_1-C_6-alkylcarbonyl, C_1-C_6-alkoxycarbonyl, aryl(C_1-C_3)-alkyl, heteroaryl(C_1-C_3)-alkyl, or is optionally substituted C_1-C_6-alkyl, preferably H or preferably C_1-C_2-alkyl, most preferably H or methyl, especially H,

the following moieties are as follows:

A_1 is CR^2 or N,

A_2 is CR^3 or N,

A_3 is CR^4 or N,

A_4 is CR^5 or N,

B_1 is CR^6 or N,

B_2 is CR^7 or N,

B_3 is CR^8 or N,

B_4 is CR^9 or N, and

B_5 is CR^{10} or N,

but not more than three of the A_1 to A_4 moieties are N and not more than three of the B_1 to B_5 moieties are N;

R^2, R^3, R^4, R^5, R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino, *N,N*-di-C_1-C_6-alkylamino or *N*-C_1-C_3-alkoxy-C_1-C_4-alkylamino or 1-pyrrolidinyl;

if neither of the A_2 and A_3 moieties is N, R^3 and R^4 together with the carbon atom to which they are bonded may form a 5- or 6-membered ring containing 0, 1 or 2 nitrogen atoms and/or 0 or 1 oxygen atom and/or 0 or 1 sulphur atom; or

if neither of the A_1 and A_2 moieties is N, R^2 and R^3 together with the carbon atom to which they are bonded may form a 6-membered ring containing 0, 1 or 2 nitrogen atoms;

R^8 is halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino or *N,N*-di-C_1-C_6-alkylamino;

W is O or S;

Q is H, formyl, hydroxyl, amino or in each case optionally substituted C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_6-cycloalkyl, C_1-C_5-heterocycloalkyl, C_1-C_4-alkoxy, C_1-C_6-alkyl-C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_6-alkyl, C_6-,C_{10}-C_{14}-aryl, C_1-C_5-heteroaryl, C_6-,C_{10}-,C_{14}-aryl-(C_1-C_3)-alkyl, C_1-C_5-heteroaryl-(C_1-C_3)-alkyl, *N*-C_1-C_4-alkylamino, *N*-C_1-C_4-alkylcarbonylamino, or *N,N*-di-C_1-C_4-alkylamino; or

is an optionally poly-V-substituted unsaturated 6-membered carbocycle; or

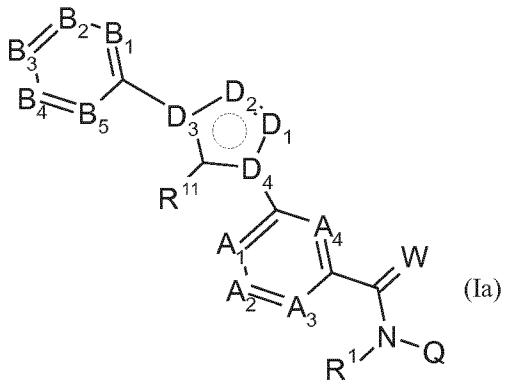
is an optionally poly-V-substituted unsaturated 4-, 5- or 6-membered heterocyclic ring, where

V is independently halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_4-alkynyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, or *N,N*-di-(C_1-C_6-alkyl)amino;

T is an optionally substituted 5-membered heteroaromatic system containing not more than 2 heteroatoms (1 or 2 heteroatoms), such as four carbon atoms and one (1) heteroatom, preferably one (1) nitrogen, one (1) oxygen or one (1) sulphur atom or three carbon atoms and two heteroatoms, preferably two nitrogen atoms, one (1) nitrogen and one (1) oxygen atom, or one (1) nitrogen and one (1) sulphur atom,

and salts, N-oxides and tautomeric forms of the compound of the formula (I).

One aspect of the present invention relates to combinations with compounds of the formula (Ia)



(Ia)

in which

the D_1, D_2 moieties are each independently C-R^{11} or a heteroatom selected from N and O;

the D_3 and D_4 moieties are each independently C or a heteroatom selected from N (i.e. the D_3 and D_4 moieties are each independently C or N);

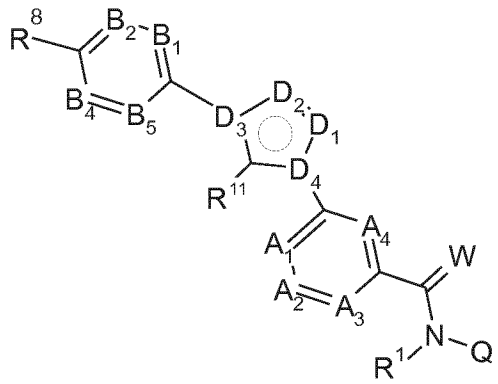
where not more than one (1) or two moieties selected from D_1, D_2, D_3 and D_4 is/are a heteroatom, where one (1) or two moiety selected from D_1, D_2, D_3 and D_4 is a heteroatom selected from N and O in the case of D_1 and D_2, or N in the case of D_3 and D_4;

 is an aromatic system; and

R^1, A_1, A_2, A_3, A_4, B_1, B_2, B_3, B_4, B_5, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, W, Q, V, and T are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N,

and salts, N-oxides and tautomeric forms of the compounds of the formula (I).

One embodiment of the present invention relates to combinations with compounds of the formula (Ia')



(Ia')

in which

R^1, R^{11}, Q, W, A_1, A_2, A_3, A_4, B_1, B_2, B_4 and B_5 are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N;

D_1 and D_2 are each independently C-R^{11} or a heteroatom, preferably C-R^{11} or a heteroatom selected from N, O and S, more preferably C-R^{11} or a heteroatom selected from N and O;

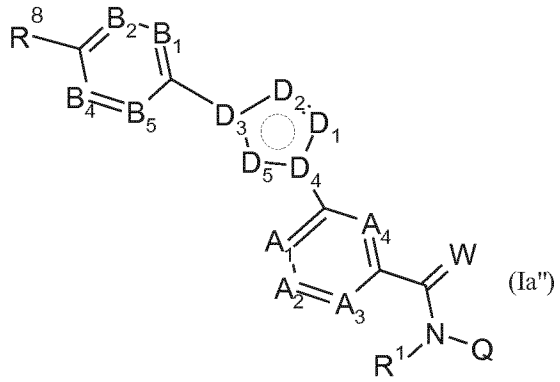
the D_3 and D_4 moieties are each independently C or a heteroatom selected from N;

where not more than one (1) or two moieties selected from D_1, D_2, D_3 and D_4 is/are a heteroatom, where one (1) or two moieties selected from D_1, D_2, D_3 and D_4 is a heteroatom selected from N and O in the case of D_1 and D_2, or N in the case of D_3 and D_4;

 is an aromatic system

and R^8 is as defined herein, preferably perfluorinated C_1-C_4-alkyl.

A further embodiment of the present invention relates to combinations with compounds of the formula (Ia")



(Ia")

where

D_1 is C-R^{11} or a heteroatom selected from N and O;
D_2 is C-R^{11} or a heteroatom selected from N and O;
D_3 is C or N;
D_4 is C or N;
D_5 is C-R^{11} or N;

where not more than one (1) or two moieties selected from D_1, D_2, D_3, D_4 and D_5 are a heteroatom;

 is an aromatic system; and

R^1 is H, in each case optionally substituted C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_7-cycloalkyl, C_1-C_6-alkylcarbonyl, C_1-C_6-alkoxycarbonyl, aryl(C_1-C_3)-alkyl,or heteroaryl(C_1-C_3)-alkyl, or optionally substituted C_1-C_6-alkyl, more preferably H;

the following moieties are as follows:

A_1 is CR^2 or N,
A_2 is CR^3 or N,

A_3 is CR^4 or N,

A_4 is CR^5 or N,

B_1 is CR^6 or N,

B_2 is CR^7 or N,

B_3 is CR^8 or N,

B_4 is CR^9 or N, and

B_5 is CR^{10} or N,

but not more than three of the A_1 to A_4 moieties are N and not more than three of the B_1 to B_5 moieties are simultaneously N;

R^2, R^3, R^4, R^5, R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino or *N,N*-di-C_1-C_6-alkylamino;

if neither of the A_2 and A_3 moieties is N, R^3 and R^4 together with the carbon atom to which they are bonded may form a 5- or 6-membered ring containing 0, 1 or 2 nitrogen atoms and/or 0 or 1 oxygen atom and/or 0 or 1 sulphur atom, or

if neither of the A_1 and A_2 moieties is N, R^2 and R^3 together with the carbon atom to which they are bonded may form a 6-membered ring containing 0, 1 or 2 nitrogen atoms;

R^8 is halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino or *N,N*-di-C_1-C_6-alkylamino;

R^{11} is independently H, halogen, cyano, nitro, amino or an optionally substituted C_1-C_6-alkyl, C_1-C_6-alkyloxy, C_1-C_6-alkylcarbonyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, preferably H;

W is O or S;

Q is H, formyl, hydroxyl, amino or in each case optionally substituted C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_6-cycloalkyl, C_1-C_5-heterocycloalkyl, C_1-C_4-alkoxy, C_1-C_6-alkyl-C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_6-alkyl, C_6-,C_{10}-C_{14}-aryl, C_1-C_5-heteroaryl, C_6-,C_{10}-,C_{14}-aryl-(C_1-C_3)-alkyl, C_1-C_5-heteroaryl-(C_1-C_3)-alkyl, *N*-C_1-C_4-alkylamino, *N*-C_1-C_4-alkylcarbonylamino, or *N,N*-di-C_1-C_4-alkylamino; or

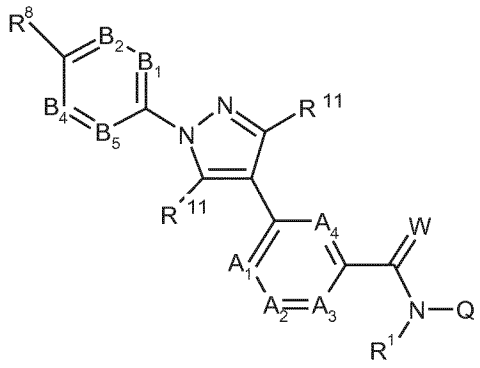
is an optionally poly-V-substituted unsaturated 6-membered carbocycle; or

is an optionally poly-V-substituted unsaturated 4-, 5- or 6-membered heterocyclic ring, where

V is independently halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_4-alkynyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, or *N,N*-di-(C_1-C_6-alkyl)amino;

and salts, N-oxides and tautomeric forms of the compounds of the formula (Ia").

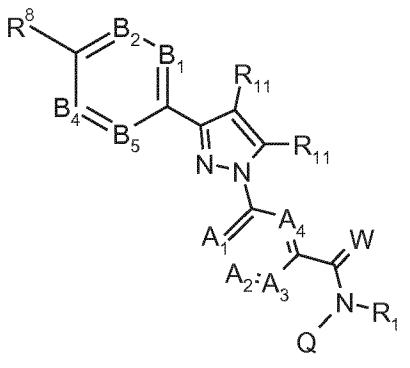
A further embodiment of the present invention relates to combinations with compounds of the formula (Ia"), where the compounds of the formula (Ia") are compounds of the formula (I-T3)



(I-T3)

in which R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N.

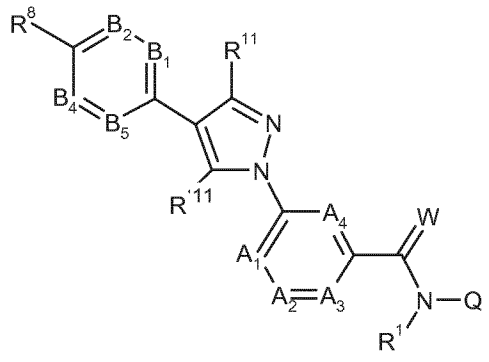
A further embodiment of the present invention relates to combinations with compounds of the formula (Ia"), where the compounds of the formula (Ia") are compounds of the formula (I-T2)



(I-T2)

in which R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N.

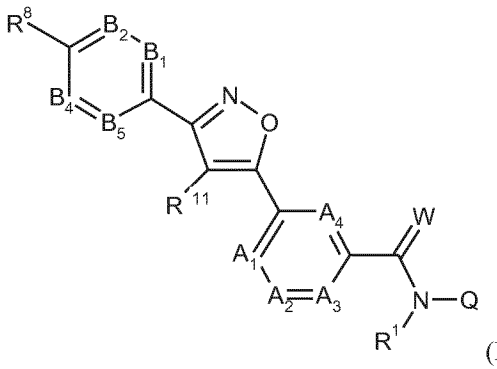
A further embodiment of the present invention relates to combinations with compounds of the formula (Ia"), where the compounds of the formula (Ia") are compounds of the formula (I-T4)



(I-T4)

in which R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N.

A further embodiment of the present invention relates to combinations with compounds of the formula (Ia"), where the compounds of the formula (Ia") are compounds of the formula (I-T22)

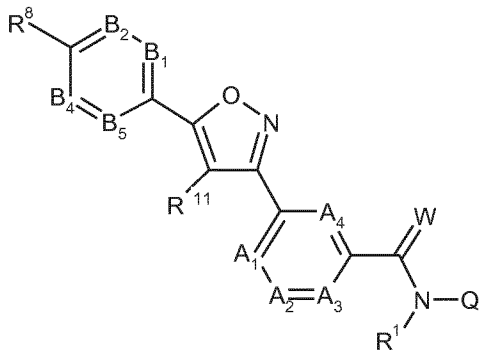


(I-T-22)

in which R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety

selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N.

A further embodiment of the present invention relates to combinations with compounds of the formula (Ia"), where the compounds of the formula (Ia") are compounds of the formula (I-T23)



(I-T23)

in which R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N.

A further embodiment of the present invention relates to combinations with compounds of the formulae and embodiments described herein, where R^{11} is independently H and W is O.

A further embodiment of the present invention relates to combinations with compounds of the formulae and embodiments described herein, where R^{11} is independently H and W is O and B_3 is C-R^8, R^8 is halogen-substituted C_1-C_3-alkyl (preferably perhalogenated C_1-C_3-alkyl, more preferably perfluorinated C_1-C_3-alkyl) or halogen-substituted C_1-C_3-alkoxy (preferably perhalogenated C_1-C_3-alkoxy, more preferably perfluorinated C_1-C_3-alkoxy).

A further embodiment of the present invention relates to combinations with compounds of the formulae and embodiments described herein, where the A_1 to A_4 and B_1 to B_5 moieties are as follows:

A_1 is C-H,
A_2 is CR^3 or N,
A_3 is CR^4,
A_4 is C-H,

B_1 is CR^6 or N,
B_2 is C-H,
B_3 is CR^8,
B_4 is C-H and

B_5 is CR^{10} or N.

A further embodiment of the present invention relates to combinations with compounds of the formulae and embodiments described herein, where R^1 is methyl.

A further embodiment of the present invention relates to combinations with compounds of the formulae and embodiments described herein, where Q is fluorine-substituted C_1-C_4-alkyl, C_3-C_4-cycloalkyl, optionally cyano- or fluorine-substituted C_3-C_4-cycloalkyl, C_4-C_6-heterocycloalkyl, 1-oxidothietan-3-yl, 1,1-dioxidothietan-3-yl, benzyl, pyridin-2-ylmethyl, methylsulphonyl or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl.

A further embodiment of the present invention relates to combinations with compounds of the formulae and embodiments described herein, where R^8 is halogen or halogen-substituted C_1-C_4-alkyl.

Yet a further embodiment of the present invention relates to combinations with compounds of the formulae described herein, where R^{11} is independently H.

Yet a further embodiment of the present invention relates to combinations with compounds of the formulae described herein, where R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino.

Yet a further embodiment of the present invention relates to combinations with compounds of the formulae described herein, where R^2, R^3, R^4 and R^5 are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-C_1-C_4-alkoxyimino-C_1-C_4-alkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino or *N,N*-di-C_1-C_4-alkylamino.

Yet a further embodiment of the present invention relates to combinations with compounds of the formulae described herein, where the A_1 to A_4 and B_1 to B_5 moieties are as follows:

A_1 is C-H,
A_2 is CR^3 or N,
A_3 is CR^4,
A_4 is C-H,

B_1 is CR^6 or N,
B_2 is C-H,
B_3 is CR^8,
B_4 is C-H and

B_5 is CR^{10} or N.

Yet a further embodiment of the present invention relates to combinations with compounds of the formulae described herein, where R^1 is H.

Yet a further embodiment of the present invention relates to combinations with compounds of the formulae described herein, where Q is C_1-C_4-alkyl substituted by fluorine or by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), optionally cyano- or fluorine-substituted C_3-C_4-cycloalkyl, C_4-C_6-heterocycloalkyl, 1-oxidothietan-3-yl, 1,1-dioxidothietan-3-yl, benzyl, pyridin-2-ylmethyl, methylsulphonyl or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl.

Yet a further embodiment of the present invention relates to combinations with compounds of the formulae described herein, where Q is 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl, cyclopropyl, cyclobutyl, cyclopropyl, cyclobutyl, 1-cyanocyclopropyl, trans-2-fluorocyclopropyl, or cis-2-fluorocyclopropyl, oxetan-3-yl, thietan-3-yl, 1-oxidothietan-3-yl, 1,1-dioxidothietan-3-yl, benzyl, pyridin-2-ylmethyl, methylsulphonyl or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl.

Yet a further embodiment of the present invention relates to combinations with compounds of the formulae described herein, where R^8 is halogen or halogen-substituted C_1-C_4-alkyl.

A further aspect relates to parasiticidal compositions, characterized by a content of at least one compound of the formula (I) as described herein and optionally excipients.

A further aspect relates to a method for controlling parasites on or in animals, characterized in that the animal is treated with a combination comprising at least one compound of the formula (I) as described herein.

Yet a further aspect relates to the use of compounds of the formula (I) as described herein or of an parasiticidal composition as described herein for controlling pests.

A further aspect relates to the use of combinations comprising compounds of the formula (I) as described herein in vector control.

Yet a further aspect relates to a combination according to the present invention comprising a compound of the formula (I) and an ectoparasiticide.

Yet a further aspect relates to a combination according to the present invention comprising a compound of the formula (I) and an anthelmintic.

Yet a further aspect relates to a combination according to the present invention comprising a compound of the formula (I) and an anti-protozoal

Depending on the nature of the substituents, the compounds of the formula (I) described here may optionally be in the form of geometric and/or optically active isomers or corresponding isomer mixtures in different compositions. According to the invention both the pure isomers and the isomer mixtures can be used.

If appropriate compounds may also be in the form of metal complexes.

Definitions

[he person skilled in the art is aware that, if not stated explicitly, the expressions "a" or "an" as used in the present application may, depending on the situation, mean "one (1)", "one (1) or more" or "at least one (1)".

For all the structures described herein, such as ring systems and groups, adjacent atoms must not be -O-O- or -O-S-.

Structures having a variable number of possible carbon atoms (C atoms) may be referred to in the present application as $C_{\text{lower limit of carbon atoms}}$-$C_{\text{upper limit of carbon atoms}}$ structures (C_{LL}-C_{UL} structures), in order thus to be stipulated more specifically. Example: an alkyl group may consist of 3 to 10 carbon atoms and in that case corresponds to C_3-C_{10}-alkyl. Ring structures composed of carbon atoms and heteroatoms may be referred to as "LL- to UL-membered" structures. One example of a 6-membered ring structure is toluene (a 6-membered ring structure substituted by a methyl group).

If a collective term for a substituent, for example (C_{LL}-C_{UL})-alkyl, is at the end of a composite substituent, for example (C_{LL}-C_{UL})-cycloalkyl-(C_{LL}-C_{UL})-alkyl, the constituent at the start of the composite substituent, for example the (C_{LL}-C_{UL})-cycloalkyl, may be mono- or polysubstituted identically or differently and independently by the latter substituent, for example (C_{LL}-C_{UL})-alkyl. All the collective terms used in this application for chemical groups, cyclic systems and cyclic groups can be stipulated more specifically through the addition "C_{LL}-C_{UL}" or "LL- to UL-membered".

Unless defined differently, the definition of collective terms also applies to these collective terms in composite substituents. Example: the definition of C_{LL}-C_{UL}-alkyl also applies to C_{LL}-C_{UL}-alkyl as part of a composite substituent, for example C_{LL}-C_{UL}-cycloalkyl-C_{LL}-C_{UL}-alkyl.

It will be clear to the person skilled in the art that examples cited in the present application should not be considered in a restrictive manner, but merely describe some embodiments in detail.

In the definitions of the symbols given in the above formulae, collective terms which are generally representative of the following substituents were used:

Halogen relates to elements of the 7th main group, preferably fluorine, chlorine, bromine and iodine, more preferably fluorine, chlorine and bromine, and even more preferably fluorine and chlorine.

Examples of heteroatom are N, O, S, P, B, Si. Preferably, the term "heteroatom" relates to N, S and O.

According to the invention, "alkyl" – on its own or as part of a chemical group – represents straight-chain or branched hydrocarbons preferably having 1 to 6 carbon atoms, for example methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl, t-butyl, pentyl, 1-methylbutyl, 2-methylbutyl, 3-methylbutyl, 1,2-dimethylpropyl, 1,1-dimethylpropyl, 2,2-dimethylpropyl, 1-ethylpropyl, hexyl, 1-methylpentyl, 2-methylpentyl, 3-methylpentyl, 4-methylpentyl, 1,2-dimethylpropyl, 1,3-dimethylbutyl, 1,4-dimethylbutyl, 2,3-dimethylbutyl, 1,1-dimethylbutyl, 2,2-dimethylbutyl, 3,3-dimethylbutyl, 1,1,2-trimethylpropyl, 1,2,2-trimethylpropyl, 1-ethylbutyl and 2-ethylbutyl. Preference is also given to alkyls having 1 to 4 carbon atoms such as, inter alia, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl or t-butyl. The inventive alkyls may be substituted by one or more identical or different radicals.

According to the invention, "alkenyl" – on its own or as part of a chemical group – represents straight-chain or branched hydrocarbons preferably having 2 to 6 carbon atoms and at least one double bond, for example vinyl, 2-propenyl, 2-butenyl, 3-butenyl, 1-methyl-2-propenyl, 2-methyl-2-propenyl, 2-pentenyl, 3-pentenyl, 4-pentenyl, 1-methyl-2-butenyl, 2-methyl-2-butenyl, 3-methyl-2-butenyl, 1-methyl-3-butenyl, 2-methyl-3-butenyl, 3-methyl-3-butenyl, 1,1-dimethyl-2-propenyl, 1,2-dimethyl-2-propenyl, 1-ethyl-2-propenyl, 2-hexenyl, 3-hexenyl, 4-hexenyl, 5-hexenyl, 1-methyl-2-pentenyl, 2-methyl-2-pentenyl, 3-methyl-2-pentenyl, 4-methyl-2-pentenyl, 3-methyl-3-pentenyl, 4-methyl-3-pentenyl, 1-methyl-4-pentenyl, 2-methyl-4-pentenyl, 3-methyl-4-pentenyl, 4-methyl-4-pentenyl, 1,1-dimethyl-2-butenyl, 1,1-dimethyl-3-butenyl, 1,2-dimethyl-2-butenyl, 1,2-dimethyl-3-butenyl, 1,3-dimethyl-2-butenyl, 2,2-dimethyl-3-butenyl, 2,3-dimethyl-2-butenyl, 2,3-dimethyl-3-butenyl, 1-ethyl-2-butenyl, 1-ethyl-3-butenyl, 2-ethyl-2-butenyl, 2-ethyl-3-butenyl, 1,1,2-trimethyl-2-propenyl, 1-ethyl-1-methyl-2-propenyl and 1-ethyl-2-methyl-2-propenyl. Preference is also given to alkenyls having 2 to 4 carbon atoms such as, inter alia, 2-propenyl, 2-butenyl or 1-methyl-2-propenyl. The inventive alkenyls may be substituted by one or more identical or different radicals.

According to the invention, "alkynyl" – on its own or as part of a chemical group – represents straight-chain or branched hydrocarbons preferably having 2 to 6 carbon atoms and at least one triple bond, for example 2-propynyl, 2-butynyl, 3-butynyl, 1-methyl-2-propynyl, 2-pentynyl, 3-pentynyl, 4-pentynyl, 1-methyl-3-butynyl, 2-methyl-3-butynyl, 1-methyl-2-butynyl, 1,1-dimethyl-2-propynyl, 1-ethyl-2-propynyl, 2-hexynyl, 3-hexynyl, 4-hexynyl, 5-hexynyl, 1-methyl-2-pentynyl, 1-methyl-3-pentynyl, 1-methyl-4-pentynyl, 2-methyl-3-pentynyl, 2-methyl-4-pentynyl, 3-methyl-4-pentynyl, 4-methyl-2-pentynyl, 1,1-dimethyl-3-butynyl, 1,2-dimethyl-3-butynyl, 2,2-dimethyl-3-butynyl, 1-ethyl-3-butynyl, 2-ethyl-3-butynyl, 1-ethyl-1-methyl-2-propynyl and 2,5-hexadiynyl. Preference is also given to alkynyls

having 2 to 4 carbon atoms such as, inter alia, ethynyl, 2-propynyl or 2-butynyl-2-propenyl. The inventive alkynyls may be substituted by one or more identical or different radicals.

According to the invention, "cycloalkyl" – on its own or as part of a chemical group – represents mono-, bi- or tricyclic hydrocarbons preferably having 3 to 10 carbons, for example cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclooctyl, bicyclo[2.2.1]heptyl, bicyclo[2.2.2]octyl or adamantyl. Preference is also given to cycloalkyls having 3, 4, 5, 6 or 7 carbon atoms such as, inter alia, cyclopropyl or cyclobutyl. The inventive cycloalkyls may be substituted by one or more identical or different radicals.

According to the invention, "alkylcycloalkyl" represents mono-, bi- or tricyclic alkylcycloalkyl preferably having 4 to 10 or 4 to 7 carbon atoms, for example methylcyclopropyl, ethylcyclopropyl, isopropylcyclobutyl, 3-methylcyclopentyl and 4-methylcyclohexyl. Preference is also given to alkylcycloalkyls having 4, 5 or 7 carbon atoms such as, inter alia, ethylcyclopropyl or 4-methylcyclohexyl. The inventive alkylcycloalkyls may be substituted by one or more identical or different radicals.

According to the invention, "cycloalkylalkyl" represents mono-, bi- or tricyclic cycloalkylalkyl preferably having 4 to 10 or 4 to 7 carbon atoms, for example cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, cyclohexylmethyl and cyclopentylethyl. Preference is also given to cycloalkylalkyls having 4, 5 or 7 carbon atoms such as, inter alia, cyclopropylmethyl or cyclobutylmethyl. The inventive cycloalkylalkyls may be substituted by one or more identical or different radicals.

According to the invention, "hydroxyalkyl" represents a straight-chain or branched alcohol preferably having 1 to 6 carbon atoms, for example methanol, ethanol, n-propanol, isopropanol, n-butanol, isobutanol, s-butanol and t-butanol. Preference is also given to hydroxyalkyl groups having 1 to 4 carbon atoms. The inventive hydroxyalkyl groups may be substituted by one or more identical or different radicals.

According to the invention, "alkoxy" represents a straight-chain or branched O-alkyl preferably having 1 to 6 carbon atoms, for example methoxy, ethoxy, n-propoxy, isopropoxy, n-butoxy, isobutoxy, s-butoxy and t-butoxy. Preference is also given to alkoxy groups having 1 to 4 carbon atoms. The inventive alkoxy groups may be substituted by one or more identical or different radicals.

According to the invention, "alkylsulphanyl" represents straight-chain or branched S-alkyl preferably having 1 to 6 carbon atoms, for example methylthio, ethylthio, n-propylthio, isopropylthio, n-butylthio, isobutylthio, s-butylthio and t-butylthio. Preference is also given to alkylsulphanyl groups having 1 to 4 carbon atoms. The inventive alkylsulphanyl groups may be substituted by one or more identical or different radicals.

According to the invention, "alkylsulphinyl" represents straight-chain or branched alkylsulphinyl preferably having 1 to 6 carbon atoms, for example methylsulphinyl, ethylsulphinyl, n-propylsulphinyl, isopropylsulphinyl, n-butylsulphinyl, isobutylsulphinyl, s-butylsulphinyl and t-butylsulphinyl. Preference is also given to alkylsulphinyl groups having 1 to 4 carbon atoms. The inventive alkylsulphinyl groups may be substituted by one or more identical or different radicals.

According to the invention, "alkylsulphonyl" represents straight-chain or branched alkylsulphonyl preferably having 1 to 6 carbon atoms, for example methylsulphonyl, ethylsulphonyl, n-propylsulphonyl, isopropylsulphonyl, n-butylsulphonyl, isobutylsulphonyl, s-butylsulphonyl and t-butylsulphonyl. Preference is also given to alkylsulphonyl groups having 1 to 4 carbon atoms. The inventive alkylsulphonyl groups may be substituted by one or more identical or different radicals.

According to the invention, "alkylcarbonyl" represents straight-chain or branched alkyl-C(=O) preferably having 2 to 7 carbon atoms such as methylcarbonyl, ethylcarbonyl, n-propylcarbonyl, isopropylcarbonyl, s-butylcarbonyl and t-butylcarbonyl. Preference is also given to alkylcarbonyls having 1 to 4 carbon atoms. The inventive alkylcarbonyls may be substituted by one or more identical or different radicals.

According to the invention, "cycloalkylcarbonyl" represents straight-chain or branched cycloalkylcarbonyl preferably having 3 to 10 carbon atoms in the cycloalkyl moiety, for example cyclopropylcarbonyl, cyclobutylcarbonyl, cyclopentylcarbonyl, cyclohexylcarbonyl, cycloheptylcarbonyl, cyclooctylcarbonyl, bicyclo[2.2.1]heptyl, bicyclo[2.2.2]octylcarbonyl and adamantylcarbonyl. Preference is also given to cycloalkylcarbonyl having 3, 5 or 7 carbon atoms in the cycloalkyl moiety. The inventive cycloalkylcarbonyl groups may be substituted by one or more identical or different radicals.

According to the invention, "alkoxycarbonyl" - alone or as a constituent of a chemical group - represents straight-chain or branched alkoxycarbonyl, preferably having 1 to 6 carbon atoms or having 1 to 4 carbon atoms in the alkoxy moiety, for example methoxycarbonyl, ethoxycarbonyl, n-propoxycarbonyl, isopropoxycarbonyl, s-butoxycarbonyl and t-butoxycarbonyl. The inventive alkoxycarbonyl groups may be substituted by one or more identical or different radicals.

According to the invention, "alkylaminocarbonyl" represents straight-chain or branched alkylaminocarbonyl having preferably 1 to 6 carbon atoms or 1 to 4 carbon atoms in the alkyl moiety, for example methylaminocarbonyl, ethylaminocarbonyl, n-propylaminocarbonyl, isopropylaminocarbonyl, s-butylaminocarbonyl and t-butylaminocarbonyl. The inventive alkylaminocarbonyl groups may be substituted by one or more identical or different radicals.

According to the invention, "*N,N*-dialkylaminocarbonyl" represents straight-chain or branched *N,N*-dialkylaminocarbonyl having preferably 1 to 6 carbon atoms or 1 to 4 carbon atoms in the alkyl moiety,

for example *N,N*-dimethylaminocarbonyl, *N,N*-diethylaminocarbonyl, *N,N*-di(n-propylamino)carbonyl, *N,N*-di(isopropylamino)carbonyl and *N,N*-di-(s-butylamino)carbonyl. The inventive *N,N*-dialkylaminocarbonyl groups may be substituted by one or more identical or different radicals.

According to the invention, "aryl" represents a mono-, bi- or polycyclic aromatic system having preferably 6 to 14, especially 6 to 10, ring carbon atoms, for example phenyl, naphthyl, anthryl, phenanthrenyl, preferably phenyl. In addition, aryl also represents polycyclic systems such as tetrahydronaphthyl, indenyl, indanyl, fluorenyl, biphenyl, where the bonding site is on the aromatic system. The inventive aryl groups may be substituted by one or more identical or different radicals.

Examples of substituted aryls are the arylalkyls, which may likewise be substituted by one or more identical or different radicals in the C_1-C_4-alkyl and/or C_6-C_{14}-aryl moiety. Examples of such arylalkyls include benzyl and 1-phenylethyl.

According to the invention, "heterocycle", "heterocyclic ring" or "heterocyclic ring system" represents a carbocyclic ring system having at least one ring in which at least one carbon atom is replaced by a heteroatom, preferably by a heteroatom from the group consisting of N, O, S, P, B, Si, Se, and which is saturated, unsaturated or heteroaromatic and may be unsubstituted or substituted, where the bonding site is on a ring atom. Unless defined differently, the heterocyclic ring contains preferably 3 to 9 ring atoms, especially 3 to 6 ring atoms, and one or more, preferably 1 to 4, especially 1, 2 or 3, heteroatoms in the heterocyclic ring, preferably from the group consisting of N, O, and S, although no two oxygen atoms should be directly adjacent. The heterocyclic rings usually contain not more than 4 nitrogen atoms and/or not more than 2 oxygen atoms and/or not more than 2 sulphur atoms. When the heterocyclyl radical or the heterocyclic ring is optionally substituted, it may be fused to other carbocyclic or heterocyclic rings. In the case of optionally substituted heterocyclyl, the invention also embraces polycyclic systems, for example 8-azabicyclo[3.2.1]octanyl or 1-azabicyclo[2.2.1]heptyl. In the case of optionally substituted heterocyclyl, the invention also embraces spirocyclic systems, for example 1-oxa-5-azaspiro[2.3]hexyl.

Inventive heterocyclyl groups are, for example, piperidinyl, piperazinyl, morpholinyl, thiomorpholinyl, dihydropyranyl, tetrahydropyranyl, dioxanyl, pyrrolinyl, pyrrolidinyl, imidazolinyl, imidazolidinyl, thiazolidinyl, oxazolidinyl, dioxolanyl, dioxolyl, pyrazolidinyl, tetrahydrofuranyl, dihydrofuranyl, oxetanyl, oxiranyl, azetidinyl, aziridinyl, oxazetidinyl, oxaziridinyl, oxazepanyl, oxazinanyl, azepanyl, oxopyrrolidinyl, dioxopyrrolidinyl, oxomorpholinyl, oxopiperazinyl and oxepanyl.

Of particular significance are heteroaryls, i.e. heteroaromatic systems. According to the invention, the term heteroaryl represents heteroaromatic compounds, i.e. completely unsaturated aromatic heterocyclic compounds which fall under the above definition of heterocycles. Preference is given to 5- to 7-membered rings having 1 to 3, preferably 1 or 2, identical or different heteroatoms from the group above. Inventive heteroaryls are, for example, furyl, thienyl, pyrazolyl, imidazolyl, 1,2,3- and 1,2,4-

triazolyl, isoxazolyl, thiazolyl, isothiazolyl, 1,2,3-, 1,3,4-, 1,2,4- and 1,2,5-oxadiazolyl, azepinyl, pyrrolyl, pyridyl, pyridazinyl, pyrimidinyl, pyrazinyl, 1,3,5-, 1,2,4- and 1,2,3-triazinyl, 1,2,4-, 1,3,2-, 1,3,6- and 1,2,6-oxazinyl, oxepinyl, thiepinyl, 1,2,4-triazolonyl and 1,2,4-diazepinyl. The inventive heteroaryl groups may also be substituted by one or more identical or different radicals.

The term "(optionally) substituted" groups/substituents, such as a substituted alkyl, alkenyl, alkynyl, alkoxy, alkylsulphanyl, alkylsulphinyl, alkylsulphonyl, cycloalkyl, aryl, phenyl, benzyl, heterocyclyl and heteroaryl radical, means, for example, a substituted radical derived from the unsubstituted base structure, where the substituents, for example, one (1) substituent or a plurality of substituents, preferably 1, 2, 3, 4, 5, 6 or 7, are selected from a group consisting of amino, hydroxyl, halogen, nitro, cyano, isocyano, mercapto, isothiocyanato, C_1-C_4-carboxyl, carbonamide, SF_5, aminosulphonyl, C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_2-C_4-alkenyl, C_3-C_4-cycloalkenyl, C_2-C_4-alkynyl, *N*-mono-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, *N*-C_1-C_4-alkanoylamino, C_1-C_4-alkoxy, C_2-C_4-alkenyloxy, C_2-C_4-alkynyloxy, C_3-C_4-cycloalkoxy, C_3-C_4-cycloalkenyloxy, C_1-C_4-alkoxycarbonyl, C_2-C_4- C_2-C_4-alkenyloxycarbonyl, C_2-C_4-alkynyloxycarbonyl, C_6-,C_{10}-,C_{14}-aryloxycarbonyl, C_1-C_4-alkanoyl, C_2-C_4-alkenylcarbonyl, C_2-C_4-alkynylcarbonyl, C_6-,C_{10}-,C_{14}-arylcarbonyl, C_1-C_4-alkylsulphanyl, C_3-C_4-cycloalkylsulphanyl, C_1-C_4-alkylthio, C_2-C_4-alkenylthio, C_3-C_4-cycloalkenylthio, C_2-C_4-alkynylthio, C_1-C_4-alkylsulphenyl and C_1-C_4-alkylsulphinyl, including both enantiomers of the C_1-C_4-alkylsulphinyl group, C_1-C_4-alkylsulphonyl, *N*-mono-C_1-C_4-alkylaminosulphonyl, *N,N*-di-C_1-C_4-alkylaminosulphonyl, C_1-C_4-alkylphosphinyl, C_1-C_4-alkylphosphonyl, including both enantiomers of C_1-C_4-alkylphosphinyl and C_1-C_4-alkylphosphonyl, *N*-C_1-C_4-alkylaminocarbonyl, *N,N*-di-C_1-C_4-alkylaminocarbonyl, N-C_1-C_4-alkanoylaminocarbonyl, N-C_1-C_4-alkanoyl-N-C_1-C_4-alkylaminocarbonyl, C_6-,C_{10}-,C_{14}-aryl, C_6-,C_{10}-,C_{14}-aryloxy, benzyl, benzyloxy, benzylthio, C_6-,C_{10}-,C_{14}-arylthio, C_6-,C_{10}-,C_{14}-arylamino, benzylamino, heterocyclyl and trialkylsilyl, substituents bonded via a double bond, such as C_1-C_4-alkylidene (e.g. methylidene or ethylidene), an oxo group, a thioxo group, an imino group and a substituted imino group. When two or more radicals form one or more rings, these may be carbocyclic, heterocyclic, saturated, partly saturated, unsaturated, for example including aromatic rings and with further substitution.

The substituents mentioned by way of example ("first substituent level") may, if they contain hydrocarbonaceous components, optionally have further substitution therein ("second substituent level"), for example by one or more of the substituents each independently selected from halogen, hydroxyl, amino, nitro, cyano, isocyano, azido, acylamino, an oxo group and an imino group. The term "(optionally) substituted" group preferably embraces just one or two substituent levels.

The halogen-substituted chemical groups or halogenated groups (for example alkyl or alkoxy) are mono- or polysubstituted by halogen up to the maximum possible number of substituents. Such groups are also referred to as halo groups (for example haloalkyl). In the case of polysubstitution by halogen, the halogen atoms may be the same or different, and may all be bonded to one carbon atom or may be bonded to a plurality of carbon atoms. Halogen is especially fluorine, chlorine, bromine or iodine,

preferably fluorine, chlorine or bromine and more preferably fluorine. More particularly, halogen-substituted groups are monohalocycloalkyl such as 1-fluorocyclopropyl, 2-fluorocyclopropyl or 1-fluorocyclobutyl, monohaloalkyl such as 2-chloroethyl, 2-fluoroethyl, 1-chloroethyl, 1-fluoroethyl, chloromethyl, or fluoromethyl; perhaloalkyl such as trichloromethyl or trifluoromethyl or CF_2CF_3, polyhaloalkyl such as difluoromethyl, 2-fluoro-2-chloroethyl, dichloromethyl, 1,1,2,2-tetrafluoroethyl or 2,2,2-trifluoroethyl. Further examples of haloalkyls are trichloromethyl, chlorodifluoromethyl, dichlorofluoromethyl, chloromethyl, bromomethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 2,2,2-trichloroethyl, 2-chloro-2,2-difluoroethyl, pentafluoroethyl, 3,3,3-trifluoropropyl and pentafluoro-t-butyl. Preference is given to haloalkyls having 1 to 4 carbon atoms and 1 to 9, preferably 1 to 5, identical or different halogen atoms selected from fluorine, chlorine and bromine. Particular preference is given to haloalkyls having 1 or 2 carbon atoms and 1 to 5 identical or different halogen atoms selected from fluorine and chlorine, such as, inter alia, difluoromethyl, trifluoromethyl or 2,2-difluoroethyl. Further examples of halogen-substituted compounds are haloalkoxy such as OCF_3, $OCHF_2$, OCH_2F, OCF_2CF_3, OCH_2CF_3, OCH_2CHF_2 and OCH_2CH_2Cl, haloalkylsulphanyls such as difluoromethylthio, trifluoromethylthio, trichloromethylthio, chlorodifluoromethylthio, 1-fluoroethylthio, 2-fluoroethylthio, 2,2-difluoroethylthio, 1,1,2,2-tetrafluoroethylthio, 2,2,2-trifluoroethylthio or 2-chloro-1,1,2-trifluoroethylthio, haloalkylsulphinyls such as difluoromethylsulphinyl, trifluoromethylsulphinyl, trichloromethylsulphinyl, chlorodifluoromethylsulphinyl, 1-fluoroethylsulphinyl, 2-fluoroethylsulphinyl, 2,2-difluoroethylsulphinyl, 1,1,2,2-tetrafluoroethylsulphinyl, 2,2,2-trifluoroethylsulphinyl and 2-chloro-1,1,2-trifluoroethylsulphinyl, haloalkylsulphinyls such as difluoromethylsulphinyl, trifluoromethylsulphinyl, trichloromethylsulphinyl, chlorodifluoromethylsulphinyl, 1-fluoroethylsulphinyl, 2-fluoroethylsulphinyl, 2,2-difluoroethylsulphinyl, 1,1,2,2-tetrafluoroethylsulphinyl, 2,2,2-trifluoroethylsulphinyl and 2-chloro-1,1,2-trifluoroethylsulphinyl, haloalkylsulphonyl groups such as difluoromethylsulphonyl, trifluoromethylsulphonyl, trichloromethylsulphonyl, chlorodifluoromethylsulphonyl, 1-fluoroethylsulphonyl, 2-fluoroethylsulphonyl, 2,2-difluoroethylsulphonyl, 1,1,2,2-tetrafluoroethylsulphonyl, 2,2,2-trifluoroethylsulphonyl and 2-chloro-1,1,2-trifluoroethylsulphonyl.

In the case of radicals having carbon atoms, preference is given to those having 1 to 4 carbon atoms, especially 1 or 2 carbon atoms. Preference is generally given to substituents from the group of halogen, e.g. fluorine and chlorine, (C_1-C_4)-alkyl, preferably methyl or ethyl, (C_1-C_4)-haloalkyl, preferably trifluoromethyl, (C_1-C_4)-alkoxy, preferably methoxy or ethoxy, (C_1-C_4)-haloalkoxy, nitro and cyano. Particular preference is given here to the substituents methyl, methoxy, fluorine and chlorine.

Substituted amino such as mono- or disubstituted amino means a radical from the group of the substituted amino radicals which are *N*-substituted, for example, by one or two identical or different radicals from the group of alkyl, hydroxy, amino, alkoxy, acyl and aryl; preferably *N*-mono- and *N,N*-dialkylamino, (for example methylamino, ethylamino, *N,N*-dimethylamino, *N,N*-diethylamino, *N,N*-di-n-

propylamino, *N,N*-diisopropylamino or *N,N*-dibutylamino), *N*-mono- or *N,N*-dialkoxyalkylamino groups (for example *N*-methoxymethylamino, *N*-methoxyethylamino, *N,N*-di(methoxymethyl)amino or *N,N*-di(methoxyethyl)amino), *N*-mono- and *N,N*-diarylamino, such as optionally substituted anilines, acylamino, *N,N*-diacylamino, *N*-alkyl-*N*-arylamino, *N*-alkyl-*N*-acylamino and also saturated *N*-heterocycles; preference is given here to alkyl radicals having 1 to 4 carbon atoms; here, aryl is preferably phenyl or substituted phenyl; for acyl, the definition given further below applies, preferably (C_1-C_4)-alkanoyl. The same applies to substituted hydroxylamino or hydrazino.

According to the invention, the term "cyclic amino groups" embraces heteroaromatic or aliphatic ring systems having one or more nitrogen atoms. The heterocycles are saturated or unsaturated, consist of one or more optionally fused ring systems and optionally contain further heteroatoms, for example one or two nitrogen, oxygen and/or sulphur atoms. In addition, the term also embraces groups having a spiro ring or a bridged ring system. The number of atoms which form the cyclic amino group is not limited and may consist, for example, in the case of a one-ring system of 3 to 8 ring atoms, and in the case of a two-ring system of 7 to 11 atoms.

Examples of cyclic amino groups having saturated and unsaturated monocyclic groups having a nitrogen atom as heteroatom include 1-azetidinyl, pyrrolidino, 2-pyrrolidin-1-yl, 1-pyrrolyl, piperidino, 1,4-dihydropyrazin-1-yl, 1,2,5,6-tetrahydropyrazin-1-yl, 1,4-dihydropyridin-1-yl, 1,2,5,6-tetrahydropyridin-1-yl, homopiperidinyl; examples of cyclic amino groups having saturated and unsaturated monocyclic groups having two or more nitrogen atoms as heteroatoms include 1-imidazolidinyl, 1-imidazolyl, 1-pyrazolyl, 1-triazolyl, 1-tetrazolyl, 1-piperazinyl, 1-homopiperazinyl, 1,2-dihydropiperazin-1-yl, 1,2-dihydropyrimidin-1-yl, perhydropyrimidin-1-yl, 1,4-diazacycloheptan-1-yl; examples of cyclic amino groups having saturated and unsaturated monocyclic groups having one or two oxygen atoms and one to three nitrogen atoms as heteroatoms, for example, oxazolidin-3-yl, 2,3-dihydroisoxazol-2-yl, isoxazol-2-yl, 1,2,3-oxadiazin-2-yl, morpholino, examples of cyclic amino groups having saturated and unsaturated monocyclic groups having one to three nitrogen atoms and one to two sulphur atoms as heteroatoms include thiazolidin-3-yl, isothiazolin-2-yl, thiomorpholino, or dioxothiomorpholino; examples of cyclic amino groups having saturated and unsaturated fused cyclic groups include indol-1-yl, 1,2-dihydrobenzimidazol-1-yl, perhydropyrrolo[1,2-a]pyrazin-2-yl; examples of cyclic amino groups having spirocyclic groups include 2-azaspiro[4,5]decan-2-yl; examples of cyclic amino groups having bridged heterocyclic groups include 2-azabicyclo[2.2.1]heptan-7-yl.

Substituted amino also includes quaternary ammonium compounds (salts) having four organic substituents on the nitrogen atom.

Optionally substituted phenyl is preferably phenyl which is unsubstituted or mono- or polysubstituted, preferably up to trisubstituted, by identical or different radicals from the group of halogen, (C_1-C_4)-alkyl, (C_1-C_4)-alkoxy, (C_1-C_4)-alkoxy-(C_1-C_4)-alkoxy, (C_1-C_4)-alkoxy-(C_1-C_4)-alkyl, (C_1-C_4)-haloalkyl, (C_1-

C_4)-haloalkoxy, (C_1-C_4)-alkylsulphanyl, (C_1-C_4)-haloalkylsulphanyl, cyano, isocyano and nitro, for example o-, m- and p-tolyl, dimethylphenyls, 2-, 3- and 4-chlorophenyl, 2-, 3- and 4-fluorophenyl, 2-, 3- and 4-trifluoromethyl- and -trichloromethylphenyl, 2,4-, 3,5-, 2,5- and 2,3-dichlorophenyl, o-, m- and p-methoxyphenyl, 4-heptafluorophenyl.

Optionally substituted cycloalkyl is preferably cycloalkyl which is unsubstituted or mono- or polysubstituted, preferably up to trisubstituted, by identical or different radicals from the group of halogen, cyano, (C_1-C_4)-alkyl, (C_1-C_4)-alkoxy, (C_1-C_4)-alkoxy-(C_1-C_4)-alkoxy, (C_1-C_4)-alkoxy-(C_1-C_4)-alkyl, (C_1-C_4)-haloalkyl and (C_1-C_4)-haloalkoxy, especially by one or two (C_1-C_4)-alkyl radicals.

Optionally substituted heterocyclyl is preferably heterocyclyl which is unsubstituted or mono- or polysubstituted, preferably up to trisubstituted, by identical or different radicals from the group of halogen, cyano, (C_1-C_4)-alkyl, (C_1-C_4)-alkoxy, (C_1-C_4)-alkoxy-(C_1-C_4)-alkoxy, (C_1-C_4)-alkoxy-(C_1-C_4)-alkyl, (C_1-C_4)-haloalkyl, (C_1-C_4)-haloalkoxy, nitro and oxo, especially mono- or polysubstituted by radicals from the group of halogen, (C_1-C_4)-alkyl, (C_1-C_4)-alkoxy, (C_1-C_4)-haloalkyl and oxo, most preferably substituted by one or two (C_1-C_4)-alkyl radicals.

Examples of alkyl-substituted heteroaryls are furylmethyl, thienylmethyl, pyrazolylmethyl, imidazolylmethyl, 1,2,3- and 1,2,4-triazolylmethyl, isoxazolylmethyl, thiazolylmethyl, isothiazolylmethyl, 1,2,3-, 1,3,4-, 1,2,4- and 1,2,5-oxadiazolylmethyl, azepinylmethyl, pyrrolylmethyl, pyridylmethyl, pyridazinylmethyl, pyrimidinylmethyl, pyrazinylmethyl, 1,3,5-, 1,2,4- and 1,2,3-triazinylmethyl, 1,2,4-, 1,3,2-, 1,3,6- and 1,2,6-oxazinylmethyl, oxepinylmethyl, thiepinylmethyl and 1,2,4-diazepinylmethyl.

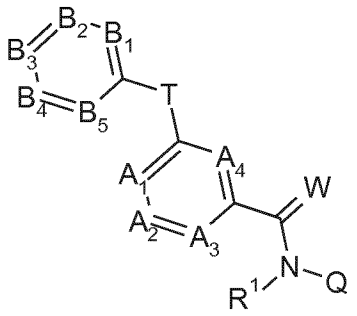
Compounds described herein may occur in preferred embodiments. Individual embodiments described herein may be combined with one another. Not included are combinations which contravene the laws of nature and which the person skilled in the art would therefore rule out on the basis of his/her expert knowledge. Ring structures having three or more adjacent oxygen atoms, for example, are excluded.

Embodiments of the compounds described herein

It will be obvious to the person skilled in the art that all the embodiments may be present alone or in combination.

The compounds of the formula (I), especially compounds of the formulae (Ia), (Ib), (I-T2), (I-T3), (I-T4), (I-T22) and (I-T23), may, where appropriate, depending on the nature of the substituents, be in the form of salts, tautomers, geometric and/or optically active isomers or corresponding isomer mixtures in different compositions.

Embodiments of the compounds of the formula (I) are described in detail below:



(I)

in which

R^1 is H, in each case optionally substituted C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_7-cycloalkyl, C_1-C_6-alkylcarbonyl, C_1-C_6-alkoxycarbonyl, aryl(C_1-C_3)-alkyl, heteroaryl(C_1-C_3)-alkyl, or is optionally substituted C_1-C_6-alkyl, preferably H or preferably C_1-C_2-alkyl, most preferably H or methyl,

the following moieties are as follows:

A_1 is CR^2 or N,

A_2 is CR^3 or N,

A_3 is CR^4 or N,

A_4 is CR^5 or N,

B_1 is CR^6 or N,

B_2 is CR^7 or N,

B_3 is CR^8 or N,

B_4 is CR^9 or N, and

B_5 is CR^{10} or N,

but not more than three of the A_1 to A_4 moieties are N and not more than three of the B_1 to B_5 moieties are simultaneously N;

R^2, R^3, R^4, R^5, R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino, *N,N*-di-C_1-C_6-alkylamino or *N*-C_1-C_3-alkoxy-C_1-C_4-alkylamino or 1-pyrrolidinyl;

if neither of the A_2 and A_3 moieties is N, R^3 and R^4 together with the carbon atom to which they are bonded may form a 5- or 6-membered ring containing 0, 1 or 2 nitrogen atoms and/or 0 or 1 oxygen atom and/or 0 or 1 sulphur atom, or

if neither of the A_1 and A_2 moieties is N, R^2 and R^3 together with the carbon atom to which they are bonded may form a 6-membered ring containing 0, 1 or 2 nitrogen atoms;

R^8 is halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino or *N,N*-di-C_1-C_6-alkylamino;

W is O or S;

Q is H, formyl, hydroxyl, amino or in each case optionally substituted C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_6-cycloalkyl, C_1-C_5-heterocycloalkyl, C_1-C_4-alkoxy, C_1-C_6-alkyl-C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_6-alkyl, C_6-,C_{10}-C_{14}-aryl, C_1-C_5-heteroaryl, C_6-,C_{10}-,C_{14}-aryl-C_1-C_3-alkyl, C_1-C_5-heteroaryl-C_1-C_3-alkyl, *N*-C_1-C_4-alkylamino, *N*-C_1-C_4-alkylcarbonylamino, or *N,N*-di-C_1-C_4-alkylamino; or

is an optionally poly-V-substituted unsaturated 6-membered carbocycle; or

is an optionally poly-V-substituted unsaturated 4-, 5- or 6-membered heterocyclic ring, where

V is independently halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_4-alkynyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, or *N,N*-di-(C_1-C_6-alkyl)amino;

T is an optionally substituted 5-membered heteroaromatic system containing not more than 2 heteroatoms, such as four carbon atoms and one (1) heteroatom, preferably one (1) nitrogen, one (1) oxygen or one (1) sulphur atom or three carbon atoms and two heteroatoms, preferably two nitrogen atoms, one (1) nitrogen and one (1) oxygen atom, or one (1) nitrogen and one (1) sulphur atom,

and salts, N-oxides and tautomeric forms of the compounds of the formula (I).

R^1

In a preferred embodiment, R^1 in a compound of the formula (I) is H, in each case optionally substituted methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl, t-butyl, methoxymethyl, ethoxymethyl, propoxymethyl, methylcarbonyl, ethylcarbonyl, n-propylcarbonyl, isopropylcarbonyl, s-butylcarbonyl, t-butylcarbonyl, methoxycarbonyl, ethoxycarbonyl, n-propoxycarbonyl, isopropoxycarbonyl, s-butoxycarbonyl, t-butoxycarbonyl, cyanomethyl, 2-cyanoethyl, benzyl, 4-methoxybenzyl, pyrid-2-ylmethyl, pyrid-3-ylmethyl, pyrid-4-ylmethyl, 4-chloropyrid-3-ylmethyl.

In an even more preferred embodiment, R^1 is H.

W

In a further preferred embodiment, W is O.

Q

In a further preferred embodiment, Q is H, in each case optionally substituted methyl, ethyl, n-propyl, 1-methylethyl, 1,1-dimethylethyl, 1-methylpropyl, n-butyl, 2-methylpropyl, 2-methylbutyl, hydroxymethyl, 2-hydroxypropyl, cyanomethyl, 2-cyanoethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 1-trifluoromethylethyl, 2,2-difluoropropyl, 3,3,3-trifluoropropyl, 2,2-dimethyl-3-fluoropropyl, cyclopropyl, 1-cyanocyclopropyl, 1-methoxycarbonylcyclopropyl, 1-(*N*-methylcarbamoyl)cyclopropyl, 1-(*N*-cyclopropylcarbamoyl)cyclopropyl, 1-(thiocarbamoyl)cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 1-cyclopropylethyl, bis(cyclopropyl)methyl, 2,2-dimethylcyclopropylmethyl, 2-phenylcyclopropyl, 2,2-dichlorocyclopropyl, trans-2-chlorocyclopropyl, cis-2-chlorocyclopropyl, 2,2-difluorocyclopropyl, trans-2-fluorocyclopropyl, cis-2-fluorocyclopropyl, trans-4-hydroxycyclohexyl, 4-trifluoromethylcyclohexyl, prop-2-enyl, 2-methylprop-2-enyl, prop-2-ynyl, 1,1-dimethylbut-2-ynyl, 3-chloroprop-2-enyl, 3,3-dichloroprop-2-enyl, 3,3-dichloro-1,1-dimethylprop-2-enyl, phenyl, 2-chlorophenyl, 3-chlorophenyl, 4-chlorophenyl, oxetan-3-yl, thietan-3-yl, 1-oxidothietan-3-yl, 1,1-dioxidothietan-3-yl, isoxazol-3-ylmethyl, 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, 1,2,4-triazol-3-ylmethyl, 3-methyloxetan-3-ylmethyl, benzyl, 2,6-difluorophenylmethyl, 3-fluorophenylmethyl, 2-fluorophenylmethyl, 2,5-difluorophenylmethyl, 1-phenylethyl, 4-chlorophenylethyl, 2-trifluoromethylphenylethyl, 1-pyridin-2-ylethyl, pyridin-2-ylmethyl, 5-fluoropyridin-2-ylmethyl, (6-chloropyridin-3-yl)methyl, pyrimidin-2-ylmethyl, methoxy, 2-ethoxyethyl, 2-(methylsulphanyl)ethyl, 1-methyl-2-(ethylsulphanyl)ethyl, 2-methyl-1-(methylsulphanyl)propan-2-yl, methoxycarbonyl, methoxycarbonylmethyl, NH_2, *N*-ethylamino, *N*-allylamino, *N*,*N*-dimethylamino, *N*,*N*-diethylamino; or

Q is one of the following, each substituted by 0-4 V substituents: phenyl, naphthyl, pyridazine, pyrazine, pyrimidine, triazine, pyridine, pyrazole, thiazole, isothiazole, oxazole, isoxazole, triazole, imidazole, furan, thiophene, pyrrole, oxadiazole, thiadiazole, where

V is independently F, Cl, Br, I, cyano, nitro, methyl, ethyl, difluoromethyl, trichloromethyl, chlorodifluoromethyl, dichlorofluoromethyl, trifluoromethyl, chloromethyl, bromomethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 1,2,2,2-tetrafluoroethyl, 1-chloro-1,2,2,2-tetrafluoroethyl, 2,2,2-trichloroethyl, 2-chloro-2,2-difluoroethyl, 1,1-difluoroethyl, pentafluoroethyl, heptafluoro-n-propyl, heptafluoroisopropyl, nonafluoro-n-butyl, cyclopropyl, cyclobutyl, methoxy, ethoxy, n-propoxy, 1-methylethoxy, fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy, *N*-methoxyiminomethyl, 1-(*N*-methoxyimino)ethyl, methylsulphanyl, methylsulphonyl, methylsulphinyl, trifluoromethylsulphonyl, trifluoromethylsulphinyl, trifluoromethylsulphanyl, *N*,*N*-dimethylamino.

In a further preferred embodiment, Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl. Preferably, Q is halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (–C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl. More preferably, Q is fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl, such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl.

In a more preferred embodiment, Q is fluorine-substituted C_1-C_4-alkyl such as 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl; C_3-C_4-cycloalkyl such as cyclopropyl or cyclobutyl; optionally substituted C_3-C_4-cycloalkyl such as 1-trifluoromethylcyclopropyl, 1-tert-butylcyclopropyl, 1-thiocarbamoylcyclopropyl, 1-cyanocyclopropyl, trans-2-fluorocyclopropyl, cis-2-fluorocyclopropyl; C_4-C_6-heterocycloalkyl such as oxetan-3-yl, thietan-3-yl, 1-oxidothietan-3-yl or 1,1-dioxidothietan-3-yl; benzyl; pyridin-2-ylmethyl; methylsulphonyl; or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl.

In a particularly preferred embodiment, Q is fluorine-substituted C_1-C_3-alkyl such as 2,2,2-trifluoroethyl or 3,3,3-trifluoropropyl; cyclopropyl; optionally substituted cyclopropyl such as 1-cyanocyclopropyl or 1-trifluoromethylcyclopropyl, thietan-3-yl; or 2-oxo-2-(2,2,2-trifluoroethyl)aminoethyl.

A1 to A4

In a preferred embodiment, not more than one (1) A_1 to A_4 moiety is N (in other words: one (1) A_1 to A_4 (preferably A_2) is N); or no (0) A_1 to A_4 is N (in other words: A_1 to A_4 are each CR^2, CR^3, CR^4, and CR^5); or one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N.

In a further preferred embodiment, R^2, R^3, R^4 and R^5 (if the corresponding A moiety is CR) in a compound of the formula (I) are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-C_1-C_4-alkoxyimino-C_1-C_4-alkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino or *N*-C_1-C_3-alkoxy-C_1-C_4-alkylamino or 1-pyrrolidinyl.

In a further preferred embodiment, R^2 and R^5 are each independently H, methyl, F and Cl.

In a further preferred embodiment, R^3 and R^4 are each independently H, F, Cl, Br, I, cyano, nitro, methyl, ethyl, fluoromethyl, difluoromethyl, chlorodifluoromethyl, trifluoromethyl, 2,2,2-trifluoroethyl, methoxy, ethoxy, n-propoxy, 1-methylethoxy, fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy, N-methoxyiminomethyl, 1-(N-methoxyimino)ethyl, methylsulphanyl, trifluoromethylsulphanyl, methylsulphonyl, methylsulphinyl, trifluoromethylsulphonyl, trifluoromethylsulphinyl.

B1 to B5

In a preferred embodiment, not more than one (1) B_1 to B_5 moiety is N (in other words: one (1) B_1 to B_5 is N); or no (0) B_1 to B_5 is N (B_1 to B_5 are each CR^6, CR^7, CR^8, CR^9 and CR^{10}).

In a further preferred embodiment, R^6, R^7, R^9 and R^{10} (when the corresponding B moiety is CR) are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino.

In a further preferred embodiment, R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, methyl, ethyl, fluoromethyl, difluoromethyl, chlorodifluoromethyl, trifluoromethyl, 2,2,2-trifluoroethyl, methoxy, ethoxy, n-propoxy, 1-methylethoxy, fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy, N-methoxyiminomethyl, 1-(N-methoxyimino)ethyl, methylsulphanyl, trifluoromethylsulphanyl, methylsulphonyl, methylsulphinyl, trifluoromethylsulphonyl, trifluoromethylsulphinyl.

In a further preferred embodiment, R^6 and R^{10} are each independently H, halogen (especially chlorine, bromine, fluorine), cyano, nitro, methyl, ethyl, difluoromethyl, chlorodifluoromethyl, trifluoromethyl, methoxy, ethoxy, 1-methylethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, methylsulphanyl, trifluoromethylsulphanyl, methylsulphonyl, methylsulphinyl, trifluoromethylsulphonyl, trifluoromethylsulphinyl.

In a further preferred embodiment, R^6 and R^{10} are the substituents described herein, but R^6 and R^{10} in one compound are not both H. In other words, when R^6 in a compound is H, R^{10} is one of the other substituents described herein, and vice versa.

In a further preferred embodiment, R^6 and R^{10} are each a substituent selected from halogen (preferably Cl, Br or F), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy and halogen-substituted C_1-C_3-alkoxy.

In a further preferred embodiment, R^6 and R^{10} are each halogen (such as Cl, Br or F), are each C_1-C_3-alkyl, or are each halogen-substituted C_1-C_3-alkyl, for example perfluorinated C_1-C_3-alkyl (perfluoromethyl, perfluoroethyl or perfluoropropyl).

In a further preferred embodiment, R^6 is perfluorinated C_1-C_3-alkyl (e.g. perfluoromethyl) and R^{10} is Cl, Br or F, more preferably Cl or Br.

R8

In a particularly preferred embodiment, B_3 is C-R^8 in which R^8 is halogen, cyano, nitro, halogen-substituted C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-C_1-C_4-alkoxyimino-C_1-C_4-alkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino or *N,N*-di-C_1-C_4-alkylamino.

In a further preferred embodiment, R^8 is halogen such as fluorine, chlorine, bromine, iodine, or halogen-substituted C_1-C_4-alkyl, cyano, nitro, methyl, ethyl, difluoromethyl, trichloromethyl, chlorodifluoromethyl, dichlorofluoromethyl, trifluoromethyl, chloromethyl, bromomethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 1,2,2,2-tetrafluoroethyl, 1-chloro-1,2,2,2-tetrafluoroethyl, 2,2,2-trichloroethyl, 2-chloro-2,2-difluoroethyl, 1,1-difluoroethyl, pentafluoroethyl, pentafluoro-tert-butyl, heptafluoro-n-propyl, heptafluoroisopropyl, nonafluoro-n-butyl, nonafluoro-sec-butyl, cyclopropyl, cyclobutyl, methoxy, ethoxy, n-propoxy, 1-methylethoxy, fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy, *N*-methoxyiminomethyl, 1-(*N*-methoxyimino)ethyl, methylsulphanyl, methylsulphonyl, methylsulphinyl, trifluoromethylsulphonyl, trifluoromethylsulphinyl, trifluoromethylsulphanyl, *N,N*-dimethylamino.

In a more preferred embodiment, R^8 is difluoromethyl, trichloromethyl, chlorodifluoromethyl, dichlorofluoromethyl, trifluoromethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 1,2,2,2-tetrafluoroethyl, 1-chloro-1,2,2,2-tetrafluoroethyl, 2,2,2-trichloroethyl, 2-chloro-2,2-difluoroethyl, 1,1-difluoroethyl, pentafluoroethyl, pentafluoro-tert-butyl, heptafluoro-n-propyl, heptafluoroisopropyl, nonafluoro-n-butyl, nonafluoro-sec-butyl, fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy, trifluoromethylsulphonyl, trifluoromethylsulphinyl, trifluoromethylsulphanyl.

In a further more preferred embodiment, R^8 is halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)) or halogen-substituted alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)).

In a particularly preferred embodiment, R^8 is perfluorinated C_1-C_3-alkyl such as perfluorinated n- or i-propyl (-C_3F_7), perfluorinated ethyl (C_2F_5) or perfluorinated methyl (CF_3), more preferably perfluorinated n- or i-propyl (-C_3F_7) or perfluorinated methyl.

A and B

In a further preferred embodiment, the A_1 to A_4 and B_1 to B_5 moieties in compounds of the formula (I) are as follows:

A_1 is C-H,
A_2 is CR^3 or N,
A_3 is CR^4,
A_4 is CR^5 or N,

B_1 is CR^6 or N,
B_2 is CR^7,
B_3 is CR^8,
B_4 is CR^9 and
B_5 is CR^{10} or N.

In an even more preferred embodiment, the A_1 to A_4 and B_1 to B_5 moieties in compounds of the formula (I) are as follows:

A_1 is C-H,
A_2 is CR^3 or N,
A_3 is CR^4,
A_4 is C-H,

B_1 is CR^6 or N,
B_2 is C-H,
B_3 is CR^8,
B_4 is C-H and
B_5 is CR^{10} or N.

In an even more preferred embodiment, the A_1 to A_4 and B_1 to B_5 moieties in compounds of the formula (I) are as follows:

A_1 is C-H,

A_2 is CR^3 or N,

A_3 is CR^4,

A_4 is C-H oder N,

B_1 is CR^6,

B_2 is C-H,

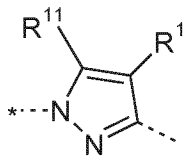
B_3 is CR^8,

B_4 is C-H and

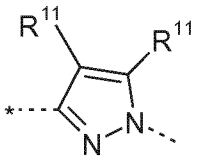
B_5 is CR^{10} or N.

T

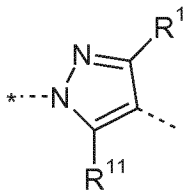
In a further preferred embodiment, T is one of the 5-membered heteroaromatic systems shown below, where the bond to the carbon atom of the (C-B_1-B_5) ring system is identified by a dotted bond marked with an asterisk, and the bond to the carbon atom of the (C-A_1-A_2-A_3-C-A_4)-ring system by a dotted bond.



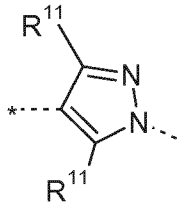
T1



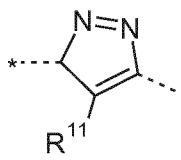
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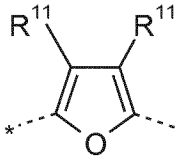
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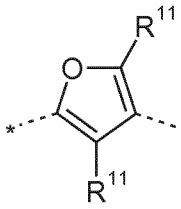
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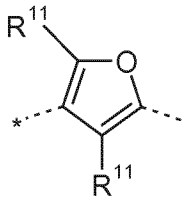
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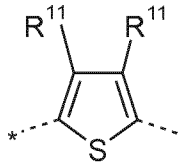
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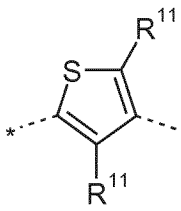
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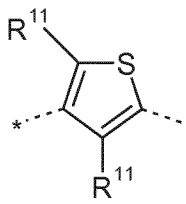
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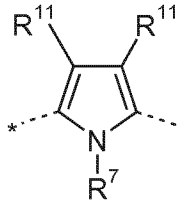
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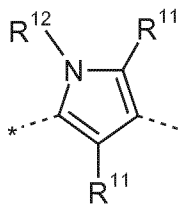
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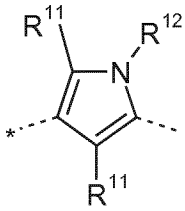
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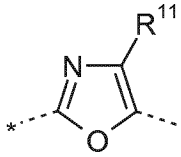
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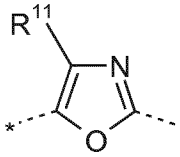
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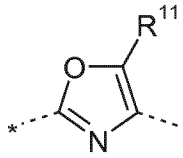
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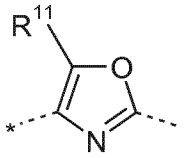
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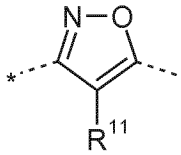
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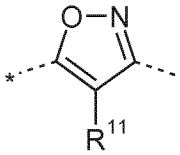
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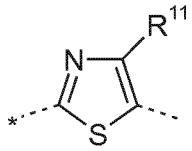
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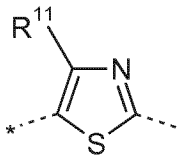
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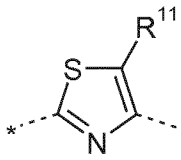
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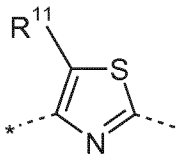
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T25



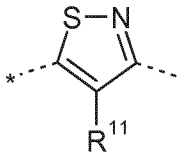
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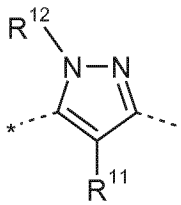
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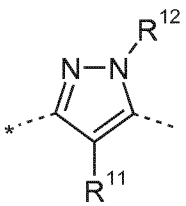
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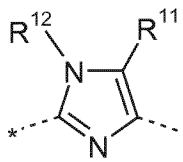
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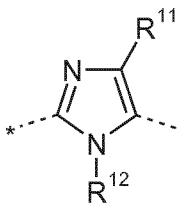
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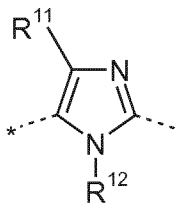
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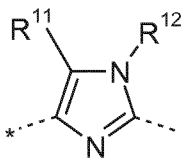
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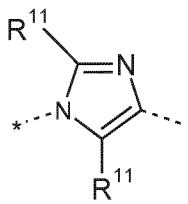
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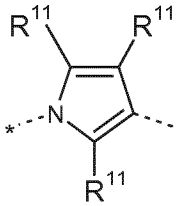
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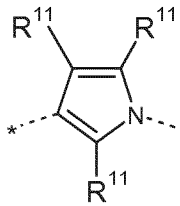
T35



T45



T46



T47

where

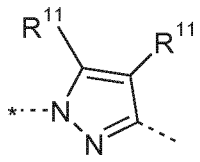
R^{11} is independently H, halogen, cyano, nitro, amino or an optionally substituted C_1-C_6-alkyl, C_1-C_6-alkyloxy, C_1-C_6-alkylcarbonyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, preferably H; and

R^{12} is H, halogen, cyano, nitro, amino or an optionally substituted C_1-C_6-alkyl, C_1-C_6-alkyloxy, C_1-C_6-alkylcarbonyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, preferably H or methyl.

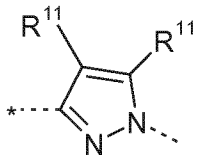
In a further preferred embodiment, R^{11} is independently halogen, cyano, nitro, amino, methyl, ethyl, 1-methylethyl, tert-butyl, trifluoromethyl, difluoromethyl, methoxy, ethoxy, trifluoromethoxy, 2,2-difluoroethoxy, 2,2,2-trifluoroethoxy, methylcarbonyl, ethylcarbonyl, trifluoromethylcarbonyl, methylsulphanyl, methylsulphinyl, methylsulphonyl, trifluoromethylsulphonyl, trifluoromethylsulphanyl or trifluoromethylsulphinyl.

In a more preferred embodiment, R^{11} is independently H, methyl, ethyl, 2-methylethyl, 2,2-dimethylethyl, fluorine, chlorine, bromine, iodine, nitro, trifluoromethyl or amino.

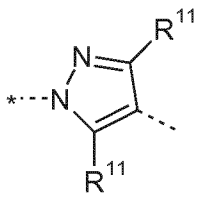
In a further preferred embodiment, T is one of the 5-membered heteroaromatic systems shown below, where the bond to the carbon atom of the (C-B_1-B_5) ring system is identified by a dotted bond marked with an asterisk, and the bond to the carbon atom of the (C-A_1-A_2-A_3-C-A_4)-ring system by a dotted bond.



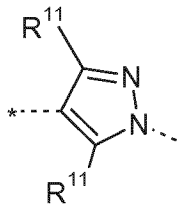
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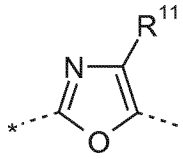
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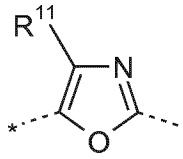
T3



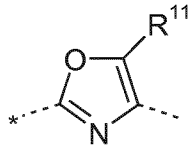
T4



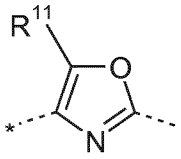
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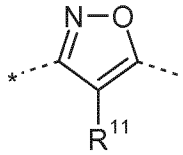
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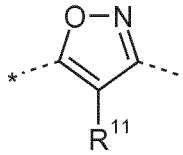
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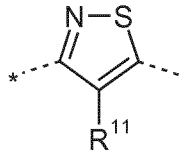
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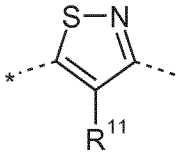
T22



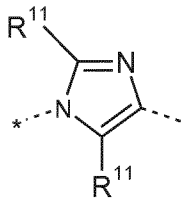
T23



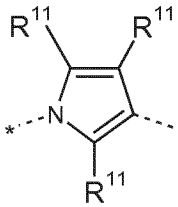
T28



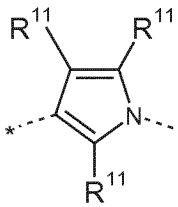
T29



T45



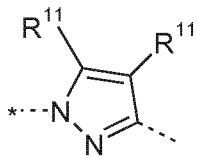
T46



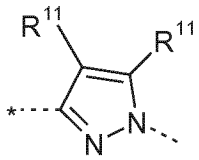
T47

where R^{11} is independently defined as described herein.

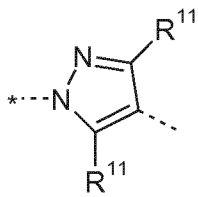
In a more preferred embodiment, T is one of the 5-membered heteroaromatic systems shown below, where the bond to the carbon atom of the (C-B_1-B_5) ring system is identified by a dotted bond marked with an asterisk, and the bond to the carbon atom of the (C-A_1-A_2-A_3-C-A_4)-ring system by a dotted bond.



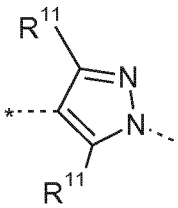
T1



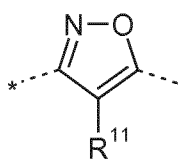
T2

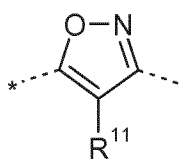


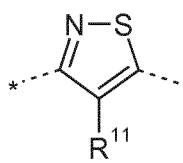
T3

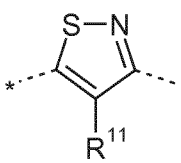


T4

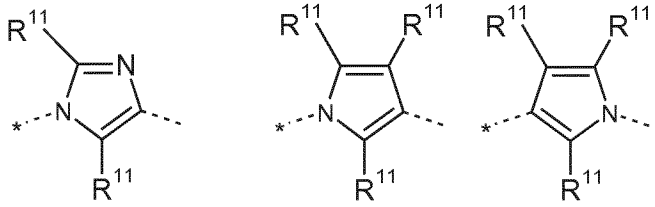








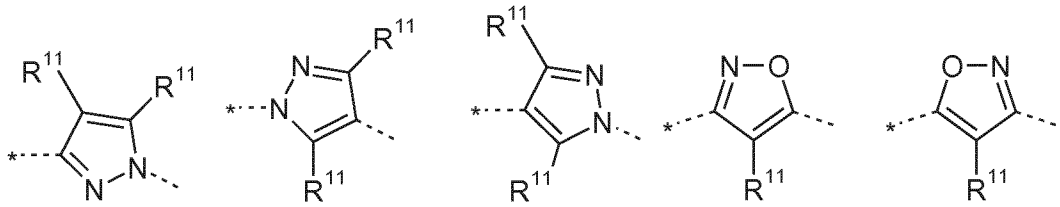
T22 T23 T28 T29



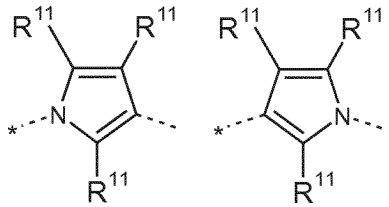
T45 T46 T47

where R^{11} is defined as described herein and n has the values of 1 or 2.

In a particularly preferred embodiment, T is one of the 5-membered heteroaromatic systems shown below, where the bond to the carbon atom of the (C-B_1-B_5) ring system is identified by a dotted bond marked with an asterisk, and the bond to the carbon atom of the (C-A_1-A_2-A_3-C-A_4)-ring system by a dotted bond.



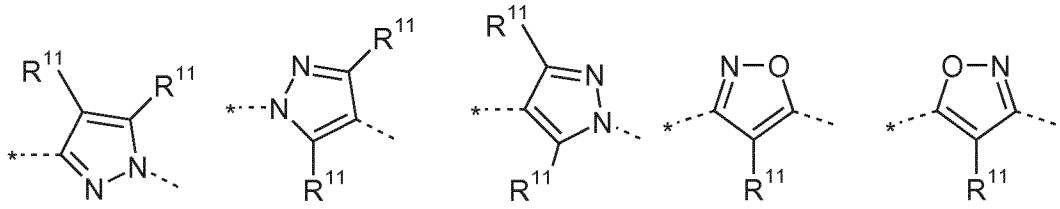
T2 T3 T4 T22 T23



T46 T47

where R^{11} is independently defined as described herein.

In a further particularly preferred embodiment, T is one of the 5-membered heteroaromatic systems shown below, where the bond to the carbon atom of the (C-B_1-B_5) ring system is identified by a dotted bond marked with an asterisk, and the bond to the carbon atom of the (C-A_1-A_2-A_3-C-A_4)-ring system by a dotted bond.



T2 T3 T4 T22 T23

where R^{11} is independently defined as described herein.

In an even more preferred embodiment, in the formula (I) and further general formulae detailed herein,

A_1 is C-R^2 or N, preferably C-R^2,

A_2 is CR^3 or N,

A_3 is CR^4,

A_4 is C-R^5 or N,

B_1 is CR^6,

B_2 is C-H,

B_3 is CR^8,

B_4 is C-H,

B_5 is CR^{10} or N,

R^1 is hydrogen,

R^2 is hydrogen, C_1-C_3-alkyl, fluorine or chlorine, preferably H,

R^3 is hydrogen or halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)),

R^4 is hydrogen, chlorine, fluorine, C_1-C_3-alkyl (such as -CH_3), cyclopropyl, C_1-C_3-alkoxy (such as -O-CH_3), *N*-C_1-C_4-alkylamino (-NH-C_1-C_3-alkyl such as -NH-CH_3), C_3-cycloalkylamino (such as –NH-C_3H_5), *N*-C_1-C_3-alkoxy-C_1-C_3-alkylamino (such as -NH-C_2H_4-O-CH_3) or 1-pyrrolidinyl, more preferably chlorine,

R^5 is hydrogen or fluorine, preferably H,

R^6 and R^{10} are each independently hydrogen, C_1-C_3-alkyl (preferably, R^6 and R^{10} are each C_1-C_3-alkyl), C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine (preferably, R^6 and R^{10} are each chlorine),

R^8 is halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)) or halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)),

R^{11} is hydrogen, cyano (CN) or amino (NH_2),

W is oxygen or sulphur, preferably oxygen,

Q is C_1-C_3-alkyl, cyclopropyl, 1-(cyano)cyclopropyl, 1-(perfluorinated C_1-C_3-alkyl)cyclopropyl (such as (1-(trifluoromethyl)cyclopropyl), 1-(C_1-C_4-alkyl)cyclopropyl (such as 1-(tert-butyl)cyclopropyl), 1-(thiocarbamoyl)cyclopropyl, halogen-substituted C_1-C_3-alkyl (e.g. CH_2CF_3, $CH_2CH_2CF_3$), thietan-3-yl, N-methylpyrazol-3-yl, 2-oxo-2(2,2,2-trifluoroethylamino)ethyl, and

T is a T selected from the group consisting of T1 to T47, preferably T2, T3, T4, T22 or T23 (more preferably T22 or T23).

In a further even more preferred embodiment, in the formula (I) and further general formulae detailed herein,

A_1 is C-R^2 or N, preferably C-R^2,
A_2 is CR^3 or N,
A_3 is CR^4,
A_4 is C-R^5 or N,

B_1 is CR^6,
B_2 is C-H,
B_3 is CR^8,
B_4 is C-H,
B_5 is CR^{10} or N,

R^1 is C_1-C_2-alkyl (methyl or ethyl, more preferably methyl),

R^2 is hydrogen, C_1-C_3-alkyl, fluorine or chlorine, preferably H,

R^3 is hydrogen or halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)),

R^4 is hydrogen, chlorine, fluorine, C_1-C_3-alkyl (such as -CH_3), cyclopropyl, C_1-C_3-alkoxy (such as -O-CH_3), *N*-C_1-C_4-alkylamino (-NH-C_1-C_3-alkyl such as -NH-CH_3), C_3-cycloalkylamino (such as –NH-C_3H_5), *N*-C_1-C_3-alkoxy-C_1-C_3-alkylamino (such as -NH-C_2H_4-O-CH_3) or 1-pyrrolidinyl, more preferably chlorine,

R^5 is hydrogen or fluorine, preferably H,

R^6 and R^{10} are each independently hydrogen, C_1-C_3-alkyl (preferably, R^6 and R^{10} are each C_1-C_3-alkyl), C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine (preferably, R^6 and R^{10} are each chlorine),

R^8 is halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)) or halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)),

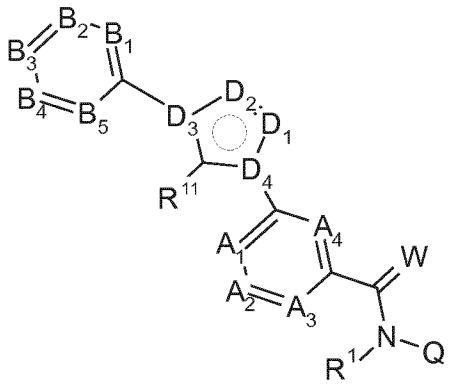
R^{11} is hydrogen, cyano (CN) or amino (NH_2),

W is oxygen or sulphur, preferably oxygen,

Q is C_1-C_3-alkyl, cyclopropyl, 1-(cyano)cyclopropyl, 1-(perfluorinated C_1-C_3-alkyl)cyclopropyl (such as (1-(trifluoromethyl)cyclopropyl), 1-(C_1-C_4-alkyl)cyclopropyl (such as 1-(tert-butyl)cyclopropyl), 1-(thiocarbamoyl)cyclopropyl, halogen-substituted C_1-C_3-alkyl (e.g. CH_2CF_3, $CH_2CH_2CF_3$), thietan-3-yl, N-methylpyrazol-3-yl, 2-oxo-2(2,2,2-trifluoroethylamino)ethyl, and

T is a T selected from the group consisting of T1 to T47, preferably T2, T3, T4, T22 or T23 (more preferably T22 or T23).

A further preferred embodiment additionally relates to compounds of the formula (Ia)



(Ia)

in which

R^1, R^{11}, Q, W, A_1, A_2, A_3, A_4, B_1, B_2, B_3, B_4 and B_5 are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; and

D_1 and D_2 are each independently C-R^{11} or a heteroatom, preferably C-R^{11} or a heteroatom selected from N, O and S, more preferably C-R^{11} or a heteroatom selected from N and O;

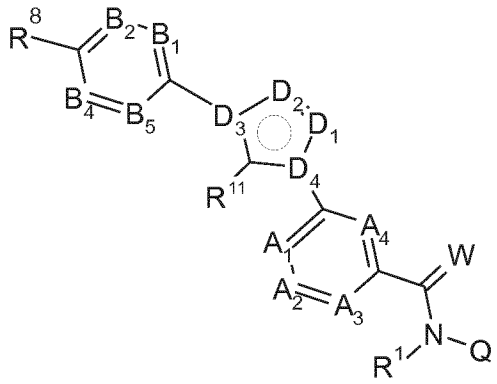
the D_3 and D_4 moieties are each independently C or a heteroatom selected from N;

where one (1) or two moieties selected from D_1, D_2, D_3 and D_4 are a heteroatom;



is an aromatic system.

A further preferred embodiment additionally relates to compounds of the formula (Ia')



(Ia')

in which

R^1, R^{11}, Q, W, A_1, A_2, A_3, A_4, B_1, B_2, B_4 and B_5 are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N;

D_1 and D_2 are each independently C-R^{11} or a heteroatom, preferably C-R^{11} or a heteroatom selected from N, O and S, more preferably C-R^{11} or a heteroatom selected from N and O;

the D_3 and D_4 moieties are each independently C or a heteroatom selected from N;

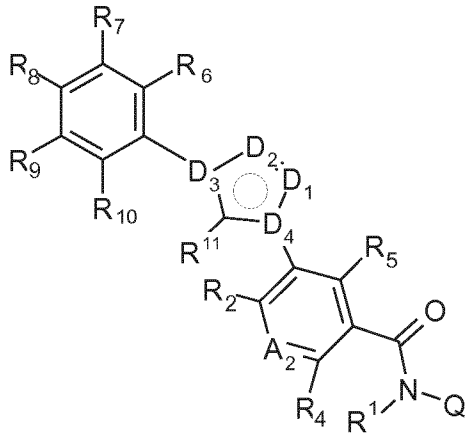
where one (1) or two moieties selected from D_1, D_2, D_3 and D_4 are a heteroatom; in other words, where not more than one (1) or two moieties selected from D_1, D_2, D_3 and D_4 is/are a heteroatom, where one (1) or two moieties selected from D_1, D_2, D_3 and D_4 is a heteroatom selected from N and O in the case of D_1 and D_2, or N in the case of D_3 and D_4;



is an aromatic system

and R^8 is as defined herein, preferably perfluorinated C_1-C_4-alkyl.

A further preferred embodiment relates to compounds of the formula (Ib)



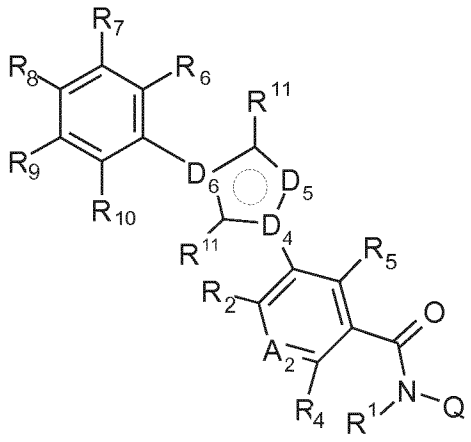
(Ib)

in which R_1, R_2, R_4, R_5, R_6, R_7, R_8, R_9, R_{10}, R_{11}, A_2, Q, D_1, D_2, D_3 D_4 and ◯ are each defined as described herein, and where one (1) or two moieties selected from D_1, D_2, D_3 and D_4 are a heteroatom.

Two particularly preferred embodiments relate to compounds of the formula (Ib) and (Id) in which D_1 is N, D_2 is O and D_3 and D_4 are C; or D_1 is C-R^{13}, D_2 is N and D_3 is N and D_4 is C, where R_{13} is H, halogen, cyano, nitro, amino or an optionally substituted C_1-C_6-alkyl, C_1-C_6-alkyloxy, C_1-C_6-alkylcarbonyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, preferably H or halogen such as F, Cl, Br or I, and more preferably H; and R_1 is preferably H or R_1 is preferably methyl.

A further particularly preferred embodiment relates to compounds of the formula (Ib) and (Id) in which D_1 is O, D_2 is N and D_3 and D_4 are C; where R_{13} is H, halogen, cyano, nitro, amino or an optionally substituted C_1-C_6-alkyl, C_1-C_6-alkyloxy, C_1-C_6-alkylcarbonyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, preferably H or halogen such as F, Cl, Br or I, and more preferably H; and R_1 is preferably H or R_1 is preferably methyl.

A further preferred embodiment relates to compounds of the formula (Ic)



(Ic)

in which R_1, R_2, R_4, R_5, R_6, R_7, R_8, R_9, R_{10}, R_{11}, A_2 and Q are each defined as described herein and ◯ is an aromatic system; and

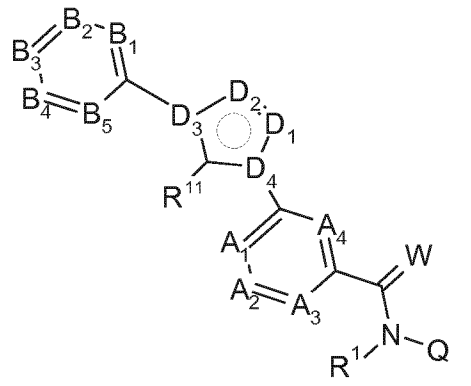
a moiety selected from D_4 and D_6 is N, where the respective other moiety selected from D_4 and D_6 is N or C; and

D_5 is N or C-R^{11};

under the condition that not more than two moieties selected from D_4, D_5 and D_6 are N.

Preferred embodiments relate to compounds of the formula (Ic) in which D_4 is N and D_5 and D_6 are each C-R^{11}; in which D_6 is N and D_5 and D_4 are each C-R^{11}; or in which D_4 and D_5 are each N and D_6 is C-R^{11}.

A further preferred embodiment relates to compounds of the formula (Id)



(Id)

where R^1, R^{11}, Q, W, A_1, A_2, A_3, A_4, B_1, B_2, B_3, B_4 and B_5, D_1, D_2, D_3 and D_4 and ◯ are each defined as described herein, where not more than one (1) or two moieties selected from D_1, D_2, D_3 and D_4 are a

heteroatom and where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N.

A particularly preferred embodiment relates to compounds of the formula (Ia), (Ib), (Ic) or (Id) in which R^8 is C_1-C_6-alkyl, halogen-substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, halogen-substituted C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, halogen-substituted C_1-C_6-alkoxy, *N*-alkoxyiminoalkyl, halogen-substituted C_1-C_6-alkylsulphanyl, halogen-substituted C_1-C_6-alkylsulphinyl, halogen-substituted C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino, *N,N*-di-C_1-C_4-alkylamino, and is halogen, cyano or nitro. Examples are fluorine, chlorine, bromine, iodine, cyano, nitro, methyl, ethyl, difluoromethyl, trichloromethyl, chlorodifluoromethyl, dichlorofluoromethyl, trifluoromethyl, chloromethyl, bromomethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 1,2,2,2-tetrafluoroethyl, 1-chloro-1,2,2,2-tetrafluoroethyl, 2,2,2-trichloroethyl, 2-chloro-2,2-difluoroethyl, 1,1-difluoroethyl, pentafluoroethyl, pentafluoro-tert-butyl, heptafluoro-n-propyl, heptafluoroisopropyl, nonafluoro-n-butyl, nonafluoro-sec-butyl, cyclopropyl, cyclobutyl, methoxy, ethoxy, n-propoxy, 1-methylethoxy, fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy, *N*-methoxyiminomethyl, 1-(*N*-methoxyimino)ethyl, methylsulphanyl, methylsulphonyl, methylsulphinyl, trifluoromethylsulphonyl, trifluoromethylsulphinyl, trifluoromethylsulphanyl, *N,N*-dimethylamino. More preferably, R^8 is halogen-substituted C_1-C_4-alkyl such as difluoromethyl, trichloromethyl, chlorodifluoromethyl, dichlorofluoromethyl, trifluoromethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 1,2,2,2-tetrafluoroethyl, 1-chloro-1,2,2,2-tetrafluoroethyl, 2,2,2-trichloroethyl, 2-chloro-2,2-difluoroethyl, 1,1-difluoroethyl, pentafluoroethyl, pentafluoro-tert-butyl, heptafluoro-n-propyl, heptafluoroisopropyl, nonafluoro-n-butyl, nonafluoro-sec-butyl; halogen-substituted C_1-C_4-alkoxy such as fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy; trifluoromethylsulphonyl; trifluoromethylsulphinyl; or trifluoromethylsulphanyl. Even more preferably, R^8 is difluoromethyl, trichloromethyl, chlorodifluoromethyl, dichlorofluoromethyl, trifluoromethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 1,2,2,2-tetrafluoroethyl, 1-chloro-1,2,2,2-tetrafluoroethyl, 2,2,2-trichloroethyl, 2-chloro-2,2-difluoroethyl, 1,1-difluoroethyl, pentafluoroethyl, pentafluoro-tert-butyl, heptafluoro-n-propyl, heptafluoroisopropyl, nonafluoro-n-butyl, nonafluoro-sec-butyl, fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy, trifluoromethylsulphonyl, trifluoromethylsulphinyl or trifluoromethylsulphanyl. More preferably, R^8 in compounds of the formula (Ib) is perfluorinated C_1-C_3-alkyl such as perfluorinated propyl (-C_3F_7), perfluorinated ethyl (C_2F_5) or perfluorinated methyl (CF_3), most preferably perfluorinated propyl (-C_3F_7) or perfluorinated methyl.

Particularly preferred compounds corresponding to the compounds of the formula (Ia) are compounds of the formula (I-T2), (I-T3), (I-T4), (I-T22) and (I-T23).

One embodiment of the present invention relates to combinations with compounds of the formula (I-T2) and (I-T4).

A further embodiment relates to compounds of the formula (I-T3).

A further embodiment relates to compounds of the formulae (I-T22) and (I-T23).

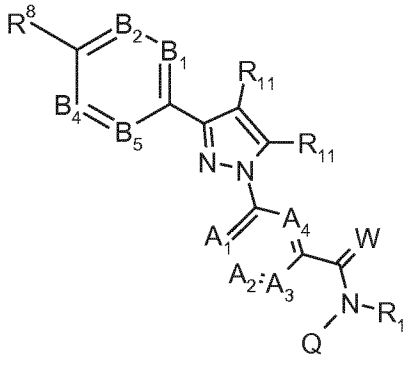
Therefore, a very particularly preferred embodiment relates to compounds of the formula (I-T2). A preferred embodiment relates in turn to compounds of the formula (I-T2) in which R^1 is H. A further preferred embodiment relates in turn to compounds of the formula (I-T2) in which R^1 is methyl.

A further very particularly preferred embodiment relates to compounds of the formula (I-T3). A preferred embodiment relates in turn to compounds of the formula (I-T3) in which R^1 is H. A further preferred embodiment relates in turn to compounds of the formula (I-T3) in which R^1 is methyl.

A further very particularly preferred embodiment relates to compounds of the formula (I-T4). A preferred embodiment relates in turn to compounds of the formula (I-T4) in which R^1 is H. A further preferred embodiment relates in turn to compounds of the formula (I-T4) in which R^1 is methyl.

A further very particularly preferred embodiment relates to compounds of the formula (I-T22). A preferred embodiment relates in turn to compounds of the formula (I-T22) in which R^1 is H. A further preferred embodiment relates in turn to compounds of the formula (I-T22) in which R^1 is methyl.

A further very particularly preferred embodiment relates to compounds of the formula (I-T23). A preferred embodiment relates in turn to compounds of the formula (I-T23) in which R^1 is H. A further preferred embodiment relates in turn to compounds of the formula (I-T23) in which R^1 is methyl.

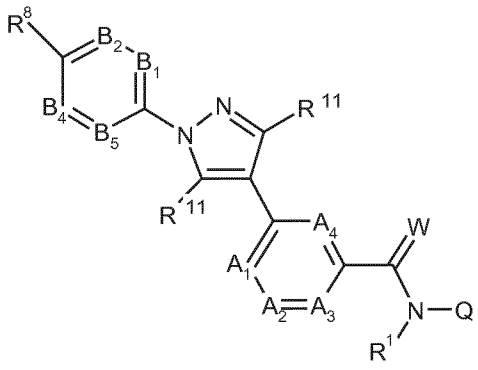


(I-T2)

in which

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, R^{11}, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety

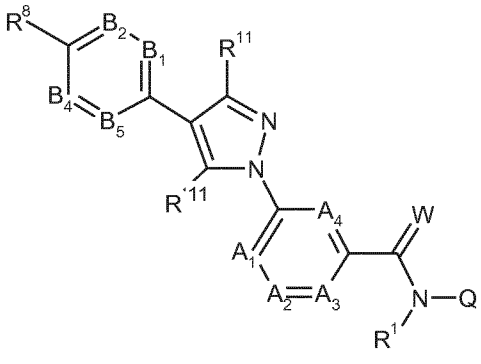
selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or



(I-T3)

in which

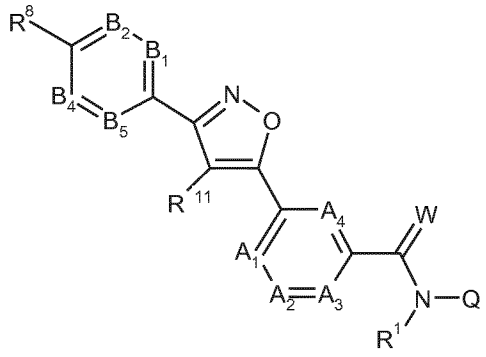
R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, R^{11}, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or



(I-T4)

in which

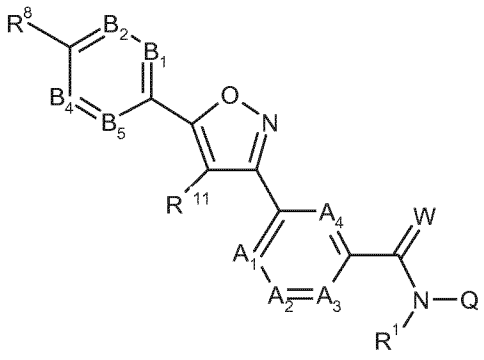
R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, R^{11}, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or



(T-22)

in which

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, R^{11}, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or

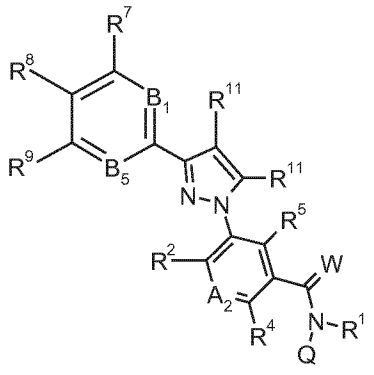


(I-T23)

in which

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, R^{11}, Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 may be N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N.

A further preferred embodiment relates to compounds of the formula (In) (T = T2)



(In)

in which R^1, Q, W, A_2, B_1, B_5, R^2, R^4, R^5, R^6, R^7, R^8, R^9 and R^{11} are each defined as described herein, in which R^1 represents H or in which R^1 represents methyl.

A further-preferred embodiment relates to compounds of the formula (In) in which

W	is O;
Q	is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl; preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl; more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;
R^7 and R^9	are each H;
R^{11}	in each case is H;
R^1	is H;
R^2	is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;
R^4	is H or halogen, preferably H, fluoro or chloro;
R^5	is H or halogen, preferably H, fluoro or chloro;
B_5	is N or C-R^{10}, preferably C-R^{10} in which
R^{10}	is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;
A_2	is N or C-R^3, preferably C-R^3 in which

R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;

R^6 is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A further-preferred embodiment relates to compounds of the formula (In) in which

W is O;

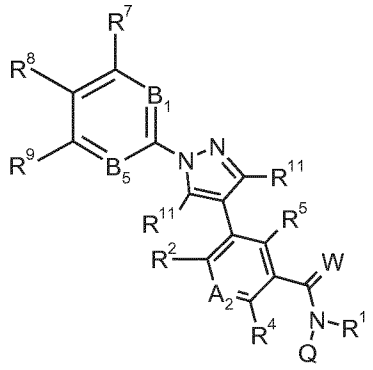
Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;

preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl;

more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9	are each H;
R^{11}	in each case is H;
R^1	is methyl;
R^2	is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;
R^4	is H or halogen, preferably H, fluoro or chloro;
R^5	is H or halogen, preferably H, fluoro or chloro;
B_5	is N or C-R^{10}, preferably C-R^{10} in which
R^{10}	is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;
A_2	is N or C-R^3, preferably C-R^3 in which
R^3	is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;
R^6	is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);
R^8	is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A further preferred embodiment relates to compounds of the formula (Ie) (T = T3)



(Ie)

in which R^1, Q, W, A_2, B_1, B_5, R^2, R^4, R^5, R^6, R^7, R^8, R^9 and R^{11} are each defined as described herein, in which R^1 represents H or in which R^1 represents methyl.

A further-preferred embodiment relates to compounds of the formula (Ie) in which

W is O;

Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;
preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl;
more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9 are each H;

R^{11} in each case is H;

R^1 is H;

R^2 is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;

R^4 is H or halogen, preferably H, fluoro or chloro;

R^5 is H or halogen, preferably H, fluoro or chloro;

B_5 is N or C-R^{10}, preferably C-R^{10} in which

R^{10} is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;

A_2 is N or C-R^3, preferably C-R^3 in which

R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;

R^6 is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A further-preferred embodiment relates to compounds of the formula (Ie) in which

W is O;

Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;
preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic

ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl; more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9 are each H;

R^{11} in each case is H;

R^1 is methyl;

R^2 is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;

R^4 is H or halogen, preferably H, fluoro or chloro;

R^5 is H or halogen, preferably H, fluoro or chloro;

B_5 is N or C-R^{10}, preferably C-R^{10} in which

R^{10} is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;

A_2 is N or C-R^3, preferably C-R^3 in which

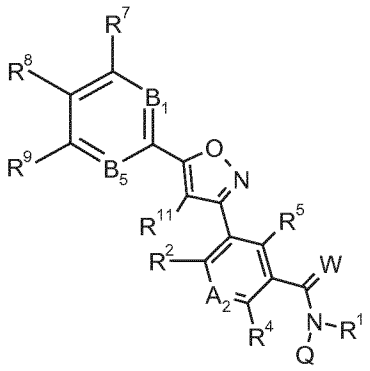
R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;

R^6 is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-

substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A further-preferred embodiment relates to compounds of the formula (If) (T = T23)



(If)

in which R^1, Q, W, A_2, B_1, B_5, R^2, R^4, R^5, R^6, R^7, R^8, R^9 and R^{11} are each defined as described herein, in which R^1 represents H or in which R^1 represents methyl.

A preferred embodiment relates to compounds of the formula (If) in which

W is O;

Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;
preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl;
more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-

(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9 are each H;

R^{11} in each case is H;

R^1 is H;

R^2 is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;

R^4 is H or halogen, preferably H, fluorine or chlorine;

R^5 is H or halogen, preferably H, fluorine or chlorine;

B_5 is N or C-R^{10}, preferably C-R^{10} in which

R^{10} is H, halogen, C_1-C_4-alkyl or C_1-C_4-alkoxy, preferably H, fluorine, bromine, chlorine, C_1-C_2-alkyl or C_1-C_2-alkoxy, more preferably H, chlorine, bromine, fluorine, methyl or methoxy;

A_2 is N or C-R^3, preferably C-R^3 in which

R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluorine-substituted methyl, for example perfluoromethyl;

R^6 is H, halogen, optionally substituted C_1-C_4-alkyl or optionally substituted C_1-C_4-alkoxy, preferably fluorine, chlorine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A preferred embodiment relates to compounds of the formula (If) in which

W is O;

Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;

preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic

ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl; more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9 are each H;

R^{11} in each case is H;

R^1 is methyl;

R^2 is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;

R^4 is H or halogen, preferably H, fluorine or chlorine;

R^5 is H or halogen, preferably H, fluorine or chlorine;

B_5 is N or C-R^{10}, preferably C-R^{10} in which

R^{10} is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;

A_2 is N or C-R^3, preferably C-R^3 in which

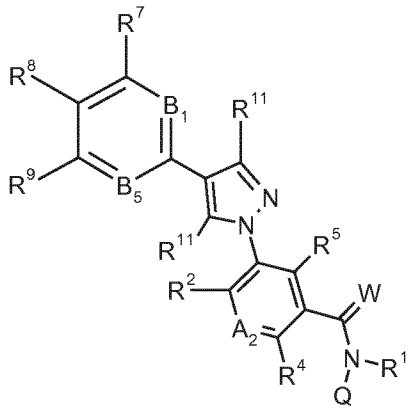
R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;

R^6 is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-

substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A further-preferred embodiment relates to compounds of the formula (Ig) (T = T4)



(Ig)

in which R^1, Q, W, A_2, B_1, B_5, R^2, R^4, R^5, R^6, R^7, R^8, R^9 and R^{11} are each defined as described herein, in which R^1 represents H or in which R^1 represents methyl.

A preferred embodiment relates to compounds of the formula (Ig) in which

W is O;

Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;

preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl;

more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-

(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9 are each H;

R^{11} in each case is H;

R^1 is H;

R^2 is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;

R^4 is H or halogen, preferably H, fluorine or chlorine;

R^5 is H or halogen, preferably H, fluorine or chlorine;

B_5 is N or C-R^{10}, preferably C-R^{10} in which

R^{10} is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;

A_2 is N or C-R^3, preferably C-R^3 in which

R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;

R^6 is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A preferred embodiment relates to compounds of the formula (Ig) in which

W is O;

Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O),

optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;

preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl;

more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9 are each H;

R^{11} in each case is H;

R^1 is methyl;

R^2 is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;

R^4 is H or halogen, preferably H, fluorine or chlorine;

R^5 is H or halogen, preferably H, fluorine or chlorine;

B_5 is N or C-R^{10}, preferably C-R^{10} in which

R^{10} is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;

A_2 is N or C-R^3, preferably C-R^3 in which

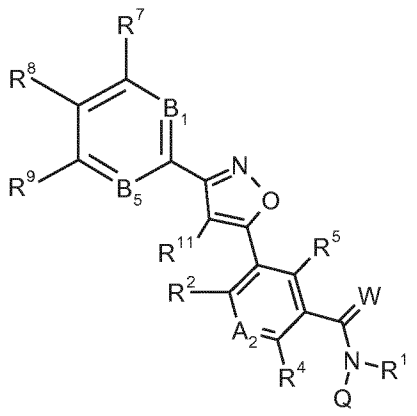
R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;

R^6 is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more

preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A further-preferred embodiment relates to compounds of the formula (Io) (T = T22)



(Io)

in which R^1, Q, W, A_2, B_1, B_5, R^2, R^4, R^5, R^6, R^7, R^8, R^9 and R^{11} are each defined as described herein, in which R^1 represents H or in which R^1 represents methyl.

A preferred embodiment relates to compounds of the formula (Io) in which

W is O;

Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;

preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl;

more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9 are each H;

R^{11} in each case is H;

R^1 is H;

R^2 is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;

R^4 is H or halogen, preferably H, fluorine or chlorine;

R^5 is H or halogen, preferably H, fluorine or chlorine;

B_5 is N or C-R^{10}, preferably C-R^{10} in which

R^{10} is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;

A_2 is N or C-R^3, preferably C-R^3 in which

R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;

R^6 is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

A preferred embodiment relates to compounds of the formula (Io) in which

W is O;

Q is optionally substituted C_1-C_4-alkyl or optionally substituted C_3-C_6-cycloalkyl or an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V substituents, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_6-alkoxy, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl;

preferably halogen-substituted C_1-C_3-alkyl; with cyano, hydroxyl or carbonamide (-C(=O)N(R)$_2$ where R is independently H or C_1-C_3-alkyl, substituted C_1-C_3-alkyl; C_3-cycloalkyl; cyano-substituted, halogen-substituted, nitro-substituted or halogenated C_1-C_2-alkyl-substituted C_3-cycloalkyl; an unsaturated 4-, 5- or 6-membered heterocyclic ring optionally substituted by one, two or three V and containing one or two heteroatoms selected from a group consisting of N, O and S, where V is independently halogen, cyano, nitro, oxo (=O), optionally halogen-substituted C_1-C_6-alkyl;

more preferably fluorinated C_1-C_3-alkyl such as CF_3, CH_2CF_3 or $CH_2CH_2CF_3$; C_1-C_3-alkyl substituted by carbonamide (–C(=O)N(R)$_2$ where R is independently H, C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkyl), such as 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl; cyclopropyl; cyano-substituted or fluorinated C_1-C_2-alkyl-substituted cyclopropyl such as 1-(cyano)cyclopropyl or 1-(trifluoromethyl)cyclopropyl); a 4-membered heterocyclic ring containing one heteroatom selected from a group consisting of N, O and S, such as thietan-3-yl;

R^7 and R^9 are each H;

R^{11} in each case is H;

R^1 is methyl;

R^2 is H, halogen or C_1-C_4-alkyl, preferably H, fluorine, chlorine or methyl;

R^4 is H or halogen, preferably H, fluorine or chlorine;

R^5 is H or halogen, preferably H, fluorine or chlorine;

B_5 is N or C-R^{10}, preferably C-R^{10} in which

R^{10} is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy (preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, bromine or chlorine;

A_2 is N or C-R^3, preferably C-R^3 in which

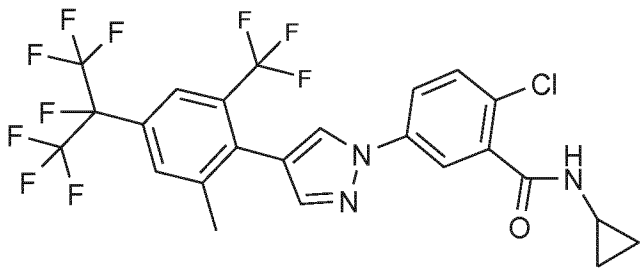
R^3 is H, halogen, or optionally substituted C_1-C_4-alkyl, preferably H, fluorine, chlorine or optionally halogen-substituted C_1-C_2-alkyl, more preferably H or fluoro-substituted methyl, for example perfluoromethyl;

R^6 is hydrogen, C_1-C_3-alkyl, C_1-C_3-alkoxy, halogen-substituted C_1-C_3-alkyl (preferably perfluorinated C_1-C_3-alkyl (CF_3, C_2F_5 or C_3F_7)), halogen-substituted C_1-C_3-alkoxy

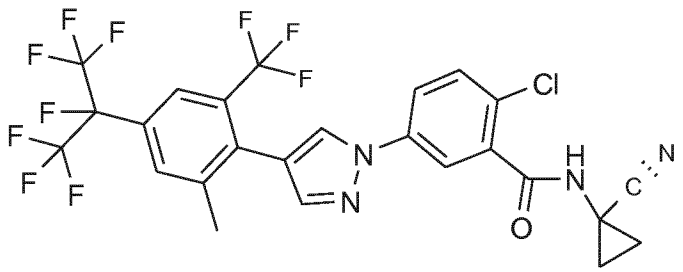
(preferably perfluorinated C_1-C_3-alkoxy (OCF_3, OC_2F_5 or OC_3F_7)), C_1-C_3-alkylsulphanyl, C_1-C_3-alkylsulphinyl, C_1-C_3-alkylsulphonyl, fluorine, chlorine or bromine, preferably fluorine, chlorine, bromine, C_1-C_2-alkyl, halogen-substituted C_1-C_2-alkyl (e.g. perfluoromethyl) or optionally halogen-substituted C_1-C_2-alkoxy, more preferably fluorine, bromine, chlorine, methyl, ethyl, fluorinated methyl or fluorinated ethyl (more preferably perfluoromethyl or perfluoroethyl), fluorinated methoxy or fluorinated ethoxy (more preferably perfluoromethoxy);

R^8 is halogen or optionally halogen-substituted C_1-C_4-alkyl or optionally halogen-substituted C_1-C_4-alkoxy, preferably halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy, more preferably halogen-substituted C_1-C_3-alkyl such as fluorinated C_1-C_3-alkyl (e.g. fluorinated C_3-alkyl such as perfluoropropyl).

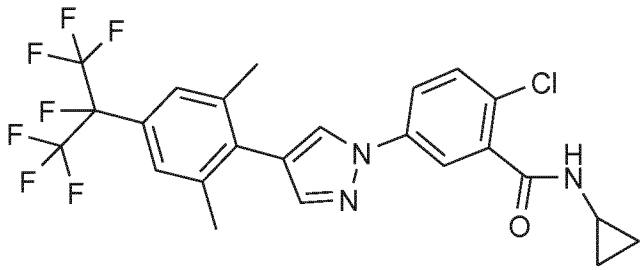
Examples of compounds of the formula (I) include the following structures:



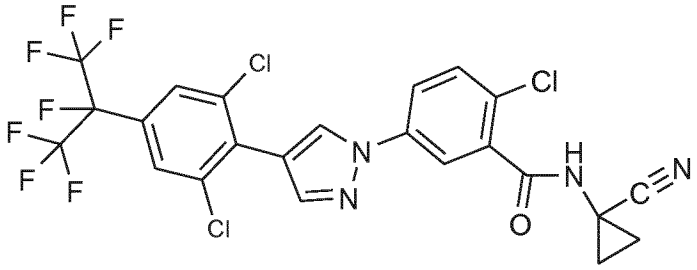
2-chloro-N-cyclopropyl-5-[1-[4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)-2-methyl-6-(trifluoromethyl)phenyl]-1H-pyrazol-4-yl]benzamide,



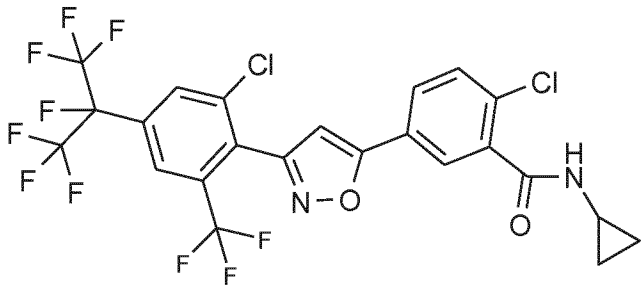
2-chloro-N-(1-cyanocyclopropyl-5-[1-[4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)-2-methyl-6-(trifluoromethyl)phenyl]-1H-pyrazol-4-yl]benzamide,



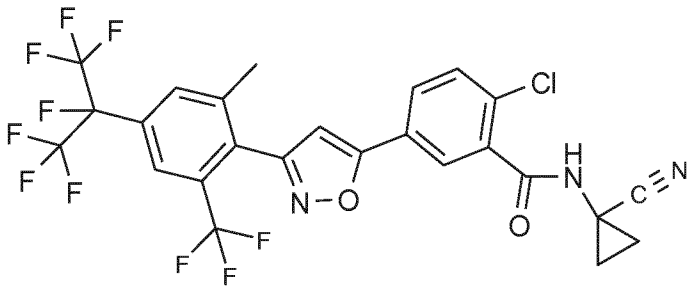
2-chloro-N-cyclopropyl-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzamide,



2-chloro-N-(1-cyanocyclopropyl)-5-[4-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzamide,

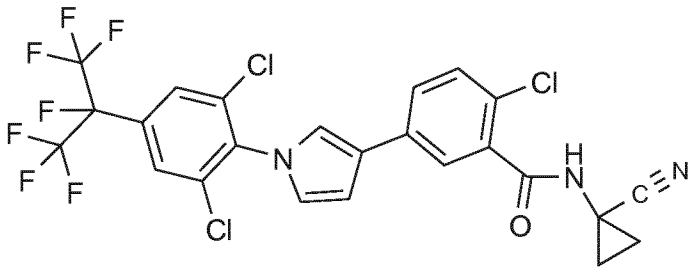


2-chloro-5-[3-[2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]isoxazol-5-yl]-N-cyclopropylbenzamide,

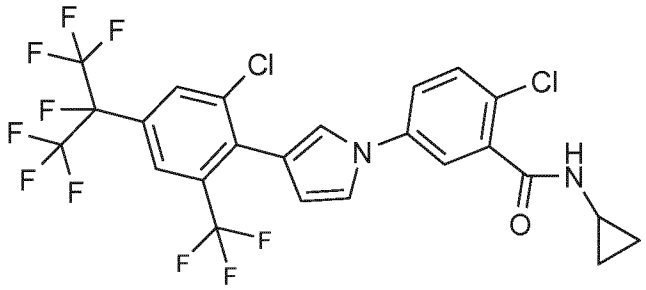


2-chloro-N-(1-cyanocyclopropyl)-5-[3-[2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]isoxazol-5-yl]benzamide,

Further compounds useful in the present invention are



2-chloro-N-(1-cyanocyclopropyl)-5-[1-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrol-3-yl]benzamide,



2-chloro-5-[3-[2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]pyrrol-1-yl]-N-cyclopropylbenzamide.

R1 Methyl

A preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl and all the other parameters are as defined in paragraph [85].

T3 - Methyl

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T3, R^{11} in T3 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T3, R^{11} in T3 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T3, R^{11} in T3 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T3, R^{11} in T3 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T2 - Methyl

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T2, R^{11} in T2 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T2, R^{11} in T2 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined in paragraph [85] and paragraph [112].

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T2, R^{11} in T2 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T2, R^{11} in T2 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T4 - Methyl

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T4, R^{11} in T4 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T4, R^{11} in T4 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T4, R^{11} in T4 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is Ch, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T4, R^{11} in T4 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T22 - Methyl

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T22, R^{11} in T22 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T22, R^{11} in T22 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T22, R^{11} in T22 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T22, R^{11} in T22 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T23 - Methyl

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T23, R^{11} in T23 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T23, R^{11} in T23 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T23, R^{11} in T23 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T23, R^{11} in T23 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T3 - H

A preferred embodiment relates to compounds of the formula (I) in which R^1 is hydrogen (H) and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T3, R^{11} in T3 is H, W is O and all the other parameters are as defined in paragraph [85] and paragraph [0113] et seq.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T3, R^{11} in T3 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T3, R^{11} in T3 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T3, R^{11} in T3 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T2 - H

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T2, R^{11} in T2 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T2, R^{11} in T2 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T2, R^{11} in T2 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T2, R^{11} in T2 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T4 - H

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T4, R^{11} in T4 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T4, R^{11} in T4 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T4, R^{11} in T4 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T4, R^{11} in T4 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T22 - H

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T22, R^{11} in T22 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T22, R^{11} in T22 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T22, R^{11} in T22 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T22, R^{11} in T22 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

T23 - H

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T23, R^{11} in T23 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T23, R^{11} in T23 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T23, R^{11} in T23 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T23, R^{11} in T23 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which B_1 is C-R^6 and R^6 is halogen (preferably chlorine or fluorine), C_1-C_4-alkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkyl (preferably perfluorinated C_1-C_4-alkyl), C_1-C_4-haloalkoxy (preferably perfluorinated C_1-C_4-alkoxy), C_1-C_4-alkylsulphanyl or C_1-C_4-alkylsulphonyl.

In the present combinations the compounds of formula (I) described in detail above are combined with other active compounds, namely (1) ectoparasiciticides in particular having acaricidal and/or insecticidal activity; (2) anthelmintics in particular having nematicidal, trematicidal and/or cestodicial activity; (3) anti-protozoal agents, in order to widen the activity spectrum. Potential mixing components for compounds of the formula (I) according to the invention for applications in animal health may be one or more compounds of the groups of active compounds listed below. The following active compounds can be used in the present combinations:

Exemplary active ingredients from the group of ectoparasiticides, as mixing partners, include, without limitation, the following insecticidal and/or acaricidal compounds

- acetylcholinesterase (AChE) inhibitors, for example carbamates, e.g. alanycarb, aldicarb, aldoxycarb, allyxycarb, aminocarb, bendiocarb, benfuracarb, bufencarb, butacarb, butocarboxim, butoxycarboxim, carbaryl, carbofuran, carbosulfan, cloethocarb, dimetilan, ethiofencarb, fenobucarb, fenothiocarb, formetanate, furathiocarb, isoprocarb, metam-sodium, methiocarb,

methomyl, metolcarb, oxamyl, pirimicarb, promecarb, propoxur, thiodicarb, thiofanox, trimethacarb, XMC, xylylcarb, triazamate, formparanate or organophosphates, e.g. acephate, azamethiphos, azinphos (-methyl, -ethyl), aromophos-ethyl, aromfenvinfos (-methyl), autathiofos, cadusafos, carbophenothion, chlorethoxyfos, chlorfenvinphos, chlormephos, chlorpyrifos (-methyl/-ethyl), cyanofenphos, cyanophos, demeton-s-methyl, demeton-s-methylsulphone, dialifos, diazinon, dichlofenthion, dicrotophos, dimethoate, dimethylvinphos, dioxabenzofos, disulfoton, epn, ethion, ethoprophos, etrimfos, famphur, fenamiphos, fenitrothion, fensulfothion, fenthion, flupyrazofos, fonofos, formothion, fosmethilan, fosthiazate, heptenophos, iodofenphos, iprobenfos, isazofos, isofenphos, isopropyl o-salicylate, isoxathion, malathion, mecarbam, methacrifos, methamidophos, methidathion, mevinphos, monocrotophos, naled, omethoate, oxydemeton-methyl, parathion (-methyl/-ethyl), phenthoate, phorate, phosalone, phosmet, phosphamidone, phosphocarb, phoxim, pirimiphos (-methyl/-ethyl), profenofos, propaphos, propetamphos, prothiofos, prothoate, pyraclofos, pyridaphenthion, pyridathion, quinalphos, sebufos, sulfotep, sulprofos, tebupirimfos, temephos, terbufos, tetrachlorvinphos, thiometon, triazophos, vamidothion, trichlorfon, imicyafos;

- GABA-gated chloride channel antagonists, for example organochlorines, e.g. camphechlor, chlordane, endosulfan, heptachlor, lindane or m-diamides, e.g. broflanilide or phenylpyrazoles, e.g. flufiprole, acetoprole, ethiprole, fipronil, pyrafluprole, pyriprole, vaniliprole or arylisoxazolines, not excluding related classes with pyrroline or pyrrolidine moiety replacing the isoxazoline ring , e.g. fluralaner, afoxolaner, sarolaner, lotilaner, fluxametamide, 4-[5-(3,5-dichlorophenyl)-5-(trifluoromethyl)-4,5-dihydro-1,2-oxazol-3-yl]-2-methyl-n-(1-oxidothietan-3-yl)benzamide (known from WO2009/080250);
- sodium channel modulators / voltage-dependent sodium channel blockers, for example pyrethroids, e.g. heptafluthrin, tetramethylfluthrin, acrinathrin, allethrin (d-cis-trans, d-trans-), beta-cyfluthrin, bifenthrin, bioallethrin, bioallethrin-s-cyclopentyl-isomer, bioethanomethrin, biopermethrin, bioresmethrin, chlovaporthrin, cis-cypermethrin, cis-resmethrin, cis-permethrin, clocythrin, cycloprothrin, cyfluthrin, cyhalothrin (lambda-), cypermethrin (alpha-, beta-, theta-, zeta-), cyphenothrin, deltamethrin, empenthrin (1r-isomer), esfenvalerate, etofenprox, fenfluthrin, fenpropathrin, fenpyrithrin, fenvalerate, flubrocythrinate, flucythrinate, flufenprox, flumethrin, fluvalinate, fubfenprox, gamma-cyhalothrin, imiprothrin, kadethrin, lambda-cyhalothrin, metofluthrin, permethrin (cis-, trans-), phenothrin (1r-trans isomer), prallethrin, profluthrin, protrifenbute, pyresmethrin, resmethrin, RU15525, silafluofen, tau-fluvalinate, tefluthrin, terallethrin, tetramethrin (-1r- isomer), tralomethrin, transfluthrin, pyrethrins (pyrethrum), halfenprox, momfluorothrin or halogenated carbonhydrogen compounds (HCHs), e.g. methoxychlor or oxadiazines, e.g. indoxacarb or semicarbazones, e.g. metaflumizone;
- acetylcholine receptor agonists/antagonists, for example neonicotinoids, e.g. imidacloprid, thiacloprid, imidaclothiz, nitenpyram, thiamethoxam, clothianidin, dinotefuran, acetamiprid, nithiazine, paichongding, cycloxaprid, guadipyr, N-[(2E)-1-[(6-chloropyridin-3-yl)methyl]pyridin-2(1H)-ylidene]-2,2,2-trifluoroacetamide (known from WO2012/029672), (3E)-3-[1-[(6-chloro-3-

pyridyl)methyl]-2-pyridylidene]-1,1,1-trifluoro-propan-2-one (known from WO2013/144213) or sulfoximine insecticides, e.g. sulfoxaflor or butenolides, e.g. flupyradifurone or nereistoxin analogues, e.g. cartap, bensultap, thiocyclam, thiosultap sodium, thiocyclam hydrogen oxalate;

- acetylcholine receptor modulators, for example spinosynes, e.g. spinosad, spinetoram or zwitterionic insecticides, e.g. triflumezopyrim, dicloromezotiaz, 1-[(2-chloro-1,3-thiazol-5-yl)methyl]-4-oxo-3-phenyl-4H-pyrido[1,2-a]pyrimidin-1-ium-2-olate (known from WO2009/099929), 1-[(6-chloropyridin-3-yl)methyl]-4-oxo-3-phenyl-4H-pyrido[1,2-a]pyrimidin-1-ium-2-olate (known from WO2009/099929);
- ligand-gated chloride channel activators, for example macrocyclic lactones, e.g. emamectin benzoate, abamectin, ivermectin, milbemectin, milbemycin oxime, latidectin, lepimectin, selamectin, doramectin, eprinomectin, moxidectin, nemadectin or indole diterpenes, e.g. nodulisporic acid A;
- juvenile hormone mimetics, for example juvenile hormon analogues, e.g. diofenolan, epofenonane, fenoxycarb, hydroprene, kinoprene, methoprene, pyriproxyfen, triprene;
- selective homopteran feeding blockers, for example triazinones, e.g. pymetrozine or pyridine carboxamides, e.g. flonicamid;
- Biologicals, hormones or pheromones, for example natural products, e.g. codlemone, thuringiensin or neem components, e.g. azadirachtin A or other classes, e.g. preparations based on bacillus firmus (i-1582; bioneem; votivo);
- inhibitors of oxidative phosphorylation, mitochondrial ATP synthase disruptors, for example organotin compounds, e.g. azocyclotin, cyhexatin, fenbutatin-oxide or other classes, e.g. diafenthiuron, tetradifon, propargite;
- decouplers of oxidative phosphorylation by interruption of H-proton gradients, for example dinitrophenols, e.g. binapacryl, dinobuton, dinocap, DNOC or pyrroles, e.g. chlorfenapyr or other decouplers, e.g. sulfluramid;
- inhibitors of chitin biosynthesis or cuticle development, for example benzoylureas, e.g. bistrifluron, chlorfluazuron, diflubenzuron, fluazuron, flucycloxuron, flufenoxuron, hexaflumuron, lufenuron, novaluron, noviflumuron, penfluron, teflubenzuron, triflumuron or other inhibitors of cuticle development, e.g. buprofezin, cyromazine;
- ecdysone agonists/disruptors, for example diacylhydrazines, e.g. chromafenozide, halofenozide, methoxyfenozide, tebufenozide, fufenozide;
- octopaminergic agonists, for example amidine derivatives, e.g. amitraz, cymiazole, demiditraz, chlormebuform;
- mitochondrial complex I electron transport inhibitors, for example METIs, e.g. fenazaquin, fenpyroximate, pyrimidifen, pyridaben, tebufenpyrad, tolfenpyrad, dicofol or rotenones, e.g. rotenone (Derris);
- mitochondrial complex II electron transport inhibitors, for example beta-ketonitrile derivatives, e.g.

cyenopyrafen, cyflumetofen or hydrazones, e.g. hydramethylnon or other classes, e.g. fluopyram, 4-(7-bromo-1,3-benzodioxol-5-yl)-1-(3-methoxypyrazin-2-yl)-3-(trifluoromethyl)-1H-pyrazol-5-amine (known from WO 2010136145, example 74, CAS No 1257061-92-9);

- mitochondrial complex III electron transport inhibitors, for example quinones, e.g. acequinocyl or strobilurines, e.g. flufenoxystrobin, pyriminostrobin or other classes, e.g. fluacrypyrim;
- inhibitors of acetylCoA carboxylase (fatty acid synthesis), for example tetronic and tetramic acids, e.g. spirodiclofen, spiromesifen, spirotetramat, 3-(2,5-dimethylphenyl)-4-hydroxy-8-methoxy-1,8-diazaspiro[4.5]dec-3-en-2-one (known from WO2009/049851), butyl [2-(2,4-dichlorophenyl)-3-oxo-4-oxaspiro[4.5]dec-1-en-1-yl] carbonate (known from CN102060818) or other classes, e.g. 3-(2,5-dimethylphenyl)-8-methoxy-2-oxo-1,8-diazaspiro[4.5]dec-3-en-4-yl-ethylcarbonate (known from WO2009/049851);
- ryanodine receptor modulators, for example phthalic acid diamides, e.g. flubendiamide, cyhalodiamide or anthranilamides, e.g. chlorantraniliprole, cyantraniliprole, tetraniliprole, tetrachloroantraniliprole (SYP9080), cyclaniliprole, methyl 2-[2-({[3-bromo-1-(3-chloropyridin-2-yl)-1h-pyrazol-5-yl]carbonyl}amino)-5-cyano-3-methylbenzoyl]-2-methylhydrazinecarboxylate (known from WO2005/085216), methyl 2-[3,5-dibromo-2-({[3-bromo-1-(3-chloropyridin-2-yl)-1h-pyrazol-5-yl]carbonyl}amino)benzoyl]-2-ethylhydrazinecarboxylate (known from WO2005/085216), N-[2-(tert-butylcarbamoyl)-4-chloro-6-methylphenyl]-1-(3-chloropyridin-2-yl)-3-(fluoromethoxy)-1h-pyrazole-5-carboxamide (known from WO2008/134969, methyl N-[[2-[[5-bromo-2-(3-chloro-2-pyridyl)pyrazole-3-carbonyl]amino]-5-cyano-3-methyl-benzoyl]-ethyl-amino]carbamate (known from WO2005/085216), methyl 2-[2-({[3-bromo-1-(3-chloropyridin-2-yl)-1H-pyrazol-5-yl]carbonyl}amino)-5-chloro-3-methylbenzoyl]-2-methylhydrazinecarboxylate (known from WO2005/085216);
- active compounds with unknown or non-specific mode of action, for example mite growth inhibitors, e.g. clofentezine, etoxazole, hexythiazox, amidoflumet, benclothiaz, benzoximate, bifenazate, bromopropylate, quinomethionate, chlordimeform, chlorobenzilate, clothiazoben, cycloprene, dicyclanil, fenoxacrim, fentrifanil, flubenzimine, flufenerim, flutenzin, gossyplure, japonilure, metoxadiazone, petroleum, potassium oleate, pyridalyl, tetrasul, triarathene or other classes, e.g. diflovidazin, chinomethionat, pyrifluquinazon or feeding inhibitors, e.g. cryolite;
- compounds, from other classes, e.g. 4-(but-2-yn-1-yloxy)-6-(3-chlorophenyl)pyrimidine (known from WO2003/076415), fluazaindolizine, afidopyropen, flometoquin, fluensulfone, fluhexafon, iprodione, meperfluthrin, N-(methylsulfonyl)-6-[2-(pyridin-3-yl)-1,3-thiazol-5-yl]pyridine-2-carboxamide (known from WO2012/000896), N-[2-(5-amino-1,3,4-thiadiazol-2-yl)-4-chloro-6-methylphenyl]-3-bromo-1-(3-chloropyridin-2-yl)-1h-pyrazole-5-carboxamide (known from CN102057925), N-[3-(benzylcarbamoyl)-4-chlorophenyl]-1-methyl-3-(pentafluoroethyl)-4-(trifluoromethyl)-1h-pyrazole-5-carboxamide (known from WO2010/051926)., PF1364 (CAS Reg. No. 1204776-60-2), pyflubumide, tioxazafen, {1'-[(2E)-3-(4-chlorophenyl)prop-2-en-1-yl]-5-fluorospiro[indol-3,4'-piperidin]-1(2H)-yl}(2-chloropyridin-4-yl)methanone (known from

WO2003/106457), 1-{2-fluoro-4-methyl-5-[(2,2,2-trifluoroethyl)sulphinyl]phenyl}-3-(trifluoromethyl)-1H-1,2,4-triazole-5-amine (known from WO2006/043635), 2-chloro-N-[2-{1-[(2E)-3-(4-chlorophenyl)prop-2-en-1-yl]piperidin-4-yl}-4-(trifluoromethyl)phenyl]isonicotinamide (known from WO2006/003494), 4-(3-{2,6-dichloro-4-[(3,3-dichloroprop-2-en-1-yl)oxy]phenoxy}propoxy)-2-methoxy-6-(trifluoromethyl)pyrimidine (known from CN101337940), 4-(but-2-yn-1-yloxy)-6-(3,5-dimethylpiperidin-1-yl)-5-fluoropyrimidine (known from WO2004/099160);

- bee hive varroa acaricides, for example organic acids, e.g. formic acid, oxalic acid;
- synergists that can be used to further enhance the activity, MGK264 (N-octylbicycloheptenecarboxamide), piperonyl butoxide (PBO) and verbutin.

In addition to these groups, it is also possible to use short-term repellents in mixtures or a combined application. Examples are DEET (N,N-diethyl-3-methylbenzamide), icaridin (sec-butyl 2-(2-hydroxyethyl)piperidine-1-carboxylate), indalone (butyl 3,4-dihydro-2, 2-dimethyl-4-oxo-2H-pyran-6-carboxylate), dihydronepetalactones, nootkatone, IR3535 (3-[N-butyl-N-acetyl]-aminopropionic acid ethyl ester), 2-ethylhexane-1,3-diol, (1R,2R,5R)-2-(2-hydroxypropan-2-yl)-5-methyl-cyclohexan-1-ol, dimethyl benzene-1,2-dicarboxylate , dodecanoic acid, undecan-2-one, N,N-diethyl-2-phenylacetamide and essential oils or other plant ingredients of known repellent action such as, for example, borneol, callicarpenal, 1,8-cineol (eucalyptol), carvacrol, b-citronellol, a-copaene, coumarin (or its synthetic derivatives known from US20120329832).

The following groups of the aforementioned groups are prefered mixing partners: acetylcholine receptor agonists/antagonists, acetylcholine receptor modulators, GABA-gated chloride channel antagonists, ligand-gated chloride channel activators, octopaminergic agonists, sodium channel modulators / voltage-dependent sodium channel blockers.

Exemplary active ingredients from the group of anthelmintics, as mixing partners, include, without limitation, the following nematicidally, trematicidally and/or cestocidally active compounds:

- from the class of macrocyclic lactones, for example: abamectin, emamectin, ivermectin, milbemectin, latidectin, lepimectin, selamectin, doramectin, eprinomectin, moxidectin, milbemycin, nemadectin;
- from the class of benzimidazoles and probenzimidazoles, for example: albendazole, albendazole-sulphoxide, cambendazole, cyclobendazole, febantel, fenbendazole, flubendazole, mebendazole, netobimin, oxfendazole, oxibendazole, parbendazole, thiabendazole, thiophanate, triclabendazole;
- from the class of depsipeptides, preferably cyclic depsipetides, in particular 24-membered cyclic depsipeptides, for example: emodepside, PF1022A (known from EP 382173, compound I);
- from the class of tetrahydropyrimidines, for example: morantel, pyrantel, oxantel;
- from the class of imidazothiazoles, for example: butamisole, levamisole, tetramisole;

- from the class of aminophenylamidines, for example: amidantel, deacylated amidantel (dAMD), tribendimidine;
- from the class of aminoacetonitriles, for example: monepantel;
- from the class of paraherquamides, for example: derquantel, paraherquamide;
- from the class of salicylanilides, for example: bromoxanide, brotianide, clioxanide, closantel, niclosamide, oxyclozanide, rafoxanide, tribromsalan;
- from the class of substituted phenols, for example: bithionol, disophenol, hexachlorophene, niclofolan, meniclopholan, nitroxynil;
- from the class of organophosphates, for example: coumaphos, haloxon, crufomate, dichlorvos/ddvp, naphthalofos, trichlorfon;
- from the class of piperazinones / quinolines, for example: praziquantel, epsiprantel;
- from the class of piperazines, for example: piperazine, hydroxyzine;
- from the class of tetracyclines, for example: chlorotetracycline, doxycyclin, oxytetracyclin, rolitetracyclin, tetracyclin;
- from diverse other classes, for example: amoscanate, bephenium, bunamidine, clonazepam, clorsulon, diamfenetide, dichlorophen, diethylcarbamazine, emetine, hetolin, hycanthone, lucanthone, miracil, mirasan, niridazole, nitroxynile, nitroscanate, oltipraz, omphalotin, resorantel, oxamniquine;

Exemplary active ingredients from the group of antiprotozoal active compounds (including anti-coccidial compounds), include, without limitation, the following active compounds:

- from the class of triazines, for example: toltrazuril, diclazuril, ponazuril, letrazuril;
- from the class of polylether ionophores, for example: salinomycin, maduramicin, narasin, monensin;
- from the class of macrocyclic lactones, for example: erythromycin, milbemycin;
- from the class of quinolones, for example: enrofloxacin, pradofloxacin;
- from the class of quinines, for example: chloroquine;
- from the class of pyrimidines, for example: pyrimethamine;
- from the class of sulfonamides, for example: sulfaquinoxaline, trimethoprim, sulfaclozin;
- from the class of thiamines, for example: amprolium;
- from the class of lincosamides, for example: clindamycin;
- from the class of carbanilides, for example: imidocarb;
- from the class of nitrofuranes, for example: nifurtimox;
- from the class of quinazolinone alkaloids, for example: halofuginon;
- from the class of diverse other classes, for example: oxamniquine, paromomycin;
- from the class of vaccines or antigenes from microorganisms, for example: Babesia canis canis, Babesia canis rossi, Babesia canis vogeli, Dictyocaulus viviparus, Eimeria acervulina, Eimeria

brunetti, Eimeria maxima, Eimeria mitis, Eimeria necatrix, Eimeria praecox, Eimeria tenella, Leishmania infantum;

The active compounds identified here by their common names are known and are described, for example, in the pesticide handbook ("The Pesticide Manual" 14th Ed., British Crop Protection Council 2006) or can be found on the Internet (e.g. http://www.alanwood.net/pesticides).

The active compounds described herein may form salts and in this case may be used in salt form as well.

[200] Compounds used in the present invention may form salts if they are capable on the basis of their functional groups. Such salts may also be used in accordance with the invention, for example salts with bases or acid addition salts, are all customary non-toxic salts, preferably agriculturally and/or physiologically acceptable salts. Preference is given to salts with inorganic bases, for example alkali metal salts (e.g. sodium, potassium or caesium salts), alkaline earth metal salts (e.g. calcium or magnesium salts), ammonium salts or salts with organic bases, in particular with organic amines, for example triethylammonium, dicyclohexylammonium, *N,N'*-dibenzylethylenediammonium, pyridinium, picolinium or ethanolammonium salts, salts with inorganic acids (e.g. hydrochlorides, hydrobromides, dihydrosulphates, trihydrosulphates or phosphates), salts with organic carboxylic acids or organic sulpho acids (e.g. formates, acetates, trifluoroacetates, maleates, tartrates, methanesulphonates, benzenesulphonates or 4-toluenesulphonates). It is well known that t-amines, for example some of the inventive compounds, are capable of forming *N*-oxides, which are likewise inventive salts.

Depending on the nature of the substituents, the compounds described herein may be in the form of geometric and/or optically active isomers or corresponding isomer mixtures in different compositions. These stereoisomers are, for example, enantiomers, diastereomers, atropisomers or geometric isomers. Accordingly, the invention encompasses both pure stereoisomers and any mixtures of these isomers.

Where appropriate, the present compounds may be in various polymorphic forms or in the form of a mixture of different polymorphic forms. Both the pure polymorphs and the polymorph mixtures can be used in accordance with the invention.

If one of the compounds mentioned below can occur in various tautomeric forms, these forms are also included even if not explicitly mentioned in each case.

The present invention is directed to combinations of compounds of formula (I) with ectoparasiciticides, anthelmintics or anti-protozoal agents. I.e..the compounds of the general formula (I) can be mixed or applied jointly with other ectoparasiticidal, anthelmintic or anti-protozoal agents. In these mixtures or joint applications the spectrum of activity of the agents is widened and/or improved as compared to the the individual active compounds in these applications.

In the animal health sector, i.e. in the field of veterinary medicine, the active compounds according to the present invention act against animal parasites, in particular ectoparasites and/or endoparasites. The term "endoparasites" includes especially helminths such as cestodes, nematodes or trematodes, and protozoa such as coccidia. Ectoparasites are typically and preferably arthropods, especially insects such as flies (biting and licking), parasitic fly larvae, lice, hair lice, bird lice, fleas and the like; or acarids such as ticks, for example hard ticks or soft ticks, or mites such as scab mites, harvest mites, bird mites and the like, and also aquatic ectoparasites such as copepods.

In the animal health sector, i.e. in the field of veterinary medicine, the active compounds according to the present invention act against animal parasites, in particular ectoparasites and/or endoparasites. The term "endoparasites" includes especially helminths such as cestodes, nematodes or trematodes, and protozoa such as coccidia. Ectoparasites are typically and preferably arthropods, especially insects such as flies (biting and licking), parasitic fly larvae, lice, hair lice, bird lice, fleas and the like; or acarids such as ticks, for example hard ticks or soft ticks, or mites such as scab mites, harvest mites, bird mites and the like, and also aquatic ectoparasites such as copepods.

These parasites include the following ectoparasites (in particular insects, acarids):

From the order of the Anoplurida, for example, Haematopinus spp., Linognathus spp., Pediculus spp., Phthirus spp. and Solenopotes spp.; specific examples are: Linognathus setosus, Linognathus vituli, Linognathus ovillus, Linognathus oviformis, Linognathus pedalis, Linognathus stenopsis, Haematopinus asini macrocephalus, Haematopinus eurysternus, Haematopinus suis, Pediculus humanus capitis, Pediculus humanus corporis, Phylloera vastatrix, Phthirus pubis, Solenopotes capillatus;

From the order of the Mallophagida and the suborders Amblycerina and Ischnocerina, for example, Trimenopon spp., Menopon spp., Trinoton spp., Bovicola spp., Werneckiella spp., Lepikentron spp., Damalina spp., Trichodectes spp. and Felicola spp.; specific examples are: Bovicola bovis, Bovicola ovis, Bovicola limbata, Damalina bovis, Trichodectes canis, Felicola subrostratus, Bovicola caprae, Lepikentron ovis, Werneckiella equi;

From the order of the Diptera and the suborders Nematocerina and Brachycerina, for example, Aedes spp., Anopheles spp., Culex spp., Simulium spp., Eusimulium spp., Phlebotomus spp., Lutzomyia spp., Culicoides spp., Chrysops spp., Odagmia spp., Wilhelmia spp., Hybomitra spp., Atylotus spp., Tabanus spp., Haematopota spp., Philipomyia spp., Braula spp., Musca spp., Hydrotaea spp., Stomoxys spp., Haematobia spp., Morellia spp., Fannia spp., Glossina spp., Calliphora spp., Lucilia spp., Chrysomyia spp., Wohlfahrtia spp., Sarcophaga spp., Oestrus spp., Hypoderma spp., Gasterophilus spp., Hippobosca spp., Lipoptena spp., Melophagus spp., Rhinoestrus spp., Tipula spp.; specific examples are: Aedes aegypti, Aedes albopictus, Aedes taeniorhynchus, Anopheles gambiae, Anopheles maculipennis, Calliphora erythrocephala, Chrysozona pluvialis, Culex quinquefasciatus, Culex pipiens, Culex tarsalis, Fannia canicularis, Sarcophaga carnaria, Stomoxys calcitrans, Tipula paludosa, Lucilia cuprina, Lucilia

sericata, Simulium reptans, Phlebotomus papatasi, Phlebotomus longipalpis, Odagmia ornata, Wilhelmia equina, Boophthora erythrocephala, Tabanus bromius, Tabanus spodopterus, Tabanus atratus, Tabanus sudeticus, Hybomitra ciurea, Chrysops caecutiens, Chrysops relictus, Haematopota pluvialis, Haematopota italica, Musca autumnalis, Musca domestica, Haematobia irritans irritans, Haematobia irritans exigua, Haematobia stimulans, Hydrotaea irritans, Hydrotaea albipuncta, Chrysomya chloropyga, Chrysomya bezziana, Oestrus ovis, Hypoderma bovis, Hypoderma lineatum, Przhevalskiana silenus, Dermatobia hominis, Melophagus ovinus, Lipoptena capreoli, Lipoptena cervi, Hippobosca variegata, Hippobosca equina, Gasterophilus intestinalis, Gasterophilus haemorroidalis, Gasterophilus inermis, Gasterophilus nasalis, Gasterophilus nigricornis, Gasterophilus pecorum, Braula coeca;

From the order of the Siphonapterida, for example Pulex spp., Ctenocephalides spp., Tunga spp., Xenopsylla spp., Ceratophyllus spp.; specific examples are: Ctenocephalides canis, Ctenocephalides felis, Pulex irritans, Tunga penetrans, Xenopsylla cheopis;

From the order of the Heteropterida, for example, Cimex spp., Triatoma spp., Rhodnius spp. and Panstrongylus spp.

From the order of the Blattarida, for example Blatta orientalis, Periplaneta americana, Blattela germanica and Supella spp. (e.g. Suppella longipalpa);

From the subclass of the Acari (Acarina) and the orders of the Meta- and Mesostigmata, for example, Argas spp., Ornithodorus spp., Otobius spp., Ixodes spp., Amblyomma spp., Rhipicephalus (Boophilus) spp., Dermacentor spp., Haemophysalis spp., Hyalomma spp., Dermanyssus spp., Rhipicephalus spp. (the original genus of multihost ticks), Ornithonyssus spp., Pneumonyssus spp., Raillietia spp., Pneumonyssus spp., Sternostoma spp., Varroa spp., Acarapis spp.; specific examples are: Argas persicus, Argas reflexus, Ornithodorus moubata, Otobius megnini, Rhipicephalus (Boophilus) microplus, Rhipicephalus (Boophilus) decoloratus, Rhipicephalus (Boophilus) annulatus, Rhipicephalus (Boophilus) calceratus, Hyalomma anatolicum, Hyalomma aegypticum, Hyalomma marginatum, Hyalomma transiens, Rhipicephalus evertsi, Ixodes ricinus, Ixodes hexagonus, Ixodes canisuga, Ixodes pilosus, Ixodes rubicundus, Ixodes scapularis, Ixodes holocyclus, Haemaphysalis concinna, Haemaphysalis punctata, Haemaphysalis cinnabarina, Haemaphysalis otophila, Haemaphysalis leachi, Haemaphysalis longicorni, Dermacentor marginatus, Dermacentor reticulatus, Dermacentor pictus, Dermacentor albipictus, Dermacentor andersoni, Dermacentor variabilis, Hyalomma mauritanicum, Rhipicephalus sanguineus, Rhipicephalus bursa, Rhipicephalus appendiculatus, Rhipicephalus capensis, Rhipicephalus turanicus, Rhipicephalus zambeziensis, Amblyomma americanum, Amblyomma variegatum, Amblyomma maculatum, Amblyomma hebraeum, Amblyomma cajennense, Dermanyssus gallinae, Ornithonyssus bursa, Ornithonyssus sylviarum, Varroa jacobsoni;

From the order of the Actinedida (Prostigmata) und Acaridida (Astigmata), for example, Acarapis spp., Cheyletiella spp., Ornithocheyletia spp., Myobia spp., Psorergates spp., Demodex spp., Trombicula spp.,

Listrophorus spp., Acarus spp., Tyrophagus spp., Caloglyphus spp., Hypodectes spp., Pterolichus spp., Psoroptes spp., Chorioptes spp., Otodectes spp., Sarcoptes spp., Notoedres spp., Knemidocoptes spp., Cytodites spp., Laminosioptes spp.; specific examples are: Cheyletiella yasguri, Cheyletiella blakei, Demodex canis, Demodex bovis, Demodex ovis, Demodex caprae, Demodex equi, Demodex caballi, Demodex suis, Neotrombicula autumnalis, Neotrombicula desaleri, Neoschongastia xerothermobia, Trombicula akamushi, Otodectes cynotis, Notoedres cati, Sarcoptis canis, Sarcoptes bovis, Sarcoptes ovis, Sarcoptes rupicaprae (=S. caprae), Sarcoptes equi, Sarcoptes suis, Psoroptes ovis, Psoroptes cuniculi, Psoroptes equi, Chorioptes bovis, Psoergates ovis, Pneumonyssoidic mange, Pneumonyssoides caninum, Acarapis woodi.

From the subclass of the copepods with the order of the Siphonostomatoida in particular the genera Lepeophtheirus and Caligus; the species Lepeophtheirus salmonis, Caligus elongatus and Caligus clemensi may be mentioned by way of example and with particular preference.

Exemplary pathogenic endoparasites, which are helminths, include platyhelmintha (e.g. monogenea, cestodes and trematodes), nematodes, acanthocephala, and pentastoma. Additional exemplary helminths include –, without any limitation:

Monogenea: e.g.: Gyrodactylus spp., Dactylogyrus spp., Polystoma spp..

Cestodes: From the order of the Pseudophyllidea for example: Diphyllobothrium spp., Spirometra spp., Schistocephalus spp., Ligula spp., Bothridium spp., Diplogonoporus spp..

From the order of the Cyclophyllida for example: Mesocestoides spp., Anoplocephala spp., Paranoplocephala spp., Moniezia spp., Thysanosoma spp., Thysaniezia spp., Avitellina spp., Stilesia spp., Cittotaenia spp., Andyra spp., Bertiella spp., Taenia spp., Echinococcus spp., Hydatigera spp., Davainea spp., Raillietina spp., Hymenolepis spp., Echinolepis spp., Echinocotyle spp., Diorchis spp., Dipylidium spp., Joyeuxiella spp., Diplopylidium spp..

Trematodes: From the class of the Digenea for example: Diplostomum spp., Posthodiplostomum spp., Schistosoma spp., Trichobilharzia spp., Ornithobilharzia spp., Austrobilharzia spp., Gigantobilharzia spp., Leucochloridium spp., Brachylaima spp., Echinostoma spp., Echinoparyphium spp., Echinochasmus spp., Hypoderaeum spp., Fasciola spp., Fasciolides spp., Fasciolopsis spp., Cyclocoelum spp., Typhlocoelum spp., Paramphistomum spp., Calicophoron spp., Cotylophoron spp., Gigantocotyle spp., Fischoederius spp., Gastrothylacus spp., Notocotylus spp., Catatropis spp., Plagiorchis spp., Prosthogonimus spp., Dicrocoelium spp., Eurytrema spp., Troglotrema spp., Paragonimus spp., Collyriclum spp., Nanophyetus spp., Opisthorchis spp., Clonorchis spp. Metorchis spp., Heterophyes spp., Metagonimus spp..

Nematodes: Trichinellida for example: Trichuris spp., Capillaria spp., Trichomosoides spp., Trichinella spp..

From the order of the Tylenchida for example: Micronema spp., Strongyloides spp..

From the order of the Rhabditina for example: Strongylus spp., Triodontophorus spp., Oesophagodontus spp., Trichonema spp., Gyalocephalus spp., Cylindropharynx spp., Poteriostomum spp., Cyclococercus spp., Cylicostephanus spp., Oesophagostomum spp., Chabertia spp., Stephanurus spp., Ancylostoma spp., Uncinaria spp., Bunostomum spp., Globocephalus spp., Syngamus spp., Cyathostoma spp., Metastrongylus spp., Dictyocaulus spp., Muellerius spp., Protostrongylus spp., Neostrongylus spp., Cystocaulus spp., Pneumostrongylus spp., Spicocaulus spp., Elaphostrongylus spp. Parelaphostrongylus spp., Crenosoma spp., Paracrenosoma spp., Angiostrongylus spp., Aelurostrongylus spp., Filaroides spp., Parafilaroides spp., Trichostrongylus spp., Haemonchus spp., Ostertagia spp., Marshallagia spp., Cooperia spp., Nematodirus spp., Hyostrongylus spp., Obeliscoides spp., Amidostomum spp., Ollulanus spp.

From the order of the Spirurida for example: Oxyuris spp., Enterobius spp., Passalurus spp., Syphacia spp., Aspiculuris spp., Heterakis spp.; Ascaris spp., Toxascaris spp., Toxocara spp., Baylisascaris spp., Parascaris spp., Anisakis spp., Ascaridia spp.; Gnathostoma spp., Physaloptera spp., Thelazia spp., Gongylonema spp., Habronema spp., Parabronema spp., Draschia spp., Dracunculus spp.; Stephanofilaria spp., Parafilaria spp., Setaria spp., Loa spp., Dirofilaria spp., Litomosoides spp., Brugia spp., Wuchereria spp., Onchocerca spp.

Acantocephala: From the order of the Oligacanthorhynchida z.B: Macracanthorhynchus spp., Prosthenorchis spp.; from the order of the Polymorphida for example: Filicollis spp.; from the order of the Moniliformida for example: Moniliformis spp.,

From the order of the Echinorhynchida for example Acanthocephalus spp., Echinorhynchus spp., Leptorhynchoides spp.

Pentastoma: From the order of the Porocephalida for example Linguatula spp.

Exemplary parasitic protozoa include –, without any limitation:

Mastigophora (Flagellata), such as, for example, Trypanosomatidae, for example, Trypanosoma b. brucei, T.b. gambiense, T.b. rhodesiense, T. congolense, T. cruzi, T. evansi, T. equinum, T. lewisi, T. percae, T. simiae, T. vivax, Leishmania brasiliensis, L. donovani, L. tropica, such as, for example, Trichomonadidae, for example, Giardia lamblia, G. canis.

Sarcomastigophora (Rhizopoda), such as Entamoebidae, for example, Entamoeba histolytica, Hartmanellidae, for example, Acanthamoeba sp., Harmanella sp.

Apicomplexa (Sporozoa), such as Eimeridae, for example, Eimeria acervulina, E. adenoides, E. alabamensis, E. anatis, E. anserina, E. arloingi, E. ashata, E. auburnensis, E. bovis, E. brunetti, E. canis, E. chinchillae, E. clupearum, E. columbae, E. contorta, E. crandalis, E. debliecki, E. dispersa, E. ellipsoidales, E. falciformis, E. faurei, E. flavescens, E. gallopavonis, E. hagani, E. intestinalis, E. iroquoina, E. irresidua, E. labbeana, E. leucarti, E. magna, E. maxima, E. media, E. meleagridis, E. meleagrimitis, E. mitis, E. necatrix, E. ninakohlyakimovae, E. ovis, E. parva, E. pavonis, E. perforans, E. phasani, E. piriformis, E. praecox, E. residua, E. scabra, E. spec., E. stiedai, E. suis, E. tenella, E. truncata, E. truttae, E. zuernii, Globidium spec., Isospora belli, I. canis, I. felis, I. ohioensis, I. rivolta, I. spec., I. suis, Cystisospora spec., Cryptosporidium spec., in particular C. parvum; such as Toxoplasmadidae, for example, Toxoplasma gondii, Hammondia heydornii, Neospora caninum, Besnoitia besnoitii; such as Sarcocystidae, for example, Sarcocystis bovicanis, S. bovihominis, S. ovicanis, S. ovifelis, S. neurona, S. spec., S. suihominis, such as Leucozoidae, for example, Leucozytozoon simondi, such as Plasmodiidae, for example, Plasmodium berghei, P. falciparum, P. malariae, P. ovale, P. vivax, P. spec., such as Piroplasmea, for example, Babesia argentina, B. bovis, B. canis, B. spec., Theileria parva, Theileria spec., such as Adeleina, for example, Hepatozoon canis, H. spec.

The combinations according to the invention are also suitable for controlling arthropods, helminths and protozoa which attack animals. The animals include agricultural livestock, for example cattle, sheep, goats, horses, pigs, donkeys, camels, buffalo, rabbits, chickens, turkeys, ducks, geese, cultured fish, honey bees. The animals also include domestic animals - also referred to as companion animals - for example dogs, cats, caged birds, aquarium fish, and what are known as test animals, for example hamsters, guinea pigs, rats and mice.

The control of these ectoparasites – or, in other embodiments, helminths and/or protozoa – should reduce cases of death and improve the performance (for meat, milk, wool, hides, eggs, honey etc.) and the health of the host animal, and so the use of the active compounds according to the invention enables more economically viable and easier animal husbandry.

For example, it is desirable to prevent or to interrupt the uptake of blood from the host by the parasites (if relevant). Control of the parasites can also contribute to preventing the transmission of infectious substances (see below “Vector control”).

The term "control" as used herein with regard to the field of animal health means that the active compounds act by reducing the occurrence of the parasite in question in an animal infested with such parasites to a harmless level. More specifically, "control" as used herein means that the active compound kills the parasite in question, retards its growth or inhibits its proliferation.

In general, the combinations according to the invention can be employed directly when they are used for the treatment of animals. They are preferably employed in the form of pharmaceutical compositions

which may comprise the pharmaceutically acceptable excipients and/or auxiliaries known in the prior art. In general, such compositions comprise from 0.01 to 98% by weight of active compound, preferably from 0.5 to 90% by weight.

The combinations are employed (administered) in a known manner, by enteral administration in the form of, for example, tablets, capsules, potions, drenches, granules, pastes, boluses, the feed-through process and suppositories, by parenteral administration, for example by injection (intramuscular, subcutaneous, intravenous, intraperitoneal inter alia), implants, by nasal administration, by dermal administration in the form, for example, of dipping or bathing, spraying, pouring on and spotting on, washing and powdering, and also with the aid of moulded articles containing the active compound, such as collars, earmarks, tailmarks, limb bands, halters, marking devices, etc. The active compounds can be formulated as a shampoo or as suitable formulations applicable in aerosols or unpressurized sprays, for example pump sprays and atomizer sprays,

In the case of employment for livestock, poultry, domestic pets, etc., the active compounds can be employed as formulations (for example powders, wettable powders ["WP"], emulsions, emulsifiable concentrates ["EC"], free-flowing compositions, homogeneous solutions and suspension concentrates ["SC"]), which contain the active compounds in an amount of 1 to 80% by weight, directly or after dilution (e.g. 100- to 10 000-fold dilution), or they can be used as a chemical bath.

Vector control

The compounds of the formula (I) can also be used in vector control. In the context of the present invention, a vector is an arthropod, especially an insect or arachnid, capable of transmitting pathogens, for example, viruses, worms, single-cell organisms and bacteria, from a reservoir (plant, animal, human, etc.) to a host. The pathogens can be transmitted either mechanically (for example trachoma by non-stinging flies) to a host or after injection (for example malaria parasites by mosquitoes) into a host.

Examples of vectors and the diseases or pathogens they transmit are:

1) Mosquitoes

- Anopheles: malaria, filariasis;

- Culex: Japanese encephalitis, filariasis, other viral diseases, transmission of worms;

- Aedes: yellow fever, dengue fever, filariasis, other viral diseases;

- Simuliidae: transmission of worms, in particular Onchocerca volvulus;

2) Lice: skin infections, epidemic typhus;

3) Fleas: plague, endemic typhus;

4) Flies: sleeping sickness (trypanosomiasis); cholera, other bacterial diseases;

5) Mites: acariosis, epidemic typhus, rickettsialpox, tularaemia, Saint Louis encephalitis, tick-borne encephalitis (TBE), Crimean–Congo haemorrhagic fever, borreliosis;

6) Ticks: borellioses such as Borrelia duttoni, tick-borne encephalitis, Q fever (Coxiella burnetii), babesioses (Babesia canis canis).

Further examples of vectors in the context of the present invention are insects and arachnids such as mosquitoes, especially of the genera Aedes, Anopheles, for example A. gambiae, A. arabiensis, A. funestus, A. dirus (malaria) and Culex, lice, fleas, flies, mites and ticks, which can transmit pathogens to animals and/or humans.

Vector control is also possible if the compounds of the formula (I) are resistance-breaking.

Compounds of the formula (I) are suitable for use in the prevention of diseases and/or pathogens transmitted by vectors. Thus, a further aspect of the present invention is the use of compounds of the formula (I) for vector control.

Preparation processes

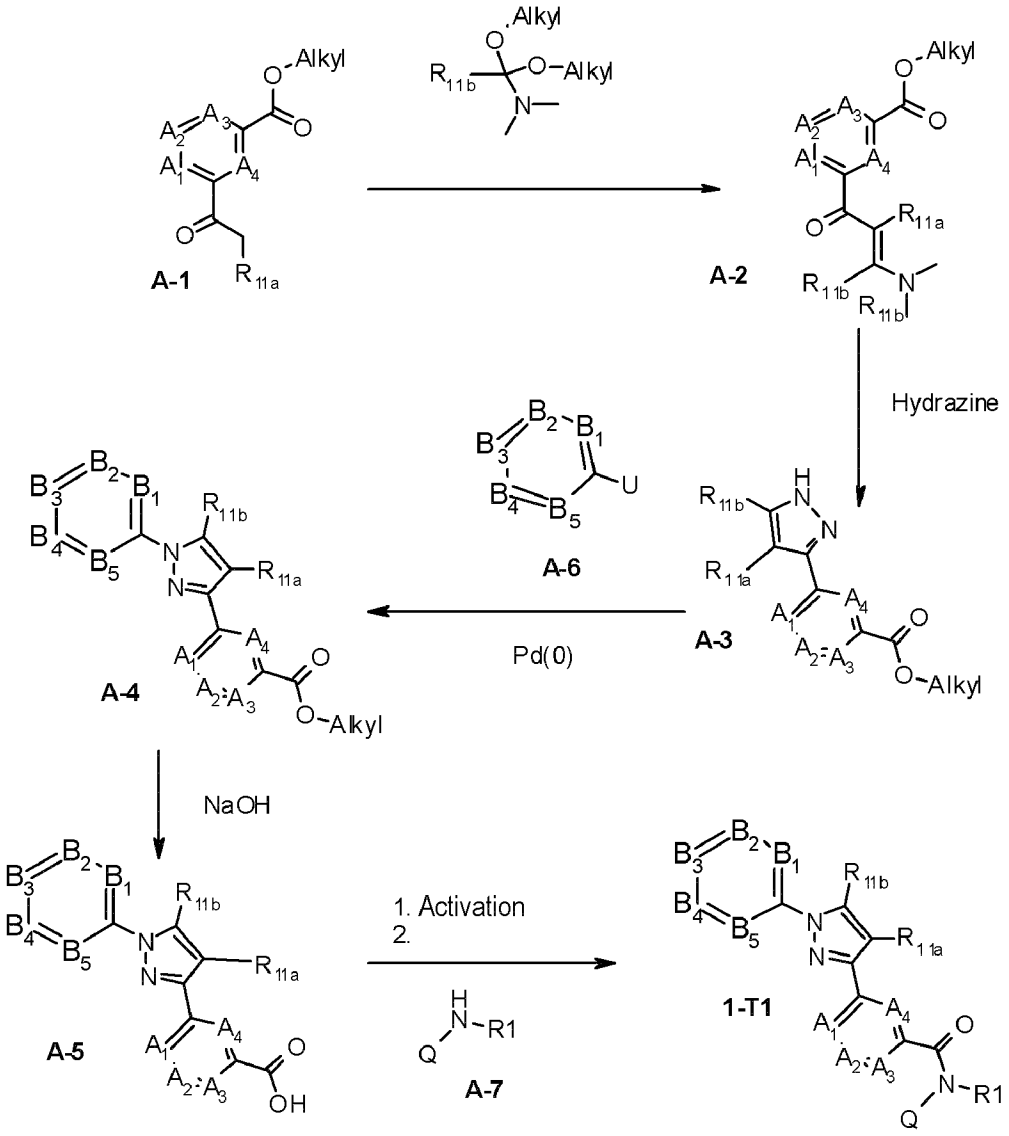
The compounds of formula (I) can be prepared by customary methods known to those skilled in the art.

The compounds of the structure (I-T1) and (I-T2) can be prepared by the methods already described in the literature for analogous compounds:

Process I-T1

The compounds of the structure (I-T1) can be prepared by the process specified in Reaction Scheme 1.

Reaction Scheme 1:



The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. U is, for example, bromine, iodine or triflate. Starting compounds of the structure (**A-1**) (e.g. WO 2004/099146, p. 75-76) and (**A-7**) (e.g. US 5,739,083 page 10, US 2003/187233A1, p. 6) are known or can be prepared by known methods.

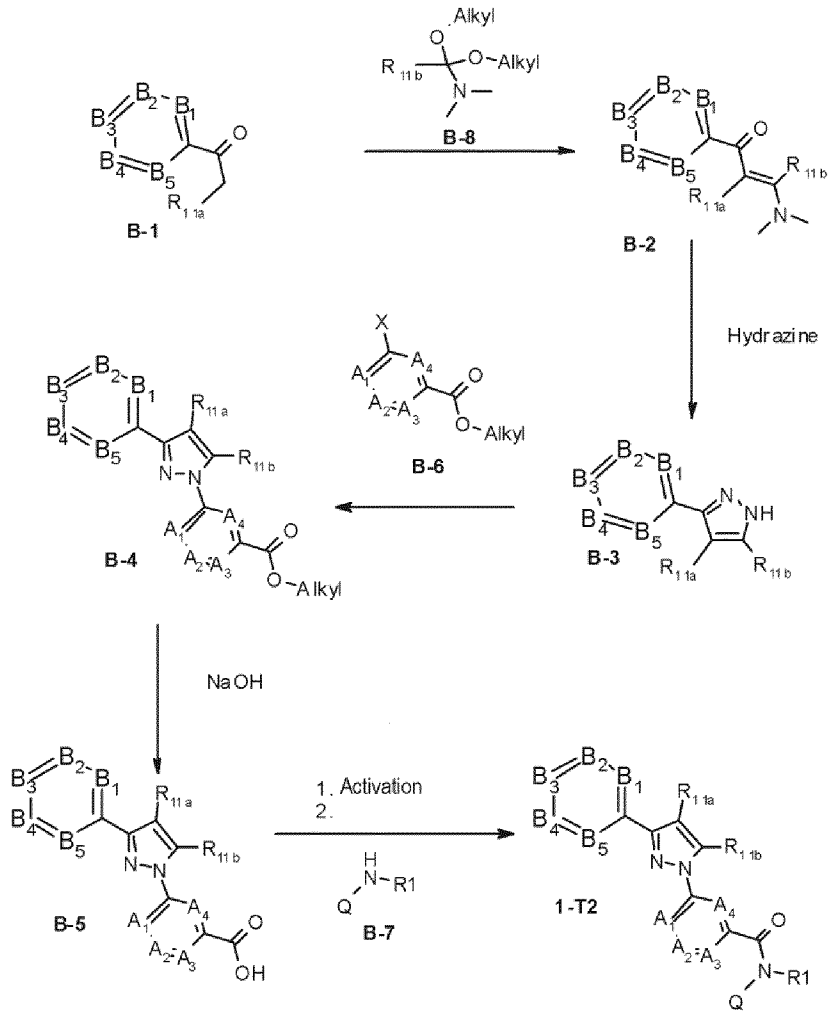
Compounds of the general structure (**A-2**) can be prepared in analogy to methods known from the literature from the compounds of the general structure (**A-1**) and carboxamide acetals (**B-8**) (e.g. WO 2013/009791, p. 50, Example 43; WO 2004/099146, p. 75-76). Compounds of the general structure (**A-3**) can be prepared in analogy to methods known from the literature from the compounds of the general structure (**A-2**) and hydrazine (e.g. WO 2013/009791, p. 50, Example 43; WO 2004/099146, p. 75-76). Compounds of the general structure (**A-4**) can be prepared in analogy to methods known from the

literature from the compounds of the general structure (**A-3**) and (**A-6**) (e.g. WO 2013/009791, p. 50, Example 44). Compounds of the general structure (**A-5**) can be prepared in analogy to processes known from the literature by ester hydrolysis from compounds of the general structure (**A-4**) (see, for example, WO 2010/051926 or WO 2010/133312). Inventive compounds of the general structure (**I-T1**) can be prepared in analogy to peptide coupling methods known from the literature from the starting materials (**A-5**) and (**A-7**) (e.g. WO 2010/051926 or WO 2010/133312).

Process I-T2

The compounds of the structure (I-T2) can be prepared by the process specified in Reaction Scheme 2.

Reaction Scheme 2:

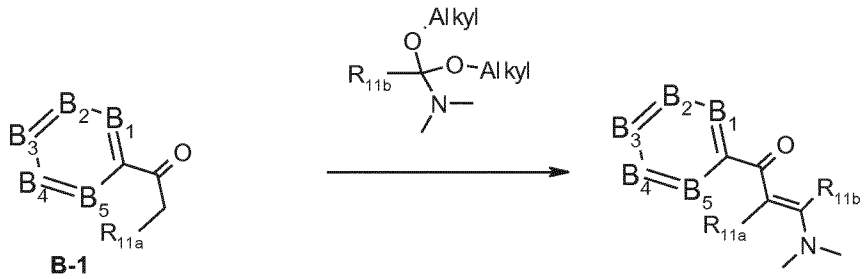


The A_1 to A_4, B_1 to B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. X is, for example, Cl, Br, I or a boronic acid or boronic ester radical. Starting compounds of the structure (**B-1**) (e.g. Filler, Robert; Kong, Zhengrong; Zhang, Zhaoxu; Sinha, Arun Kr.; Li, Xiaofang Journal of Fluorine

Chemistry, 80 (1996) p. 71 – 76; US2003/187233, p. 14, Example 21) and (**B-6**) are known or can be prepared by known methods.

Compounds of the general structure (**B-2**) can be prepared in analogy to methods known from the literature from the compounds of the general structure (**B-1**) and carboxamide acetals (**B-8**) (e.g. WO 2006/044505, Compound 60, Part A; WO 2012/4604, Intermediate 2). Compounds of the general structure (**B-3**) can be prepared in analogy to methods known from the literature from the compounds of the general structure (**B-2**) and hydrazine (e.g. WO 2013/009791, p. 50, Example 43; WO 2004/099146, p. 75-76). Compounds of the general structure (**B-4**) can be prepared in analogy to methods known from the literature from the compounds of the general structure (**B-3**) and (**B-6**) (e.g. WO 2013/009791, p. 50, Example 44, X = Br). Compounds of the general structure (**B-5**) can be prepared in analogy to processes known from the literature by ester hydrolysis from compounds of the general structure (**B-4**) (e.g. WO 2010/051926 or WO 2010/133312). Inventive compounds of the general structure (**I-T1**) can be prepared in analogy to peptide coupling methods known from the literature from the starting materials (**B-5**) and (**B-7**) (e.g. WO 2010/051926 or WO 2010/133312).

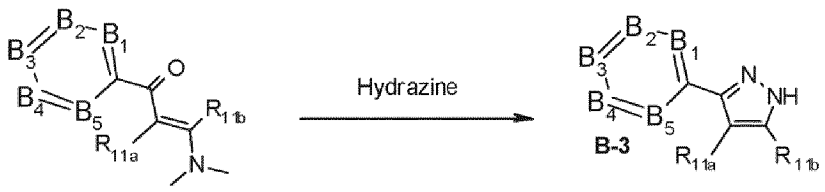
Stage 1 Dialkylaminoalkenylation



(B-1) **(B-8)** **(B-2)**

Compounds of the general structure (**B-2**) can be prepared in analogy to methods known from the literature from the starting materials of the structure (**B-1**) and (**B-8**). The B^1-B^5, alkyl and R^{11} radicals are each as defined above. Starting compounds of the structure (**B-1**) (e.g. Filler, Robert; Kong, Zhengrong; Zhang, Zhaoxu; Sinha, Arun Kr.; Li, Xiaofang Journal of Fluorine Chemistry, 80 (1996) p. 71 – 76; US2003/187233, p. 14, Example 21 [0294], US5739083, Example 6) are known or can be prepared by known methods. The reaction is conducted by reacting the compounds (**B-1**) with the compounds (**B-8**) under the conditions known in the literature for analogous reactions (e.g. EP1204323, p. 25, Example 13).

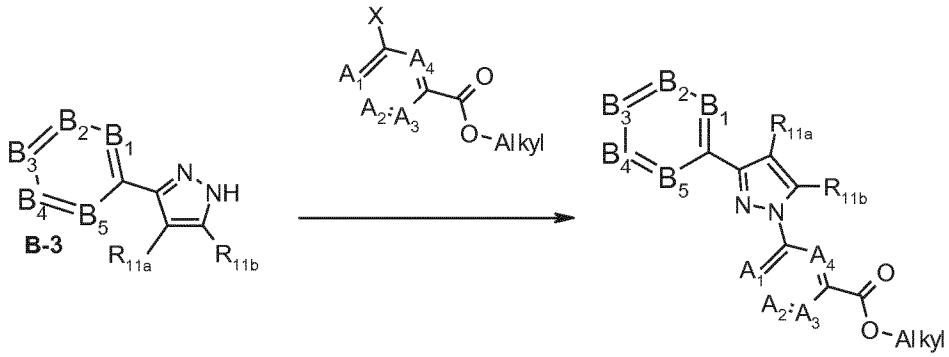
Stage 2 Pyrazole ring closure



(B-2) **(B-3)**

Compounds of the general structure (**B-2**) can be prepared in analogy to methods known from the literature from the starting materials of the structure (**B-2**) and hydrazine. The B^1-B^5 and R^{11} radicals are each as defined above. The preparation of the starting compounds of the structure (**B-2**) is described above. The reaction is conducted by reacting the compounds (**B-2**) with hydrazine under the conditions known in the literature for analogous reactions (EP1382603, Example 3, p. 43)

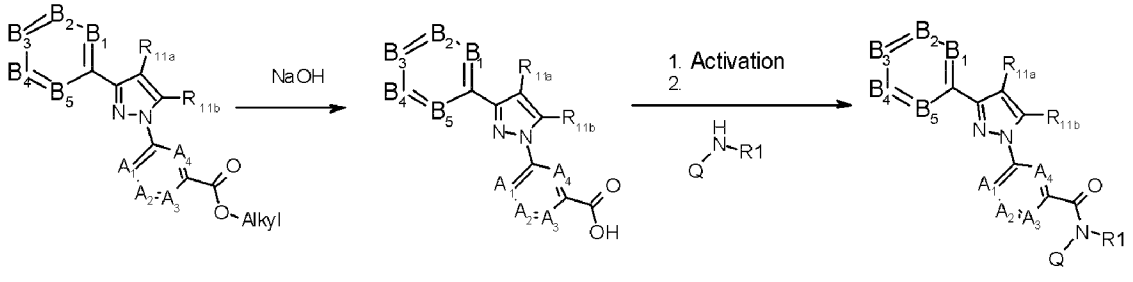
Stage 3 Aryl coupling



(B-3) **(B-6)** **(B-4)**

Compounds of the general structure (**B-4**) can be prepared in analogy to methods known from the literature from the starting materials of the structure (**B-3**) and (**B-6**). The A^1-A^4, B^1-B^5, alkyl, R^1 and R^{11} radicals are each as defined above. X is a boronic acid or a boronic ester radical. The preparation of the starting compounds of the structure (**B-3**) is described above. The compounds of the general structure (**B-6**) are either commercially available or can be prepared by processes known to those skilled in the art. The reaction is conducted under the conditions known in the literature for analogous reactions (WO2009140342, p. 96).

Stages 4, 5 Hydrolysis, amidation



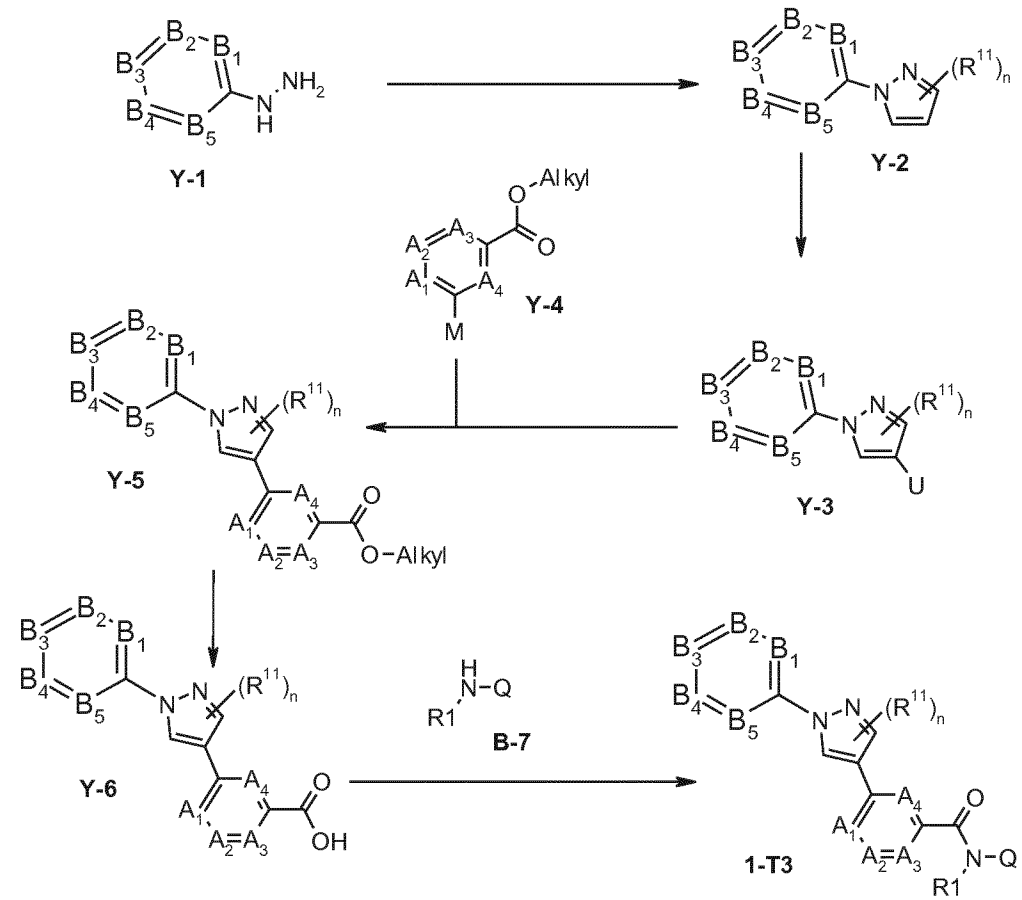
(B4) **(B5)** **(B7)** **(I-T2)**

Inventive compounds of the general structure (**I-T2**) can be prepared in analogy to peptide coupling methods known from the literature from the starting materials (**B5**) and (**B7**) [WO2010-051926; WO2010-133312]. Compounds of the general structure (**B5**) can be prepared analogously to processes known from the literature by ester hydrolysis from compounds of the general structure (**B4**) [WO2010-051926; WO2010-133312]. The A^1-A^4, B^1-B^5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. The preparation of the compounds of the structure (**B-7**) is described above.

Process I-T3

The compounds of the structure (I-T3) can be prepared by the process specified in Reaction Scheme 3a.

Reaction scheme 3a



The A_1 to A_4, B_1 to B_5, alkyl, Q, R^1, n and R^{11} radicals are each as defined above. M is, for example, a boronic acid, boronic ester or trifluoroboronate. U is, for example, bromine, iodine or triflate. X is, for example, Cl, Br, I.

Stage 1 Pyrazole

Stage 1 of the preparation process for the compounds (1-T3):

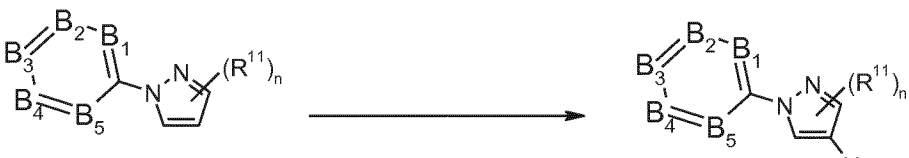


Y-1 Y-2

Inventive compounds of the general structure (Y-2) can be prepared in analogy to methods known from the literature from the starting materials of the structure (Y-1). The B_1-B_5 and R^{11} radicals are each as defined above. Starting compounds of the structure (Y1) are known or can be prepared by known methods. Examples include [2,6-dichloro-4-(trifluoromethyl)phenyl]hydrazine, [3-chloro-5-(trifluoromethyl)-2-pyridyl]hydrazine, [2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]hydrazine, [2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]hydrazine, [2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]hydrazine or [2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]hydrazine. They can be prepared, for example, by methods described in US 2003/187233, p. 13; Haga, Takahiro et al., Heterocycles, 22 (1984), p. 117-124.

Stage 2 Iodopyrazole

Stage 2 of the preparation process for the compounds (1-T3):



Y-2 Y-3

The B_1-B_5, n and R^{11} radicals are each as defined above. U is, for example, bromine or iodine.

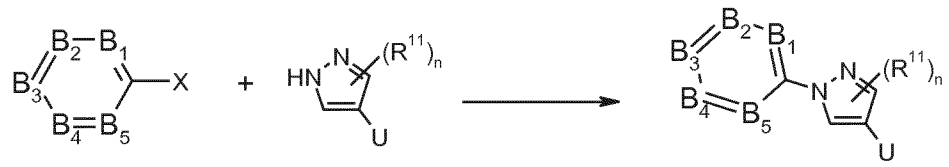
The compounds of the structural formula (Y-3) are, for example, 1-(2,6-dichloro-4-trifluoromethylphenyl)-4-iodopyrazole, 3-chloro-2-(4-iodopyrazol-1-yl)-5-(trifluoromethyl)pyridine (CAS RN: 8611-89-2), 1-(2,6-dichloro-4-heptafluoroisopropylphenyl)-4-iodopyrazole, 1-(2,6-dimethyl-4-heptafluoroisopropylphenyl)-4-iodopyrazole, 1-[2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]-4-iodopyrazole, 1-[2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]-4-iodopyrazole or 1-[2-ethyl-6-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-4-iodopyrazole.

Compounds of the general structure (Y-3) are prepared by reacting pyrazoles of the structure (Y-2) with halogenating agents. The B^1 to B^5 and R^{11} radicals are each as defined above. Suitable halogenating

compounds are known to those skilled in the art, for example chlorine, bromine, iodine N-chlorosuccinimide, N-bromosuccinimide, N-iodosuccinimide, 1,3-dichloro-5,5-dimethylhydantoin, 1,3-dibromo-5,5-dimethylhydantoin, sodium hypochlorite and iodine monochloride. Preference is given to using bromine, iodine and iodosuccinimide. It may be advantageous to conduct the reaction in the presence of an oxidizing agent, e.g. hydrogen peroxide. The reaction follows the conditions known from the literature, for example Guo Li et al., Tetrahedron Letters 48 (2007), 4595-4599; Mary M. Kim et al., Tetrahedron Letters 49 (2008), 4026-4028.

Alternative coupling with pyrazole

Alternatively, the compounds of the structure Y-3 can also be prepared by methods known from the literature through direct coupling of iodopyrazoles with appropriate aryl halides (e.g. Sammelson, Robert E. et al., J. of Organic Chemistry, 68 (2003), 8075-8079).



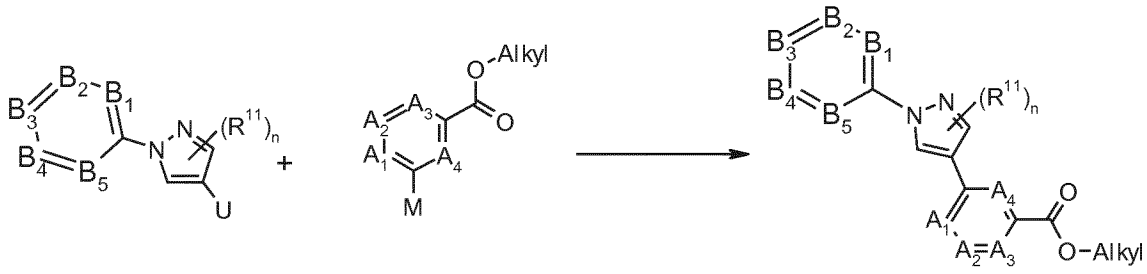
(Y-8) (Y-9) (Y-3)

The B_1 to B_5, n and R^{11} radicals are each as defined above. X is, for example, a halogen. U is, for example, bromine, iodine or triflate.

Starting compounds of the structure (Y-8) are known or can be prepared by known methods. Examples include 2-bromo-1,3-dichloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1,3-dimethyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1-ethyl-3-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene, 2-bromo-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene, 2-bromo-1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethoxy)benzene, 2-bromo-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethoxy)benzene. They can be prepared, for example, by the methods described in EP1253128, pages 8-10.

Stage 3 Boronic acid coupling

Stage 3 of the preparation process for the compounds (1-T3):

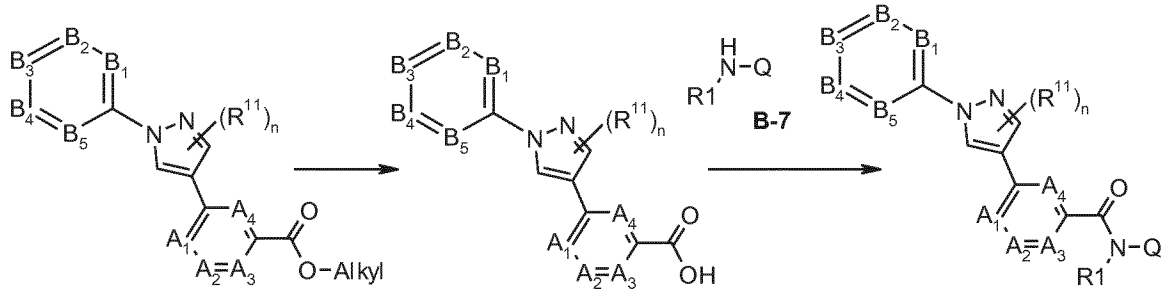


(Y-3) (Y-4) (Y-5)

The A_1 to A_4, B_1 to B_5, alkyl, n and R^{11} radicals are each as defined above. U is, for example, bromine, iodine or triflate when M is a boronic acid, boronic ester or trifluoroboronate; or U is, for example, a boronic acid, boronic ester or trifluoroboronate when M is bromine, iodine or triflate.

Compounds of the general structure **(Y-5)** can be prepared by methods known from the literature, by means of palladium-catalysed reactions from the co-reactants **(Y-3)** and **(Y-4)** (e.g. WO 2005/040110 or WO 2009/089508). The compounds of the general structure **(Y-4)** are either commercially available or can be prepared by processes known to those skilled in the art.

Stages 4, 5 Hydrolysis, amidation



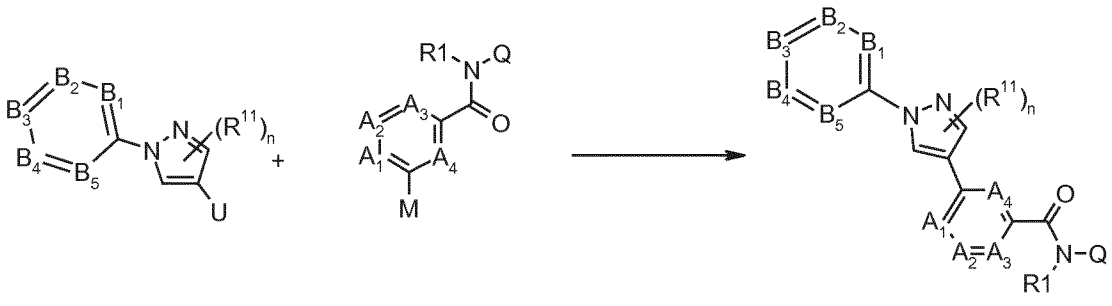
(Y-5) (Y-6) (I-T3)

Compounds of the general structure **(I-T3)** can be prepared in analogy to peptide coupling methods known from the literature from the starting materials **(Y-6)** and **(Y-7)** (e.g. WO 2010/051926 or WO 2010/133312). Compounds of the general structure **(Y-6)** can be prepared in analogy to processes known from the literature by ester hydrolysis from compounds of the general structure **(Y-5)** (e.g. WO 2010/051926 or WO 2010/133312). The A_1 to A_4, B_1 to B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above.

Stage 3 alternative: Coupling with amides

Alternatively, the Compounds **(I-T3)** can be prepared by general preparation process 3b.

Reaction scheme 3b



(Y-3) (Y-10) (I-T3)

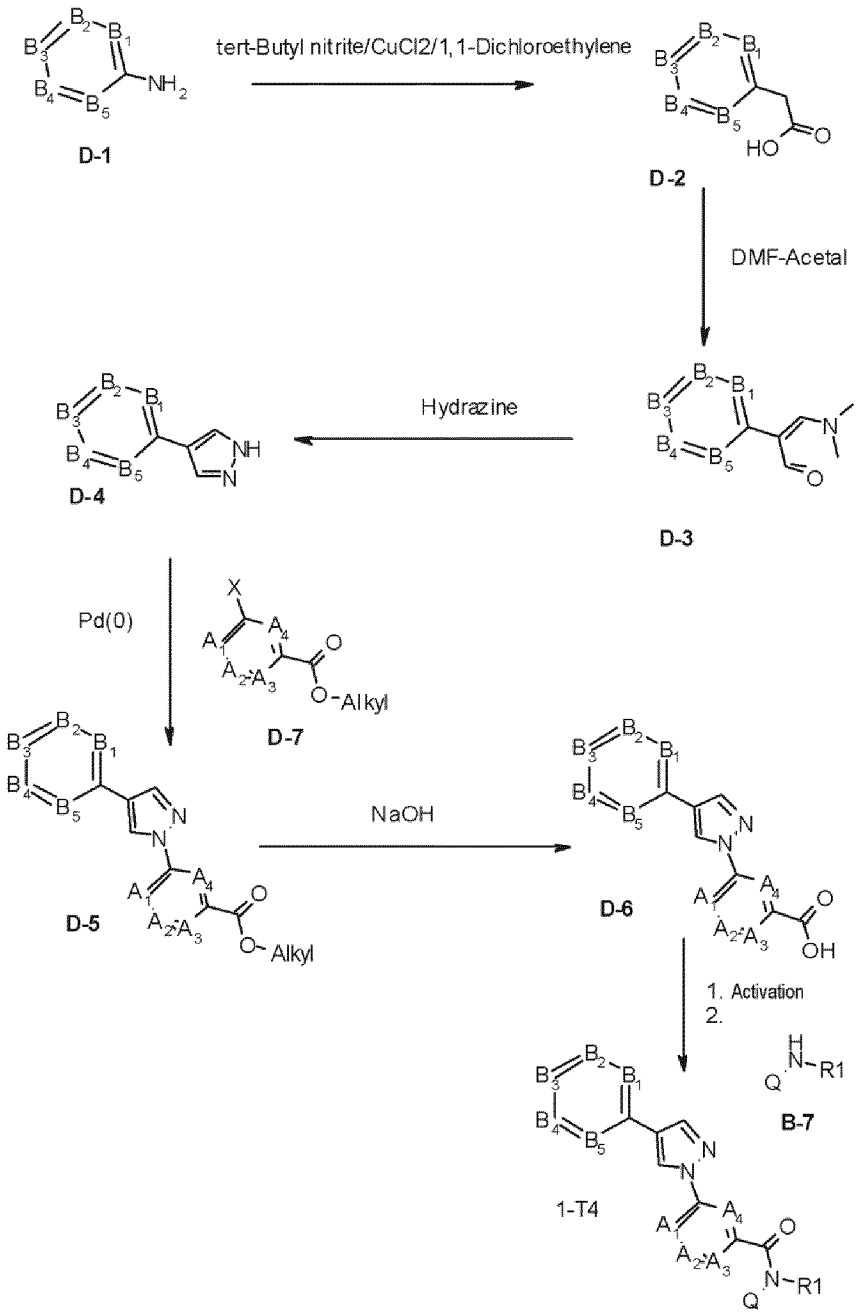
The A_1 to A_4, B_1 to B_5, alkyl, Q, R^1, n and R^{11} radicals are each as defined above. U is bromine, iodine or triflate when M is a boronic acid, boronic ester or trifluoroboronate. U is a boronic acid, boronic ester or trifluoroboronate when M is bromine, iodine or triflate.

Compounds of the general structure **(I-T3)** can be prepared by methods known from the literature, by means of palladium-catalysed reactions from the co-reactants **(Y-3)** and **(Y-10)** (e.g. WO 2005/040110 or WO 2009/089508). The compounds of the general structure **(Y-10)** are either commercially available or can be prepared by processes known to those skilled in the art. The preparation of compounds of the structure **(Y-3)** has already been described above.

Process I-T4

The compounds of the structure (**I-T4**) can be prepared by the process specified in Reaction Scheme 4.

Reaction Scheme 4



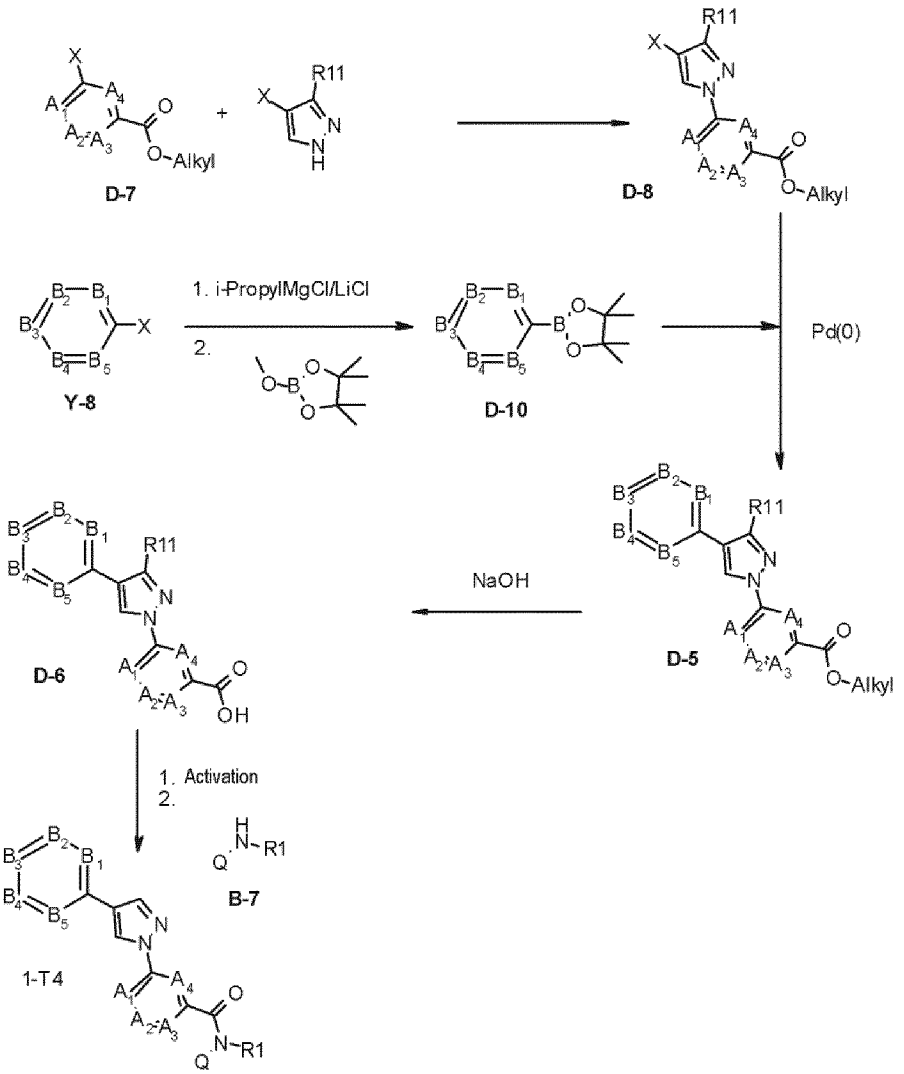
The A_1 to A_4, B_1 to B_5, alkyl, Q and R^1 radicals are each as defined above. X is Cl, Br, I. Starting compounds of the structure (D-1) (e.g. EP2319830, p. 330) and (D-7) are known or can be prepared by known methods.

The reactions can be conducted by the processes described in the literature, for example WO 2012/149236, Majumder, Supriyo et al., Advanced Synthesis and Catalysis, 351 (2009), 2013-2023, or US 5,061,705.

Compounds of the general structure (**D2**) can be prepared in analogy to methods known from the literature from the compounds of the general structure (**D1**) (e.g. WO2008148868A1, p. 87). Compounds of the general structure (**D3**) can be prepared in analogy to reactions known from the literature from the compounds of the general structure (**D2**) and an iminium salt (e.g. Knorr, Rudolf; Loew, Peter; Hassel, Petra; Bronberger, Hildegard Journal of Organic Chemistry, 49 (1984) p. 1288-1290). Compounds of the general structure (**D4**) can be prepared in analogy to methods known from the literature from the compounds of the general structure (**D3**) and hydrazine (e.g. WO2008080969 A1, p. 102-103, Example 104). Compounds of the general structure (**D5**) can be prepared in analogy to methods known from the literature from the compounds of the general structure (**D4**) and (**D7**) (e.g. WO2013009791, p. 50, Example 44). Compounds of the general structure (**D6**) can be prepared analogously to processes known from the literature by ester hydrolysis from compounds of the general structure (**D5**) [WO2010-051926; WO2010-133312]. Inventive compounds of the general structure (**I-T4**) can be prepared in analogy to peptide coupling methods known from the literature from the starting materials (**D6**) and (**D8**) [WO2010-051926; WO2010-133312].

The compounds of the structure (I-T4) can alternatively be prepared by the process specified in Reaction Scheme 5.

Reaction Scheme 5:

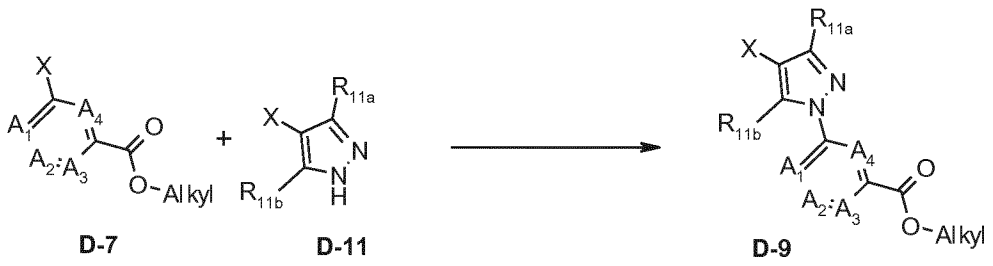


The A_1 to A_4, B_1 to B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined herein. X is Cl, Br, I. Starting compounds of the structure (**D-7**), (**D-9**) and (**D-11**) (e.g. EP1253128, p. 8-10) are known, and some are commercially available or can be prepared by known methods.

The reactions can be conducted by the processes described in the literature:

Stage 1 Pyrazole coupling

Stage 1 of the preparation process for the compounds (**I-T4**):



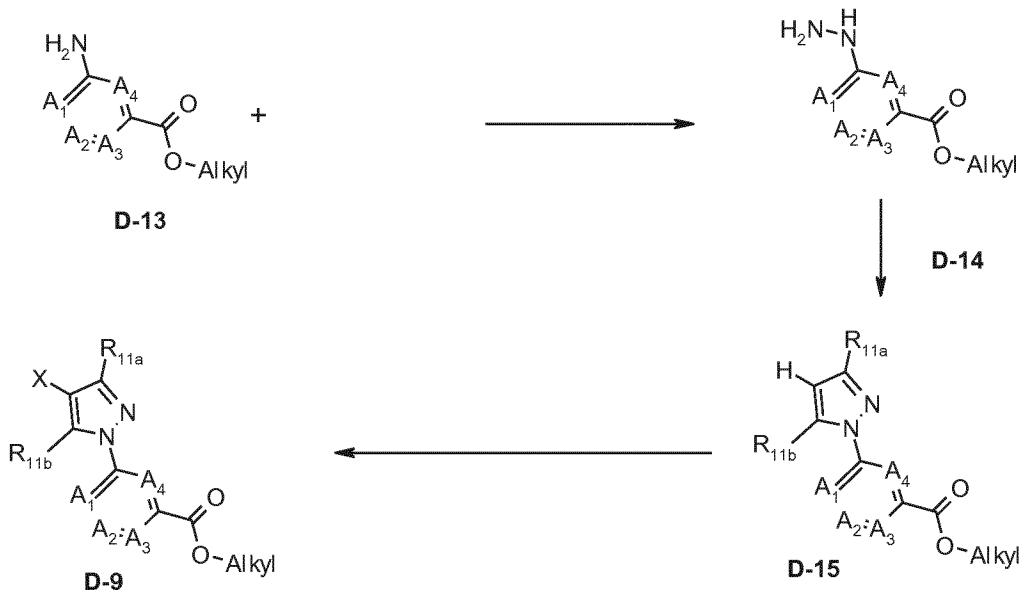
Compounds of the general structure (**D-9**) can be prepared in analogy to methods known from the literature from the starting materials of the structure (**D-7**) and (**D-11**). The A^1-A^4, alkyl and X radicals are each as defined above. Starting compounds of the structure (**D-7**) are known (e.g. WO2004099146A1, p. 68-69) or can be prepared by known methods. Examples include: methyl 2-chloro-5-iodobenzoate, ethyl 2-bromo-5-iodobenzoate, methyl 5-bromo-2-chloro-3-fluorobenzoate, ethyl 5-bromo-2-chloronicotinate. The starting compounds of the structure (**D-11**) are known, and some of them are commercially available or can be prepared by known methods. Examples include 4-bromopyrazole, 4-bromo-3-methylpyrazole, 4-bromo-3,5-dimethylpyrazole and 4-bromo-3-(trifluoromethyl)pyrazole.

The as yet unknown compounds (**D-9**) can be prepared in analogy to known processes for joining pyrazoles to aromatic systems (e.g. WO2013009791, p. 50, Example 44).

Pyrazole alternative preparation

Alternatively, the compounds of the general structure (**D9**) can be obtained via the route specified in Reaction Scheme 6.

Reaction Scheme 6:



The A_1 to A_4, alkyl and R_{11} radicals are each as defined above. X is Cl, Br, I. Starting compounds of the structure (**D-13**) are known (e.g. WO2004099146A1, p. 68-69) or can be prepared by known methods. Examples include: methyl 5-amino-2-chlorobenzoate, ethyl 5-amino-2-chlorobenzoate, methyl 5-amino-2-chloro-3-fluorobenzoate, ethyl 5-amino-2-chloronicotinate.

The as yet unknown compounds (**D-14**) can be prepared in analogy to known processes for preparing aryl hydrazines (e.g. WO 2004058731, p. 65).

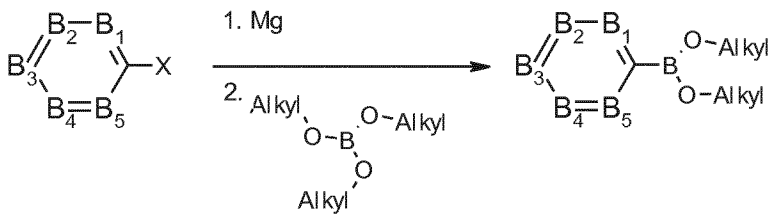
Inventive compounds of the general structure (**D-15**) can be prepared in analogy to methods known from the literature from the starting materials of the structure (**D-14**). The A_1 to A_4, alkyl and R_{11} radicals are each as defined above. Starting compounds of the structure (**D-14**) are known or can be prepared by known methods. Examples include methyl 2-chloro-5-hydrazinobenzoate, ethyl 2-chloro-5-hydrazinobenzoate, methyl 2-chloro-3-fluoro-5-hydrazinobenzoate, ethyl 2-chloro-5-hydrazinonicotinate. The reaction can be conducted analogously to the conditions for pyrazole ring closure known in the literature (e.g. Sachweh, Volker; Langhals, Heinz Chemische Berichte, 119 (1986) 1627-1639).

Inventive compounds of the general structure (**D9**) are prepared by reacting pyrazoles of the structure (**D-15**) with halogenating agents. The A_1 to A_4, alkyl and R_{11} radicals are each as defined above. Preferred compounds of the structure (**D15**) include methyl 2-chloro-5-(pyrazol-1-yl)benzoate, ethyl 2-chloro-5-(pyrazol-1-yl)benzoate, methyl 2-chloro-3-fluoro-5-(pyrazol-1-yl)benzoate, ethyl 2-chloro-5-(pyrazol-1-yl)-nicotinate.

Suitable halogenating compounds are known to those skilled in the art, for example e.g. chlorine, bromine, iodine, N-chlorosuccinimide, N-bromosuccinimide, N-iodosuccinimide, 1,3-dichloro-5,5-dimethylhydantoin, 1,3-dibromo-5,5-dimethylhydantoin, sodium hypochlorite and iodine monochloride. Preference is given to using bromine, iodine, bromosuccinimide and iodosuccinimide. It may be advantageous to conduct the reaction in the presence of an oxidizing agent, e.g. hydrogen peroxide. The reaction follows the conditions known from the literature, for example Guo Li et al., Tetrahedron Letters 48 (2007), 4595-4599; Mary M. Kim et al., Tetrahedron Letters 49 (2008), 4026-4028.

Stage 2 Boronic ester

Stage 2: Preparation of the starting compounds of the structure (**D12**)



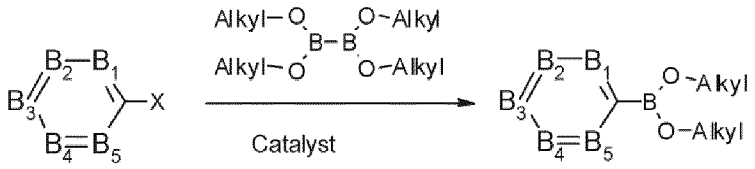
(**Y-8**) (**D-16**) (**D-12**)

Inventive compounds of the general structure (**D-12**) can be prepared in analogy to methods known from the literature (Chien, Yuh-Yih; Chou, Meng-Yen; Leung, Man-Kit; Liao, Yuan-Li; Lin, Chang-Chih; Wong, Ken-Tsung; Journal of Organic Chemistry, 67 (2002) p. 1041-1044) from the starting materials of the structure (**D-10**) through reaction with magnesium and subsequent reaction with boric esters of the structure (**D-16**).

The B^1-B^5 and alkyl radicals are each as defined above.

The boric esters of the structure (**D-13**) used in the reaction are known or can be prepared by known methods. Examples include trimethyl borate, triethyl borate and 2-methoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane.

Alternatively, the compounds of the general structure (**D-12**) can be prepared in analogy to methods known from the literature (Tang, Wenjun; Keshipeddy, Santosh; Zhang, Yongda; Wei, Xudong; Savoie, Jolaine; Patel, Nitinchandra D.; Yee, Nathan K.; Senanayake, Chris H.; Organic Letters, 13 (2011) S. 1366-1369) from the starting materials of the structure (**D-10**) through reaction with diboranes of the structure (**D-14**) in the presence of catalysts.

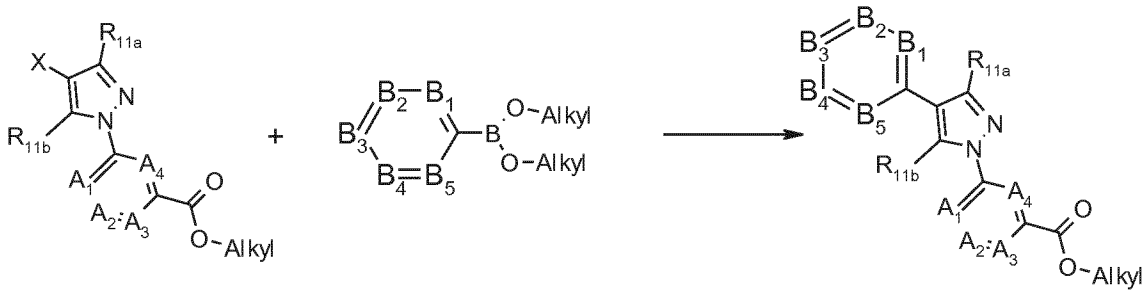


(Y-8) **(D-17)** **(D-12)**

The boric esters of the structure (**D-17**) used in the reaction are known or can be prepared by known methods. Examples include 4,4,5,5-tetramethyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,3,2-dioxaborolane (bis(pinacolato)diboron).

Catalysts used may, in particular, be compounds and complexes of palladium and Cu(I).

Stage 3 Aryl coupling



(D-9) **(D-12)** **(D-5)**

Inventive compounds of the general structure (**D-5**) are prepared by reacting the compounds of the structure (**D-9**) with boronic esters of the structure (**D-12**).

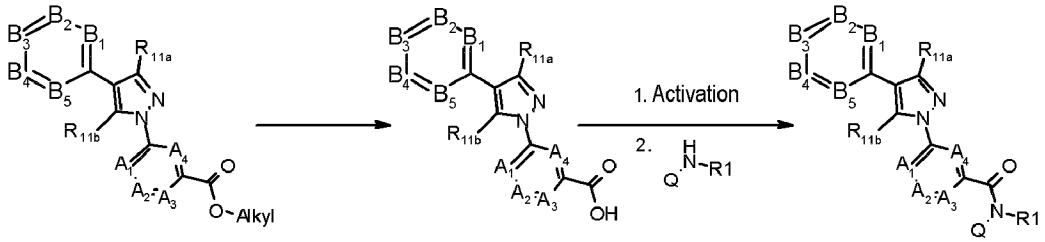
The A^1-A^4, B^1-B^5, R^{11}, alkyl and X radicals are each as defined above.

The preparation of the compounds of the structures (**D-9**) and (**D-12**) is described above.

Examples of compounds of the structure (**D-9**) include: methyl 5-(4-bromopyrazol-1-yl)-2-chlorobenzoate, methyl 5-(4-iodopyrazol-1-yl)-2-chlorobenzoate, ethyl 5-(4-bromo-3-methylpyrazol-1-yl)-2-chlorobenzoate, methyl 5-(4-bromo-3-(trifluoromethyl)pyrazol-1-yl)-2-chlorobenzoate, methyl 5-(4-bromo-3-(trifluoromethyl)pyrazol-1-yl)-2-chlorobenzoate, methyl 5-(4-bromo-3,5-dimethylpyrazol-1-yl)-2-chlorobenzoate and ethyl 5-(4-bromo-3-methylpyrazol-1-yl)-2-chloronicotinate.

The reaction is conducted under the conditions described in the literature, for example WO 2005040110 or WO 2009089508.

Stages 4, 5 Hydrolysis, amidation



(D-5) **(D-6)** **(D-8)** **(I-T4)**

Inventive compounds of the general structure (**I-T4**) can be prepared in analogy to peptide coupling methods known from the literature from the starting materials (**D-6**) and (**D-8**) [WO2010051926; WO2010133312]. Compounds of the general structure (**D-6**) can be prepared analogously to processes known from the literature by ester hydrolysis from compounds of the general structure (**D-5**) [WO2010-051926; WO2010133312]. The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. The preparation of the compounds of the structure (**D5**) is described above.

(I-T5): Compounds of the formula (I-T5) can be prepared, for example, analogously to Friedrich, L.E. et al. Journal of Organic Chemistry, 43 (1978), 34-38; or Huettel, R. et al. Chemische Berichte, 93 (1960), p. 1425-1432; or Sato, T et al., Bulletin of the Chemical Society of Japan, 41 (1968), p. 3017-3018.

(I-T8): Compounds of the formula (I-T8) can be prepared, for example, analogously to EP 1 405 636, Example 5; or EP 2 301 538, p. 162; or Schmidt, Bernd et al., European Journal of Organic Chemistry, (2011), p. 4814-4822.

(I-T9): Compounds of the formula (I-T9) can be prepared, for example, analogously to Ma, Shengming et al., Chemistry-A European Journal, 9 (2003), p. 2447-2456.

(I-T10): Compounds of the formula (I-T10) can be prepared, for example, analogously to EP 2 301 538, p. 162.

(I-T11): Compounds of the formula (I-T11) can be prepared, for example, analogously to EP 2 301 538, p. 165.

(I-T12): Compounds of the formula (I-T12) can be prepared, for example, analogously to EP 2 301 538, p. 164.

(I-T13): Compounds of the formula (I-T13) can be prepared, for example, analogously to EP 2 301 538, p. 164.

(I-T14): Compounds of the formula (I-T14) can be prepared, for example, analogously to Hibi, Shigeki et al., Bioorganic & Medicinal Chemistry Letters, 10 (2000), p. 623–626 or Wang, Xiang et al. Journal of Organic Chemistry, 72 (2007), 1476-1479; EP1405636, page 31.

(I-T15): Compounds of the formula (I-T15) can be prepared, for example, analogously to Chattopadhyay, Buddhadeb et al., Organic Letters, 13 (2011), p. 3746-3749.

(I-T16): Compounds of the formula (I-T16) can be prepared, for example, analogously to Campi, Eva M. et al. Tetrahedron Letters, 32 (1991), p. 1093-1094; or Thompson, Benjamin B. et al., Organic Letters, 13 (2011), p. 3289-3291; or Kloetzel et al. Journal of the American Chemical Society, 79 (1957), p. 4222; or Chi, Yonggui Robin et al., Journal of the American Chemical Society, 135 (2013), p. 8113-8116.

(I-T18): Compounds of the formula (I-T18) can be prepared, for example, analogously to EP 2 311 455, p. 150; or Balaban, A.T. et al. Tetrahedron, 19 (1963), p. 2199-2207.

(I-T19): Compounds of the formula (I-T19) can be prepared, for example, analogously to WO 2004/14366, p. 108.

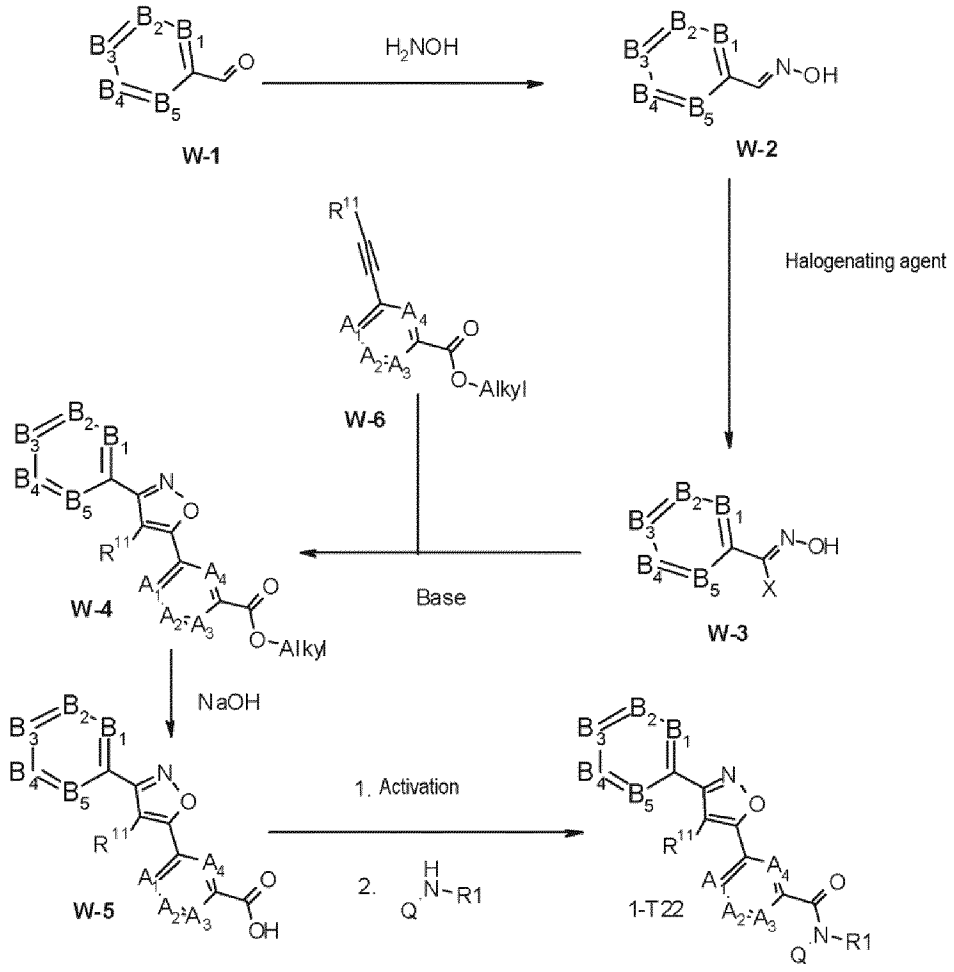
(I-T20): Compounds of the formula (I-T20) can be prepared, for example, analogously to Araki, Hiroshi; Katoh, Tadashi; Inoue, Munenori; Synlett, (2006), p. 555-558; US 6,545,009, p. 27, Example 1.

(I-T21): Compounds of the formula (I-T21) can be prepared, for example, analogously to WO 2004/72050, p. 13; or US 6,545,009, p. 27.

Process I-T22

The compounds of the structure **(I-T22)** can be prepared by the process specified in Scheme 7.

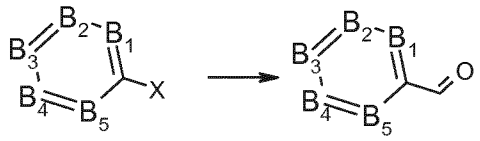
Reaction Scheme 7:



The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. X is Cl, Br, I. Starting compounds of the structure (W-1) and (W-6) are known (W1 e.g. US 2011/53904 p. 19, W6 e.g. WO 2012/175474, p. 117-118) or can be prepared by known methods. The reactions are conducted analogously to the conditions specified for preparation of the compounds (**I-T23**).

Stage 1 Aldehyde

Stage 1 of the preparation process for the compounds (**I-T22**):



(W1) (W2)

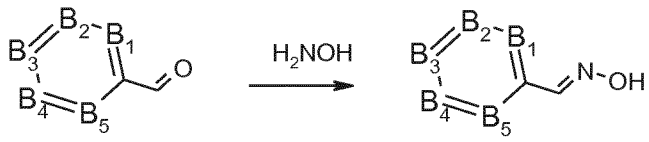
Inventive compounds of the general structure (**W2**) can be prepared in analogy to methods known from the literature (US5739083, Example 2; WO2011/23667, p. 34) from the starting materials of the structure (**W1**).

The B^1-B^5 and X radicals are each as defined above. X is, for example, chlorine, bromine or iodine.

Starting compounds of the structure (**B1**) are known or can be prepared by known methods. Examples include 2-bromo-1,3-dichloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1,3-dimethyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1-ethyl-3-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene, 2-bromo-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene, 2-bromo-1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethoxy)benzene, 2-bromo-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethoxy)benzene, 1,3-dimethyl-2-iodo-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-iodo-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene. They can be prepared, for example, by the methods described in EP1253128, pages 8-10.

Stage 2 Oxime

Stage 2 of the preparation process for the compounds (**1-T22**):



(W2) (W3)

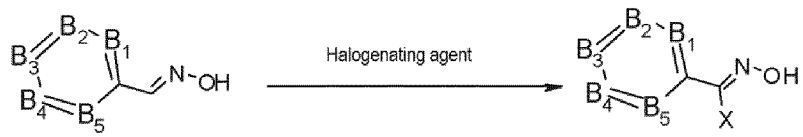
Inventive compounds of the general structure (**W3**) can be prepared in analogy to methods known from the literature from the starting materials of the structure (**W2**). The B_1-B_5 radicals are each as defined above. The preparation of the starting compounds of the structure (**W2**) is described above. Examples include 2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzaldehyde, 2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzaldehyde, 2-ethyl-6-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzaldehyde, 2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-

(trifluoromethyl)benzaldehyde, 2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)benzaldehyde, 2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethoxy)benzaldehyde, 2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethoxy)benzaldehyde. The preparation thereof is described above.

The compounds of the structural formula (**W3**) are novel. The as yet unknown compounds (**W3**) can be prepared in analogy to the known processes for preparing oximes from aldehydes (H. Metzger in Houben-Weyl, volume X/4, page 55 ff., Georg Thieme Verlag Stuttgart 1968). The compounds of the structural formula (**W3**) may be in the form of pure stereoisomers, but also in the form of mixtures of the stereoisomers.

Stage 3 Hydroxamyl chloride

Stage 3 of the preparation process for the compounds (**1-T22**):



(W3) **(W4)**

Inventive compounds of the general structure (**W4**) are prepared by reacting the oximes of the structure (**W3**) with halogenating agents.

The B1-B5 radicals are each as defined above. X is chlorine, bromine or iodine.

Typical compounds of the structure (**W4**) are, for example, 2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-N-hydroxybenzimidoyl chloride, 2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-N-hydroxybenzimidoyl chloride, 2-ethyl-6-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-N-hydroxybenzimidoyl chloride, 2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)-N-hydroxybenzimidoyl chloride, 2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)-N-hydroxybenzimidoyl chloride, 2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethoxy)-N-hydroxybenzimidoyl chloride, 2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethoxy)-N-hydroxybenzimidoyl chloride, 2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)-N-hydroxybenzimidoyl bromide.

Suitable halogenating compounds are known to those skilled in the art, for example chlorine, bromine, iodine, N-chlorosuccinimide, N-bromosuccinimide, N-iodosuccinimide, 1,3-dichloro-5,5-

dimethylhydantoin, 1,3-dibromo-5,5-dimethylhydantoin, benzyltrimethylammonium tetrachloroiodate and sodium hypochlorite. Preference is given to using chlorinating reagents.

The reaction can be conducted using suitable solvents.

Useful diluents or solvents for conducting the processes according to the invention in principle include all organic solvents which are inert under the specific reaction conditions. Examples include: hydrohalocarbons (e.g. hydrochlorocarbons, such as tetraethylene, tetrachloroethane, dichloropropane, methylene chloride, dichlorobutane, chloroform, carbon tetrachloride, trichloroethane, trichloroethylene, pentachloroethane, difluorobenzene, 1,2-dichloroethane, chlorobenzene, bromobenzene, dichlorobenzene, chlorotoluene, trichlorobenzene), alcohols (e.g. methanol, ethanol, isopropanol, butanol), ethers (e.g. ethyl propyl ether, methyl tert-butyl ether, n-butyl ether, anisole, phenetole, cyclohexyl methyl ether, dimethyl ether, diethyl ether, dipropyl ether, diisopropyl ether, di-n-butyl ether, diisobutyl ether, diisoamyl ether, ethylene glycol dimethyl ether, tetrahydrofuran, dioxane, dichlorodiethyl ether and polyethers of ethylene oxide and/or propylene oxide), amines (e.g. trimethyl-, triethyl-, tripropyl-, tributylamine, N-methylmorpholine, pyridine and tetramethylenediamine), nitrohydrocarbons (e.g. nitromethane, nitroethane, nitropropane, nitrobenzene, chloronitrobenzene, o-nitrotoluene; nitriles such as acetonitrile, propionitrile, butyronitrile, isobutyronitrile, benzonitrile, m-chlorobenzonitrile), tetrahydrothiophene dioxide, dimethyl sulphoxide, tetramethylene sulphoxide, dipropyl sulphoxide, benzyl methyl sulphoxide, diisobutyl sulphoxide, dibutyl sulphoxide, diisoamyl sulphoxide, sulphones (e.g. dimethyl, diethyl, dipropyl, dibutyl, diphenyl, dihexyl, methyl ethyl, ethyl propyl, ethyl isobutyl and pentamethylene sulphone), aliphatic, cycloaliphatic or aromatic hydrocarbons (e.g. pentane, hexane, heptane, octane, nonane and technical hydrocarbons), and also what are called "white spirits" with components having boiling points in the range from, for example, 40°C to 250°C, cymene, petroleum fractions within a boiling range from 70°C to 190°C, cyclohexane, methylcyclohexane, petroleum ether, ligroin, octane, benzene, toluene, chlorobenzene, bromobenzene, nitrobenzene, xylene, esters (e.g. methyl, ethyl, butyl and isobutyl acetate, dimethyl, dibutyl and ethylene carbonate); amides (e.g. hexamethylenephosphoramide, formamide, N-methylformamide, N,N-dimethylformamide, N,N-dipropylformamide, N,N-dibutylformamide, N-methylpyrrolidine, N-methylcaprolactam, 1,3-dimethyl-3,4,5,6-tetrahydro-2(1H)-pyrimidine, octylpyrrolidone, octylcaprolactam, 1,3-dimethyl-2-imidazolinedione, N-formylpiperidine, N,N'-1,4-diformylpiperazine) and ketones (e.g. acetone, acetophenone, methyl ethyl ketone, methyl butyl ketone).

Preferred diluents used may be any solvent that does not impair the reaction, for example water. Useful examples are aromatic hydrocarbons such as benzene, toluene, xylene or chlorobenzene; halogenated hydrocarbons such as dichloromethane, chloroform, 1,2-dichloroethane or carbon tetrachloride, open-chain or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran or 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones, for example acetone, methyl isobutyl ketone and cyclohexanone; amides such as dimethylformamide and dimethylacetamide, N-methylpyrrolidone;

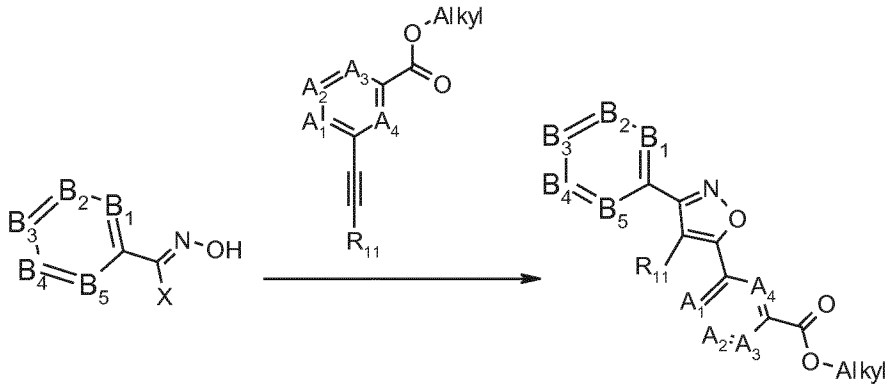
nitriles such as acetonitrile or propionitrile; and other inert solvents such as 1,3-dimethyl-2-imidazolidinone; the solvents may be used alone or in a combination of 2 or more.

The reaction can be executed within a wide temperature range. Usually, it is conducted within a temperature range from -78°C to 200°C, preferably at temperatures between -10 and 150°C. The reaction can be executed under elevated or else reduced pressure. But it is preferably conducted under standard pressure. The reaction times are between 0.1 and 72 hours, preferably between 1 and 24 hours.

To perform the reaction, 1 to 3 mol, preferably 1 to 1.5 mol, of halogenating agent are used per mole of the compound of the structure (**W3**) in a solvent, for example dimethylformamide (DMF).

Stage 4 Ring closure

Stage 4 of the preparation process for the compounds (**1-T22**):



(**W4**) (**W8**) (**W5**)

Inventive compounds of the general structure (**W5**) are prepared by reacting the hydroxamyl chlorides of the structure (**W4**) with acetylenes of the structure (**W8**).

The A_1-A_4, B_1-B_5, R^{11} and alkyl radicals are each as defined above. X is halogen, such as chlorine, bromine, iodine.

The preparation of the compounds of the structure (**W4**) is described above. Typical compounds of the structure (**W4**) are, for example, 2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-N-hydroxybenzimidoyl chloride, 2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-N-hydroxybenzimidoyl chloride, 2-ethyl-6-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-N-hydroxybenzimidoyl chloride, 2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)-N-hydroxybenzimidoyl chloride, 2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)-N-hydroxybenzimidoyl chloride, 2-chloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethoxy)-N-hydroxybenzimidoyl chloride, 2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethoxy)-N-hydroxybenzimidoyl chloride, 2-

methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)-N-hydroxybenzimidoyl bromide.

The compounds of the structure (**W8**) are known (WO2012107434, p. 103) or can be prepared by methods known from the literature (Chinchilla, Rafael; Najera, Carmen, Chemical Society Reviews (2011), 40(10), 5084-5121, Chinchilla, Rafael; Najera, Carmen, Chemical Reviews (Washington, DC, United States) (2007), 107(3), 874-922). Typical compounds of the structure (**W8**) are, for example, methyl 2-chloro-5-ethynylbenzoate, ethyl 2-bromo-5-ethynylbenzoate, methyl 2-chloro-5-ethynyl-3-fluorobenzoate, ethyl 2-chloro-5-ethynylnicotinate, ethyl 5-ethynyl-2-methylnicotinate.

The reaction can be conducted using suitable solvents.

Useful diluents or solvents for conducting the processes according to the invention in principle include all organic solvents which are inert under the specific reaction conditions. Examples include: hydrohalocarbons (e.g. hydrochlorocarbons, such as tetraethylene, tetrachloroethane, dichloropropane, methylene chloride, dichlorobutane, chloroform, carbon tetrachloride, trichloroethane, trichloroethylene, pentachloroethane, difluorobenzene, 1,2-dichloroethane, chlorobenzene, bromobenzene, dichlorobenzene, chlorotoluene, trichlorobenzene), alcohols (e.g. methanol, ethanol, isopropanol, butanol), ethers (e.g. ethyl propyl ether, methyl tert-butyl ether, n-butyl ether, anisole, phenetole, cyclohexyl methyl ether, dimethyl ether, diethyl ether, dipropyl ether, diisopropyl ether, di-n-butyl ether, diisobutyl ether, diisoamyl ether, ethylene glycol dimethyl ether, tetrahydrofuran, dioxane, dichlorodiethyl ether and polyethers of ethylene oxide and/or propylene oxide), amines (e.g. trimethyl-, triethyl-, tripropyl-, tributylamine, N-methylmorpholine, pyridine and tetramethylenediamine), nitrohydrocarbons (e.g. nitromethane, nitroethane, nitropropane, nitrobenzene, chloronitrobenzene, o-nitrotoluene; nitriles such as acetonitrile, propionitrile, butyronitrile, isobutyronitrile, benzonitrile, m-chlorobenzonitrile), tetrahydrothiophene dioxide, dimethyl sulphoxide, tetramethylene sulphoxide, dipropyl sulphoxide, benzyl methyl sulphoxide, diisobutyl sulphoxide, dibutyl sulphoxide, diisoamyl sulphoxide, sulphones (e.g. dimethyl, diethyl, dipropyl, dibutyl, diphenyl, dihexyl, methyl ethyl, ethyl propyl, ethyl isobutyl and pentamethylene sulphone), aliphatic, cycloaliphatic or aromatic hydrocarbons (e.g. pentane, hexane, heptane, octane, nonane and technical hydrocarbons), and also what are called "white spirits" with components having boiling points in the range from, for example, 40°C to 250°C, cymene, petroleum fractions within a boiling range from 70°C to 190°C, cyclohexane, methylcyclohexane, petroleum ether, ligroin, octane, benzene, toluene, chlorobenzene, bromobenzene, nitrobenzene, xylene, esters (e.g. methyl, ethyl, butyl and isobutyl acetate, dimethyl, dibutyl and ethylene carbonate); amides (e.g. hexamethylenephosphoramide, formamide, N-methylformamide, N,N-dimethylformamide, N,N-dipropylformamide, N,N-dibutylformamide, N-methylpyrrolidine, N-methylcaprolactam, 1,3-dimethyl-3,4,5,6-tetrahydro-2(1H)-pyrimidine, octylpyrrolidone, octylcaprolactam, 1,3-dimethyl-2-imidazolinedione, N-formylpiperidine, N,N'-1,4-diformylpiperazine) and ketones (e.g. acetone, acetophenone, methyl ethyl ketone, methyl butyl ketone).

Preferred diluents used may be any solvent that does not impair the reaction, for example water. Useful examples are aromatic hydrocarbons such as benzene, toluene, xylene or chlorobenzene; halogenated hydrocarbons such as dichloromethane, chloroform, 1,2-dichloroethane or carbon tetrachloride, open-chain or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran or 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones, for example acetone, methyl isobutyl ketone and cyclohexanone; amides such as dimethylformamide and dimethylacetamide, N-methylpyrrolidone; nitriles such as acetonitrile or propionitrile; and other inert solvents such as 1,3-dimethyl-2-imidazolidinone; the solvents may be used alone or in a combination of 2 or more.

In the reactions of the compounds of the structure (**W4**) with the acetylenes of the structure (**W8**), it is possible to add bases. Examples include alkaline earth metal or alkali metal compounds (e.g. hydroxides, hydrides, oxides and carbonates of lithium, sodium, potassium, magnesium, calcium and barium), amidine bases or guanidine bases (e.g. 7-methyl-1,5,7-triazabicyclo[4.4.0]dec-5-ene (MTBD); diazabicyclo[4.3.0]nonene (DBN), diazabicyclo[2.2.2]octane (DABCO), 1,8-diazabicyclo[5.4.0]undecene (DBU), cyclohexyltetrabutylguanidine (CyTBG), cyclohexyltetramethylguanidine (CyTMG), N,N,N,N-tetramethyl-1,8-naphthalenediamine, pentamethylpiperidine) and amines, especially tertiary amines (e.g. triethylamine, trimethylamine, tribenzylamine, triisopropylamine, tributylamine, tricyclohexylamine, triamylamine, trihexylamine, N,N-dimethylaniline, N,N-dimethyltoluidine, N,N-dimethyl-p-aminopyridine, N-methylpyrrolidine, N-methylpiperidine, N-methylimidazole, N-methylpyrazole, N-methylmorpholine, N-methylhexamethylenediamine, pyridine, 4-pyrrolidinopyridine, 4-dimethylaminopyridine, quinoline, α-picoline, β-picoline, isoquinoline, pyrimidine, acridine, N,N,N',N'-tetramethylenediamine, N,N,N',N'-tetraethylenediamine, quinoxaline, N-propyldiisopropylamine, N-ethyldiisopropylamine, N,N'-dimethylcyclohexylamine, 2,6-lutidine, 2,4-lutidine or triethylenediamine).

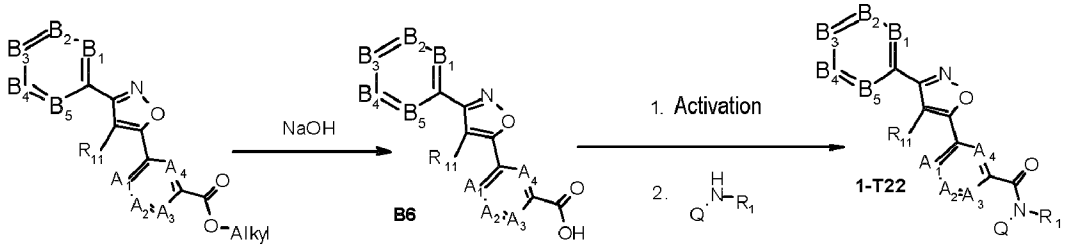
A preferred basic reaction auxiliary used may be an organic base such as triethylamine, ethyldiisopropylamine, tri-n-butylamine, pyridine and 4-dimethylaminopyridine; in addition, it is possible to use, for example, the following bases: alkali metal hydroxides, for example sodium hydroxide and potassium hydroxide; carbonates such as sodium hydrogencarbonate and potassium carbonate; phosphates such as dipotassium hydrogenphosphate and trisodium phosphate.

The reaction can be executed within a wide temperature range. Usually, it is conducted within a temperature range from -78°C to 200°C, preferably at temperatures between -10 and 150°C. The reaction can be executed under elevated or else reduced pressure. But it is preferably conducted under standard pressure. The reaction times are between 0.1 and 72 hours, preferably between 1 and 24 hours.

To conduct the reaction, for example, 1-2 molar equivalents of the compounds of the structure (**W8**) and 1 molar equivalent up to a slight excess of base per mole of the compound of the structure (**W4**) are reacted in a solvent, for example dimethylformamide (DMF).

Stages 3 and 4 for preparation of the compounds of the structure (**W5**) can be conducted in individual steps or else as a one-pot reaction.

Stages 5, 6 Hydrolysis, amidation



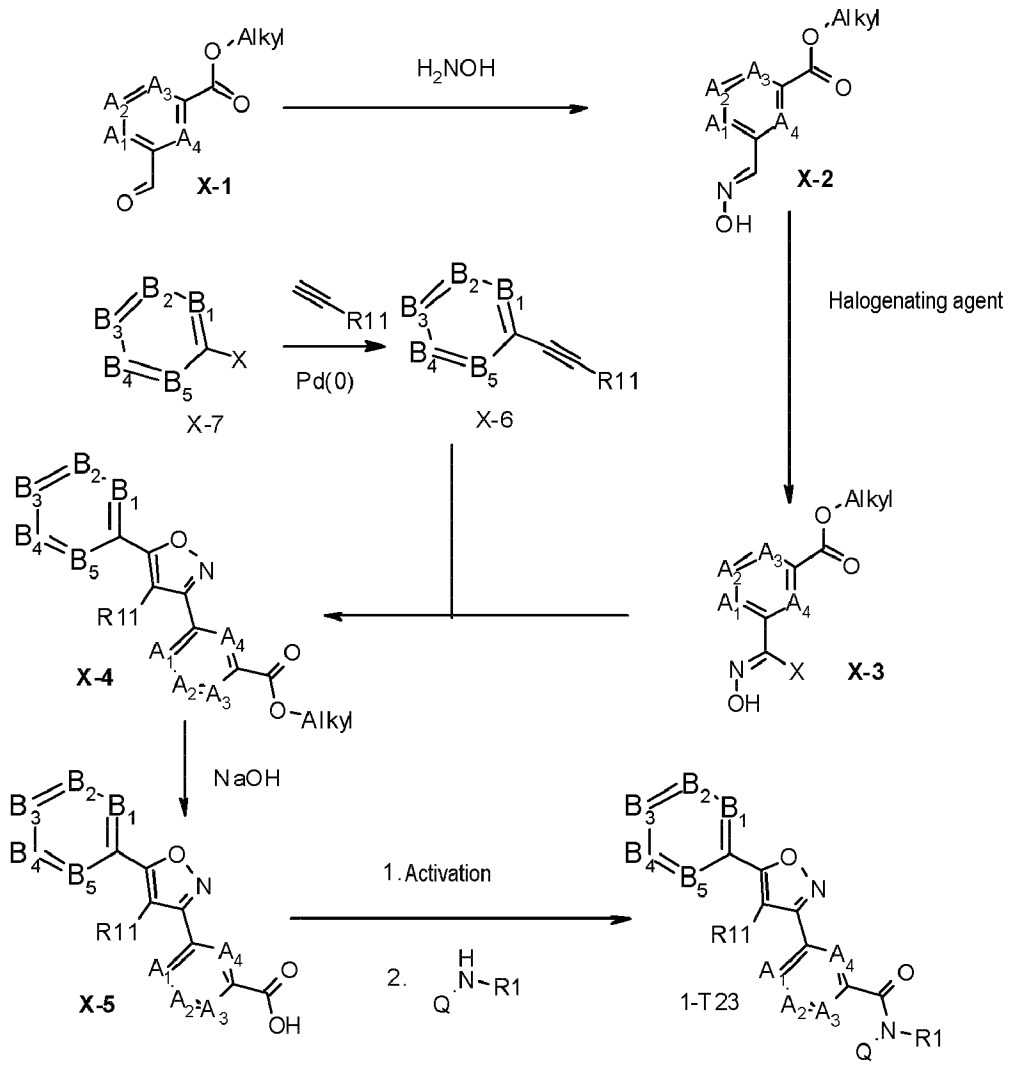
(W5) **(W6)** **(B7)** **(1-T22)**

Inventive compounds of the general structure (**I-T22**) can be prepared in analogy to peptide coupling methods known from the literature from the starting materials (**W6**) and (**W9**) (WO2010051926; WO2010133312). Compounds of the general structure (**W6**) can be prepared analogously to processes known from the literature by ester hydrolysis from compounds of the general structure (**W5**) (WO2010051926; WO2010133312). The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above.

Process I-T23

The compounds of the structure (**I-T23**) can be prepared by the process specified in Reaction Scheme 8.

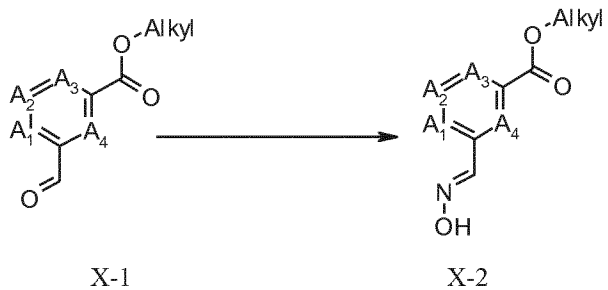
Reaction Scheme 8:



The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. X is, for example, Cl, Br, I.

Stage 1 Oxime

Stage 1 of the preparation process for the compounds (I-T23):

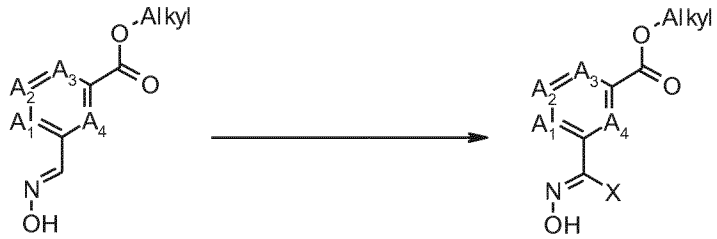


Inventive compounds of the general structure **(X-2)** can be prepared in analogy to methods known from the literature from the starting materials of the structure **(X-1)**. The A^1-A^4 and alkyl radicals are each as defined above. Starting compounds of the structure **(X-1)** are known or can be prepared by known methods. Examples include 3-carbomethoxybenzaldehyde, 3-carbomethoxy-4-chlorobenzaldehyde, 3-carbomethoxy-4-bromobenzaldehyde, 3-carbomethoxy-4-fluorobenzaldehyde, 3-carbomethoxy-4-chloro-5-fluorobenzaldehyde and the corresponding ethyl esters. They can be prepared, for example, by the methods described in WO 2010/011584, p. 19-20; Journal of Organic Chemistry, 76 (2011), p. 1062 – 1071; WO 2012/114268, p. 137; Journal of the American Chemical Society, 108 (1986), p. 452-461.

The as yet unknown compounds **(X-2)** can be prepared in analogy to the known processes for preparing oximes from aldehydes (H. Metzger in Houben-Weyl, volume X/4, p. 55 ff., Georg Thieme Verlag Stuttgart 1968). The compounds of the structural formula **(X-2)** may be in the form of pure stereoisomers, but also in the form of mixtures of the stereoisomers.

Stage 2 Hydroxamyl chloride

Stage 2 of the preparation process for the compounds **(I-T23):**



X-2 X-3

Inventive compounds of the general structure **(X-3)** are prepared by reacting the oximes of the structure **(X-2)** with halogenating agents.

The A_1-A_4 and alkyl radicals are each as defined above.

Typical compounds of the structure **(X-3)** are, for example, carbomethoxy-4-chloro-N-hydroxybenzimidoyl chloride, 3-carbomethoxy-4-fluoro-N-hydroxybenzimidoyl chloride, 3-carbomethoxy-4-chloro-5-fluoro-N-hydroxybenzimidoyl chloride, 3-carbomethoxy-4-bromo-N-hydroxybenzimidoyl chloride.

Suitable halogenating compounds are known to those skilled in the art, for example chlorine, bromine, iodine, N-chlorosuccinimide, N-bromosuccinimide, N-iodosuccinimide, 1,3-dichloro-5,5-dimethylhydantoin, 1,3-dibromo-5,5-dimethylhydantoin, benzyltrimethylammonium tetrachloroiodate and sodium hypochlorite. Preference is given to using chlorinating reagents.

Useful diluents or solvents for conducting the processes according to the invention in principle include all organic solvents which are inert under the specific reaction conditions. Examples include: hydrohalocarbons (e.g. hydrochlorocarbons, such as tetraethylene, tetrachloroethane, dichloropropane, methylene chloride, dichlorobutane, chloroform, carbon tetrachloride, trichloroethane, trichloroethylene, pentachloroethane, difluorobenzene, 1,2-dichloroethane, chlorobenzene, bromobenzene, dichlorobenzene, chlorotoluene, trichlorobenzene), alcohols (e.g. methanol, ethanol, isopropanol, butanol), ethers (e.g. ethyl propyl ether, methyl tert-butyl ether, n-butyl ether, anisole, phenetole, cyclohexyl methyl ether, dimethyl ether, diethyl ether, dipropyl ether, diisopropyl ether, di-n-butyl ether, diisobutyl ether, diisoamyl ether, ethylene glycol dimethyl ether, tetrahydrofuran, dioxane, dichlorodiethyl ether and polyethers of ethylene oxide and/or propylene oxide), amines (e.g. trimethyl-, triethyl-, tripropyl-, tributylamine, N-methylmorpholine, pyridine and tetramethylenediamine), nitrohydrocarbons (e.g. nitromethane, nitroethane, nitropropane, nitrobenzene, chloronitrobenzene, o-nitrotoluene; nitriles such as acetonitrile, propionitrile, butyronitrile, isobutyronitrile, benzonitrile, m-chlorobenzonitrile), tetrahydrothiophene dioxide, dimethyl sulphoxide, tetramethylene sulphoxide, dipropyl sulphoxide, benzyl methyl sulphoxide, diisobutyl sulphoxide, dibutyl sulphoxide, diisoamyl sulphoxide, sulphones (e.g. dimethyl, diethyl, dipropyl, dibutyl, diphenyl, dihexyl, methyl ethyl, ethyl propyl, ethyl isobutyl and pentamethylene sulphone), aliphatic, cycloaliphatic or aromatic hydrocarbons (e.g. pentane, hexane, heptane, octane, nonane and technical hydrocarbons), and also what are called "white spirits" with components having boiling points in the range from, for example, 40°C to 250°C, cymene, petroleum fractions within a boiling range from 70°C to 190°C, cyclohexane, methylcyclohexane, petroleum ether, ligroin, octane, benzene, toluene, chlorobenzene, bromobenzene, nitrobenzene, xylene, esters (e.g. methyl, ethyl, butyl and isobutyl acetate, dimethyl, dibutyl and ethylene carbonate); amides (e.g. hexamethylenephosphoramide, formamide, N-methylformamide, N,N-dimethylformamide, N,N-dipropylformamide, N,N-dibutylformamide, N-methylpyrrolidine, N-methylcaprolactam, 1,3-dimethyl-3,4,5,6-tetrahydro-2(1H)-pyrimidine, octylpyrrolidone, octylcaprolactam, 1,3-dimethyl-2-imidazolinedione, N-formylpiperidine, N,N'-1,4-diformylpiperazine) and ketones (e.g. acetone, acetophenone, methyl ethyl ketone, methyl butyl ketone).

Preferred diluents used may be any solvent that does not impair the reaction, for example water. Useful examples are aromatic hydrocarbons such as benzene, toluene, xylene or chlorobenzene; halogenated hydrocarbons such as dichloromethane, chloroform, 1,2-dichloroethane or carbon tetrachloride, open-chain or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran or 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones, for example acetone, methyl isobutyl ketone and cyclohexanone; amides such as dimethylformamide and dimethylacetamide, N-methylpyrrolidone; nitriles such as acetonitrile or propionitrile; and other inert solvents such as 1,3-dimethyl-2-imidazolidinone; the solvents may be used alone or in a combination of 2 or more.

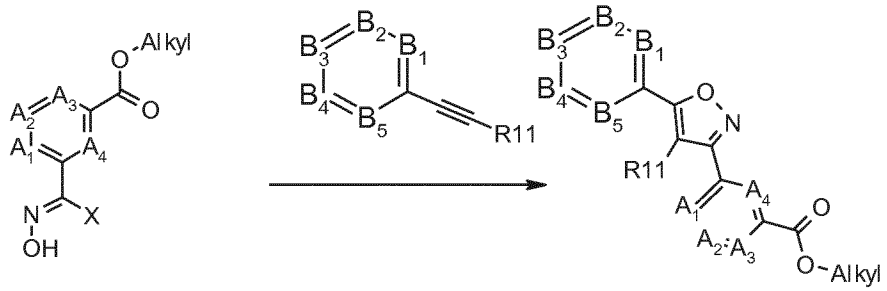
The reaction can be executed within a wide temperature range. Usually, it is conducted within a temperature range from -78°C to 200°C, preferably at temperatures between -10 and 150°C. The

reaction can be executed under elevated or else reduced pressure. But it is preferably conducted under standard pressure. The reaction times are between 0.1 and 72 hours, preferably between 1 and 24 hours.

To perform the reaction, 1 to 3 mol, preferably 1 to 1.5 mol, of halogenating agent are used per mole of the compound of the structure **(X-2)** in a solvent, for example dimethylformamide (DMF).

Stage 3 Ring closure

Stage 3 of the preparation process for the compounds **(1-T23):**



X-3 X-6 X-4

Inventive compounds of the general structure **(X-4)** are prepared by reacting the hydroxamyl chlorides of the structure **(X-3)** with acetylenes of the structure **(X-6)**.

The A^1-A^4, B^1-B^5, R^{11} and alkyl radicals are each as defined above.

Typical compounds of the structure **(X-3)** are, for example, carbomethoxy-4-chloro-N-hydroxybenzimidoyl chloride, 3-carbomethoxy-4-fluoro-N-hydroxybenzimidoyl chloride, 3-carbomethoxy-4-chloro-5-fluoro-N-hydroxybenzimidoyl chloride, 3-carbomethoxy-4-bromo-N-hydroxybenzimidoyl chloride.

Useful diluents or solvents for conducting the processes according to the invention in principle include all organic solvents which are inert under the specific reaction conditions. Examples include: hydrohalocarbons (e.g. hydrochlorocarbons, such as tetraethylene, tetrachloroethane, dichloropropane, methylene chloride, dichlorobutane, chloroform, carbon tetrachloride, trichloroethane, trichloroethylene, pentachloroethane, difluorobenzene, 1,2-dichloroethane, chlorobenzene, bromobenzene, dichlorobenzene, chlorotoluene, trichlorobenzene), alcohols (e.g. methanol, ethanol, isopropanol, butanol), ethers (e.g. ethyl propyl ether, methyl tert-butyl ether, n-butyl ether, anisole, phenetole, cyclohexyl methyl ether, dimethyl ether, diethyl ether, dipropyl ether, diisopropyl ether, di-n-butyl ether, diisobutyl ether, diisoamyl ether, ethylene glycol dimethyl ether, tetrahydrofuran, dioxane, dichlorodiethyl ether and polyethers of ethylene oxide and/or propylene oxide), amines (e.g. trimethyl-, triethyl-, tripropyl-, tributylamine, N-methylmorpholine, pyridine and tetramethylenediamine), nitrohydrocarbons (e.g. nitromethane, nitroethane, nitropropane, nitrobenzene, chloronitrobenzene, o-nitrotoluene; nitriles such as acetonitrile, propionitrile, butyronitrile, isobutyronitrile, benzonitrile, m-

chlorobenzonitrile), tetrahydrothiophene dioxide, dimethyl sulphoxide, tetramethylene sulphoxide, dipropyl sulphoxide, benzyl methyl sulphoxide, diisobutyl sulphoxide, dibutyl sulphoxide, diisoamyl sulphoxide, sulphones (e.g. dimethyl, diethyl, dipropyl, dibutyl, diphenyl, dihexyl, methyl ethyl, ethyl propyl, ethyl isobutyl and pentamethylene sulphone), aliphatic, cycloaliphatic or aromatic hydrocarbons (e.g. pentane, hexane, heptane, octane, nonane and technical hydrocarbons), and also what are called "white spirits" with components having boiling points in the range from, for example, 40°C to 250°C, cymene, petroleum fractions within a boiling range from 70°C to 190°C, cyclohexane, methylcyclohexane, petroleum ether, ligroin, octane, benzene, toluene, chlorobenzene, bromobenzene, nitrobenzene, xylene, esters (e.g. methyl, ethyl, butyl and isobutyl acetate, dimethyl, dibutyl and ethylene carbonate); amides (e.g. hexamethylenephosphoramide, formamide, N-methylformamide, N,N-dimethylformamide, N,N-dipropylformamide, N,N-dibutylformamide, N-methylpyrrolidine, N-methylcaprolactam, 1,3-dimethyl-3,4,5,6-tetrahydro-2(1H)-pyrimidine, octylpyrrolidone, octylcaprolactam, 1,3-dimethyl-2-imidazolinedione, N-formylpiperidine, N,N'-1,4-diformylpiperazine) and ketones (e.g. acetone, acetophenone, methyl ethyl ketone, methyl butyl ketone).

Preferred diluents used may be any solvent that does not impair the reaction, for example water. Useful examples are aromatic hydrocarbons such as benzene, toluene, xylene or chlorobenzene; halogenated hydrocarbons such as dichloromethane, chloroform, 1,2-dichloroethane or carbon tetrachloride, open-chain or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran or 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones, for example acetone, methyl isobutyl ketone and cyclohexanone; amides such as dimethylformamide and dimethylacetamide, N-methylpyrrolidone; nitriles such as acetonitrile or propionitrile; and other inert solvents such as 1,3-dimethyl-2-imidazolidinone; the solvents may be used alone or in a combination of 2 or more.

In the reactions of the compounds of the structure **(X-3)** with the acetylenes of the structure (X-6), it is possible to add bases. Examples include alkaline earth metal or alkali metal compounds (e.g. hydroxides, hydrides, oxides and carbonates of lithium, sodium, potassium, magnesium, calcium and barium), amidine bases or guanidine bases (e.g. 7-methyl-1,5,7-triazabicyclo[4.4.0]dec-5-ene (MTBD); diazabicyclo[4.3.0]nonene (DBN), diazabicyclo[2.2.2]octane (DABCO), 1,8-diazabicyclo[5.4.0]undecene (DBU), cyclohexyltetrabutylguanidine (CyTBG), cyclohexyltetramethylguanidine (CyTMG), N,N,N,N-tetramethyl-1,8-naphthalenediamine, pentamethylpiperidine) and amines, especially tertiary amines (e.g. triethylamine, trimethylamine, tribenzylamine, triisopropylamine, tributylamine, tricyclohexylamine, triamylamine, trihexylamine, N,N-dimethylaniline, N,N-dimethyltoluidine, N,N-dimethyl-p-aminopyridine, N-methylpyrrolidine, N-methylpiperidine, N-methylimidazole, N-methylpyrazole, N-methylmorpholine, N-methylhexamethylenediamine, pyridine, 4-pyrrolidinopyridine, 4-dimethylaminopyridine, quinoline, α-picoline, β-picoline, isoquinoline, pyrimidine, acridine, N,N,N',N'-tetramethylenediamine, N,N,N',N'-

tetraethylenediamine, quinoxaline, N-propyldiisopropylamine, N-ethyldiisopropylamine, N,N'-dimethylcyclohexylamine, 2,6-lutidine, 2,4-lutidine or triethylenediamine).

A preferred basic reaction auxiliary used may be an organic base such as triethylamine, ethyldiisopropylamine, tri-n-butylamine, pyridine and 4-dimethylaminopyridine; in addition, it is possible to use, for example, the following bases: alkali metal hydroxides, for example sodium hydroxide and potassium hydroxide; carbonates such as sodium hydrogencarbonate and potassium carbonate; phosphates such as dipotassium hydrogenphosphate and trisodium phosphate.

The reaction can be executed within a wide temperature range. Usually, it is conducted within a temperature range from -78°C to 200°C, preferably at temperatures between -10 and 150°C. The reaction can be executed under elevated or else reduced pressure. But it is preferably conducted under standard pressure. The reaction times are between 0.1 and 72 hours, preferably between 1 and 24 hours.

To conduct the reaction, for example, 1-2 molar equivalents of the compounds of the structure **(X-6)** and 1 molar equivalent up to a slight excess of base per mole of the compound of the structure **(X-3)** are reacted in a solvent, for example dimethylformamide (DMF).

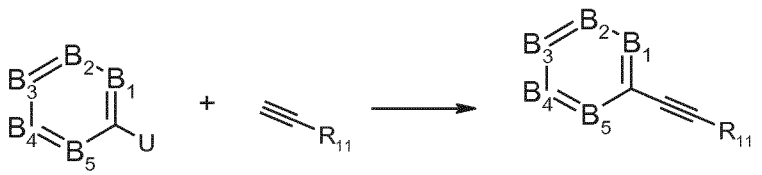
Stages 2 and 3 for preparation of the compounds of the structure **(X-4)** can be conducted in individual steps or else as a one-pot reaction.

Stages 4, 5 Hydrolysis, amidation

The last stages (stages 4 and 5) for preparation of the compounds (1-T23), hydrolysis of the carboxylic ester **(X-4)** and amidation of the carboxylic acid X-5, can be conducted by the general processes described above (Reaction Scheme) for ester hydrolysis and amidation of the carboxylic acid.

Stage 6 Preparation of the acetylenes

Stage 6 Preparation of the starting compounds of the structure **(X-6)**



X-7 X-8 X-6

The B_1-B_5, R^{11} and U radicals are each as defined above. U is, for example, bromine, iodine or triflate.

Inventive compounds of the general structure **(X-6)** can be prepared in analogy to methods known from the literature (Chinchilla, Rafael et al., Chemical Society Reviews (2011), 40(10), p. 5084-5121, Chinchilla, Rafael et al., Chemical Reviews (Washington, DC, United States) (2007), 107(3), p. 874-

922) from the starting materials of the structure **(X-7)** with catalysis by means of transition metal catalysts comprising palladium and copper.

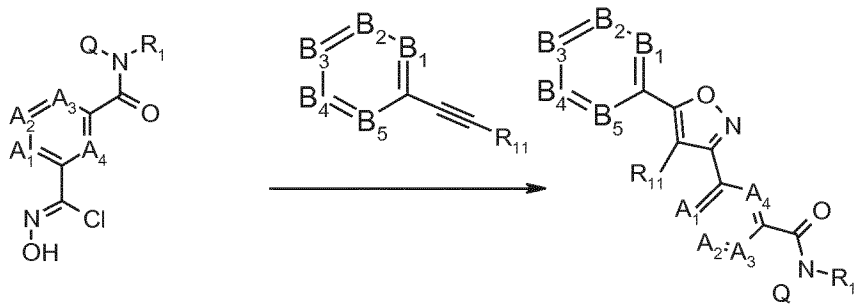
Starting compounds of the structure **(X-7)** are known or can be prepared by known methods. Examples include 2-bromo-1,3-dichloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1,3-dimethyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1-ethyl-3-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-bromo-1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene, 2-bromo-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene, 2-bromo-1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethoxy)benzene, 2-bromo-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethoxy)benzene. They can be prepared, for example, by the methods described in EP 1 253 128, pages 8-10.

[444] Starting compounds of the structure **(X-8)** are known or can be prepared by known methods. If R^6=H, it is possible in this process to use a protecting group rather than R^6. Suitable protecting groups are, for example, trimethylsilyl, triethylsilyl and dimethylhydroxymethyl. Further suitable protecting groups for introduction and detachment are described in the literature [see lists in Greene's protective groups in organic synthesis, 4th edition, P. G. M. Wuts, T. W. Greene, John Wiley & Sons, Inc., Hoboken, New Jersey, 2007, pages 927-933.]

Stage 3 alternative: Coupling with amides

Alternatively, the compounds **(I-T23)** can be prepared by the general Preparation Process B (Reaction Scheme 9).

Reaction Scheme 9:



X-9 X-6 X-4

The A_1-A_4, B_1-B_5, Q, R^1 and R^{11} radicals are each as defined above.

Inventive compounds of the general structure **(X-4)** are prepared by reacting the hydroxamyl chlorides of the structure **(X-9)** with acetylenes of the structure **(X-6)**.

The preparation of the compounds of the structure **(X-6)** is described above. The compounds of the structure **(X-9)** are prepared analogously to the above-described preparation of the compounds of the structure **(X-3).**

Typical compounds of the structure **(X-3)** are, for example, 4-chloro-3-(cyclopropylcarbamoyl)-N-hydroxybenzimidoyl chloride, 3-(cyclopropylcarbamoyl)-4-fluoro-N-hydroxybenzimidoyl chloride, 4-chloro-3-(cyclopropylcarbamoyl)-5-fluoro-N-hydroxybenzimidoyl chloride, 4-bromo-3-(cyclopropylcarbamoyl)-N-hydroxybenzimidoyl chloride.

(I-T24): Compounds of the formula (I-24) can be prepared, for example, analogously to Furukawa, Hirotoshi et al. Heterocycles, 79 (2009), p. 303-309; US 6,545,009, p. 34, Example 111.

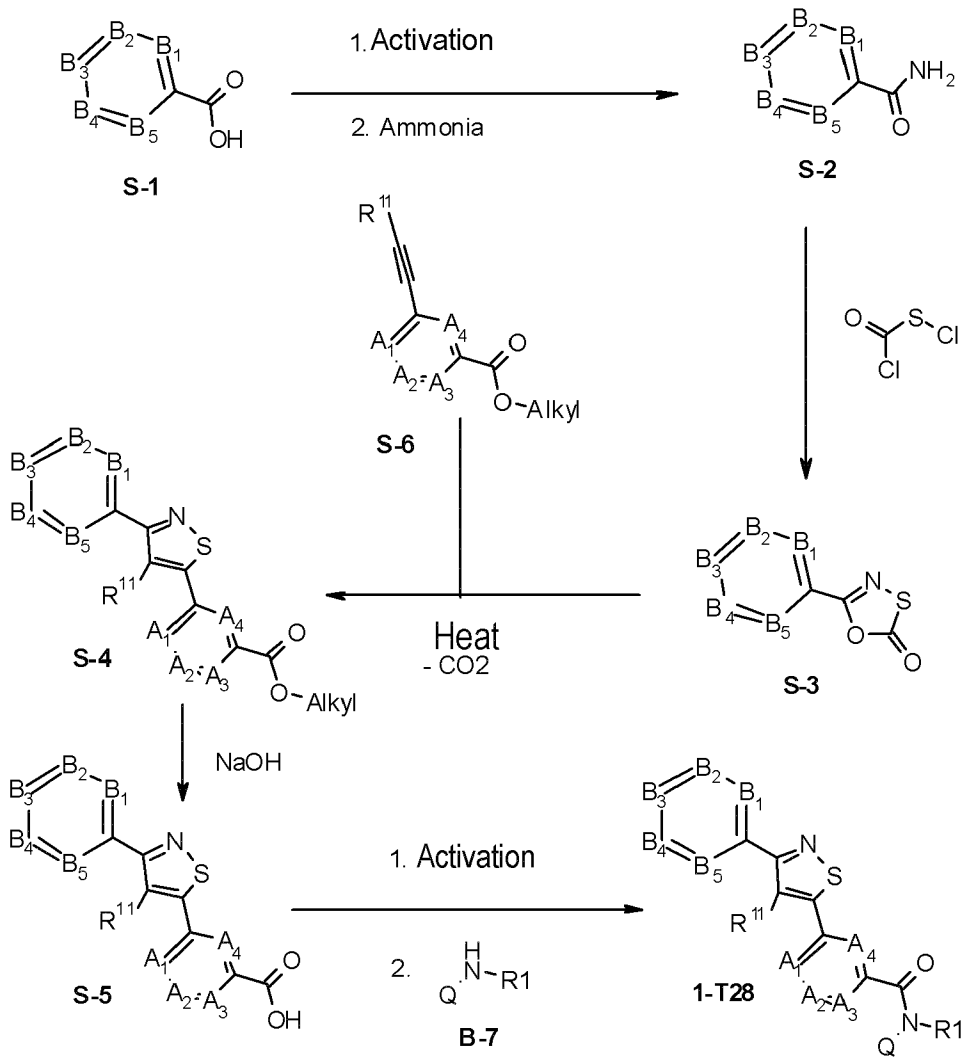
(I-T25): Compounds of the formula (I-25) can be prepared, for example, analogously to WO 2004/14366, p. 113.

(I-T26): Compounds of the formula (I-26) can be prepared, for example, analogously to Chihiro, Masatoshi et al., Journal of Medicinal Chemistry, 38 (1995), p. 353-358.

(I-T27): Compounds of the formula (I-27) can be prepared, for example, analogously to US 6,545,009, p. 31, Example 74.

The compounds of the structure **(I-T28)** can be prepared by the process specified in Reaction Scheme 10.

Reaction Scheme 10

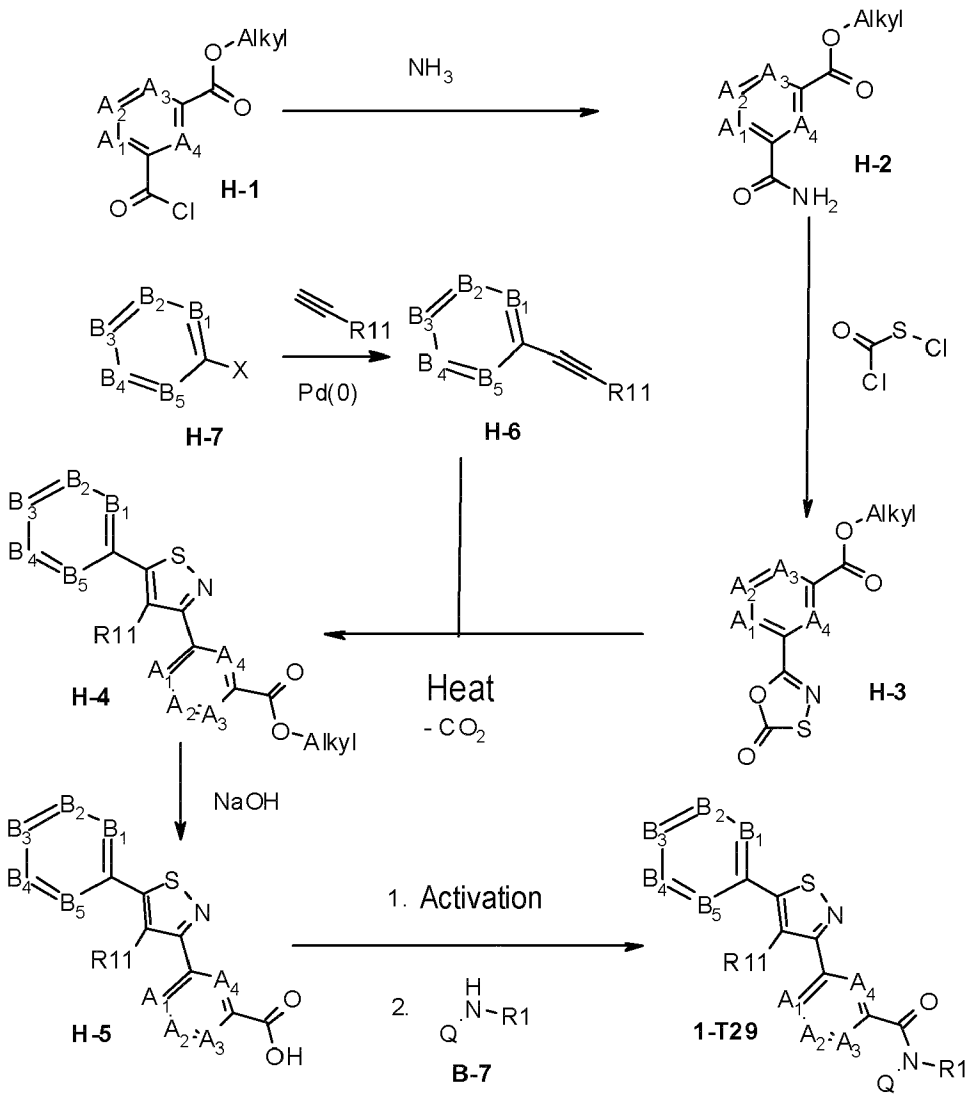


The A^1-A^4, B^1-B^5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. Starting compounds of the structure **(S-1)** are known (e.g. US 5,739,083 p. 10, or WO 2012/175474, p. 117-118) or can be prepared by known methods. The reactions are conducted under the conditions specified in the literature (e.g. Abdelrahman S. Mayhoub et al., Bioorg. Med. Chem. 20 (2012) p. 2427-2434 or WO 2009/023372).

Process I-T29

The compounds of the structure (**I-T29**) can be prepared by the process specified in Reaction Scheme 11.

Reaction Scheme 3:



The A^1-A^4, B^1-B^5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. Starting compounds of the structure **(H-1)** and **(H-7)** are known (e.g. US 3,725,417 p. 7 or WO 2012/175474, p. 117-118) or can be prepared by known methods. The reactions are conducted under the conditions specified in the literature (e.g. Abdelrahman S. Mayhoub et al., Bioorg. Med. Chem. 20 (2012) p. 2427-2434 or WO 2009/023372).

Process I-T30

(I-T30): Compounds of the formula (I-T30) can be prepared, for example, analogously to WO 2011/9484, p. 104; or Gamber, Gabriel G. et al., Bioorganic and Medicinal Chemistry Letters, 21 (2011), p. 1447-1451.

(I-T31): Compounds of the formula (I-T31) can be prepared, for example, analogously to Bishop, Brian C. et al., Synthesis, (2004), p. 43-52; or Heller, Stephen T. et al., Organic Letters, 8 (2006), p. 2675-2678; or Baddar, F.G. et al. Journal of Heterocyclic Chemistry, 15 (1978), p. 385-393.

(I-T32): Compounds of the formula (I-T32) can be prepared, for example, analogously to Joo, Jung Min et al., Journal of Organic Chemistry, 75 (2010), p. 4911-4920.

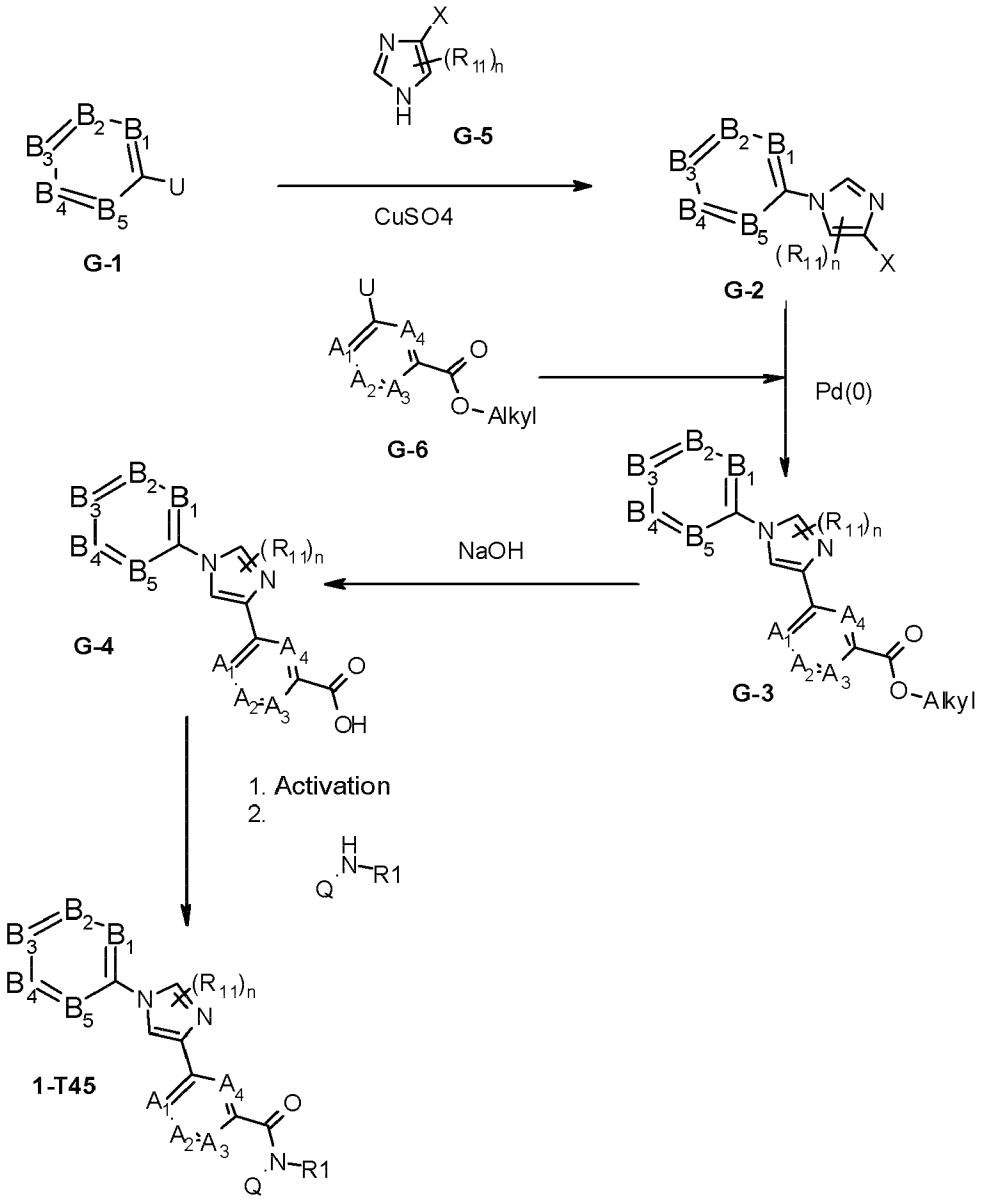
(I-T33): Compounds of the formula (I-T33) can be prepared, for example, analogously to Joo, Jung Min et al., Journal of Organic Chemistry, 75 (2010), p. 4911-4920; or WO 2004/91610, p. 70.

(I-T34): Compounds of the formula (I-T34) can be prepared, for example, analogously to Al-Tel, Taleb et al., Journal of Medicinal Chemistry, 54 (2011), p. 8373-8385.

(I-T35): Compounds of the formula (I-T35) can be prepared, for example, analogously to Yang, Shu-wie et al., Bioorganic and Medicinal Chemistry Letters, 21 (2011), p. 182-185; or Kennedy, Andrew J. et al, Journal of Medicinal Chemistry, 54 (2011), p. 3524-3548.

The compounds of the structure (I-T45) can be prepared by the process specified in Reaction Scheme 12.

Reaction Scheme 12



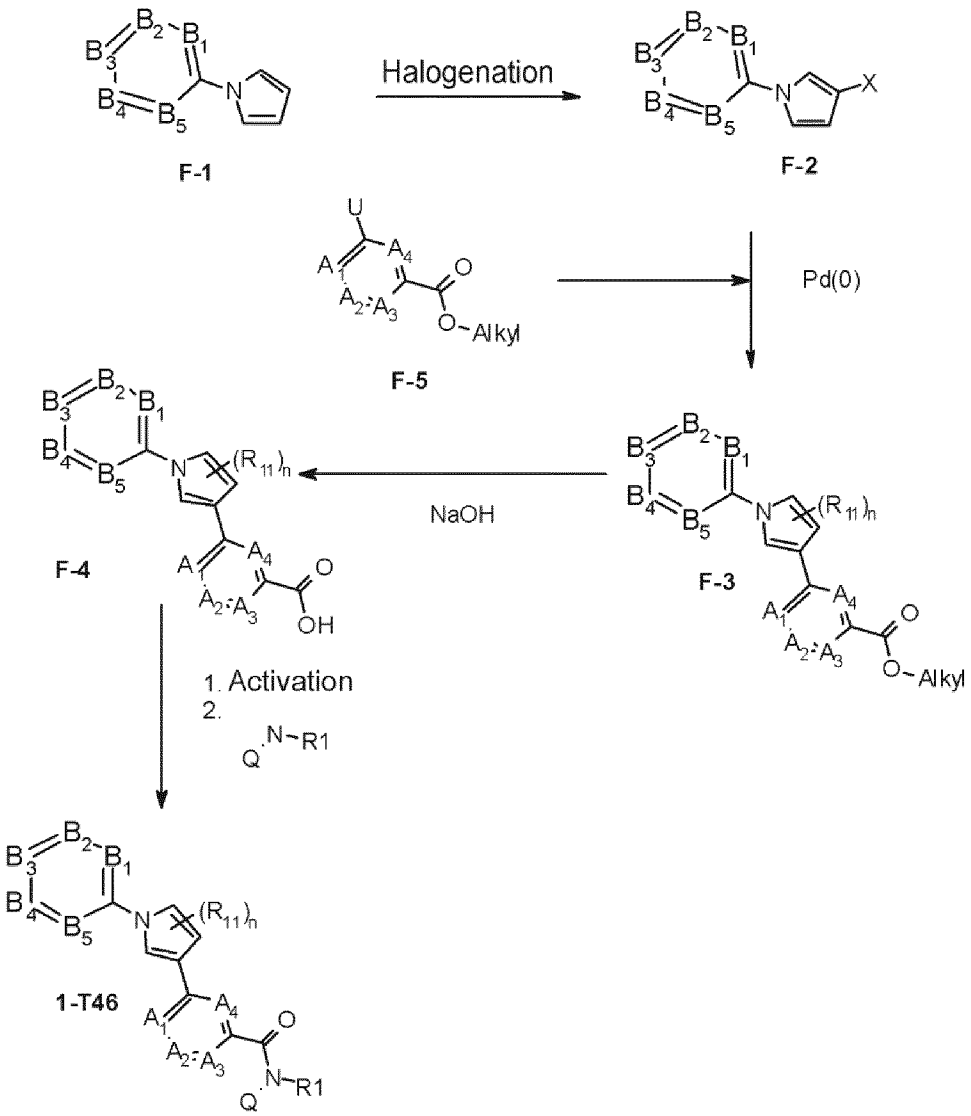
The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. U is a boronic acid, boronic ester or trifluoroboronate. X is bromine, iodine or triflate. Starting compounds of the structure (**G-1**), (**G-5**) and (**G6**) are known or can be prepared by known methods.

The reactions can be conducted by the processes described in the literature (see, for example Stage G1->G2 US 2013/0012532, p. 29).

Process I-T46

The compounds of the structure (I-T46) can be prepared by the process specified in Reaction Scheme 13.

Reaction Scheme 13



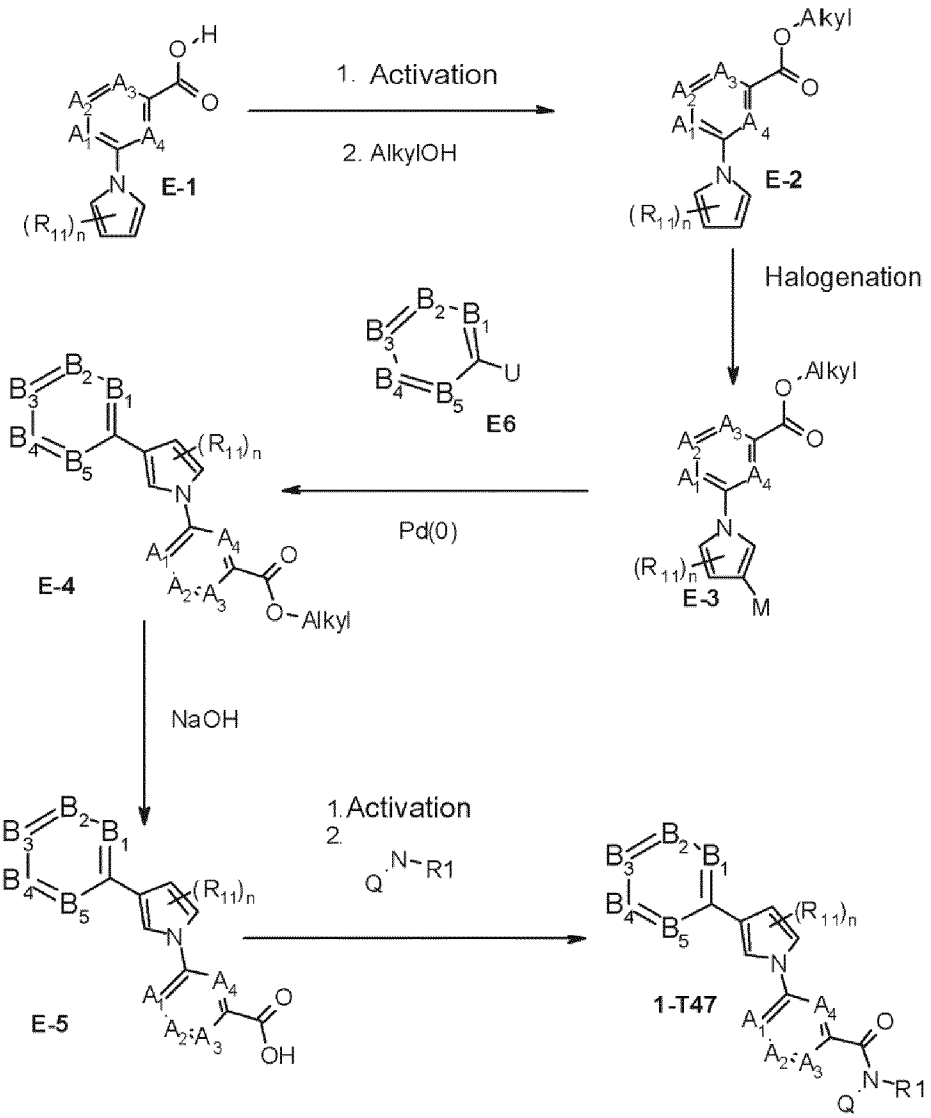
The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. U is a boronic acid, boronic ester or trifluoroboronate. X is bromine, iodine or triflate. Starting compounds of the structure (**F-1**) and (**F-5**) are known (e.g. F-1: Hulcoop, David G. et al., Organic Letters, 9 (2007), p. 1761-1764) or can be prepared by known methods.

The reactions can be conducted by the processes described in the literature, for example US 2009/209476, p. 18-19.

Process I-T47

The compounds of the structure (**I-T47**) can be prepared by the process specified in Reaction Scheme 14.

Reaction Scheme 14



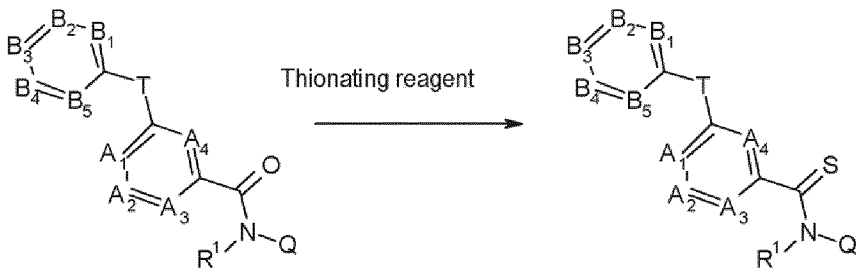
The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. U is bromine, iodine or triflate when M is a boronic acid, boronic ester or trifluoroboronate. U is a boronic acid, boronic ester or trifluoroboronate when M is bromine, iodine or triflate. Starting compounds of the structure (**E-1**) and (**E-6**) are known (e.g. Liu, Kun et al., Journal of Medicinal Chemistry, 51 (2008), p. 7843-7854; or Cornet, Stephanie M. et al., Transactions, (2003), p. 4395-4405), or can be prepared by known methods.

The reactions can be conducted by the processes described in the literature, for example US 2009/209476, p. 18-19.

Process for preparing thioamides

The compounds of the structure (**Ii**) can be prepared by the process specified in Reaction Scheme 15 from compounds of the structure (**Ih**) through reaction with sulphur-transferring reagents.

Reaction Scheme 15:



(Ih) (2) (Ii)

The A_1-A_4, B_1-B_5, alkyl, Q, T and R^1 radicals are each as defined above. The thionating reagent (**2**) used may, for example, be P_4S_{10} or Lawesson's reagent (2,4-bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane 2,4-disulphide).

The preparation of the compounds (**Ih**) is described above.

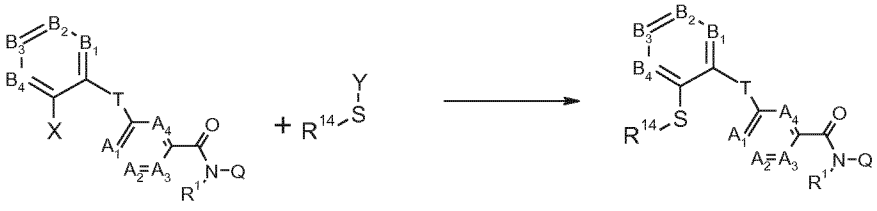
The thionating reagents are commercially available or can be prepared by processes known to those skilled in the art or in analogy to these processes.

The reaction is conducted in analogy to methods known from the literature for thionating carbonamides *(e.g.* WO2012056372, p. 77; WO2003066050, p. 31).

Process for preparing (Ik)

The compounds (**Ik**) can be prepared by the process specified in Reaction Scheme 16 from the compounds (**Ij**) through reaction with sulphur compounds of the structure (**Y-3**).

Reaction Scheme 16



(**Ij**) (Y-3) (**Ik**)

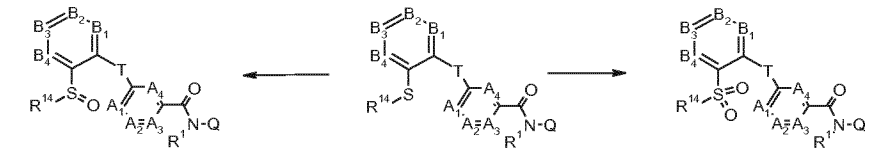
The A_1 to A_4, B_1 to B4, alkyl, Q, R^1, n and R^{11} radicals are each as defined above. X is a suitable leaving group, for example fluorine, chlorine, bromine or iodine. R^{14} is optionally substituted C_1-C_6-alkyl. Y is hydrogen or an alkali metal, for example sodium or lithium.

The reaction is conducted in analogy to methods known from the literature for introduction of alkylthio radicals into aromatic systems [e.g. Organometallics 1989, 8(5), 1303-1308; WO1998056761, Example 63, p. 97].

Process for preparing (Ika) and (Ikb)

The compounds (**Ika**) and (**Ikb**) can be prepared by the process specified in Reaction Scheme 17 from the compounds of the structure (Ik) through reaction with oxidizing reagents.

Reaction Scheme 17:



(**Ika**) (**Ik**) (**Ikb**)

The A_1 to A_4, B_1 to B4, alkyl, Q, R^1, n and R^{11} radicals are each as defined above. R^{14} is optionally substituted C_1-C_6-alkyl.

The preparation of the compounds of the structure (**Ik**) is described above.

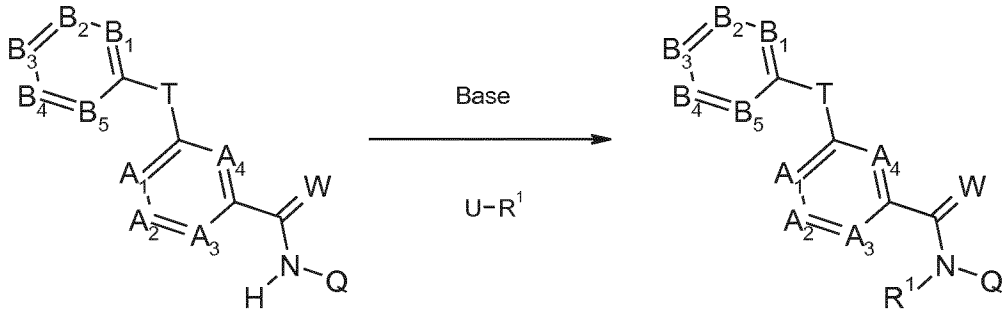
The oxidizing agents used may be the reagents known to those skilled in the art from the literature for preparation of sulphoxides and sulphones. They are commercially available or can be prepared by processes known to those skilled in the art or in analogy to these processes. Examples include: hydrogen peroxide, peroxyacetic acid, 3-chloroperbenzoic acid and trifluoroperoxyacetic acid.

The reaction is conducted in analogy to methods known from the literature for preparation of sulphoxides and sulphones [sulphoxide derivatives: WO2006/097766; WO2005/019151; sulphone derivatives: WO2008/125214; WO2005/121087].

Process for preparing N-alkyl compounds

The compounds of the structure (**I**) can be prepared by the process specified in Reaction Scheme 18 from compounds of the structure (**Im**) through reaction with alkylating agents.

Reaction Scheme 18:



(Im) **(I)**

The A_1-A_4, B_1-B_5, alkyl and Q radicals are each as defined above. U is, for example, bromine, iodine or triflate. R^1 is in each case primary or secondary, optionally substituted C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkynyl, C_4-C_7-cycloalkyl, C_1-C_6-alkylcarbonyl, C_1-C_6-alkoxycarbonyl, aryl-(C_1-C_3)-alkyl, heteroaryl-(C_1-C_3)-alkyl. W is oxygen.

Compounds of the structure U-R^1 are commercially available or known from the literature, or can be prepared in analogy to methods known from the literature. Examples include: methyl chloride, methyl bromide, methyl iodide, dimethyl sulphate, methyl triflate, ethyl bromide, ethyl iodide, diethyl sulphate and ethyl triflate.

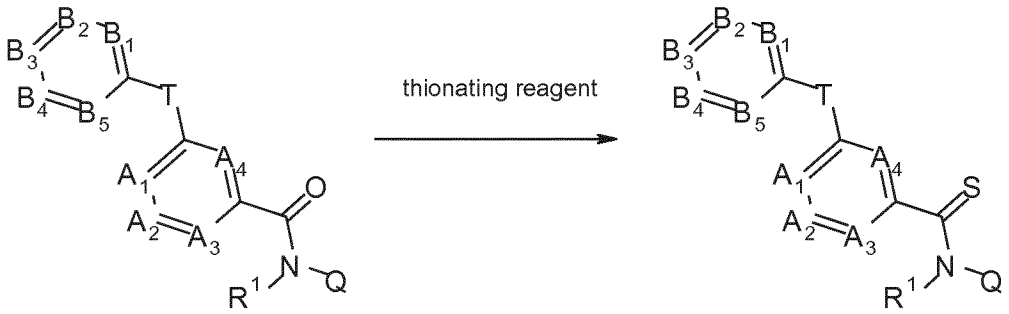
The bases used for the reaction are commercially available. Examples include alkaline earth metal and alkali metal compounds (e.g. hydroxides, hydrides, oxides and carbonates of lithium, sodium, potassium, magnesium, calcium and barium), for example sodium hydride, sodium hydroxide and potassium hydroxide; carbonates such as sodium hydrogencarbonate and potassium carbonate.

The reaction is conducted in analogy to methods known from the literature for *N*-alkylation of secondary amides (e.g. G.L. Gisele, A. Lüttringhaus, Synthesis (1971) p. 266, for an overview see: B.C. Challis, J.A. Challis in: The Chemistry of Functional Groups, The Chemistry of Amides, S. Patai, J. Zabicky, editors, Interscience Publishers, London, 1970, p. 734 ff).

Process for preparing thioamides

The compounds of the structure (**Ii**) can be prepared by the process described in Reaction Scheme 15 from compounds of the structure (**Ih**) by reaction with sulphur-transferring reagents.

Reaction Scheme 15



(Ih) (2) (Ii)

The A_1-A_4, B_1-B_5, alkyl, Q, T, and R^1 radicals are each as defined above. Thionating reagents (**2**) used may, for example, be P_4S_{10} or Lawesson's reagent (2,4-bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane 2,4-disulphide).

The preparation of the compounds (**Ih**) is described above.

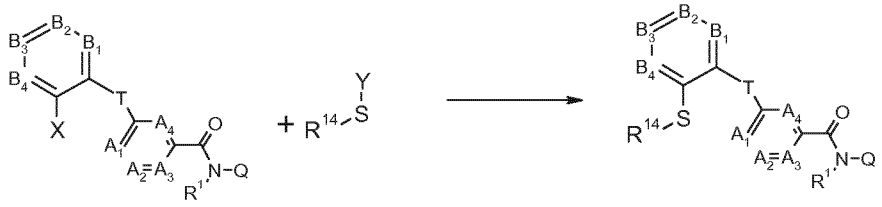
The thionating reagents are commercially available or can be prepared by processes known to those skilled in the art or in analogy to these processes.

The reaction is conducted in analogy to methods known from literature for thionation of carbonamides *(e.g.* WO2012056372, p. 77; WO2003066050, p. 31).

Process for preparing (Ik)

The compounds (**Ik**) can be prepared by the process specified in Reaction Scheme 16 from the compounds (**Ij**) by reaction with sulphur compounds of the structure (**Y-3**).

Reaction Scheme 16



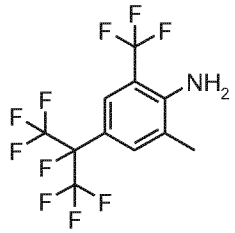
(Ij) (Y-3) **(Ik)**

The A_1 to A_4, B_1 to B4, alkyl, Q, R^1, n and R^{11} radicals are each as defined above. X is a suitable leaving group, for example fluorine, chlorine, bromine or iodine. R^{14} is optionally substituted C_1-C_6-alkyl. Y is hydrogen or an alkali metal, for example sodium or lithium.

The reaction is conducted in analogy to methods known from the literature for introduction of alkylthio radicals into aromatics [e.g. Organometallics 1989, 8(5), 1303-1308; WO1998056761, Example 63, p. 97].

Preparation of the 4-heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline starting material

The 4-heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline starting material of the structure (**D-1a**) has not been described to date in the literature. The preparation can be conducted by 2 different processes.

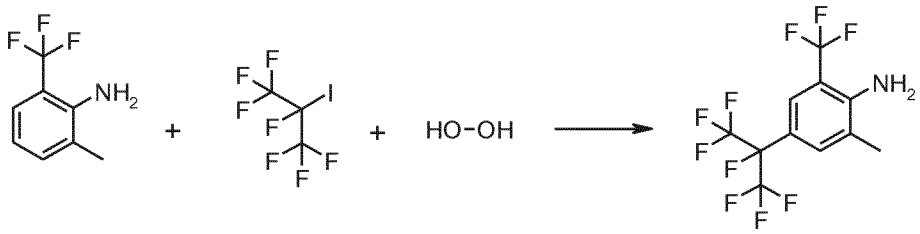


D-1a

Process 1:

4-Heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline of the structure (**K-1**) can be prepared proceeding from 2-methyl-6-trifluoromethylaniline by the process specified in Reaction Scheme 1, by reaction with heptafluoroisopropyl iodide in the presence of hydrogen peroxide.

Reaction Scheme 4



K-1

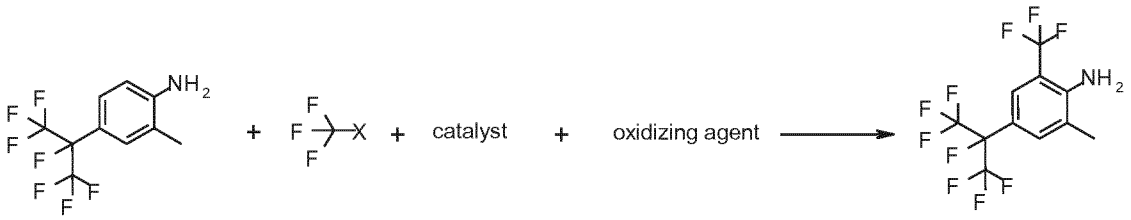
2-methyl-6-trifluoromethylaniline is known from literature (John P. Chupp, Terry M. Balthazor, Michael J. Miller, and Mark J. Pozzo, J. Org. Chem. 49 (1984),4711-4716 or Thomas E. Nickson J. Org. Chem. 51 (1986) 3903-3904), and heptafluoroisopropyl iodide is commercially available.

The reaction is conducted in analogy to known processes for trifluoromethylation of aromatics (Tatsuhito Kino, Yu Nagase, Yuhki Ohtsuka, Kyoko Yamamoto, Daisuke Uraguchi,Kenji Tokuhisa and Tetsu Yamakawa, Journal of Fluorine Chemistry 131 (2010) 98–105).

Process 2

In addition, 4-heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline of the structure (**K-1**) can be prepared proceeding from 4-heptafluoroisopropyl-2-methylaniline by the process specified in Scheme 2, by reaction with sodium trifluoromethylsulphinate in the presence of oxidizing agents and transition metal catalysts.

Reaction Scheme 5



D-1a

X is Br, I, $NaSO_2^-$ (sodium trifluoromethylsulphinate), KSO_2^- (potassium trifluoromethylsulphinate). Particular preference is given to sodium trifluoromethylsulphinate.

4-Heptafluoroisopropyl-2-methylaniline is known (US2004/92762).

Suitable catalysts are transition metals such as iron(II) sulphate, iron(III) nitrate, copper(II) triflate or ferrocene. Particular preference is given to iron(II) sulphate.

Suitable oxidizing agents are, in particular, peroxides such as hydrogen peroxide, tert-butyl hydroperoxide or sodium peroxodisulphate, potassium peroxodisulphate, sodium peroxomonosulphate or potassium peroxomonosulphate. Particular preference is given to tert-butyl hydroperoxide.

In the performance of the reaction, suitable solvents may be used.

Useful diluents or solvents for performance of the processes according to the invention in principle include all organic solvents that are inert under the specific reaction conditions. Examples include: nitriles such as acetonitrile, propionitrile, butyronitrile, isobutyronitrile; water, tetrahydrothiophene dioxide, dimethyl sulphoxide, tetramethylene sulphoxide, dipropyl sulphoxide, diisobutyl sulphoxide, dibutyl sulphoxide, diisoamyl sulphoxide, sulphones (e.g. dimethyl, diethyl, dipropyl, dibutyl, dihexyl, methyl ethyl, ethyl propyl, ethyl isobutyl and pentamethylene sulphone); aliphatic, cycloaliphatic (e.g. pentane, hexane, heptane, octane, nonane and technical hydrocarbons), and also what are called "white spirits" having components having boiling points in the range from, for example, 40°C to 250°C, petroleum fractions within a boiling range from 70°C to 190°C, cyclohexane, methylcyclohexane, petroleum ether, ligroin, octane.

Preferred diluents used may be any solvent that does not impair the reaction, for example water; nitriles such as acetonitrile, propionitrile, butyronitrile, isobutyronitrile. The solvents can be used alone or in a combination of 2 or more.

Bases may be used in the reactions. Examples include alkaline earth metal or alkali metal compounds (e.g. hydroxide, hydrides, oxides and carbonates of lithium, sodium, potassium, magnesium, calcium and barium).

A preferred basic reaction auxiliary used may be sodium hydrogencarbonate; in addition, it is possible, for example, to use the following bases: alkali metal hydroxides, for example sodium hydroxide and potassium hydroxide; carbonates such as sodium hydrogencarbonate and potassium carbonate; phosphates such as sodium dihydrogenphosphate, dipotassium hydrogenphosphate and trisodium phosphate.

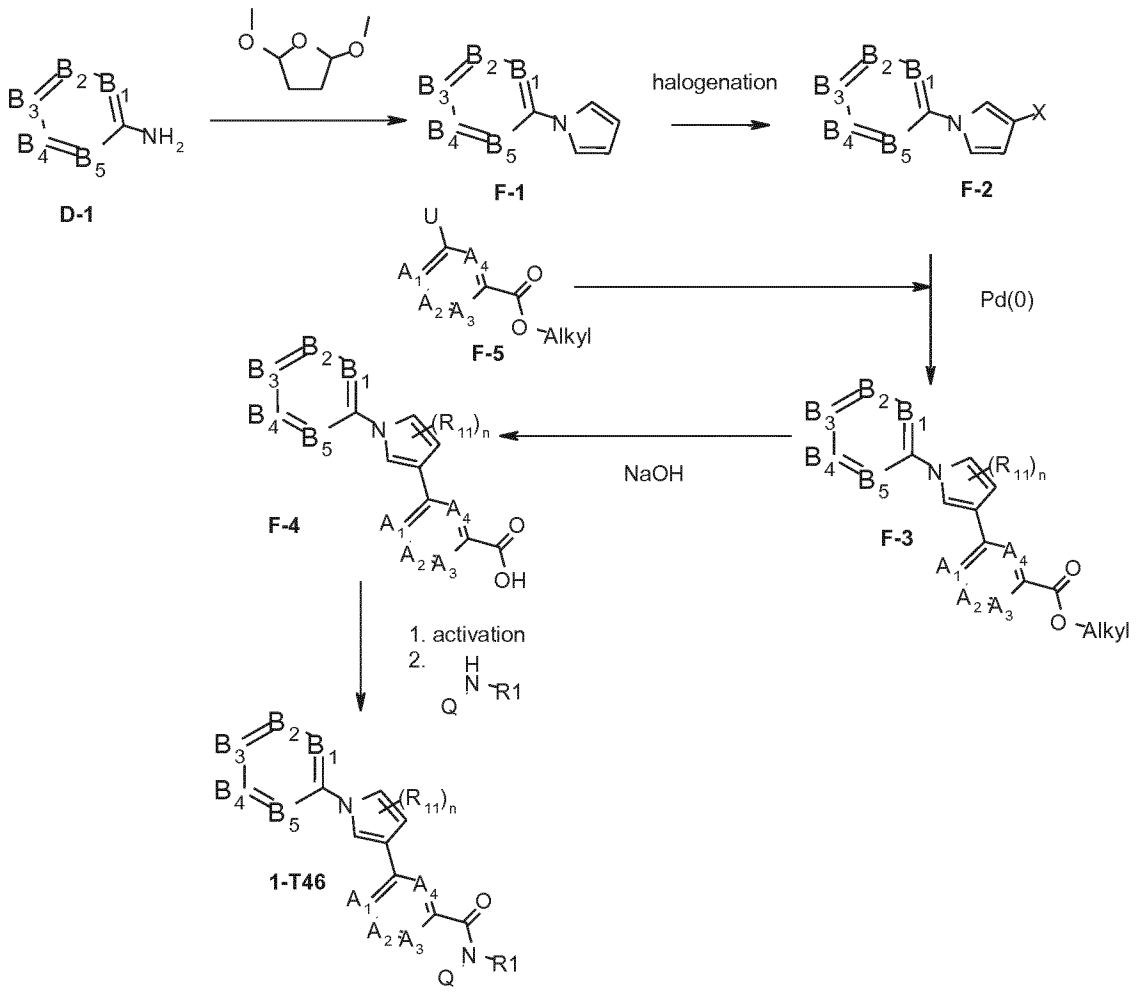
The reaction can be conducted within a wide temperature range. It is usually conducted within a temperature range from -78 to 200°C, preferably at temperatures between -10 and 150°C. The reaction can be executed under elevated or else reduced pressure. But it is preferably conducted under standard pressure. The reaction times are between 0.1 and 72 hours, preferably between 1 and 24 hours.

To conduct the reaction, 1 to 10 mol, preferably 1 to 4 mol, of trifluoromethylating agent; 1 to 20 mol, preferably 1 to 8 mol, of oxidizing agent and 0.01 to 1 mol, preferably 0.05 to 0.4 mol, of catalyst per mole of 4-heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline are used in a solvent or solvent mixture, for example in a mixture of acetonitrile and water.

Process I-T46 extended

The compounds of the structure (I-T46) can be prepared by the process specified in the Reaction Scheme.

Reaction Scheme 6

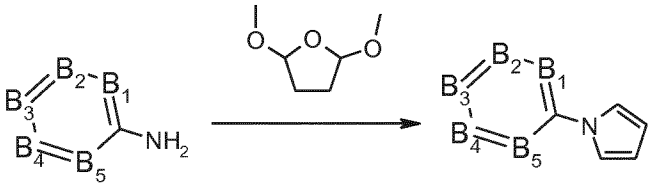


The A_1-A_4, B_1-B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above. U is a boronic acid, boronic ester or trifluoroboronate. X is bromine, iodine or triflate. Starting compounds of the structure (**F-1**) and (**F-5**) are known (e.g. **F-1**: Hulcoop, David G. et al., Organic Letters, 9 (2007), p. 1761-1764, Supporting information pages 1 ff.), or can be prepared by known methods (for example from **D-1**).

The reactions can be conducted by the processes described in the literature, e.g. US2009/209476, p. 18-19.

Stage 1 pyrrole ring closure

Stage 1 for the preparation process for the compounds (**I-T46**):

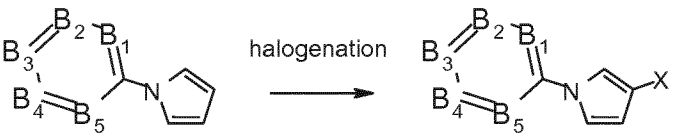


D-1 F-1b F-1

Inventive compounds of the general structure (**F-1**) can be prepared in analogy to methods known from the literature from the starting materials of the structure (**D-1**) and (**F-1b**). The B^1-B^5 radicals are each as defined above. The compounds of the structures (**D-1**) are known from the literature (e.g. US2002/198399, WO2009/30457, page 28) or can be prepared by methods known from the literature. The compound (**F1-b**) is commercially available. Typical representatives of the compounds of the structure (**D-1**) include 2-amino-1,3-dichloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2-amino-1,3-dimethyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)-ethyl]benzene, 2-amino-1-ethyl-3-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene, 2- amino-1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene, 2-amino-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)benzene, 2- amino -1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethoxy)benzene, 2-amino-1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethoxy)benzene. The reaction is conducted under the conditions known for analogous compounds in the literature (e.g. Hulcoop, David G. et al., Organic Letters, 9 (2007), p. 1761-1764, Supporting information pages 1 ff.)

Stage 2 halogenation

Stage 1 for the preparation process for the compounds (**I-T46**):



F-1 F-2

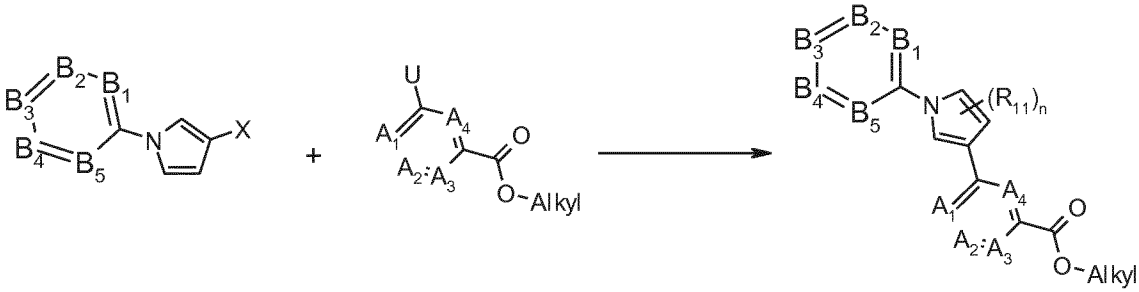
Inventive compounds of the general structure (**F-2**) can be prepared in analogy to methods known from literature from the starting materials of the structure (**F-1**) by halogenation. The B^1-B^5 radicals are each as defined above. The compounds of the structures (**F-1**) are known from the literature (e.g. F-1: Hulcoop, David G. et al., Organic Letters, 9 (2007), p. 1761-1764, Supporting information page 1 ff.) or can be prepared by the method described above. Typical representatives of the compounds of the structure (**F-1**) include 1-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrole, 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrole, 1-[2-ethyl-6-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrole, 1-[2-chloro-4-[1,2,2,2-tetrafluoro-1-

(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]pyrrole, 1-[2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]pyrrole, 1-[1-chloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethoxy)phenyl]pyrrole, 1-[1-methyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethoxy)phenyl]pyrrole.

Suitable halogenating compounds are known to those skilled in the art, for example bromine, iodine, N-bromosuccinimide, N-iodosuccinimide, 1,3-dibromo-5,5-dimethylhydantoin and benzyltrimethylammonium tetrachloroiodate. Preference is given to using bromine, iodine and iodosuccinimide. The reaction follows the conditions known from literature (e.g. Tatsuta; Itoh Bulletin of the Chemical Society of Japan, 67 (1994) 1449-1455).

Stage 3 boronic acid coupling

Stage 3 of the preparation process for the compounds (**I-T46**):

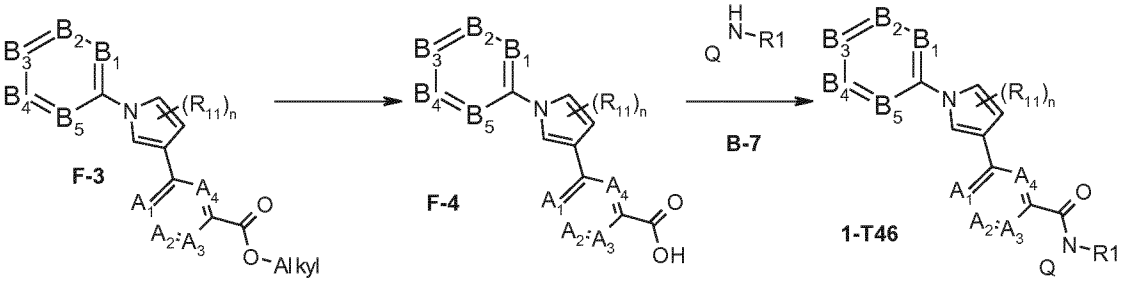


F-2 F-5 F-3

The A_1 to A_4, B_1 to B_5, alkyl, n and R^{11} radicals are each as defined above. U is, for example, a boronic acid, boronic ester or trifluoroboronate, X is bromine, iodine or triflate.

Inventive compounds of the general structure (**F-3**) can be prepared by processes known from the literature by means of palladium-catalysed reactions from the co-reactants of the general structure (**F-2**) and (**F-5**) (e.g. WO 2005/040110 or WO 2009/089508). The compounds of the general structure (**F-5**) are either commercially available or can be prepared by processes known to those skilled in the art.

Stages 4, 5 hydrolysis, amidation



Inventive compounds of the general structure (**I-T46**) can be prepared in analogy to peptide coupling methods known from literature from the starting materials (**F-4**) and (**B-7**) (e.g. WO 2010/051926 or WO 2010/133312). Compounds of the general structure (**F-4**) can be prepared in analogy to processes

known from the literature by ester hydrolysis from compounds of the general structure (**F-3**) (e.g. WO 2010/051926 or WO 2010/133312). The A_1 to A_4, B_1 to B_5, alkyl, Q, R^1 and R^{11} radicals are each as defined above.

Q

In a more preferred embodiment Q in a compound of the formula (I) or (Ia'') or (IT-2) or (I-T3) or (I-T4) or (I-T22) or (I-T23) or (I-T46) is C_1-C_4-alkyl, 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, fluorine- or 1-cyanopropyl- or pyridine-substituted C_1-C_4-alkyl such as 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl, pyridin-2-ylmethyl or (1-cyanocyclopropyl)methyl; C_3-C_4-cycloalkyl such as cyclopropyl or cyclobutyl; optionally substituted C_3-C_4-cycloalkyl such as optionally fluorine-substituted C_1-C_4-alkyl-substituted cyclopropyl (e.g. 1-trifluoromethyl-cyclopropyl, 1-tert-butylcyclopropyl), 1-thiocarbamoylcyclopropyl, 1-carbamoylcyclopropyl, 1-cyanocyclopropyl, trans-2-fluorocyclopropyl, cis-2-fluorocyclopropyl; C_4-C_6-heterocycloalkyl such as oxetan-3-yl, thietan-3-yl, 1-oxidothietan-3-yl, or 1,1-dioxidothietan-3-yl; or each case optionally C_1-C_4-alkyl-substituted benzyl; pyrazole (such as N-methylpyrazol-3-yl), pyridine; methylsulphonyl; or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl.

In a particularly preferred embodiment Q in a compound of the formula (I) or (Ia'') or (IT-2) or (I-T3) or (I-T4) or (I-T22) or (I-T23) or (I-T46) is fluorine-substituted C_1-C_3-alkyl such as 2,2,2-trifluoroethyl or 3,3,3-trifluoropropyl; cyclopropyl; optionally cyano-, C_1-C_4-alkyl-substituted cyclopropyl such as 1-cyanocyclopropyl or 1-trifluoromethylcyclopropyl; thietan-3-yl; or 2-oxo-2-(2,2,2-trifluoroethyl)aminoethyl.

Formula (I)

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46 and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46 and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T2 or T4 and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T3 or T46 and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T22 or T23 and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T2 or T4, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T3 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T22 or T23, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen and all the other parameters are as defined in paragraph [9]. In this context, a particularly preferred embodiment relates to compounds in which R^8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy.

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, more preferably in which R8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy, in which B_1, B_2, B_4 and B_5 are, respectively, CR^6, CR^7, CR^9 and CR^{10} in which R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, or C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, each of which is substituted by at least one substituent selected from halogen and hydroxyl, where at least one substituent is a halogen, and all the other parameters are as defined in paragraph [9]. In a further preferred embodiment, R^6 and R^{10} are each halogen (such as Cl, Br or F), each C_1-C_3-alkyl, or each halogen-substituted C_1-C_3-alkyl, for example perfluorinated C_1-C_3-alkyl (perfluoromethyl, perfluoroethyl or perfluoropropyl).

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, more preferably in which R8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy, in which B_1, B_2 and B_4 are, respectively, CR^6, CR^7 and CR^9 and B^5 is N, in which R^6, R^7 and R^9 are each independently H, halogen, cyano, nitro, or C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, each of which is substituted by at least one substituent selected from halogen and hydroxyl, where at least one substituent is a halogen, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, more preferably in which R8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy, in which B_1, B_2, B_4 and B_5 are, respectively, CR^6, CR^7, CR^9 and CR^{10} in which R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, or C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, each of which is substituted by at least one substituent selected from halogen and hydroxyl, where at least one substituent is a halogen, each R^{11} is independently H, amino (NH_2) or cyano, preferably H, W is O, R^1 is H, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl, t-butyl, preferably H or methyl, and all the other parameters are as defined in paragraph [9]. In a further preferred embodiment, R^6 and R^{10} are each halogen (such as Cl, Br or F), each C_1-C_3-alkyl, or each halogen-substituted C_1-C_3-alkyl, for example perfluorinated C_1-C_3-alkyl (perfluoromethyl, perfluoroethyl or perfluoropropyl).

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, more preferably in which R8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy, in which B_1, B_2 and B_4 are, respectively, CR^6, CR^7 and CR^9 and B^5 is N, in which R^6, R^7 and R^9 are each independently H, halogen, cyano, nitro, or C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, each of which is substituted by at least one substituent selected from halogen and hydroxyl, where at least one substituent is a halogen, each R^{11} is independently H, amino (NH_2) or cyano, preferably H, W is O, R^1 is H, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl, t-butyl, preferably H or methyl, and all the other parameters are as defined in paragraph [9].

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, more preferably in which R8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy, in which B_1, B_2, B_4 and B_5 are, respectively, CR^6, CR^7, CR^9 and CR^{10} in which R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, or C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, each of which is substituted by at least one substituent selected from halogen and hydroxyl, where at least one substituent is a halogen, each R^{11} is independently H, amino (NH_2) or cyano, preferably H, W is O, R^1 is H, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl, t-butyl, preferably H or methyl, Q is C_1-C_4-alkyl, 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, fluorine- or 1-cyanopropyl- or pyridine-substituted C_1-C_4-alkyl such as 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl, pyridin-2-ylmethyl or (1-cyanocyclopropyl)methyl; C_3-C_4-cycloalkyl such as cyclopropyl or cyclobutyl; optionally substituted C_3-C_4-cycloalkyl such as optionally fluorine-substituted C_1-C_4-alkyl-substituted cyclopropyl (e.g. 1-trifluoromethylcyclopropyl, 1-tert-butylcyclopropyl), 1-thiocarbamoylcyclopropyl, 1-carbamoylcyclopropyl, 1-cyanocyclopropyl, trans-2-fluorocyclopropyl, cis-2-fluorocyclopropyl; C_4-C_6-heterocycloalkyl such as oxetan-3-yl, thietan-3-yl, 1-oxidothietan-3-yl, or 1,1-dioxidothietan-3-yl; or in each case optionally C_1-C_4-alkyl-substituted benzyl; pyrazole (such as N-methylpyrazol-3-yl), pyridine; methylsulphonyl; or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, preferably fluorine-substituted C_1-C_3-alkyl such as 2,2,2-trifluoroethyl or 3,3,3-trifluoropropyl; cyclopropyl; optionally substituted cyclopropyl such as 1-cyanocyclopropyl or 1-trifluoromethylcyclopropyl, thietan-3-yl; or 2-oxo-2-(2,2,2-trifluoroethyl)aminoethyl, and all the other parameters are as defined in paragraph [9]. In a further preferred embodiment, R^6 and R^{10} are each halogen (such as Cl, Br or F), each C_1-C_3-alkyl, or each halogen-substituted C_1-C_3-alkyl, for example perfluorinated C_1-C_3-alkyl (perfluoromethyl, perfluoroethyl or perfluoropropyl).

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, more preferably in which R8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy, in which B_1, B_2 and B_4 are, respectively, CR^6, CR^7 and CR^9 and B^5 is N, in which R^6, R^7 and R^9 are each independently H, halogen, cyano, nitro, or C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, each of which is substituted by at least one substituent selected from halogen and hydroxyl, where at least one substituent is a halogen, each R^{11} is independently H, amino (NH_2) or cyano, preferably H, W is O, R^1 is H, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl, t-butyl,

preferably H or methyl, Q is C_1-C_4-alkyl, 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, fluorine- or 1-cyanopropyl- or pyridine-substituted C_1-C_4-alkyl such as 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl, pyridin-2-ylmethyl or (1-cyanocyclopropyl)methyl; C_3-C_4-cycloalkyl such as cyclopropyl or cyclobutyl; optionally substituted C_3-C_4-cycloalkyl such as optionally fluorine-substituted C_1-C_4-alkyl-substituted cyclopropyl (e.g. 1-trifluoromethylcyclopropyl, 1-tert-butylcyclopropyl), 1-thiocarbamoylcyclopropyl, 1-carbamoylcyclopropyl, 1-cyanocyclopropyl, trans-2-fluorocyclopropyl, cis-2-fluorocyclopropyl; C_4-C_6-heterocycloalkyl such as oxetan-3-yl, thietan-3-yl, 1-oxidothietan-3-yl, or 1,1-dioxidothietan-3-yl; or in each case optionally C_1-C_4-alkyl-substituted benzyl; pyrazole (such as N-methylpyrazol-3-yl), pyridine; methylsulphonyl; or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, preferably fluorine-substituted C_1-C_3-alkyl such as 2,2,2-trifluoroethyl or 3,3,3-trifluoropropyl; cyclopropyl; optionally substituted cyclopropyl such as 1-cyanocyclopropyl or 1-trifluoromethylcyclopropyl, thietan-3-yl; or 2-oxo-2-(2,2,2-trifluoroethyl)aminoethyl, and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, more preferably in which R8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy, in which B_1, B_2, B_4 and B_5 are, respectively, CR^6, CR^7, CR^9 and CR^{10} in which R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, or C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxy-iminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, each of which is substituted by at least one substituent selected from halogen and hydroxyl, where at least one substituent is a halogen, each R^{11} is independently H, amino (NH_2) or cyano, preferably H, W is O, R^1 is H, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl, t-butyl, preferably H or methyl, Q is C_1-C_4-alkyl, 2-oxo-2-(2,2,2-trifluoroethyl-amino)ethyl, fluorine- or 1-cyanopropyl- or pyridine-substituted C_1-C_4-alkyl such as 2,2,2-trifluoroethyl, 2,2-difluoro-ethyl, 3,3,3-trifluoropropyl, pyridin-2-ylmethyl or (1-cyanocyclopropyl)methyl; C_3-C_4-cycloalkyl such as cyclopropyl or cyclobutyl; optionally substituted C_3-C_4-cycloalkyl such as optionally fluorine-substituted C_1-C_4-alkyl-substituted cyclopropyl (e.g. 1-trifluoromethylcyclopropyl, 1-tert-butylcyclopropyl), 1-thiocarbamoylcyclopropyl, 1-carbamoylcyclopropyl, 1-cyanocyclopropyl, trans-2-fluorocyclopropyl, cis-2-fluorocyclopropyl; C_4-C_6-heterocycloalkyl such as oxetan-3-yl, thietan-3-yl, 1-oxidothietan-3-yl, or 1,1-dioxidothietan-3-yl; or in each case optionally C_1-C_4-alkyl-substituted benzyl; pyrazole (such as N-methylpyrazol-3-yl), pyridine; methylsulphonyl; or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, preferably fluorine-substituted C_1-C_3-alkyl such as 2,2,2-trifluoroethyl or 3,3,3-trifluoropropyl; cyclopropyl; optionally substituted cyclopropyl such as 1-cyanocyclopropyl or 1-trifluoromethylcyclopropyl, thietan-3-yl; or 2-oxo-2-(2,2,2-trifluoroethyl)-aminoethyl, A_1 is CR^2 or N, A_2 is CR^3 or N, A_3 is CR^4 and A_4 is CR^5 or N, where R^2 is H, C1-C4-alkyl or halogen (such as methyl,

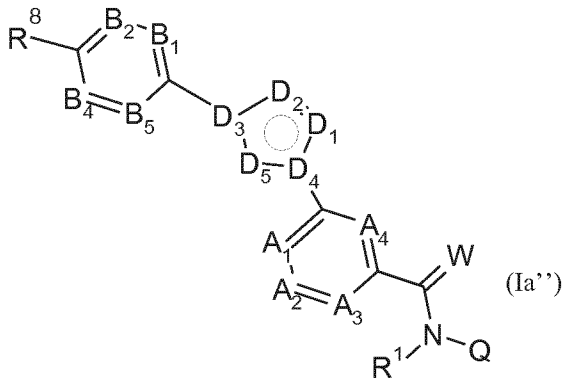
F, Cl or H), R^3 is H or halogenated C1-C4-alkyl (such as H or -CF_3), R^4 is H, C1-C4-alkyl, C1-C4-alkylamine (such as –NH-CH_3), cyclopropylamine, C1-C4-alkoxy (such as –O-CH_3), C1-C4-alkoxy-C1-C4-alkylamine (such as NH-CH_2-CH_2-O-CH_3) or halogen (such as F or Cl). In a further preferred embodiment, R^6 and R^{10} are each halogen (such as Cl, Br or F), each C_1-C_3-alkyl, or each halogen-substituted C_1-C_3-alkyl, for example perfluorinated C_1-C_3-alkyl (perfluoromethyl, perfluoroethyl or perfluoropropyl).

A further preferred embodiment relates to compounds of the formula (I) in which T is T2, T3, T4, T22, T23 or T46, B3 is C-R8 and R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, more preferably in which R8 is perfluorinated (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, most preferably perfluorinated (C1-C4)-alkyl, (C1-C4)-alkoxy, in which B_1, B_2 and B_4 are, respectively, CR^6, CR^7 and CR^9 and B^5 is N, in which R^6, R^7 and R^9 are each independently H, halogen, cyano, nitro, or C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino, each of which is substituted by at least one substituent selected from halogen and hydroxyl, where at least one substituent is a halogen, each R^{11} is independently H, amino (NH_2) or cyano, preferably H, W is O, R^1 is H, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, s-butyl, t-butyl, preferably H or methyl, Q is C_1-C_4-alkyl, 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, fluorine- or 1-cyanopropyl- or pyridine-substituted C_1-C_4-alkyl such as 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl, pyridin-2-ylmethyl or (1-cyano-cyclopropyl)methyl; C_3-C_4-cycloalkyl such as cyclopropyl or cyclobutyl; optionally substituted C_3-C_4-cycloalkyl such as optionally fluorine-substituted C_1-C_4-alkyl-substituted cyclopropyl (e.g. 1-trifluoromethylcyclopropyl, 1-tert-butylcyclopropyl), 1-thiocarbamoylcyclopropyl, 1-carbamoyl-cyclopropyl, 1-cyanocyclopropyl, trans-2-fluorocyclopropyl, cis-2-fluorocyclopropyl; C_4-C_6-hetero-cycloalkyl such as oxetan-3-yl, thietan-3-yl, 1-oxidothietan-3-yl, or 1,1-dioxidothietan-3-yl; or in each case optionally C_1-C_4-alkyl-substituted benzyl; pyrazole (such as N-methylpyrazol-3-yl), pyridine; methylsulphonyl; or 2-oxo-2-(2,2,2-trifluoroethylamino)ethyl, preferably fluorine-substituted C_1-C_3-alkyl such as 2,2,2-trifluoroethyl or 3,3,3-trifluoropropyl; cyclopropyl; optionally substituted cyclopropyl such as 1-cyanocyclopropyl or 1-trifluoromethylcyclopropyl, thietan-3-yl; or 2-oxo-2-(2,2,2-trifluoroethyl)aminoethyl, A_1 is CR^2 or N, A_2 is CR^3 or N, A_3 is CR^4 and A_4 is CR^5 or N, where R^2 is H, C1-C4-alkyl or halogen (such as methyl, F, Cl or H), R^3 is H or halogenated C1-C4-alkyl (such as H or –CF_3), R^4 is H, C1-C4-alkyl, C1-C4-alkylamine (such as –NH-CH_3), cyclopropylamine, C1-C4-alkoxy (such as –O-CH_3), C1-C4-alkoxy-C1-C4-alkylamine (such as NH-CH_2-CH_2-O-CH_3) or halogen (such as F or Cl).

[543] In a further preferred embodiment, R^6 is perfluorinated C_1-C_3-alkyl (e.g. perfluoromethyl) and R^{10} is Cl, Br or F, more preferably Cl or Br.

Formula (Ia'')

A further preferred embodiment relates to compounds of the formula (Ia'')



(Ia'')

in which one D selected from D1 and D2 is N and the respective other D selected from D1 and D2 is O; or D4 is N and one D selected from D1 and D5 is N; or D3 is N and D1, D2 and D5 are each C-R11 and D4 is C, and all other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (Ia'') in which R8 is a (C1-C6)-alkyl, (C1-C6)-alkoxy or alkylsulphanyl, each of which is substituted, where the substituents are selected from halogen and hydroxyl, where at least one substituent is halogen, and one D selected from D1 and D2 is N and the respective other D selected from D1 and D2 is O; or D4 is N and one D selected from D1 and D5 is N; or D3 is N and D1, D2 and D5 are each C-R11 and D4 is C, and all other parameters are as defined above.

[544] In a preferred embodiment, not more than one (1) B_1 to B_5 moiety is N (in other words: one (1) B_1 to B_5 is N); or no (0) B_1 to B_5 is N (B_1 to B_5 are CR^6, CR^7, CR^8, CR^9 and CR^{10}).

[545] In a further preferred embodiment, R^6, R^7, R^9 and R^{10} (if the corresponding B moiety is CR) are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_4-alkyl, C_3-C_4-cycloalkyl, C_1-C_4-alkoxy, *N*-alkoxyiminoalkyl, C_1-C_4-alkylsulphanyl, C_1-C_4-alkylsulphinyl, C_1-C_4-alkylsulphonyl, *N*-C_1-C_4-alkylamino, *N,N*-di-C_1-C_4-alkylamino.

[546] In a further preferred embodiment, R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, methyl, ethyl, fluoromethyl, difluoromethyl, chlorodifluoromethyl, trifluoromethyl, 2,2,2-trifluoroethyl, methoxy, ethoxy, n-propoxy, 1-methylethoxy, fluoromethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, pentafluoroethoxy, N-methoxyiminomethyl, 1-(N-methoxyimino)ethyl, methylsulphanyl, trifluoromethylsulphanyl, methylsulphonyl, methylsulphinyl, trifluoromethylsulphonyl, trifluoromethylsulphinyl.

In a further preferred embodiment, R^6 and R^{10} are each independently H, halogen (especially chlorine, bromine, fluorine), cyano, nitro, methyl, ethyl, difluoromethyl, chlorodifluoromethyl, trifluoromethyl, methoxy, ethoxy, 1-methylethoxy, difluoromethoxy, chlorodifluoromethoxy, dichlorofluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2,2-difluoroethoxy, methylsulphanyl, trifluoromethylsulphanyl, methylsulphonyl, methylsulphinyl, trifluoromethylsulphonyl, trifluoromethylsulphinyl.

In a further preferred embodiment, R^6 and R^{10} are the substituents described herein, but R^6 and R^{10} in one compound are not both H. In other words, if R^6 in a compound is H, R^{10} is one of the other substituents described herein, and vice versa.

In a further preferred embodiment, R^6 and R^{10} are each a substituent selected from halogen (preferably Cl, Br or F), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy.

In a further preferred embodiment, R^6 and R^{10} are each halogen (such as Cl, Br or F), each C_1-C_3-alkyl, or each halogen-substituted C_1-C_3-alkyl, for example perfluorinated C_1-C_3-alkyl (perfluoromethyl, perfluoroethyl or perfluoropropyl).

In a further preferred embodiment, R^6 is perfluorinated C_1-C_3-alkyl (e.g. perfluoromethyl) and R^{10} is Cl, Br or F, more preferably Cl or Br.

T46 – methyl

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T46, R^{11} in T46 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T46, R^{11} in T46 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T46, R^{11} in T46 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy and all the other parameters are as defined in paragraph [85] and paragraph [0113] ff.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is methyl, T is T46, R^{11} in T46 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy and all the other parameters are as defined above.

T46 - H

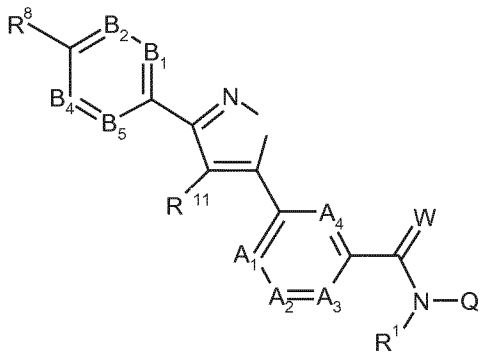
A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T46, R^{11} in T46 is H, W is O and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T46, R^{11} in T46 is H, W is O, A_1 is CR^2, A_2 is CR^3 or N, A_3 is CR^4, A_4 is CR^5, B_1 is CR^6, B_2 is CR^7, B_3 is CR^8, B_4 is CR^9, B_5 is CR^{10} and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T46, R^{11} in T46 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy and all the other parameters are as defined above.

A further preferred embodiment relates to compounds of the formula (I) in which R^1 is H, T is T46, R^{11} in T46 is H, W is O, A_1 is CH, A_2 is CH or N, A_3 is CR^4, A_4 is CH, B_1 is CR^6, B_2 is CH, B_3 is CR^8, B_4 is CH, B_5 is CR^{10}, where R^6 and R^{10} are each a substituent selected from halogen (preferably chlorine, bromine or fluorine), C_1-C_3-alkyl, halogen-substituted C_1-C_3-alkyl, C_1-C_3-alkoxy or halogen-substituted C_1-C_3-alkoxy and all the other parameters are as defined above.

A further embodiment is directed to compounds of the formula (I-T46):



(I-T46)

in which

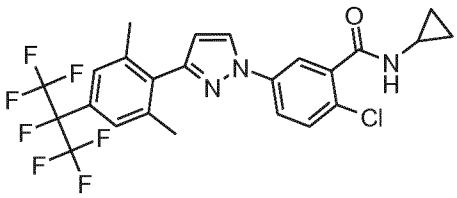
R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, R^{11} Q and W are each defined as described herein, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4 and B_5 is N; or where one or two moieties selected from A_1, A_2, A_3, A_4 can be N and not more than one moiety selected from B_1, B_2, B_3, B_4, and B_5 is N.

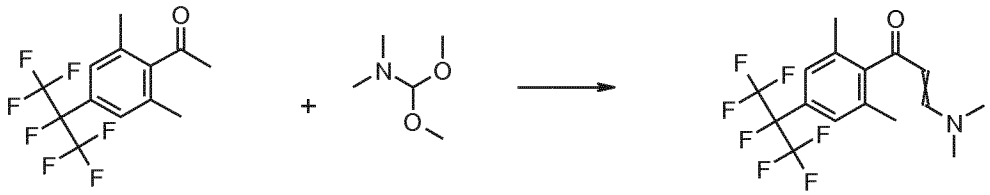
A further embodiment is directed to compounds of the formula (I-T2), (I-T3), (I-T4), (I-T22), (I-T23) or (I-T46) in which R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each as described above.

Experimental

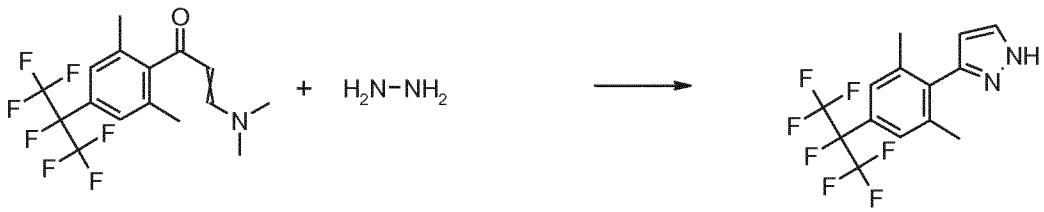
Preparation process I-T2

Example I-T2-1



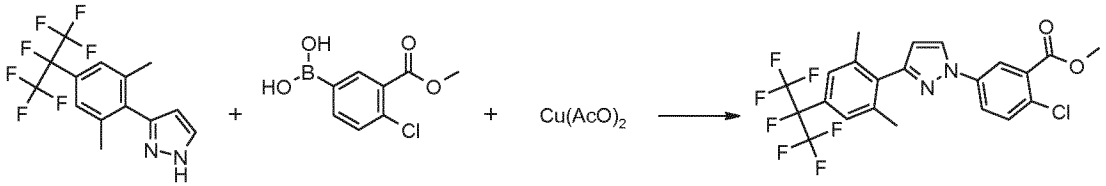


710 mg (2.24 mmol) of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]ethanone were added to 401 mg (3.36 mmol) of N,N-dimethylformamide dimethyl acetal, and the mixture was heated to reflux for 5 hours. For workup, the mixture was cooled a little and all the volatile constituents were evaporated off on a rotary evaporator under reduced pressure. The residue was chromatographed using a cartridge containing 40 g of silica gel with a gradient in cyclohexane/ethyl acetate of 90:10 to 50:50 (v/v). 675 mg of 3-(dimethylamino)-1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]prop-2-en-1-one were obtained.

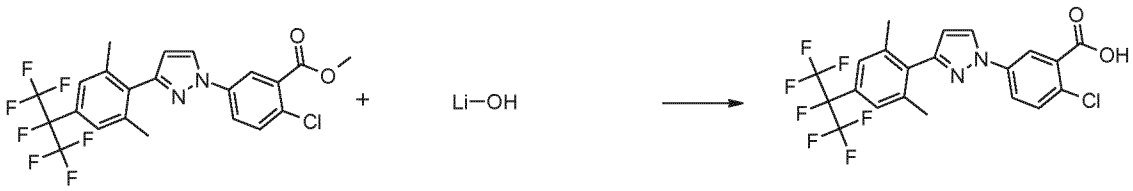


1.2 g (3.23 mmol) of 3-(dimethylamino)-1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]prop-2-en-1-one were added to 15.5 ml of ethanol, and 170 mg (3.39 mmol) of hydrazine hydrate and 192 mg (3.2 mmol) of glacial acetic acid were added. The mixture was stirred at room temperature for 7 hours. Then a further 170 mg (3.39 mmol) of hydrazine hydrate were added and the mixture was stirred at room temperature for a further 4 hours. Since the conversion was still incomplete, another 190 mg (3.2 mmol) of glacial acetic acid were added and the mixture was stirred at 60°C for 17 hours. For workup, the mixture was concentrated on a rotary evaporator under reduced pressure and the residue was partitioned between ethyl acetate and water. The organic phase was removed, washed with water, dried with sodium sulphate and concentrated on a rotary evaporator

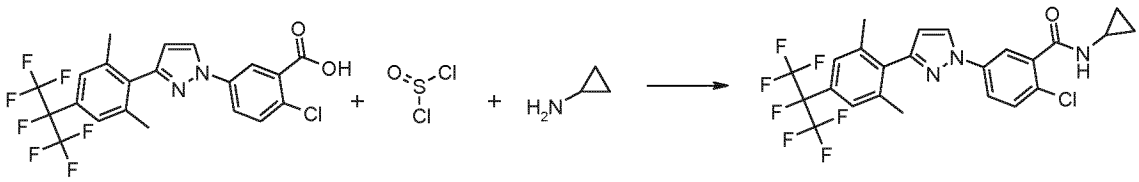
under reduced pressure. As residue, 1.04 g of (3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-1H-pyrazole remained.



23 ml of dichloromethane, 353 mg (4.46 mmol) of pyridine, 609 mg (3.35 mmol) of copper(II) acetate, 958 mg (4.46 mmol) of 3-carboxymethyl-4-chlorophenylboronic acid and 760 mg (2.23 mmol) of (3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-1H-pyrazole were initially charged and then 1.1 g of freshly ground 3 Å molecular sieve were added. The mixture was then stirred at room temperature for 20 hours. For workup, the mixture was filtered through a layer of kieselguhr and washed through with dichloromethane. The filtrate was concentrated on a rotary evaporator under reduced pressure. For purification, chromatography was effected first using a cartridge containing 40 g of silica gel with a gradient in cyclohexane/ethyl acetate of 95:5 to 75:25 (v/v). The product-containing fractions were concentrated and chromatographed using a second cartridge containing 40 g of silica gel with toluene as eluent. After concentration, 628 mg of methyl 2-chloro-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzoate were obtained.



609 mg (1.19 mmol) of methyl 2-chloro-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzoate were initially charged in a mixture of 14 ml of dioxane and 5 ml of water, 53 mg (1.25 mmol) of lithium hydroxide hydrate were added and the mixture was stirred at room temperature. After 2 hours, a further 25 mg (0.6 mmol) of lithium hydroxide hydrate were added and the mixture was stirred at room temperature for a further hour. Thereafter, the volatile constituents were removed on a rotary evaporator under reduced pressure. The residue was partitioned between dilute hydrochloric acid and dichloromethane. The organic phase was removed and the aqueous phase was extracted twice with dichloromethane. The combined organic phases were then washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. As residue, 554 mg of 2-chloro-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzoic acid were obtained.

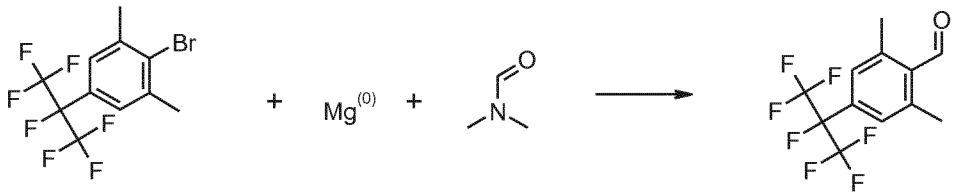


100 mg (0.2 mmol) of 2-chloro-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzoic acid were initially charged in 2 ml of dry toluene, then 120 mg (1 mmol) of thionyl chloride (SOCl2) and 1 drop of dimethylformamide (DMF) were added, and the mixture was heated to reflux. After the evolution of gas had ended, the mixture was stirred under reflux for another 30 minutes and then concentrated on a rotary evaporator under reduced pressure. The residue was dissolved in 1 ml of dry dichloromethane and added dropwise to a solution of 29 mg (0.5 mmol) of cyclopropylamine in 1 ml of dichloromethane at 0°C. The mixture was then stirred at room temperature for 2 hours. For workup, the mixture was poured onto 5% aqueous sodium hydrogencarbonate solution, and the organic phase was removed, washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. For purification, chromatography was effected using a cartridge containing 40 g of silica gel with a gradient in cyclohexane/ethyl acetate of 90:10 to 50:50 (v/v). 159.5 mg of 2-chloro-N-cyclopropyl-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzamide (compound **I-T2-1**) were obtained.

HPLC-MS[a)]: logP = 4.9, mass (m/z) = 534 [M+H]+.

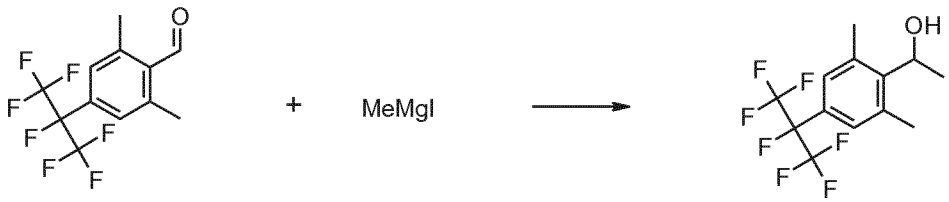
^{1}H NMR (400 MHz, d_3-acetonitrile): δ (ppm) = 8.29 (d, J=2.5 Hz, 1 H), 7.82-7.85 (m, 2H), 7.52 (d, J=8.8 Hz, 1 H), 7.44 (s, 2 H), 6.97 (s (broad), 1 H (N-H)), 6.54 (d, J=2.5 Hz, 1 H), 2.82-2.86 (m, 1H), 0.74-0.79 (m, 2 H), 0.59-0.61 (m, 2 H).

Preparation of the starting compounds:

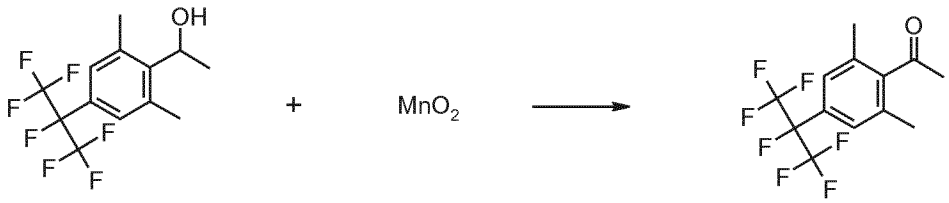


271 mg (11.1 mg atom) of magnesium turnings were initially charged, covered with a little dry tetrahydrofuran and, after addition of a few drops of a solution of 3 g (8.49 mmol) of 2-bromo-1,3-dimethyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene (prepared according to US2003/187233, p. 6, Example 2/4 [0080]) in 10 ml of dry tetrahydrofuran, a crumb of iodine was added. To start the reaction, the mixture was heated to 60°C. After the reaction had started up, the rest of the solution containing the 2-bromo-1,3-dimethyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene was added dropwise at 60°C. After the addition had ended, the mixture

was stirred at 60°C for another hour. Thereafter, the mixture was cooled to 0°C with an ice bath, and 1.86 g (25.4 mmol) of N,N-dimethylformamide, dissolved in 5 ml of dry tetrahydrofuran, were added dropwise. Then the mixture was stirred without cooling until the mixture had reached room temperature. For workup, the mixture was poured onto saturated aqueous ammonium chloride solution. The phases were separated; the aqueous phase was extracted with ethyl acetate. The combined organic phases were washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. As residue, 2.34 g of 2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzaldehyde remained, which was used without purification in the next stage.



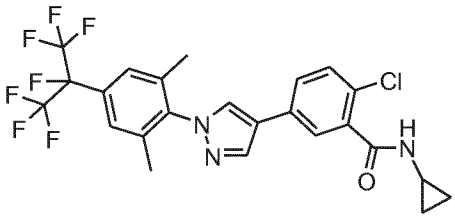
2.34 g (7.74 mmol) of 2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzaldehyde were initially charged in 15.5 ml of dry tetrahydrofuran, and 2.58 ml (7.74 mmol) of a 3 M solution of methylmagnesium iodide in diethyl ether were added dropwise while cooling with an ice bath. Subsequently, the mixture was stirred without cooling for a further hour. For workup, the mixture was poured onto 100 ml of saturated aqueous ammonium chloride solution. The mixture was extracted twice with ethyl acetate. The combined organic phases were washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was chromatographed using a 40 g cartridge containing silica gel with a gradient in cyclohexane/ethyl acetate of 90:10 to 70:30 (v/v), and gave 1.0 g of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]ethanol.



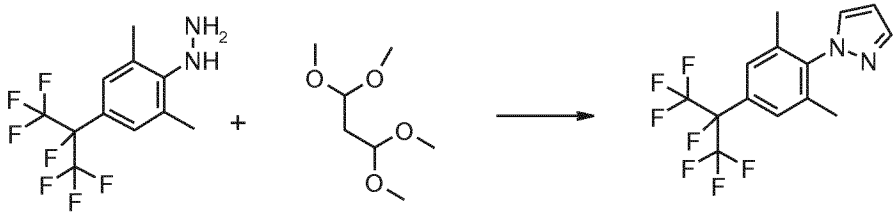
1.49 g (4.68 mmol) of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]ethanol were initially charged in 84 ml of toluene, and 10.8 g (124 mmol) of manganese(IV) oxide were added. The mixture was heated to reflux while stirring for one hour. This was followed by cooling, filtering through a layer of kieselguhr and washing through with ethyl acetate. The filtrate was concentrated on a rotary evaporator under reduced pressure. The residue was chromatographed using a cartridge containing 50 g of silica gel with a gradient in cyclohexane/ethyl acetate of 95:5 to 70:30 (v/v). 1.03 g of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]ethanone were obtained.

Preparation process I-T3

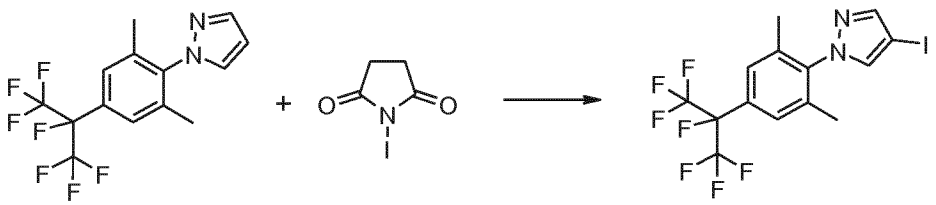
Example I-T3-1:



The preparation of the precursor [2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]hydrazine is described in the literature (US 2003/187233).

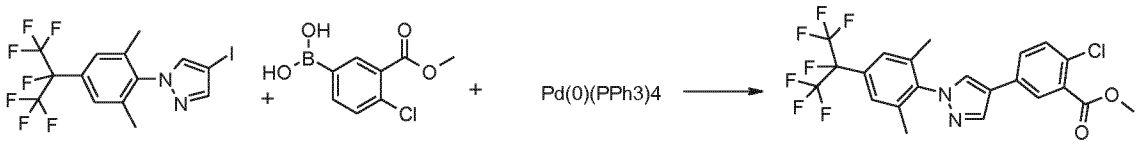


A 25 ml flask was initially charged with 3.41 g (11.2 mmol) of [2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]hydrazine (free base) in 13 ml of ethanol. Then 1.84 g (11.2 mmol) of tetramethoxypropane and subsequently 0.55 g (5.6 mmol) of 96% sulphuric acid were added. The reaction mixture was heated to reflux for 2 h. Ethanol was evaporated off on a rotary evaporator under reduced pressure. The residue was partitioned between ethyl acetate and saturated aqueous sodium hydrogencarbonate solution. The organic phase was removed, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was distilled in a Kugelrohr under reduced pressure at 1 mbar and 150°C, and gave 2.5 g of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazole.

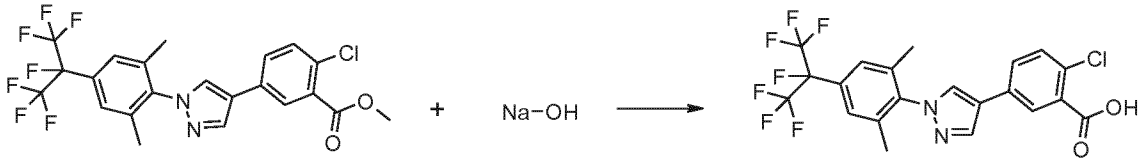


A 250 ml flask was initially charged with 2.5 g (7.34 mmol) of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazole in 30 ml of acetonitrile, and 8.3 g (36.9 mmol) of N-iodosuccinimide in 50 ml of acetonitrile were added dropwise. Subsequently, the mixture was heated to

reflux. For workup, the mixture was concentrated, and the residue was partitioned between water and ethyl acetate. The organic phase was removed, washed first with saturated aqueous sodium hydrogensulphite solution, then with saturated sodium chloride solution, dried with sodium sulphate and concentrated. The residue was purified by chromatography with silica gel by means of a gradient from 90:10 to 70:30 (v/v) in cyclohexane/ethyl acetate. After concentration of the fractions containing the product, 2.5 g of a residue were obtained, which consisted of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-4-iodopyrazole and some toluene.

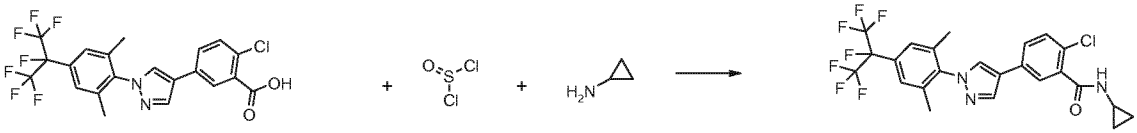


A 100 ml flask was initially charged with 280 mg (0.6 mmol) of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-4-iodopyrazole and 0.129 g (0.60 mmol) of [4-chloro-3-(methoxycarbonyl)phenyl]boronic acid in 21 ml of isopropanol, and lastly 1.84 ml (1.84 mmol) of degassed 1 molar sodium hydrogencarbonate solution were added. 0.035 g (0.03 mmol) of tetrakis(triphenylphosphine)palladium(0) was added. Then the mixture was heated to reflux. For workup, the mixture was concentrated on a rotary evaporator, and the residue was partitioned between water and ethyl acetate. The organic phase was removed, washed once with saturated sodium chloride solution and concentrated on a rotary evaporator under reduced pressure. The residue was purified by chromatography with silica gel by means of a gradient from 90:10 to 70:30 (v/v) in cyclohexane/ethyl acetate, and gave 151 mg of methyl 2-chloro-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]benzoate.



0.151 g (0.29 mmol) of methyl 2-chloro-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]benzoate were initially charged in 11 ml of methanol, and 0.3 ml (0.3 mmol) of 1M sodium hydroxide solution were added. Subsequently, the mixture was heated to reflux for 6 hours, excess solvent was evaporated off under reduced pressure, and the residue was taken up with dilute hydrochloric acid and extracted three times with ethyl acetate. The combined extracts were washed with saturated sodium chloride solution, dried with sodium sulphate and

concentrated, and gave 130 mg of 2-chloro-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]benzoic acid.

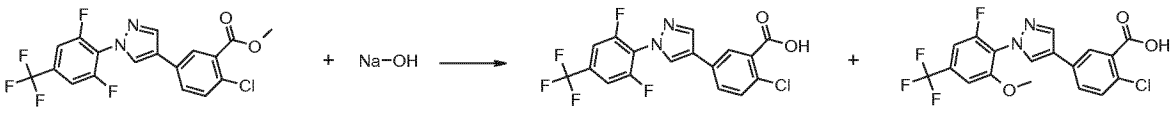


0.134 g (0.27 mmol) of 2-chloro-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]benzoic acid were dissolved in 1.26 ml of toluene, and 0.161 g (1.35 mmol) of thionyl chloride were added. The mixture was heated to 80°C for 2 hours. This was followed by concentration under reduced pressure. The residue was dissolved in 1.26 ml of dichloromethane and added dropwise to a solution of 39 mg (0.67 mmol) of cyclopropylamine in 0.63 ml of dichloromethane at 0°C while cooling, and the solution was cooled. For workup, 5% aqueous sodium dihydrogenphosphate solution was added, and the organic phase was removed, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was separated with silica gel with a gradient of cyclohexane/ethyl acetate of 9:1 to 7:3 (v/v), and gave 46 mg of 2-chloro-N-cyclopropyl-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]benzamide (compound **I-T3-1**).

HPLC-MS[a)]: logP = 4.36, mass (m/z) = 534 [M+H]+.

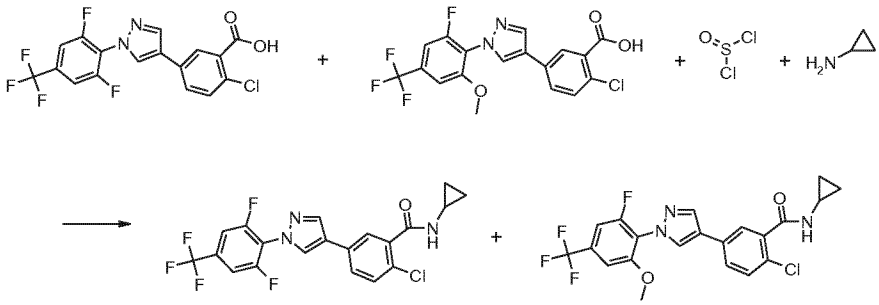
^{1}H NMR (400 MHz, d_3-acetonitrile): δ = 8.11 (s, 1 H), 8.06 (s, 1 H), 7.68 (d, J1=2.2 Hz, 1 H), 7.62-7.65 (dd, J1=8.4 Hz, J2=2.2 Hz, 1H), 7.45 (d, J=8.4 Hz, 1 H), 6.9 (s (broad), 1 H (N-H)), 3.97 (s, 3 H), 2.82-2.88 (m, 1H), 0.76-0.8 (m, 2 H), 0.57-0.61 (m, 2 H).

Examples I-T3-48 and IT-T3-50



2.46 g (5.9 mmol) of methyl 2-chloro-5-[1-[2,6-difluoro-4-(trifluoromethyl)phenyl]pyrazol-4-yl]benzoate were initially charged in 127 ml of methanol, and 5.9 mg (5.9 mmol) of 1 molar sodium hydroxide solution were added. The mixture was heated to reflux for 2 hours. Thereafter, the mixture was cooled, and the majority of the methanol was removed on a rotary evaporator under reduced pressure. The aqueous residue was extracted with dichloromethane. The extract was discarded. The aqueous phase was set to pH 1 with 33% hydrochloric acid and extracted twice with dichloromethane. The combined extracts were washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated. 1.41 g of residue were obtained as a 45:55 (LC-MS areas) mixture of 2-

chloro-5-[1-[2,6-difluoro-4-(trifluoromethyl)phenyl]pyrazol-4-yl]benzoic acid and 2-chloro-5-[1-[2-fluoro-6-methoxy-4-(trifluoromethyl)phenyl]pyrazol-4-yl]benzoic acid.



700 mg (about 1.7 mmol) of a 45:55 (LC-MS areas) mixture of 2-chloro-5-[1-[2,6-difluoro-4-(trifluoromethyl)phenyl]pyrazol-4-yl]benzoic acid and 2-chloro-5-[1-[2-fluoro-6-methoxy-4-(trifluoromethyl)phenyl]pyrazol-4-yl]benzoic acid were dissolved in 6.6 ml of toluene, and 1.34 g (8.7 mmol) of thionyl chloride were added. The mixture was heated to 80°C for 2 hours. Thereafter, all the volatile constituents were drawn off on a rotary evaporator under reduced pressure. The residue was dissolved in 3.3 ml of dichloromethane and added dropwise to a solution of 248 mg (4.34 mmol) of cyclopropylamine in 3.3 ml of dichloromethane at 0°C. The mixture was then stirred without cooling for 2 hours. Thereafter, the solution was washed with 5% aqueous sodium dihydrogenphosphate solution, dried with sodium sulphate and concentrated. The residue was chromatographed using a cartridge containing 40 g of silica gel with a gradient in cyclohexane/ethyl acetate of 90:10 to 50:50 (v/v). 240 mg of 2-chloro-N-cyclopropyl-5-[1-[2,6-difluoro-4-(trifluoromethyl)phenyl]pyrazol-4-yl]benzamide (Example **I-T3-48**)

HPLC-MS[a)]: logP = 3.2, mass (m/z) = 442 [M+H]+.

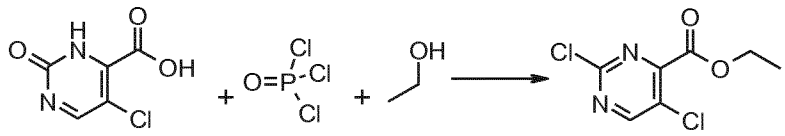
^{1}H NMR (400 MHz, d_3-acetonitrile): δ (ppm) = 8.26 (s, 1 H), 8.19 (s, 1H), 7.61-7.69 (m, 4H), 7.46 (d, J = 8.3 Hz, 1H), 6.94 (s, 1 H (broad)), 2.82-2.88 (m, 1H), 0.75-0.80 (m, 2 H), 0.58-0.62 (m, 2 H).

and 2-chloro-N-cyclopropyl-5-[1-[2-fluoro-6-methoxy-4-(trifluoromethyl)phenyl]pyrazol-4-yl]benzamide (Example **I-T3-50**) were obtained.

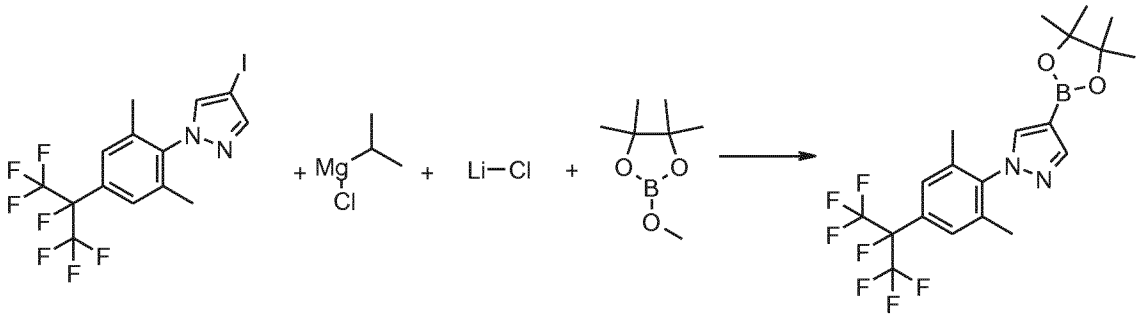
HPLC-MS[a)]: logP = 3.1, mass (m/z) = 454 [M+H]+.

^{1}H NMR (400 MHz, d_3-acetonitrile): δ (ppm) = 8.13 (s, 1 H), 8.11 (s, 1H), 7.67 (d, J = 2.2 Hz, 1 H), 7.62 (dd, J_1 = 8.3 Hz, J_2 = 2.2 Hz, 1 H), 7.45 (d, J = 8.3 Hz, 1H), 7.32 (s, 1 H), 7.30 (s, 1 H), 6.91 (s, 1 H (broad)), 3.90 (s, 3 H), 2.83-2.87 (m, 1H), 0.75-0.79 (m, 2 H), 0.57-0.61 (m, 2 H).

Example I-T3-121:

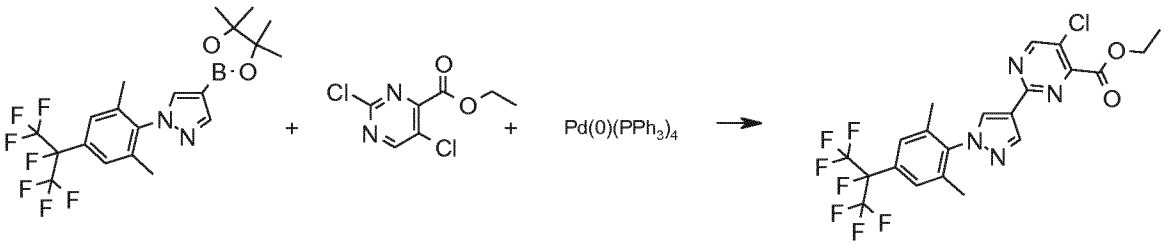


4.6 ml (49.6 mmol) of phosphorus oxychloride were initially charged and 1.3 g (7.44 mmol) of 5-chloro-2-oxo-1H-pyrimidine-6-carboxylic acid (commercially available, or can be prepared by methods known from the literature (e.g. Gacek, Michel; Ongstad, Leif; Undheim, Kjell; Acta Chemica Scandinavica, Series B: Organic Chemistry and Biochemistry B33(2), (1979), p. 150-1)) were introduced. The mixture was heated gradually and kept under reflux for 2 hours. Thereafter, the mixture was cooled a little and the excess phosphorus oxychloride was drawn off on a rotary evaporator under reduced pressure. 20 ml of dry ethanol were added to the residue, and the mixture was then stirred at room temperature overnight. Thereafter, excess ethanol was drawn off on a rotary evaporator under reduced pressure. The residue was taken up in dichloromethane and washed three times with saturated aqueous sodium hydrogencarbonate solution. The aqueous phases were re-extracted with dichloromethane, then the combined organic phases were washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was chromatographed using a cartridge containing 15 g of silica gel with a gradient from pure cyclohexane to 50:50 (v/v) cyclohexane/ethyl acetate, and gave 115 mg of ethyl 2,5-dichloropyrimidine-4-carboxylate.

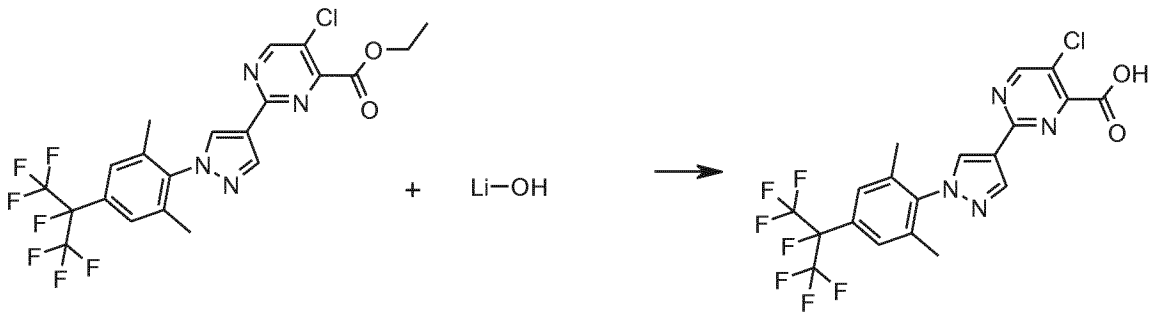


A baked-out 25 ml three-neck flask was initially charged with 5.94 ml (7.72 mmol) of a 1.3 molar solution of i-propylmagnesium chloride/lithium chloride complex, and a solution of 4-iodo-1-[2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]pyrazole (for preparation see Example **I-T3-1**) in 3.4 ml of dry tetrahydrofuran was added dropwise. Stirring of the mixture at room temperature continued overnight, and then the mixture was cooled to -20°C and 1.63 g (10.2 mmol) of 2-methoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane were added dropwise. The mixture was stirred at 0-10°C for a further 1 hour. For workup, the mixture was poured onto 30 ml of saturated aqueous ammonium chloride solution and diluted with cyclohexane. The phases were separated; the aqueous phase was re-extracted with cyclohexane. The combined organic phases were washed first with saturated aqueous sodium hydrogencarbonate solution and then with saturated aqueous sodium chloride solution,

dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. After chromatography using a 40 g cartridge containing silica gel with a gradient proceeding from pure cyclohexane up to 80:20 (v/v) cyclohexane/ethyl acetate, 0.6 g of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyrazole was obtained.

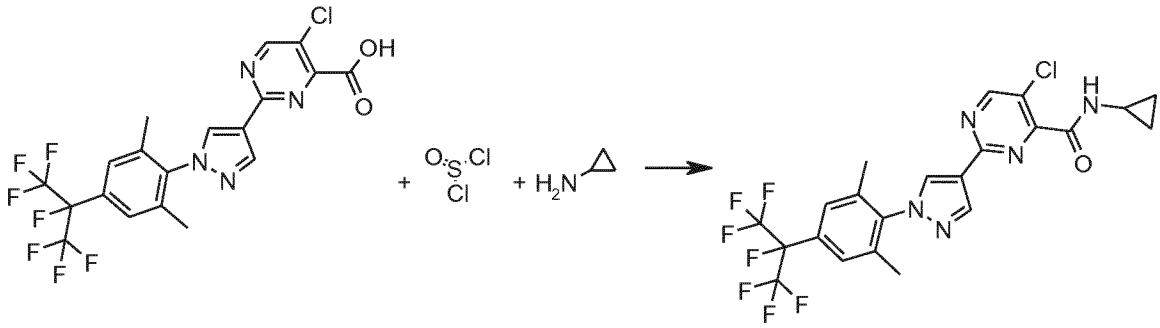


155 mg (0.7 mmol) of ethyl 2,5-dichloropyrimidine-4-carboxylate and 327 mg (0.7 mmol) of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyrazole were initially charged in 25 ml of dioxane, and 234 mg (2.2 mmol) of sodium carbonate and 1.25 ml of water were added. The mixture was degassed with argon and then 81 mg (0.07 mmol) of tetrakis(triphenylphosphine)palladium(0) were added. The mixture was degassed once again with argon and stirred at 100°C overnight. The next morning, the mixture was cooled and the solvent was drawn off on a rotary evaporator under reduced pressure. The residue was partitioned between water and ethyl acetate. The organic phase was removed, washed once with saturated aqueous sodium chloride solution and then concentrated on a rotary evaporator under reduced pressure. For purification, chromatography was effected using a cartridge containing 15 g of silica gel and a gradient proceeding from pure cyclohexane as far as a mixture of 70:30 (v/v) cyclohexane/ethyl acetate. 120 mg of ethyl 5-chloro-2-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]pyrimidine-4-carboxylate were obtained.



0.120 g (0.23 mmol) of ethyl 5-chloro-2-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]pyrimidine-4-carboxylate were initially charged in a mixture of 4.1 ml of dioxane and 1.44 ml of water, and 31 mg (0.74 mmol) of lithium hydroxide monohydrate were added. Subsequently, the mixture was stirred at room temperature for 4 hours, then excess solvent was evaporated off under reduced pressure, and the residue was taken up with dilute hydrochloric acid and extracted three times with dichloromethane. The combined extracts were washed with saturated

aqueous sodium chloride solution, dried with sodium sulphate and concentrated, and gave 115 mg of crude 5-chloro-2-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]pyrimidine-4-carboxylic acid.

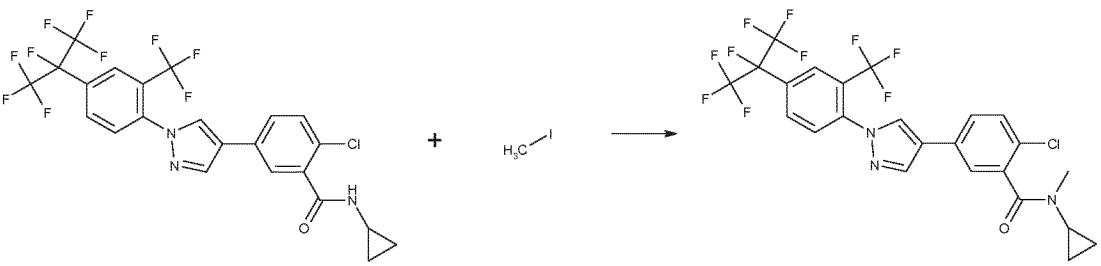


0.110 g (0.22 mmol) of crude 5-chloro-2-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]pyrimidine-4-carboxylic acid were dissolved in 2 ml of toluene, and 0.132 g (1.1 mmol) of thionyl chloride and one drop of dimethylformamide were added. The mixture was heated to 80°C for 2 hours. This was followed by concentration under reduced pressure. The residue was dissolved in 1 ml of dichloromethane and added dropwise to a solution of 32 mg (0.55 mmol) of cyclopropylamine in 1 ml of dichloromethane at 0°C while cooling, and the mixture was then stirred without cooling for 2 hours. For workup, 5% aqueous sodium dihydrogenphosphate solution was added, and the organic phase was removed, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was separated using a cartridge containing 15 g of silica gel with a gradient of cyclohexane/ethyl acetate of 9:1 to 7:3 (v/v), and gave 49 mg of 5-chloro-N-cyclopropyl-2-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-4-yl]pyrimidine-4-carboxamide (compound **I-T3-121**).

HPLC-MS[a)]: logP = 4.5, mass (m/z) = 536 [M+H]+.

^{1}H NMR (400 MHz, d_3-acetonitrile): δ (ppm) = 8.84 (s, 1 H), 8.46 (s, 1 H), 8.44 (s, 1H), 7.87 (s, 1 H (broad)), 7.55 (s, 2 H), 2.84-2.91 (m, 1 H), 2.2 (s, 6 H), 0.79-0.83 (m, 2 H), 0.64-0.68 (m, 2 H).

Example I-T3-134:



To a mixture, cooled to 0°C, of 6.5 mg (0.163 mmol) of sodium hydride (60% in mineral oil) in 2 ml of dry tetrahydrofuran were added 49.3 mg (0.08 mmol) of 2-chloro-N-cyclopropyl-5-{1-[4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)-2-(trifluoromethyl)phenyl]-1H-pyrazol-4-yl}benzamide. After 30 minutes, 35

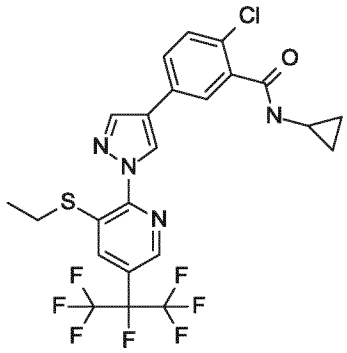
mg (0.24 mmol) of methyl iodide were added, and the mixture was stirred at 0°C and for 1 hour, then warmed up to room temperature over the course of 1 hour and stirred at room temperature for a further 14 hours. Thereafter, the mixture was added to water and extracted with ethyl acetate, the organic phase was dried over sodium sulphate and the solvent was removed under reduced pressure. The residue was purified by chromatography on reversed-phase silica gel (C18) with water/acetonitrile (gradient) as eluent. 40.0 mg (0.068 mmol, 78%) of 2-chloro-N-cyclopropyl-5-[5-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-3-yl]benzamide (compound **I-T3-134**) were obtained.

HPLC-MS[a)]: logP = 4.88, mass (m/z) = 588 [M+H]+.

^{1}H NMR (400 MHz, d_6-DMSO): δ (ppm) = 8.82 (s, 1 H), 8.43 (s, 1 H), 8.25 (d, 1H), 8.11 (d, 1 H), 8.06 (d, 1 H), 7.81 (d, 1 H), 7.75 (m, 1 H), 7.54 (d, 1 H), 3.02 (s, 3 H), 2.72 (m, 1 H), 0.55 (m, 2 H), 0.46 (m, 2 H).

Example I-T3-156:

2-Chloro-*N*-cyclopropyl-5-{1-[3-(ethylsulphanyl)-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1H-pyrazol-4-yl}benzamide



2-(4-Bromo-1H-pyrazol-1-yl)-3-chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridine

1.0 g (3.16 mmol) of 2,3-dichloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridine were added dropwise to a suspension of 0.51 g (3.48 mmol) of 4-bromo-1H-pyrazole and 2.58 g (7.91 mmol) of caesium carbonate in 10.0 ml of dimethylformamide p.a. The reaction was stirred at room temperature for 3 h. The reaction mixture was then diluted with ethyl acetate and then washed with semisaturated aqueous ammonium chloride solution. The aqueous phase was then extracted repeatedly with ethyl acetate, and the combined organic phases were subsequently washed with distilled water and saturated sodium chloride solution. The organic phase was dried over magnesium sulphate, filtered and concentrated on a rotary evaporator under reduced pressure. The crude product was purified by column chromatography on silica gel.

This gives 1.34 g (3.14 mmol) of 2-(4-bromo-1*H*-pyrazol-1-yl)-3-chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridine as a colourless oil.

HPLC-MS[a)]: logP = 4.74, mass (m/z) = 428 $[M+H]^+$.

^{1}H NMR (400 MHz, D6-DMSO): 8.90 (s, 1H), 8.67 (s, 1H), 8.63 (d, 1H), 8.06 (s, 1H).

2-Chloro-5-{1-[3-chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1*H*-pyrazol-4-yl}-*N*-cyclopropylbenzamide

150 mg (0.35 mmol) of 2-(4-bromo-1*H*-pyrazol-1-yl)-3-chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridine, 136 mg (0.42 mmol) of 2-chloro-*N*-cyclopropyl-5-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzamide, 59 mg (0.70 mmol) of sodium hydrogencarbonate and 20 mg of tetrakis(triphenylphosphine)palladium (0.01 mmol) were dissolved in a mixture of 1.5 ml of dioxane and 0.5 ml of distilled water. The solvents were saturated with argon for about 30 minutes prior to use, by passing argon gas through the solvents. The reaction mixture was heated in an oil bath to 100°C for 16 hours. After the reaction mixture had been cooled to room temperature, the mixture was admixed with water and the crude product was extracted repeatedly with ethyl acetate. The combined organic phases were dried over magnesium sulphate and filtered through silica gel. The solvents were removed on a rotary evaporator under reduced pressure. The crude product was purified by column chromatography on silica gel.

This gave 25 mg (0.05 mmol) of 2-chloro-5-{1-[3-chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1*H*-pyrazol-4-yl}-*N*-cyclopropylbenzamide as a colourless solid.

HPLC-MS[a)]: logP = 4.08, mass (m/z) = 541 $[M+H]^+$.

1H NMR (400 MHz, D6-DMSO): 9.02(s,1H), 8.89(s,1H), 8.61(d,1H), 8.54-8.52(m,1H), 8.50(s,1H), 7.83-7.81(m,2H), 7.52(d,1H), 2.87-2.81(m,1H), 0.74-0.65(m,2H), 0.60-0.50(m,2H)

2-Chloro-*N*-cyclopropyl-5-{1-[3-(ethylsulphanyl)-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1*H*-pyrazol-4-yl}benzamide

300 mg (0.55 mmol) of 2-chloro-5-{1-[3-chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1*H*-pyrazol-4-yl}-*N*-cyclopropylbenzamide were dissolved in 5.0 ml of DMF abs. and cooled with a dry ice/acetone bath. To the cooled reaction mixture was added dropwise a solution of 81.6 mg (0.97 mmol) of sodium ethanethiolate in 5 ml of DMF abs. After 3 hours, the reaction mixture was warmed up to room temperature and poured cautiously onto water. The crude product was extracted repeatedly with ethyl acetate. The combined organic phases were washed with saturated aqueous sodium chloride solution, dried over magnesium sulphate and filtered, and concentrated on a rotary evaporator under reduced pressure. The crude product was purified by column chromatography on silica gel.

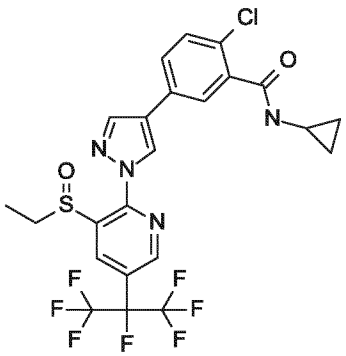
This gives 226 mg (0.40 mmol) of 2-chloro-*N*-cyclopropyl-5-{1-[3-(ethylsulphanyl)-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1*H*-pyrazol-4-yl}benzamide as a colourless solid.

HPLC-MS[a)]: logP = 4.69, mass (m/z) = 567 $[M+H]^+$.

1H NMR (400 MHz, D6-DMSO): 9.08 (d, 1H), 8.59 (d, 1H), 8.53 (d, 1H), 8.47 (s, 1H), 8.02 (d, 1H), 7.85-7.82 (m, 2H), 7.53-7.50 (m, 1H), 3.08 (q, 2H), 2.87-2.81 (m, 1H), 1.22 (t, 3H), 0.74-0.69 (m, 2H), 0.58-0.54 (m, 2H).

Example I-T3-157:

2-Chloro-*N*-cyclopropyl-5-{1-[3-(ethylsulphinyl)-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1*H*-pyrazol-4-yl}benzamide



100 mg (0.17 mmol) of 2-chloro-*N*-cyclopropyl-5-{1-[3-(ethylsulphanyl)-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1*H*-pyrazol-4-yl}benzamide were dissolved in 10.0 ml of dichloromethane and cooled with an ice bath. 43.5 mg of 3-chloroperbenzoic acid were added in portions. The reaction mixture was stirred while cooling with ice for 2 hours. The reaction mixture was admixed with 5 ml of 1N sodium hydroxide solution. After 5 minutes, the aqueous phase was removed. After checking for peroxides, the organic phase was concentrated on a rotary evaporator under reduced pressure. The crude product was purified by column chromatography on silica gel.

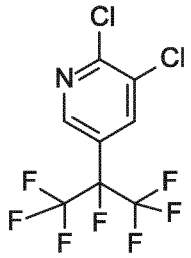
This gave 61 mg of 2-Chloro-*N*-cyclopropyl-5-{1-[3-(ethylsulphinyl)-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-yl]-1*H*-pyrazol-4-yl}benzamide as a colourless solid.

HPLC-MS[a)]: logP = 3.79, mass (m/z) = 583 $[M+H]^+$.

1H NMR (400 MHz, D6-DMSO): 9.36 (s, 1H), 8.96 (d, 1H), 8.63 (s, 1H), 8.58 (s, 1H), 8.53 (d, 1H), 7.91 (s, 1H), 7.89 (d, 1H), 7.53 (d, 1H), 3.45-3.30 (m, 1H beneath water), 2.95-2.88 (m ,1H), 2.86-2.81 (m, 1H), 1.08 (t, 3H), 0.74-0.69 (m, 2H), 0.60-0.50 (m, 2H).

Preparation of the starting compounds

2,3-Dichloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridine



1st stage: 3-Chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-amine

130.6 g (750 mmol) of sodium dithionite were added to a mixture, cooled to 0-5°C, of 64.3 g (500 mmol) of 3-chloropyridin-2-amine, 222 g (750 mmol) of 1,1,1,2,3,3,3-heptafluoro-2-iodopropane and 126 g (1500 mmol) of sodium hydrogencarbonate in 2000 ml of a 3:1 mixture of acetonitrile/water (v/v) under protective gas. The reaction mixture was stirred at room temperature for 48 hours. The acetonitrile was then removed on a rotary evaporator under reduced pressure. The residue was diluted with 500 ml of water. The crude product was extracted repeatedly from the aqueous phase with ethyl acetate. The combined organic phases were dried over sodium sulphate, filtered and then concentrated on a rotary evaporator under reduced pressure. The crude product was purified by column chromatography on silica gel.

2nd stage: 3-Chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2(1H)-one

5.8 g (19.5 mmol) of 3-chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2-amine were dissolved in 150 ml of sulphuric acid (20%, w/w) and cooled to 0-5°C. The solution was admixed with 2.7 g (40 mmol) of sodium nitrite in portions. The reaction mixture was stirred at room temperature for 16 hours. The crude product was extracted repeatedly from the reaction mixture with dichloromethane (DCM). The combined organic phases were dried over sodium sulphate, filtered and then concentrated on a rotary evaporator under reduced pressure. The crude product was used in the next stage without purification.

3rd stage: 2,3-Dichloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridine

15.4 g (51.7 mmol) of 3-chloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridin-2(1H)-one and 150 ml of phosphoryl chloride were heated to 105°C for 5 hours. The reaction mixture was neutralized cautiously with sodium hydrogencarbonate solution. The crude product was extracted repeatedly from the reaction mixture with DCM. The combined organic phases were washed with saturated aqueous sodium chloride solution, dried over sodium sulphate and filtered, and then concentrated on a rotary

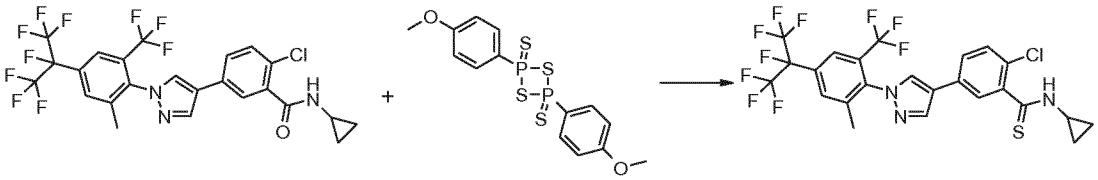
evaporator under reduced pressure. The product was provided by vacuum distillation (b.p. 40°C at 1 mbar).

This gave 14.8 g of 2,3-dichloro-5-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)pyridine as a colourless liquid.

MS: mass (m/z) = 315 $[M]^+$.

1H NMR (400 MHz, d1-chloroform): 8.48 (s, 1H), 7.95 (s, 1H).

Example I-T3-161:



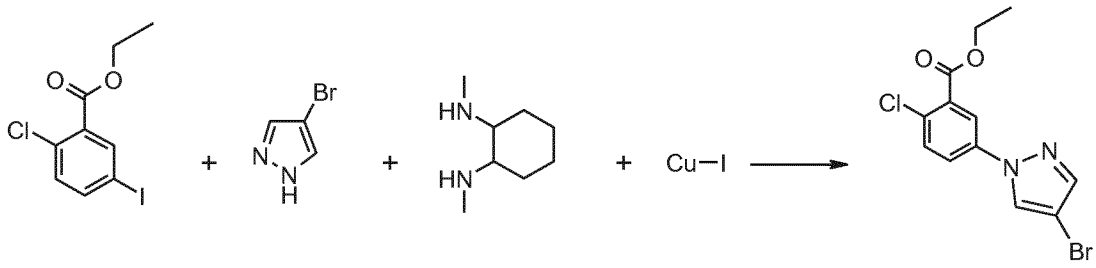
294 mg (0.5 mmol) of 2-chloro-N-cyclopropyl-5-[1-[2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]pyrazol-4-yl]benzamide were initially charged in a mixture of 0.5 ml of ethanol-free trichloromethane and 1.5 ml of 1,2-dimethoxyethane, and 101 mg (0.25 mmol) of Lawesson's reagent (2,4-bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane 2,4-disulphide) were added. The mixture was heated to 50°C for 4 hours. Thereafter, the mixture was cooled and the solvent was drawn off on a rotary evaporator under reduced pressure. The residue was partitioned between ethyl acetate and saturated aqueous sodium hydrogencarbonate solution; the aqueous phase was re-extracted once with ethyl acetate. The combined organic phases were dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. For purification, chromatography was effected using a cartridge containing 40 g of silica gel with a gradient in cyclohexane/ethyl acetate of 90:10 to 50:50 (v/v). 248 mg of 2-chloro-N-cyclopropyl-5-[1-[2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-6-(trifluoromethyl)phenyl]pyrazol-4-yl]benzenecarbothioamide (compound **I-T3-161**) were obtained.

HPLC-MS[a)]: logP = 5.0, mass (m/z) = 604 [M+H]+.

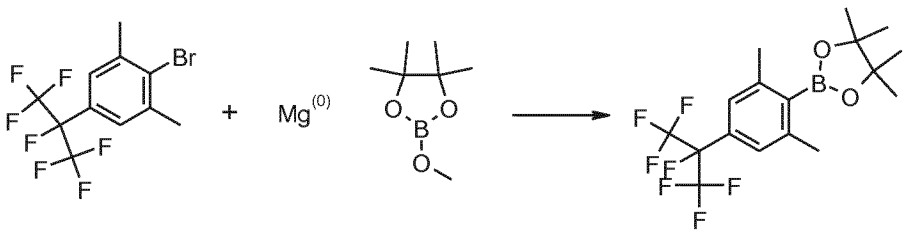
^{1}H-NMR (400 MHz, d_3-acetonitrile): δ (ppm) = 8.62 (s, 1 H (broad)), 8.14 (s, 1 H), 8.10 (s, 1H), 8.0 (s, 1 H), 7.95 (s, 1 H), 7.63 (d, J=2.2 Hz, 1 H), 7.57-7.60 (m, 1 H), 7.42 (d, J=8.4 Hz, 1 H), 3.02 (s, 3 H), 3.37-3.44 (m, 1 H), 0.92-0.95 (m, 2 H), 0.74-0.78 (m, 2 H).

Preparation process I-T4

Example I-T4-1:

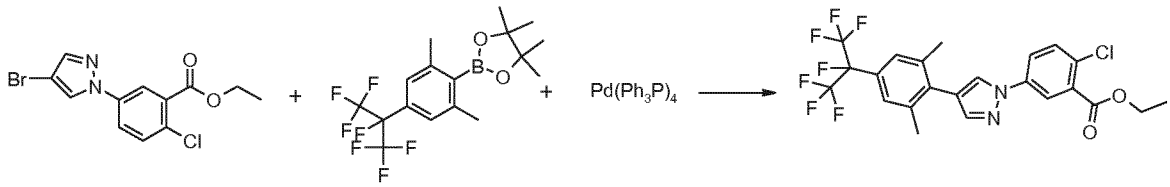


3.81 g (12.2 mmol) of ethyl 2-chloro-5-iodobenzoate were initially charged in 37 ml of dimethylformamide, and 2.885 g (19.6 mmol) of 4-bromopyrazole, 5.09 g (36.8 mmol) of freshly ground potassium carbonate, 0.349 g (2.4 mmol) of 1,2-bis(methylamino)cyclohexane (racemic, trans) and 0.234 g (1.22 mmol) of copper(I) iodide were added. The mixture was degassed with argon and then heated to reflux for one hour. For workup, the mixture was cooled, poured onto 100 ml of water and extracted twice with 100 ml each time of ethyl acetate. The combined organic phases were washed twice with 100 ml of water and then with saturated sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. For purification, the residue was chromatographed using a 120 g cartridge containing silica gel with a gradient of cyclohexane/ethyl acetate of 90:10 to 70:30 (v/v). 1.41 g of ethyl 5-(4-bromopyrazol-1-yl)-2-chlorobenzoate were obtained.



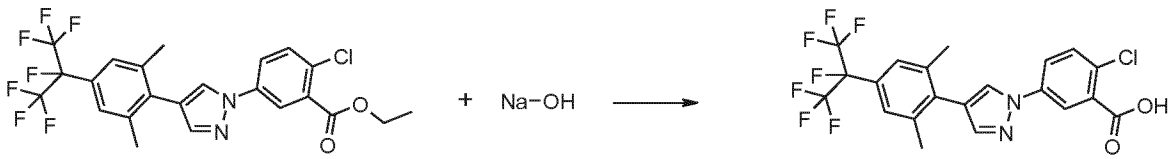
0.158 g (6.49 mg) of magnesium turnings were covered with 1.5 ml of dry tetrahydrofuran. A few drops of a solution of 1.75 g (4.95 mmol) of 2-bromo-1,3-dimethyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene (prepared according to US2003/187233, p. 6) in 2.5 ml of dry tetrahydrofuran were added. To start the reaction, a crumb of iodine was added and the mixture was heated to about 55°C. After the reaction had started, the remaining solution of the 2-bromo-1,3-dimethyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene was added dropwise at a temperature of 55°C. After the addition had ended, stirring was continued at 55°C for another 1 hour, then the mixture was cooled to 0°C and a solution of 2-methoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane in 2.5 ml of dry tetrahydrofuran was added dropwise. Then the mixture was allowed to come to room temperature. For workup, the mixture was poured onto saturated aqueous ammonium chloride solution. The phases were separated, the aqueous phase was re-extracted with ethyl acetate, then the combined

organic phases were washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was distilled in a Kugelrohr at a vacuum of 1 mbar and 220°C. 1.85 g of 2-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-4,4,5,5-tetramethyl-1,3,2-dioxaborolane were obtained.

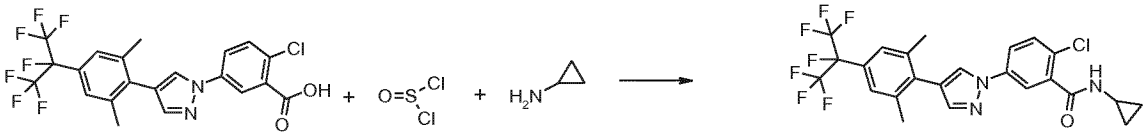


0.947 g (2.87 mmol) of ethyl 5-(4-bromopyrazol-1-yl)-2-chlorobenzoate and 1.15 g (2.87 mmol) of 2-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-4,4,5,5-tetramethyl-1,3,2-dioxaborolane were initially charged in 62 ml of isopropanol, and 8.7 ml (8.7 mmol) of degassed 1 molar aqueous sodium hydrogencarbonate solution were added. The mixture was degassed with argon and 0.166 g (0.14 mmol) of tetrakis(triphenylphosphine)palladium(0) were added and the mixture was heated to reflux overnight.

For workup, the mixture was concentrated on a rotary evaporator under reduced pressure, and the residue was partitioned between water and ethyl acetate. The organic phase was removed; the aqueous phase was re-extracted with ethyl acetate. The combined organic phases were then washed once with saturated aqueous sodium chloride solution and concentrated on a rotary evaporator under reduced pressure. As residue, 1.17 g of crude ethyl 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzoate were obtained.



1.76 g (3.36 mmol) of ethyl 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzoate were initially charged in 72 ml of methanol, and 4.03 ml (4.03 mmol) of 1 molar sodium hydroxide solution were added. The mixture was then heated to reflux for 3 hours. For workup, the mixture was concentrated on a rotary evaporator under reduced pressure, and the residue was taken up with dilute hydrochloric acid and extracted three times with ethyl acetate. The combined extracts were washed with saturated sodium chloride solution, dried with sodium sulphate and concentrated, and gave 1.36 g of crude 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzoic acid.

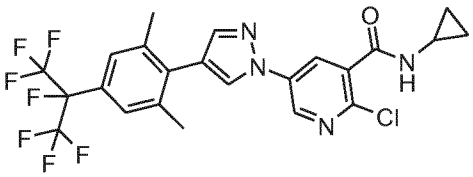


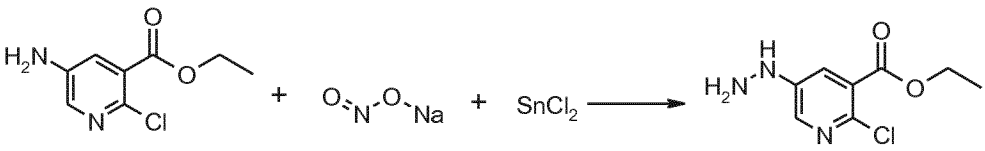
1.36 g (2.76 mmol) of crude 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzoic acid were dissolved in 14 ml of dry toluene, 1 ml (13.8 mmol) of thionyl chloride was added and then the mixture was heated to 80°C for 2 hours. Thereafter, the mixture was concentrated on a rotary evaporator under reduced pressure, 1 ml of dry toluene was added and the mixture was concentrated again. 1.4 g of crude acid chloride were obtained as residue. 0.7 g of the residue was dissolved in 5 ml of dichloromethane and added dropwise to a solution of 0.195 g (3.41 mmol) of cyclopropylamine in 2 ml of dichloromethane at room temperature. The mixture was stirred at room temperature for a further 2 hours, then poured onto 20 ml of 5% aqueous sodium dihydrogenphosphate solution. The organic phase was removed and washed with saturated sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was purified by two chromatography runs using a cartridge containing 15 g of silica gel with a gradient of cyclohexane/ethyl acetate of 90:10 to 50:50 (v/v). 91 mg (1.36 mmol) of N-cyclopropyl-2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]benzamide (compound **I-T4-1**) were obtained.

HPLC-MS$_a$): logP = 4.74, mass (m/z) = 534 [M+H]+.

^{1}H NMR (400 MHz, d$_3$-acetonitrile): δ = (ppm) 8.17 (s, 1 H), 7.86 (s, 1 H), 7.84 (d, J1=2.7 Hz, 1 H), 7.69 (s, 1 H), 7.54(d, J1=8.8 Hz, 1H), 7.44 (s, 2 H), 6.97 (s (broad), 1 H (N-H)), 2.83-2.87 (m, 1H), 2.25 (s, 6 H), 0.76-0.8 (m, 2 H), 0.58-0.62 (m, 2 H).

Example I-T4-3:

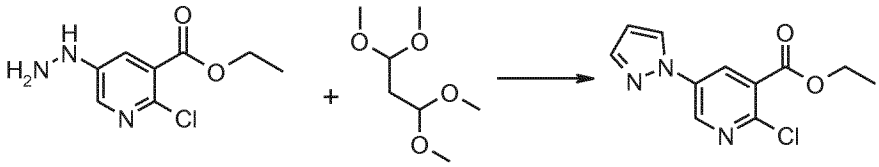




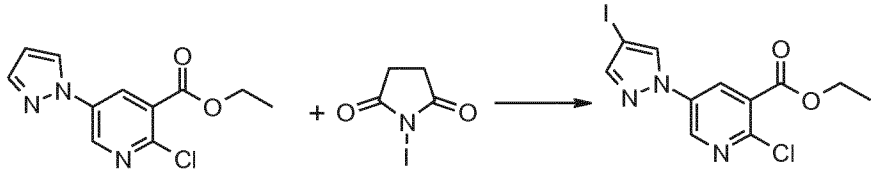
2 g (9.96 mmol) of ethyl 5-amino-2-chloronicotinate (commercially available) were initially charged in 8.6 ml of 33% aqueous hydrochloric acid, and the mixture was stirred at room temperature for 30 minutes. Thereafter, 7 ml of water were added and the mixture was cooled to 0°C with an ice bath. To

this mixture was added dropwise a solution of 750 mg (10.8 mmol) of sodium nitrite in 6.92 ml of water within 30 minutes. The temperature was kept below +5°C with an ice bath. Stirring was continued at 0°C for 15 minutes.

A second flask was initially charged with 5.77 g (25.5 mmol) of tin(II) chloride dihydrate in 24 ml of 16% aqueous hydrochloric acid, and the diazonium salt suspension prepared above was slowly added dropwise at 0°C. Stirring was continued at 0°C for 1 hour. Thereafter, 50 ml of acetonitrile and 40 ml of saturated aqueous sodium chloride solution were added. The phases formed were separated. The aqueous phase was extracted twice with 50 ml each time of acetonitrile. The combined organic phases were dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue obtained was 10.7 g of crude ethyl 2-chloro-5-hydrazinonicotinate.

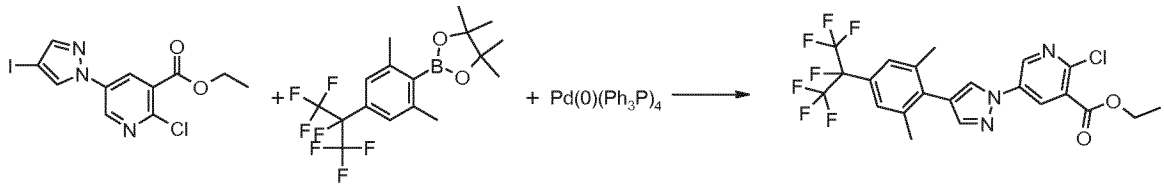


10.7 g of crude ethyl 2-chloro-5-hydrazinonicotinate were initially charged in 50 ml of ethanol, then 1.63 g (9.92 mmol) of 1,1,3,3-tetramethoxypropane and 487 mg of 96% sulphuric acid were added. The mixture was subsequently heated to reflux for 2 hours. The majority of the ethanol was removed on a rotary evaporator under reduced pressure, and the residue was partitioned between saturated aqueous sodium hydrogencarbonate solution and ethyl acetate. The organic phase was removed, washed with saturated aqueous sodium chloride solution, dried over sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was chromatographed using a cartridge containing 15 g of silica gel and a gradient proceeding from pure cyclohexane to 50:50 (v/v) cyclohexane/ethyl acetate. 396 mg of ethyl 2-chloro-5-(pyrazol-1-yl)nicotinate were obtained.

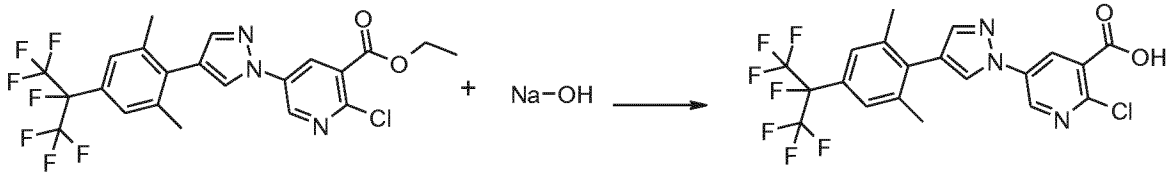


396 mg (1.57 mmol) of ethyl 2-chloro-5-(pyrazol-1-yl)-nicotinate were initially charged in 10 ml of acetonitrile, and 1.062 g (4.72 mmol) of N-iodosuccinimide were added. Subsequently, the mixture was heated under reflux under argon for 3 hours. The mixture was cooled a little and the solvent was removed on a rotary evaporator under reduced pressure. The residue was partitioned between water and ethyl acetate. The organic phase was removed, washed first with saturated aqueous sodium hydrogensulphite solution then with saturated aqueous sodium hydrogencarbonate solution and lastly with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The residue was chromatographed using a cartridge

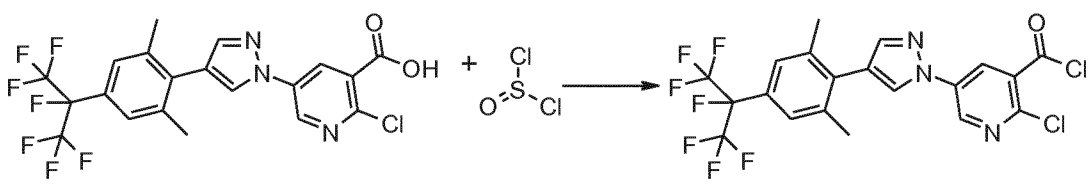
containing 15 g of silica gel and a gradient proceeding from pure cyclohexane to 50:50 (v/v) cyclohexane/ethyl acetate.



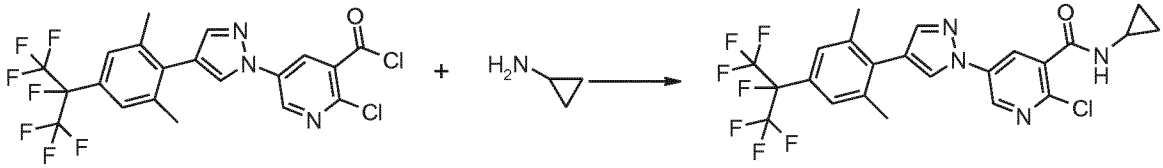
401 mg (1.06 mmol) of ethyl 2-chloro-5-(4-iodopyrazol-1-yl)pyridin-3-carboxylate and 425 mg (1.06 mmol) of 2-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-4,4,5,5-tetramethyl-1,3,2-dioxaborolane were initially charged in 23 ml of isopropanol, and 3.24 ml (3.24 mmol) of degassed 1 molar aqueous sodium hydrogencarbonate solution and 61 mg (0.05 mmol) of tetrakis(triphenylphosphine)palladium(0) were added. The mixture was degassed once again with argon and heated to reflux overnight. Thereafter, the mixture was cooled and the volatile constituents were drawn off on a rotary evaporator under reduced pressure. The residue was partitioned between water and ethyl acetate. The organic phase was removed, washed once with saturated aqueous sodium chloride solution and concentrated on a rotary evaporator under reduced pressure. 415 mg of crude ethyl 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]pyridine-3-carboxylate were obtained.



416 mg (0.79 mmol) of crude ethyl 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]pyridine-3-carboxylate were dissolved in 16.9 ml of methanol, and 0.952 ml (0.95 mmol) of 1 M sodium hydroxide solution was added. The mixture was heated under reflux for 6 hours, then cooled and concentrated on a rotary evaporator under reduced pressure. The residue was partitioned between ethyl acetate and dilute hydrochloric acid. The aqueous phase was re-extracted twice with ethyl acetate. The combined organic phases were washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. 380 mg of crude 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]pyridine-3-carboxylic acid were obtained.



380 mg (0.76 mmol) of crude 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]pyridine-3-carboxylic acid were dissolved in toluene, and 456 mg (3.83 mmol) of thionyl chloride were added. The mixture was heated to 80°C for 2 hours and then concentrated on a rotary evaporator under reduced pressure. 400 mg of crude 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]pyridine-3-carbonyl chloride were obtained.



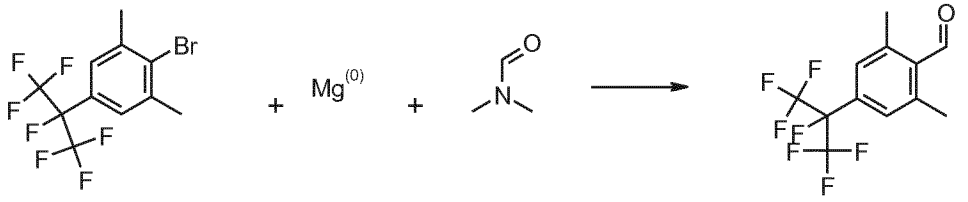
138 mg (0.26 mmol) of 2-chloro-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]pyridine-3-carbonyl chloride were dissolved in 1 ml of dichloromethane and added dropwise to a solution of 38 mg of cyclopropylamine in 1 ml of dichloromethane at room temperature. The mixture was stirred at room temperature for a further 2 hours. Then the mixture was washed with 5% sodium dihydrogenphosphate solution and then with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. For purification, chromatography was effected using a cartridge containing 15 g of silica gel with a gradient in cyclohexane/ethyl acetate of 90:10 to 50:50 (v/v). 30 mg of 2-chloro-N-cyclopropyl-5-[4-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrazol-1-yl]pyridine-3-carboxamide were obtained.

HPLC-MS$_{a)}$: logP = 4.42, mass (m/z) = 534 [M+H]+.

^{1}H NMR (400 MHz, d$_3$-acetonitrile): δ (ppm) = 8.92 (d, J = 2.8 Hz, 1 H), 8.22 (d, J1=2.8 Hz, 1 H), 8.20 (s, 1 H), 7.75(s, 1H), 7.44 (s, 2 H), 5.1 (s (broad), 1 H (N-H)), 2.84-2.88 (m, 1H), 2.25 (s, 6 H), 0.78-0.81 (m, 2 H), 0.59-0.63 (m, 2 H).

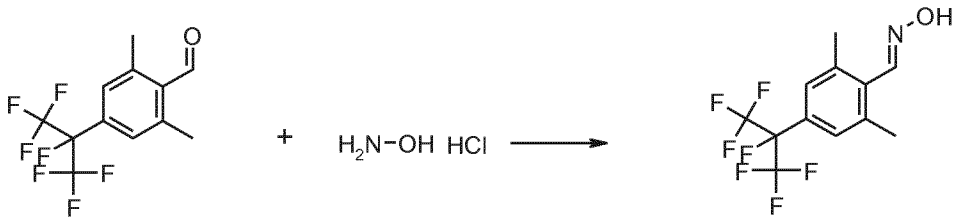
Preparation process I-T22

Example I-T22-1:

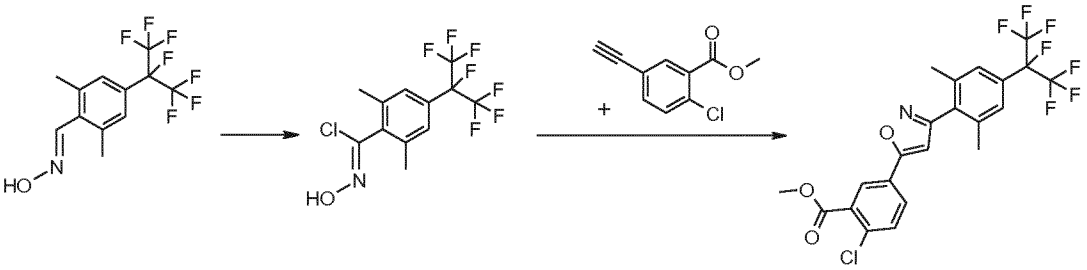


The preparation of 2,6-dimethyl-4-heptafluoroisopropylbromobenzene is described in US2003/187233, p. 6 [0080].

In a 25 ml three-neck flask, 158 mg (6.5 mg atom) of magnesium turnings were covered with dry tetrahydrofuran (THF). Then a few drops of a solution of 1.75 g (4.95 mmol) of 2,6-dimethyl-4-heptafluoroisopropylbromobenzene in 2.5 ml of dry THF were added. To start the reaction, a crumb of iodine was added and the mixture was heated to about 60°C. After the reaction had started, the rest of the solution of the 2,6-dimethyl-4-heptafluoroisopropylbromobenzene was added dropwise at about 60°C. After the addition had ended, stirring was continued at 60°C for another hour, then the mixture was cooled to 0°C and a solution of 1.09 g (14.8 mmol) of dimethylformamide in 2.5 ml of dry THF was added dropwise. Then the mixture was allowed to come to room temperature. For workup, excess saturated aqueous ammonium chloride solution was added, the phases were separated, and the aqueous phase was re-extracted with ethyl acetate. The combined organic phases were washed with saturated sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. As residue, 1.3 g of crude 2,6-dimethyl-4-heptafluoroisopropylbenzaldehyde (purity about 80%) remained, which were used further without purification.

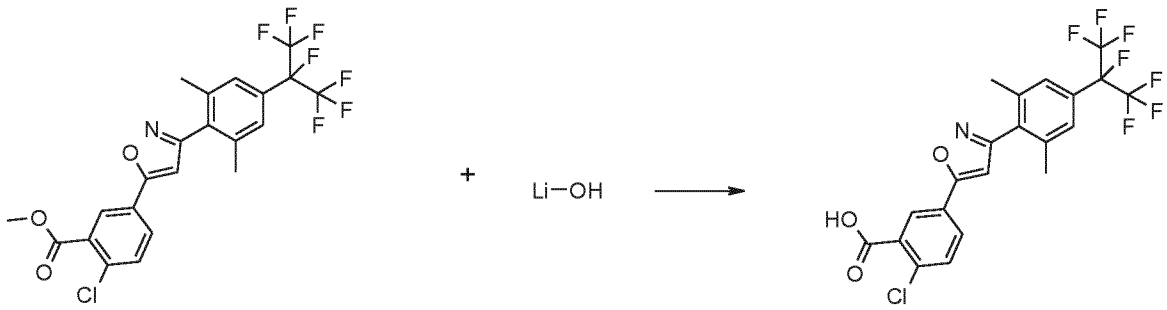


1.3 g (about 3.44 mmol) of crude 2,6-dimethyl-4-heptafluoroisopropylbenzaldehyde were dissolved in 26 ml of methanol, 361 mg (4.3 mmol) of sodium hydrogencarbonate were added and the mixture was cooled to 0°C. Thereafter, 1.2 g (17.2 mmol) of hydroxylammonium chloride were added and the mixture was stirred at room temperature overnight. For workup, the mixture was concentrated on a rotary evaporator under reduced pressure, and the residue was taken up in 100 ml of ethyl acetate. Undissolved constituents were filtered off and the filtrate was concentrated on a rotary evaporator under reduced pressure. The residue was then purified by chromatography using a 40 g cartridge containing silica and a gradient proceeding from pure cyclohexane to 70:30 (v/v) cyclohexane/ethyl acetate. 0.5 g of 2,6-dimethyl-4-heptafluoroisopropylbenzaldehyde oxime was obtained.

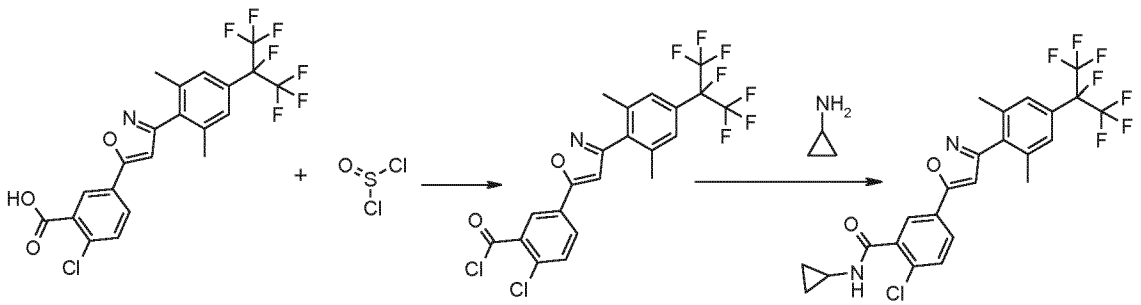


505 mg (1.59 mmol) of 2,6-dimethyl-4-heptafluoroisopropylbenzaldehyde oxime were initially charged in 3.5 ml of dimethylformamide (DMF), and 234 mg (1.75 mmol) of N-chlorosuccinimide were added. The mixture was stirred at room temperature for 3.5 hours. Then the mixture was cooled to 0°C and a

solution of 310 mg (1.59 mmol) of methyl 2-chloro-5-ethynylbenzoate (prepared according to WO2012/107434, p. 103) in 1.5 ml of DMF was added dropwise, followed by 355 mg (3.5 mmol) of triethylamine. The reaction mixture was then stirred at room temperature overnight. For workup, the mixture was poured onto water and extracted twice with dichloromethane, and the combined extracts were washed with water, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. For purification, purification was effected using a 40 g cartridge containing silica gel and a gradient proceeding from pure cyclohexane to 80:20 (v/v) cyclohexane/ethyl acetate. 488 mg of methyl 2-chloro-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-5-yl]benzoate were obtained.



0.8 g (1.56 mmol) of methyl 2-chloro-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-5-yl]benzoate were initially charged in a mixture of 18 ml of dioxane and 6.5 ml of water, 86 mg (2.04 mmol) of lithium hydroxide monohydrate were added and the mixture was stirred at room temperature overnight. For workup, the mixture was concentrated under reduced pressure and the residue was partitioned between a mixture of dilute hydrochloric acid and dichloromethane. The organic phase was removed; the aqueous phase was extracted first with dichloromethane, then with ethyl acetate. The combined organic phases were washed with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. 680 mg of 2-chloro-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-5-yl]benzoic acid were obtained.



680 mg (1.37 mmol) of 2-chloro-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-5-yl]benzoic acid were dissolved in 7 ml of toluene, and 0.5 ml (6.89 mmol) of thionyl chloride were added. The mixture was heated to 80°C for two hours and then

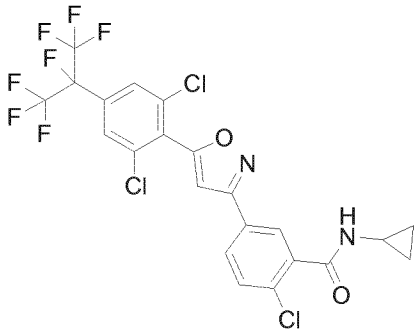
concentrated on a rotary evaporator under reduced pressure. 200 mg (0.38 mmol) of the crude acid chloride thus obtained were dissolved in 1 ml of dichloromethane and added dropwise to a solution of 56 mg (0.97 mmol) of cyclopropylamine in 0.95 ml of dichloromethane at room temperature. The mixture was then stirred at room temperature overnight. For workup, the mixture was poured onto 5% aqueous sodium dihydrogenphosphate solution, and the organic phase was removed, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. For purification, the residue was chromatographed using a cartridge containing 15 g of silica gel and a gradient from pure cyclohexane to 80:20 (v/v) cyclohexane/ethyl acetate. 165 mg of 2-chloro-N-cyclopropyl-5-[3-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-5-yl]benzamide (compound **I-T22-1**) were obtained.

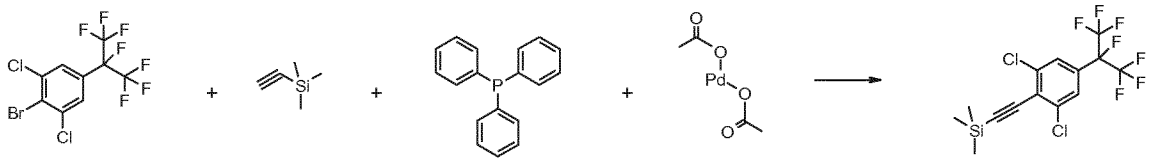
HPLC-MS[a)]: logP = 4.75, mass (m/z) = 535 [M+H]+.

^{1}H NMR (400 MHz, d_3-acetonitrile): δ (ppm) = 7.93 (d, J=2.2 Hz, 1 H), 7.89 (dd, J1=8.4 Hz, J2=2.2 Hz, 1H), 7.6 (d, J=8.4 Hz, 1H), 7.49 (s, 2 H), 7.03 (s (broad), 1 H (N-H)), 6.86 (s, 1 H), 2.83-2.88 (m, 1H), 0.75-0.79 (m, 2 H), 0.59-0.62 (m, 2 H).

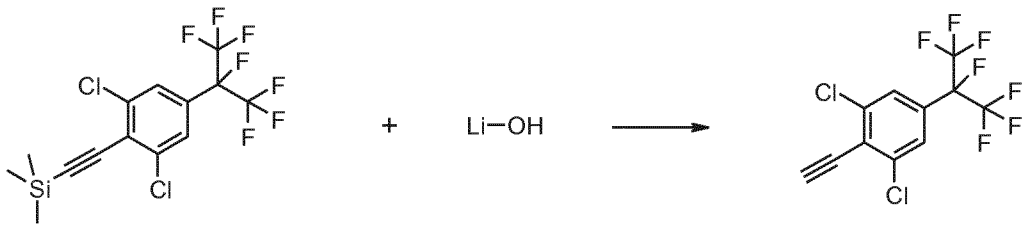
Preparation process I-T23

Example I-T23-1:





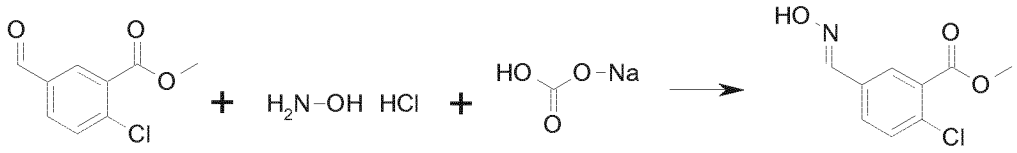
3 g (7.61 mmol) of 2-bromo-1,3-dichloro-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene (for preparation see EP 1 253 128, page 10), 1.21 g (12.3 mmol) of ethynyltrimethylsilane, 86 mg (0.38 mmol) of palladium(II) acetate and 260 mg (1.0 mmol) of triphenylphosphine were initially charged in 20 ml of dry triethylamine and heated to reflux. After concentrating the volume on a rotary evaporator at 30°C, the residue was admixed with 20 ml of saturated sodium hydrogencarbonate solution and extracted three times with dichloromethane. The combined extracts were washed with 5% aqueous NaH2PO4 solution and then with saturated sodium chloride solution. After drying the solution with sodium sulphate and concentrating the volume on a rotary evaporator at 30°C, purification was effected by means of chromatography on silica gel with cyclohexane as eluent. Yield: 1.4 g of 2-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]ethynyltrimethylsilane in a purity of about 50% (LC-MS area).



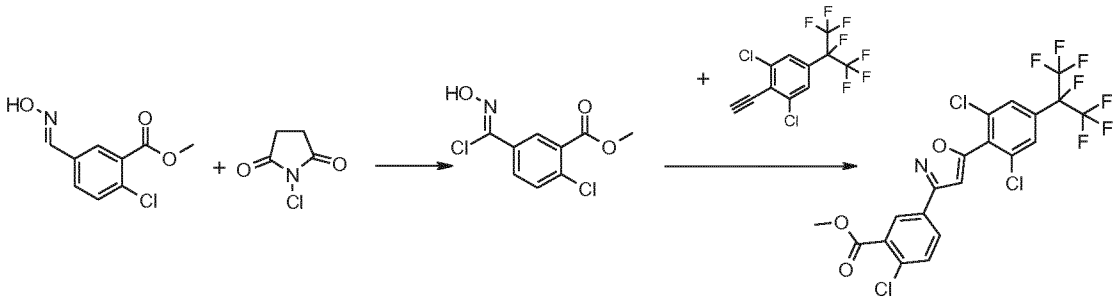
1.4 g (3.4 mmol) of 2-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]ethynyltrimethylsilane were dissolved in 7 ml of tetrahydrofuran, and a mixture of 7 ml of methanol and 214 mg (5.1 mmol) of lithium hydroxide monohydrate was added at room temperature. The reaction solution was concentrated on a rotary evaporator and the residue was taken up with a mixture of dichloromethane and water. The organic phase was removed, dried with

sodium sulphate and concentrated on a rotary evaporator under reduced pressure, and gave 880 mg of about 50% 1,3-dichloro-2-ethynyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene.

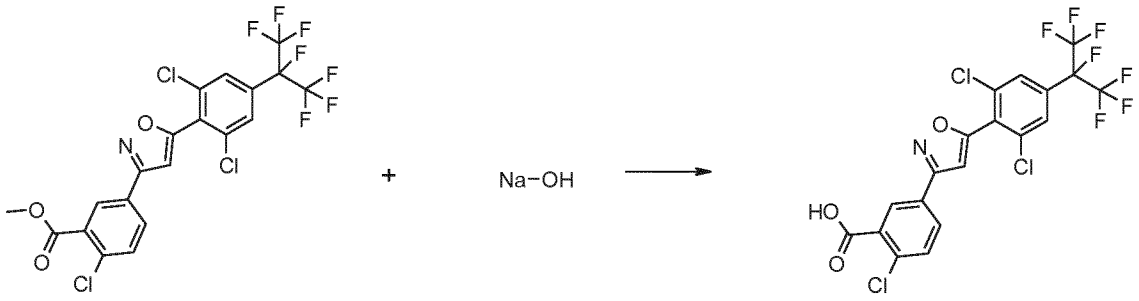
The preparation of 4-chloro-3-carbomethoxybenzaldehyde has already been described in the literature (see, for example, WO 2010/011584, p. 19-20).



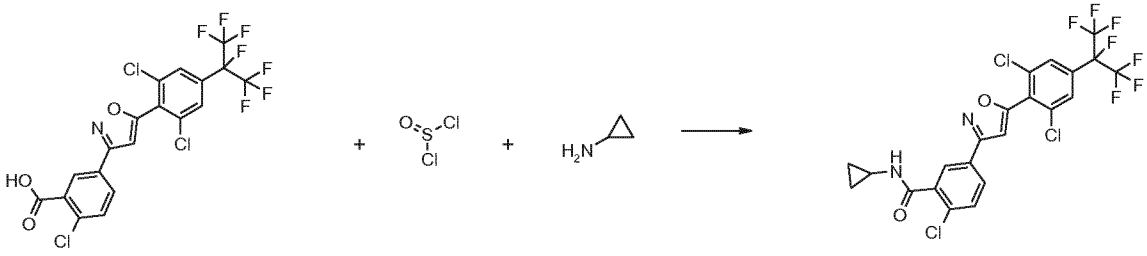
4.1 g (20.6 mmol) of 4-chloro-3-carbomethoxybenzaldehyde were dissolved in 82 ml of methanol, 1.734 mg (20.6 mmol) of sodium hydrogencarbonate were added and the mixture was cooled to 0°C. Then 5.738 g (82.5 mmol) of hydroxylamine hydrochloride were added and the mixture was stirred. For workup, the mixture was concentrated on a rotary evaporator, and the residue was taken up in 100 ml of ethyl acetate. The solids were filtered off and the filtrate was concentrated on a rotary evaporator under reduced pressure. For purification, the residue was chromatographed with silica gel by means of a gradient in 9:1 to 7:3 (v/v) cyclohexane/ethyl acetate, and gave 2.68 g of ethyl 2-chloro-5-[(E)-hydroxyiminomethyl]benzoate.



277 mg (1.29 mmol) of ethyl 2-chloro-5-[(E)-hydroxyiminomethyl]benzoate were initially charged in 4.6 ml of dimethylformamide, 381 mg (2.84 mmol) of N-chlorosuccinimide were added, and the mixture was stirred at room temperature. The mixture was then cooled to 0°C with an ice bath, and a solution of 880 mg (about 50% strength, 1.29 mmol) of 1,3-dichloro-2-ethynyl-5-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]benzene in 1.5 ml of dimethylformamide was added dropwise, followed by 289 mg (2.85 mmol) of triethylamine. The mixture was stirred at room temperature. For workup, the reaction was diluted with water and extracted twice with dichloromethane. The combined extracts were washed with water, dried with sodium sulphate and concentrated on a rotary evaporator. The residue was purified by two chromatography runs on silica with a gradient proceeding from pure cyclohexane to 80:20 (v/v) cyclohexane/ethyl acetate as eluent, and gave 410 mg of methyl 2-chloro-5-[5-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-3-yl]benzoate.



410 mg (0.74 mmol) of methyl 2-chloro-5-[5-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-3-yl]benzoate were initially charged in 21 ml of methanol, 0.74 ml (0.74 mmol) of 1M sodium hydroxide solution were added and the mixture was stirred under reflux. Subsequently, the methanol was removed on a rotary evaporator. The residue was admixed with dilute hydrochloric acid and extracted three times with ethyl acetate. The combined extracts were dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. 405 mg of 2-chloro-5-[5-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-3-yl]benzoic acid were obtained as residue.

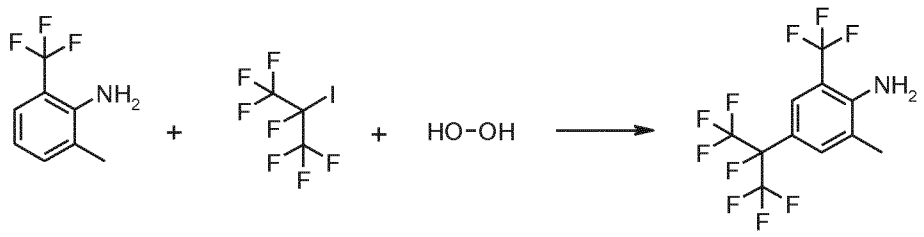


125 mg (0.23 mmol) of 2-chloro-5-[5-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-3-yl]benzoic acid were dissolved in 1.1 ml of dry toluene, and 0.14 g (1.16 mmol) of thionyl chloride was added. The mixture was heated to 80°C and then concentrated on a rotary evaporator. The residue was dissolved in 0.25 ml of dichloromethane and added dropwise to a solution of 33 mg (0.58 mmol) of cyclopropylamine in 0.75 ml of dichloromethane at 0°C, and the mixture was stirred at room temperature for 2 hours. For workup, 5% aqueous sodium dihydrogenphosphate solution was added and then the organic phase was removed. The organic phase was dried with sodium sulphate and concentrated on a rotary evaporator. The residue was purified by chromatography with silica gel and 70:30 (v/v) cyclohexane/ethyl acetate as eluent. 49 mg of 2-chloro-N-cyclopropyl-5-[5-[2,6-dichloro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]isoxazol-3-yl]benzamide (compound **I-T23-1**) were obtained.

HPLC-MS[a)]: logP = 4.96, mass (m/z) = 575 [M+H]+.

^{1}H NMR (400 MHz, d_3-acetonitrile): δ = 7.96 (s, 1 H), 7.94-7.96 (dd, J1=8.4 Hz, J2=2.2 Hz, 1H), 7.86 (s, 2 H), 7.6 (d, J1=7.6 Hz, J2=1.2, 1 H), 7.15 (s, 1 H), 6.9 (s (broad), 1 H (N-H)), 3.97 (s, 3 H), 2.83-2.88 (m, 1H), 0.75-0.79 (m, 2 H), 0.58-0.62 (m, 2 H).

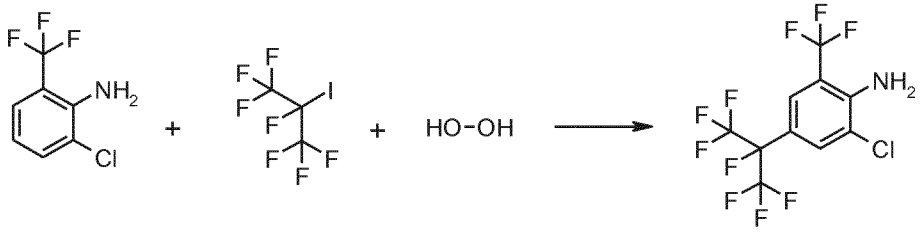
Process 1 Example 4-heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline



D-1a

A three-neck flask was initially charged with 17.48 g (100 mmol) of 2-methyl-6-trifluoromethylaniline in 498 ml of dimethyl sulphoxide, and then 44.3 g (21.095 ml, 150 mmol) of 2-iodoheptafluoropropane, 29.9 ml (29.9 mmol) of 1 molar iron(II) sulphate solution in water and 5.43 ml (104 mmol) of 96% sulphuric acid were added. The mixture was then degassed with argon and then a syringe pump was used to add 20.4 ml of 30% aqueous hydrogen peroxide solution dropwise within 15 minutes. The temperature rose to 54°C. Towards the end of the dropwise addition, the mixture was heated briefly to 60°C. The mixture was stirred for a further 20 minutes without heating, in the course of which the temperature fell to 36°C. For workup, the mixture was poured onto saturated aqueous sodium hydrogencarbonate solution and the product was extracted with ethyl acetate. The combined extracts were washed first with water and then with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. For purification, chromatography was effected in two portions through a column containing 120 g of silica gel and a gradient from pure cyclohexane to 95:5 cyclohexane/ethyl acetate (v/v). 18.9 g of 4-heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline were obtained.

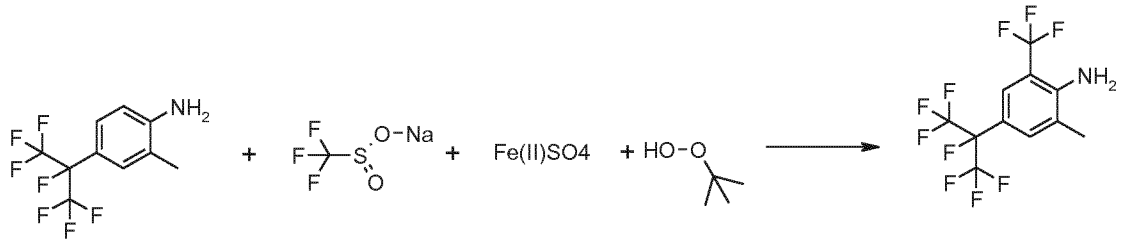
Analogously, 2-chloro-4-heptafluoroisopropyl-6-trifluoromethylaniline was also obtained proceeding from 2-chloro-6-trifluoromethylaniline and 2-iodoheptafluoropropane:



A three-neck flask was initially charged with 30 g (0.153 mol) of 2-chloro-6-trifluoromethylaniline (commercially available) in 765 ml of dimethyl sulphoxide (DMSO), and then 68.1 g (0.23 mol) of 2-iodoheptafluoropropane, 46 ml of a 1 molar aqueous iron(II) sulphate solution and 15.4 g of 98% sulphuric acid were added. The mixture was degassed with argon and then a syringe pump was used to add 34.8 g of 30% aqueous hydrogen peroxide solution dropwise within 30 minutes. In the course of this, the temperature rose to 70°C. The mixture was stirred for a further 20 minutes, in the course of which the temperature fell to 30°C. The reaction mixture was then poured onto saturated aqueous

sodium hydrogencarbonate solution and extracted with ethyl acetate. The combined extracts were washed first with water, then with saturated aqueous bisulphite solution and saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. For purification, chromatography was effected using a cartridge containing 330 g of silica gel and a gradient proceeding from pure cyclohexane to 90:10 (v/v) cyclohexane/ethyl acetate. 46.1 g of 2-chloro-4-heptafluoroisopropyl-6-trifluoromethylaniline were obtained.

Process 2 Example 4-heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline



D-1a

In a 1000 ml three-neck flask, 25 g (91 mmol) of 4-heptafluoroisopropyl-2-methylaniline were added to a mixture of 363.4 ml of water and 181.7 ml of acetonitrile. Then 27.3 ml (27.3 mmol) of aqueous 1 molar iron(II) sulphate solution and 31.19 g (200 mmol) of sodium trifluoromethylsulphinate were added. The mixture was blanketed with argon and then 35.1 g (273 mmol) of a 70% aqueous tert-butyl hydroperoxide solution were metered in with a syringe pump within 4.5 hours without cooling. The temperature rose to 34°C. After the addition had ended, stirring was continued for another 1 hour. For workup, the mixture was poured onto 425 ml of saturated aqueous sodium hydrogensulphite solution and stirred for 15 minutes. Then 425 ml of saturated sodium hydrogen carbonate solution were added and the mixture was extracted three times with ethyl acetate. The combined organic phases were washed first with water and then with saturated aqueous sodium chloride solution, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. The crude product was chromatographed in two portions using a cartridge containing 120 g of silica gel and a cyclohexane/ethyl acetate gradient of 95:5 to 85:15 (v/v). 19.5 g of 4-heptafluoroisopropyl-2-methyl-6-trifluoromethylaniline were obtained.

HPLC-MS[a)]: logP = 4.67

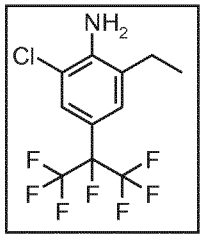
GC/MS: mass (m/z) = 343, retention time: 2.98 min, Kovats index: 1089

(Agilent 6890 GC, HP5979 MSD, 10m DB-1, iD=0.18mm, FILM=0.4µm, Inj.:250°C, const. flow: 1.6mm/min He, Det.:MSD:280°C, FID: 320°C, Oven:50°C(1 min) - 40°C/min - 320°C (3.25 min))

^{1}H NMR (AV400, 400 MHz, d_3-acetonitrile): δ (ppm) = 7.50 (s, 1 H), 7.48 (s, 1H), 5.03 (s, 2H, broad), 2.23 (s, 3 H).

Preparation of the 2-chloro-6-ethyl-4-heptafluoroisopropylaniline starting material

[642] The 2-chloro-6-ethyl-4-heptafluoroisopropylaniline starting material of the structure (**D-1b**) has not yet been described in the literature. It can be prepared by means of known chlorinating methods from 2-ethyl-4-heptafluoroisopropylaniline, which is known from literature (e.g. US2002/198399).



D-1b

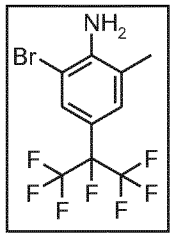
4.9 g (16.9 mmol) of 2-ethyl-4-heptafluoroisopropylaniline (prepared according to US2002/198399) were initially charged in 100 ml of chloroform, the mixture was heated to 45-50°C, and then 2.18 ml (26.7 mmol) of sulphuryl chloride, dissolved in 400 ml of chloroform, were slowly added dropwise. The mixture was stirred at 50°C overnight, then a further 0.34 ml (4.2 mmol) of sulphuryl chloride dissolved in 2 ml of chloroform was added dropwise and the mixture was stirred at 50°C for a further 3 hours. Thereafter, the mixture was cooled and the solvent was drawn off on a rotary evaporator under reduced pressure. The residue was taken up in dichloromethane, washed first with sodium hydrogensulphite and then with dilute sodium hydroxide solution, and dried with sodium sulphate, and the solvent was distilled off on a rotary evaporator under reduced pressure. For purification, chromatography was effected using a cartridge containing 120 g of silica gel with a gradient proceeding from pure cyclohexane to 90:10 cyclohexane/ethyl acetate (v/v). 4.25 g of 2-chloro-6-ethyl-4-heptafluoroisopropylaniline were obtained.

HPLC-MS[a)]: logP = 4.67, mass (m/z) = 324 [M+H]+.

^{1}H NMR (AV400, 400 MHz, d_3-acetonitrile): δ (ppm) = 7.84 (s, 1 H), 7.82 (s, 1H), 7.53-7.56 (s, 2H, broad), 2.37 (q, J = 7.6 Hz, 2 H), 1.06 (t, J = 7.6 Hz, 3 H).

Preparation of the 2-bromo-6-methyl-4-heptafluoroisopropylaniline starting material

The 2-bromo-6-methyl-4-heptafluoroisopropylaniline starting material of the structure (**D-1c**) has not yet been described in literature. It can be prepared by means of known brominating methods (e.g. EP2319830, p. 327) from 2-methyl-4-heptafluoroisopropylaniline, which is known from literature (e.g. US2004/92762).



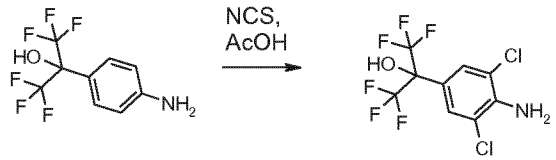
D-1c

3.4 g (12.356 mmol) of 2-methyl-4-heptafluoroisopropylaniline were dissolved in 27 ml of dimethylformamide, then 2.44 g (13.6 mmol) of N-bromosuccinimide were added and the mixture was stirred at 60°C for 1 hour. The mixture was cooled, admixed with water and extracted three times with 15 ml each time of n-hexane. The combined organic phases were washed with water, dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. Chromatography using a 120 g cartridge containing silica gel with a gradient beginning with pure cyclohexane to 90:10 cyclohexane/ethyl acetate (v/v) gave 2.44 g of 2-bromo-6-ethyl-4-heptafluoroisopropylaniline.

HPLC-MS[a)]: logP = 4.38, mass (m/z) = 354 [M+H]+.

^{1}H NMR (AV400, 400 MHz, d_3-acetonitrile): δ (ppm) = 7.51 (s, 1 H), 7.23 (s, 1H), 4.86 (s, 2H, broad), 2.23 (s, 3 H).

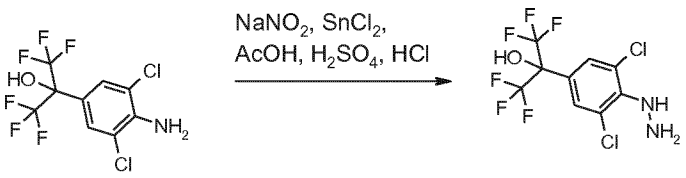
Preparation of the starting compound 2-(3,5-dichloro-4-hydrazinophenyl)-1.1,1.3.3,3-hexafluoropropan-2-ol



To a solution of 2-(4-aminophenyl)-1,1,1,3,3,3-hexafluoropropan-2-ol (2.50 g, 9.64 mmol) (preparation, for example, W. A. Sheppard, *J. Am. Chem. Soc.* **1965**, *87*, 2410–2420) in glacial acetic acid (40 ml) was added, at RT, *N*-chlorosuccinimide (2.71 g, 20.2 mmol). The mixture was stirred at 75°C for 3 h and then at RT for 14 h. Subsequently, the mixture was added to water and extracted with EtOAc. The organic phase was washed with water and saturated aqueous $NaHCO_3$ solution and dried over magnesium sulphate. After solvent had been removed, the residue was taken up in MTBE and the solids were filtered off. The filtrate was concentrated under reduced pressure and the crude product was purified by means of column chromatography on SiO_2 (*n*-hexane/EtOAc gradient). 2.89 g (91%) of 2-(4-amino-3,5-dichlorphenyl)-1,1,1,3,3,3-hexafluoropropan-2-ol were obtained.

HPLC-MS[a)]: logP = 3.04, mass (m/z) = 328 $[M+H]^+$.

^{1}H NMR (400 MHz, d_3-acetonitrile): δ = 5.13 (br s, 2 H), 6.02 (br s, 1 H), 7.51 (s, 2 H).

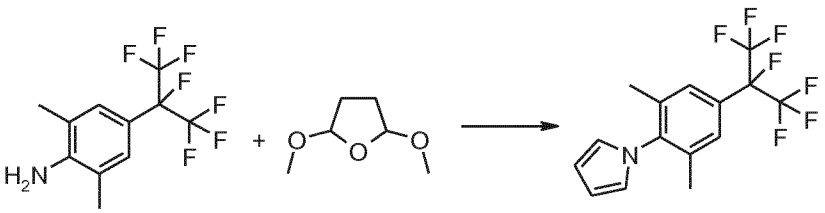


To a solution, heated to 55°C, of 2-(4-amino-3,5-dichlorphenyl)-1,1,1,3,3,3-hexafluoro-propan-2-ol (1.88 g, 5.73 mmol) in 5 ml of glacial acetic acid was added dropwise a solution of sodium nitrite (455 mg, 6.59 mmol) in 2.5 ml of sulphuric acid, and the mixture was stirred at this temperature for a further hour. Subsequently, the mixture was cooled to 0°C and a solution of tin(II) chloride (3.37 g, 17.7 mmol) in conc. HCl (10 ml) was added dropwise. The mixture was stirred at 0°C for a further hour, then added to ice, alkalized with sodium hydroxide solution and extracted with EtOAc. The organic phase was washed with saturated sodium chloride solution and dried over magnesium sulphate, and the solvent was removed under reduced pressure. 1.41 g (90% pure, 64% of theory) of 2-(3,5-dichloro-4-hydrazinophenyl)-1,1,1,3,3,3-hexafluoropropan-2-ol were obtained.

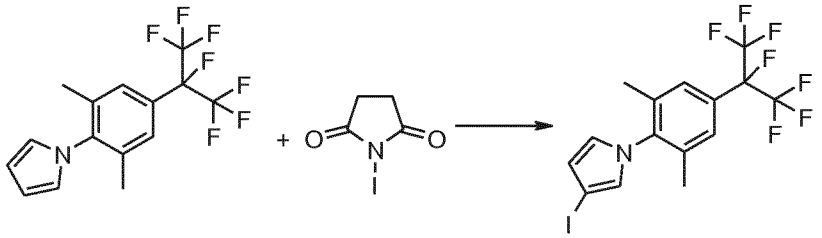
HPLC-MS[a)]: logP = 1.92, mass (m/z) = 343 $[M+H]^+$.

^{1}H NMR (600 MHz, d_3-acetonitrile): δ = 4.14 (br s, 2 H), 5.90 (br s, 1 H), 6.50 (br s, 1 H), 7.58 (s, 2 H).

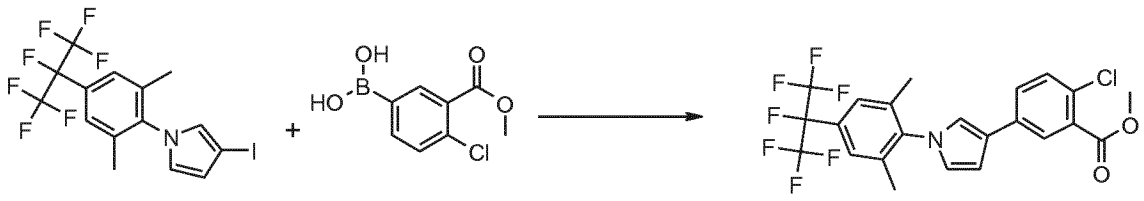
Examples I-T46-1



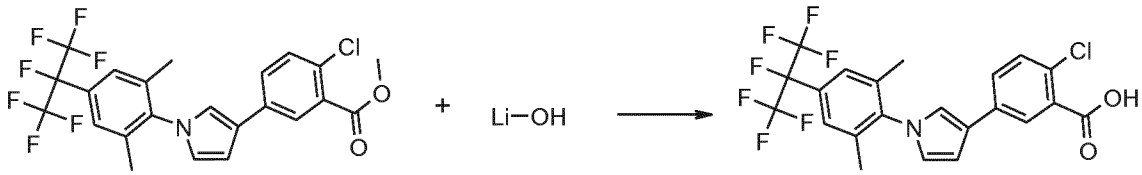
10 g (34.6 mmol) of 2,6-Dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]aniline were initially charged in 60 ml of glacial acetic acid, and 5.02 g (38.04 mmol) of 2,6-dimethoxy-tetrahydrofuran were added. The resultant solution was heated at 120°C for two hours. Subsequently, it was cooled a little and the volatile constituents were evaporated off on a rotary evaporator under reduced pressure. The residue was stirred with water and the solids were filtered off with suction. The filtercake was then dissolved in dichloromethane, and the solution was dried with sodium sulphate and concentrated on a rotary evaporator under reduced pressure. 10.38 g of 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrole were obtained.



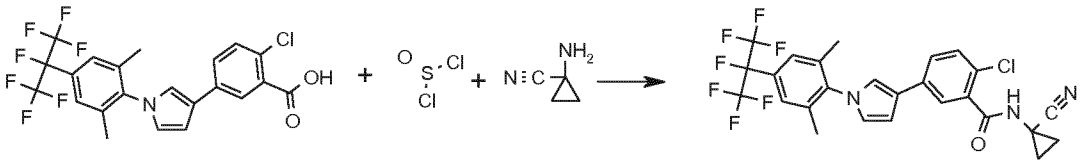
1.5 g (4.293 mmol) 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-pyrrole were dissolved in 60 ml of n-hexane, and 966 mg (4.3 mmol) of N-iodosuccinimide were added. Subsequently, the mixture was allowed to come to room temperature and stirred at room temperature for 6 days. Then a further 242 mg (1.1 mmol) of N-iodosuccinimide were added and the mixture was stirred at room temperature overnight. Subsequently, excess aqueous sodium hydrogen-sulphite solution and a little ethyl acetate were added. The organic phase was removed and first washed twice with aqueous sodium hydrogensulphite solution, then with saturated sodium chloride solution, dried with sodium sulphate and concentrated. For purification, chromatography was effected using a cartridge containing 120 g of silica gel and a gradient proceeding from pure cyclohexane to 95:5 cyclohexane/ethyl acetate (v/v). 453 mg of a mixture of 80% 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-3-iodopyrrole and 16% 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-2-iodopyrrole were obtained.



998 mg (1.696 mmol) of a mixture of 80% 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-3-iodopyrrole and 16% 1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-2-iodopyrrole and 364 mg (1.7 mmol) of 4-chloro-3-(methoxy-carbonyl)phenylboronic acid were initially charged in 10 ml of 2-propanol. Thereafter, the air was displaced by argon, and 5.2 ml of 1 molar aqueous sodium hydrogencarbonate solution and 98 mg (0.085 mmol) of tetrakis(triphenylphosphine)palladium(0) were added under argon. Subsequently, the mixture was heated to reflux for 3 hours. For workup, the mixture was cooled a little, then concentrated on a rotary evaporator under reduced pressure. The residue was partitioned between ethyl acetate and water. The organic phase was removed, washed with saturated sodium chloride solution and concentrated on a rotary evaporator under reduced pressure. 1.57 g of crude methyl 2-chloro-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrol-3-yl]benzoate were obtained.



416 mg (0.33 mmol, about 40% pure) of crude methyl 2-chloro-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrol-3-yl]benzoate are initially charged in a mixture of 18 ml of dioxane and 6 ml of water, and 61 mg (1.46 mmol) of lithium hydroxide hydrate are added. The mixture was stirred at room temperature until dissolution was complete, then heated under reflux for 2 hours. The mixture was then concentrated on a rotary evaporator under reduced pressure, and the residue was admixed with a little water and adjusted to pH 1 with concentrated hydrochloric acid. The mixture was then extracted twice with ethyl acetate, and the combined extracts were washed with saturated sodium chloride solution, dried with sodium sulphate and concentrated. As residue, there remained 207 mg of crude 2-chloro-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrol-3-yl]-benzoic acid.

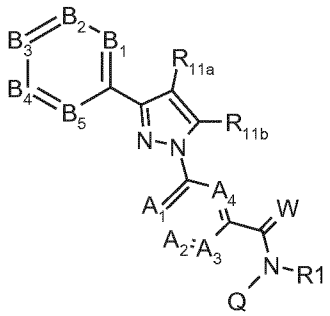


137 mg (0.11 mmol, purity about 38%) of crude 2-chloro-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrol-3-yl]benzoic acid were dissolved in 15 ml of toluene, and 230 mg (1.93 mmol) of thionyl chloride were added. The mixture was heated to reflux for 3 hours. Thereafter, all the volatile components were drawn off on a rotary evaporator under reduced pressure. The residue was taken up in 4 ml of dichloromethane and added dropwise to a mixture of 82 mg (0.69 mmol) of 1-cyanocyclopropylamine hydrochloride and 98 mg (0.96 mmol) of triethylamine in 2 ml of dichloromethane at 0°C. Subsequently, the mixture was stirred at room temperature overnight. For workup, the mixture was washed with 5% aqueous sodium dihydrogenphosphate solution, then with saturated sodium chloride solution, and the organic phase was dried with sodium sulphate and concentrated. The residue was chromatographed using a cartridge containing 15 g of silica gel and 85:15 cyclohexane/ethyl acetate (v/v). The fractions containing the product were concentrated and purified by means of preparative HPLC (Zorbax Eclipse Plus C18 1.8 µm, 50x4.6mm in a gradient in acetonitrile/0.1% aqueous H_3PO_4. 13 mg of 2-chloro-N-cyclopropyl-5-[1-[2,6-dimethyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]pyrrol-3-yl]benzamide (compound **I-T46-1**) were obtained.

HPLC-MS[a)]: logP = 4.90, mass (m/z) = 558 [M+H]+.

^{1}H NMR (400 MHz, d_3-acetonitrile): δ = 7.63-7.67 (m, 2 H), 7.56 (s (broad), 1 H (N-H)), 7.51 (s, 2H), 7.41 (d, J=8.3 Hz, 1 H), 7.16-7.17 (m, 1 H), 6.75-6.77 (m, 1 H), 6.72-6.73 (m, 1 H), 2.14 (s, 6H), 1.55-1.59 (m, 2 H), 1.32-1.39 (m, 2 H).

Table I-T2



I-T2

B_2 and B_4 = C-H, W = O

Ex. No.	B_1	B_3	B_5	R_1	R_{11a}	R_{11b}	A_1	A_2	A_3	A_4	Q	logP[a)]	Mass [m/z] [a)1)]
I-T2-1	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	H	C-H	C-H	C-Cl	C-H	cyclopropyl	4.9	534
I-T2-2	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	H	C-H	C-H	C-Cl	C-H	1-(cyano)cyclopropyl	4.8	559

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	$logP^{a)}$	Mass [m/z] a)1)
I-T3-1	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	534
I-T3-2	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	577
I-T3-3	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.2	559
I-T3-4	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.7	566
I-T3-5	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(trifluoromethyl)cyclopropyl	4.6	602
I-T3-6	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	2-oxo-2-(2,2,2-trifluoroethylamino)-ethyl	4.1	633
I-T3-7	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	cyclopropyl	3.4	501
I-T3-8	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	1-(cyano)cyclopropyl	3.4	526
I-T3-9	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-H	CF	O	H	cyclopropyl	4.3	518
I-T3-10	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-H	CF	O	H	1-(cyano)cyclopropyl	4.2	543
I-T3-11	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-Cl	C-H	C-F	C-H	O	H	cyclopropyl	4.9	552
I-T3-12	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-Cl	C-H	C-F	C-H	O	H	1-(cyano)cyclopropyl	4.7	577
I-T3-13	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	CF	C-H	C-H	C-H	O	H	cyclopropyl	4.5	518
I-T3-14	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	CF	C-H	C-Cl	C-H	O	H	cyclopropyl	4.5	552
I-T3-15	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-CF_3	C-H	C-H	O	H	cyclopropyl	4.9	568
I-T3-16	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-CH_3	C-H	C-H	C-H	O	H	cyclopropyl	4.4	514
I-T3-17	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	CF	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.4	577

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	$logP^{a)}$	Mass [m/z] a)1)
I-T3-18	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-CF_3	C-H	C-H	O	H	1-(cyano)cyclopropyl	4.7	593
I-T3-19	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	CF	C-H	C-H	C-H	O	H	1-(cyano)cyclopropyl	4.3	543
I-T3-20	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.8	535
I-T3-21	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.7	560
I-T3-22	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-H	C-F	O	H	1-(cyano)cyclopropyl	4.1	583
I-T3-23	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.2	599
I-T3-24	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	574
I-T3-25	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	616
I-T3-26	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	$CH_2CH_2CF_3$	4.7	630
I-T3-27	C-CH_3	C-CF_3	C-CH_3	H	H	C-H	C-H	C-Cl	H	O	H	1-(cyano)cyclopropyl	3.4	499
I-T3-28	C-CH_3	C-CF_3	C-CH_3	H	H	C-H	C-H	C-Cl	H	O	H	cyclopropyl	3.5	474
I-T3-29	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	cyclopropyl	3.3	541
I-T3-30	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	1-(cyano)cyclopropyl	3.2	566
I-T3-31	C-Cl	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	540
I-T3-32	C-Cl	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	582
I-T3-33	C-Cl	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	$CH_2CH_2CF_3$	4.7	596
I-T3-34	C-OCF_3	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.6	615
I-T3-35	C-OCF_3	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.7	590
I-T3-36	C-OCF_3	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	5.0	632
I-T3-37	C-OCF_3	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.9	622

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	$logP^{a)}$	Mass [m/z] a)1)
I-T3-38	C-C_2H_5	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.5	559
I-T3-39	C-C_2H_5	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.6	534
I-T3-40	C-C_2H_5	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.9	576
I-T3-41	C-C_2H_5	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.9	566
I-T3-42	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.8	575
I-T3-43	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.8	600
I-T3-44	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.7	548
I-T3-45	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	5.0	590
I-T3-46	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.6	573
I-T3-47	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	5.0	580
I-T3-48	C-F	C-CF_3	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.2	442
I-T3-49	C-F	C-CF_3	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.2	467
I-T3-50	C-F	C-CF_3	C-OCH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.1	454
I-T3-51	C-F	C-CF_3	C-OCH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.1	479
I-T3-52	C-CF_3	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	574
I-T3-53	C-CF_3	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.3	599
I-T3-54	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	588
I-T3-55	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.3	613
I-T3-56	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	608
I-T3-57	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.3	633
I-T3-58	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	650

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] a)1)
I-T3-59	C-Cl	C-CF_3	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.1	466
I-T3-60	C-Cl	C-CF_3	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.2	441
I-T3-61	C-F	C-i-C_3F_7	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.0	542
I-T3-62	C-F	C-i-C_3F_7	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.9	567
I-T3-63	C-CH_3	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	554
I-T3-64	C-CH_3	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.2	579
I-T3-65	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-F	O	H	1-(cyano)cyclopropyl	4.4	577
I-T3-66	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-F	O	H	1-(cyano)cyclopropyl	4.6	591
I-T3-67	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-F	O	H	cyclopropyl	4.4	552
I-T3-68	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-F	O	H	cyclopropyl	4.6	566
I-T3-69	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-H	C-F	O	H	1-(cyano)cyclopropyl	4.3	557
I-T3-70	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-H	C-F	O	H	cyclopropyl	4.3	532
I-T3-71	C-C_2H_5	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.5	593
I-T3-72	C-C_2H_5	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.6	568
I-T3-73	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-F	O	H	cyclopropyl	4.5	592
I-T3-74	C-C_2H_5	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-H	C-F	O	H	1-(cyano)cyclopropyl	4.1	543
I-T3-75	C-C_2H_5	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-H	C-F	O	H	cyclopropyl	4.2	518
I-T3-76	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	1-(cyano)cyclopropyl	3.4	540
I-T3-77	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	cyclopropyl	3.4	515
I-T3-78	C-C_2H_5	C-i-C_3F_7	C-H	H	H	C-H	N	C-H	C-H	O	H	1-(cyano)cyclopropyl	3.2	526
I-T3-79	C-C_2H_5	C-i-C_3F_7	C-H	H	H	C-H	N	C-H	C-H	O	H	cyclopropyl	3.3	501
I-T3-80	C-C_2H_5	C-C_2F_5	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.2	523
I-T3-81	C-C_2H_5	C-C_2F_5	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	498
I-T3-82	C-C_2H_5	C-C_2F_5	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.0	540
I-T3-83	C-C_2H_5	C-C_2F_5	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.6	530

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] a)1)
I-T3-84	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	630
I-T3-85	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.7	620
I-T3-86	C-CH_3	C-i-C_3F_7	C-Br	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.5	598
I-T3-87	C-Cl	C-OCF_3	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.6	515
I-T3-88	C-Cl	C-OCF_3	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.6	490
I-T3-89	C-Cl	C-OCF_3	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.5	481
I-T3-90	C-Cl	C-OCF_3	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.6	456
I-T3-91	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	3.3	555
I-T3-92	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclopropyl	3.4	580
I-T3-93	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(tert.butyl)cyclopropyl	4.7	588
I-T3-94	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(tert.butyl)cyclopropyl	4.7	602
I-T3-95	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.1	500
I-T3-96	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	3.3	515
I-T3-97	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclopropyl	3.4	540
I-T3-98	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.1	475
I-T3-99	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	3.5	489
I-T3-100	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.4	589
I-T3-101	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.4	549
I-T3-102	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclopropyl	4.3	614
I-T3-103	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclopropyl	4.3	574
I-T3-104	C-C_2H_5	C-i-C_3F_8	C-H	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.2	535

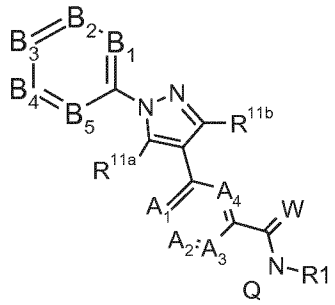
Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	$logP^{a)}$	Mass [m/z] a)1)
I-T3-105	C-C_2H_5	C-i-C_3F_8	C-H	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.1	560
I-T3-106	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.0	589
I-T3-107	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.5	603
I-T3-108	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.0	614
I-T3-109	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.2	549
I-T3-110	C-C_2H_5	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.1	574
I-T3-111	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclopropyl	4.4	628
I-T3-112	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.0	609
I-T3-113	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.0	623
I-T3-114	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.0	634
I-T3-115	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	CH_3	1-(cyano)cyclopropyl	3.8	554
I-T3-116	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclopropyl	4.3	648
I-T3-117	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	3.5	569
I-T3-118	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	3.8	583
I-T3-119	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclopropyl	3.6	594
I-T3-120	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	3.6	529
I-T3-121	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	N	C-H	C-Cl	N	O	H	cyclopropyl	4.5	536
I-T3-122	C-Cl	C-CF_3	N	H	H	C-H	C-H	C-H	C-H	O	H	cyclopropyl	3.0	407
I-T3-123	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	CH_3	1-(cyano)cyclopropyl	3.9	608
I-T3-124	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	3.5	589
I-T3-125	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-	C-H	O	H	1-(cyano)cyclopropyl	3.8	614

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] a)1)
								CH_3						
I-T3-126	C-Cl	C-i-C_3F_7	C-Cl	CN	NH_2	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.1	639
I-T3-127	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	2.5	455
I-T3-128	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	2.8	469
I-T3-129	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclopropyl	2.6	480
I-T3-130	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	3.8	603
I-T3-131	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	1-(cyano)cyclopropyl	3.9	628
I-T3-132	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	1-(cyano)cyclopropyl	2.9	494
I-T3-133	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	3.7	569
I-T3-134	C-CF_3	C-i-C_3F_7	C-H	H	H	C-H	C-H	C-Cl	C-H	O	CH_3	cyclopropyl	4.9	588
I-T3-135	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-(1-pyrrolidinyl)	C-H	O	H	cyclopropyl	4.3	610
I-T3-136	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-NHCH_3	C-H	O	H	cyclopropyl	3.5	570
I-T3-137	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-NH-cyclopropyl	C-H	O	H	cyclopropyl	3.4	596
I-T3-138	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-NH-	C-H	O	H	cyclopropyl	4.1	614

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] a)1)
								$CH_2CH_2OCH_3$						
I-T3-139	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-cyclopropyl	C-H	O	H	1-(cyano)cyclopropyl	4.1	566
I-T3-140	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-cyclopropyl	C-H	O	H	cyclopropyl	4.2	541
I-T3-141	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-OCH_3	C-H	O	H	1-(cyano)cyclopropyl	4.4	556
I-T3-142	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-cyclopropyl	C-H	O	CH_3	cyclopropyl	4.6	555
I-T3-143	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-OCH_3	C-H	O	H	cyclopropyl	4.6	531
I-T3-144	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	C-H	N	C-OCH_3	C-H	O	CH_3	cyclopropyl	4.4	545
I-T3-145	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-Cl	C-H	O	C_2H_5	cyclopropyl	3.8	503
I-T3-146	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	N-methyl-pyrazole-3-yl	2.8	515
I-T3-147	C-Cl	C-CF_3	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	C_2H_5	4.0	443
I-T3-148	C-CF_3	C-i-C_3F_7	C-Br	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.5	652
I-T3-149	C-CF_3	C-CF_3	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.5	500
I-T3-150	C-CF_3	C-CF_3	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.6	475
I-T3-151	C-Cl	C-i-C_3F_7	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.0	566

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] a)1)
I-T3-152	C-Cl	C-i-C_3F_7	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.1	541
I-T3-153	C-$S(O)C_2H_5$	C-i-C_3F_7	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.7	608
I-T3-154	C-$S(O_2)C_2H_5$	C-i-C_3F_7	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	3.8	624
I-T3-155	C-CF_3	C-i-C_3F_7	C-Br	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.4	677
I-T3-156	C-SC_2H_5	C-i-C_3F_7	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.7	567
I-T3-157	C-$S(O)C_2H_5$	C-i-C_3F_7	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.8	583
I-T3-158	C-$S(O_2)C_2H_5$	C-i-C_3F_7	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.9	599
I-T3-159	C-CF_3	C-i-C_3F_7	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(thiocarbamoyl)-cyclopropyl	3.8	668
I-T3-160	C-CF_3	C-i-C_3F_7	C-Br	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.0	653
I-T3-161	C-CF_3	C-i-C_3F_7	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	S	H	cyclopropyl	5.0	604
I-T3-162	C-OCF_3	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.6	624
I-T3-163	C-OCF_3	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.5	649

Table I-T3



I-T3

B_2 and B_4 = C-H

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-1	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	534
I-T3-2	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	577
I-T3-3	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.2	559
I-T3-4	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.7	566
I-T3-5	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(trifluoromethyl)-cyclopropyl	4.6	602
I-T3-6	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	2-oxo-2-(2,2,2-trifluoroethyl-amino)-ethyl	4.1	633
I-T3-7	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	cyclopropyl	3.4	501

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-8	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	1-(cyano)cyclo-propyl	3.4	526
I-T3-9	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-H	C-F	O	H	cyclopropyl	4.3	518
I-T3-10	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-H	C-F	O	H	1-(cyano)cyclo-propyl	4.2	543
I-T3-11	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-Cl	C-H	C-F	C-H	O	H	cyclopropyl	4.9	552
I-T3-12	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-Cl	C-H	C-F	C-H	O	H	1-(cyano)cyclo-propyl	4.7	577
I-T3-13	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-F	C-H	C-H	C-H	O	H	cyclopropyl	4.5	518
I-T3-14	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-F	C-H	C-Cl	C-H	O	H	cyclopropyl	4.5	552
I-T3-15	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-CF3	C-H	C-H	O	H	cyclopropyl	4.9	568
I-T3-16	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-CH_3	C-H	C-H	C-H	O	H	cyclopropyl	4.4	514
I-T3-17	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-F	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.4	577
I-T3-18	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-CF_3	C-H	C-H	O	H	1-(cyano)cyclo-propyl	4.7	593
I-T3-19	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-F	C-H	C-H	C-H	O	H	1-(cyano)cyclo-propyl	4.3	543
I-T3-20	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.8	535
I-T3-21	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.7	560
I-T3-22	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-H	C-F	O	H	1-(cyano)cyclo-propyl	4.1	583
I-T3-23	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.2	599
I-T3-24	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	574

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-25	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	616
I-T3-26	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	$CH_2CH_2CF_3$	4.7	630
I-T3-27	C-CH_3	C-H	C-CF_3	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.4	499
I-T3-28	C-CH_3	C-H	C-CF_3	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.5	474
I-T3-29	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	cyclopropyl	3.3	541
I-T3-30	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	1-(cyano)cyclo-propyl	3.2	566
I-T3-31	C-Cl	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	540
I-T3-32	C-Cl	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	582
I-T3-33	C-Cl	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	$CH_2CH_2CF_3$	4.7	596
I-T3-34	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.6	615
I-T3-35	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.7	590
I-T3-36	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	5.0	632
I-T3-37	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.9	622
I-T3-38	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.5	559
I-T3-39	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.6	534
I-T3-40	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.9	576
I-T3-41	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.9	566
I-T3-42	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.8	575
I-T3-43	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.8	600

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-44	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.7	548
I-T3-45	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	5.0	590
I-T3-46	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.6	573
I-T3-47	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	5.0	580
I-T3-48	C-F	C-H	C-CF3	C-H	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.2	442
I-T3-49	C-F	C-H	C-CF3	C-H	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.2	467
I-T3-50	C-F	C-H	C-CF3	C-H	C-OCH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.1	454
I-T3-51	C-F	C-H	C-CF3	C-H	C-OCH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.1	479
I-T3-52	C-CF_3	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	574
I-T3-53	C-CF_3	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.3	599
I-T3-54	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	588
I-T3-55	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.3	613
I-T3-56	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	608
I-T3-57	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.3	633
I-T3-58	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	650
I-T3-59	C-Cl	C-H	C-CF_3	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.1	466
I-T3-60	C-Cl	C-H	C-CF3	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.2	441
I-T3-61	C-F	C-H	C-i-C_3F_7	C-H	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.0	542
I-T3-62	C-F	C-H	C-i-C_3F_7	C-H	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.9	567

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-63	C-CH_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	554
I-T3-64	C-CH_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.2	579
I-T3-65	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-F	O	H	1-(cyano)cyclo-propyl	4.3	577
I-T3-66	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-F	O	H	1-(cyano)cyclo-propyl	4.6	591
I-T3-67	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-F	O	H	cyclopropyl	4.4	552
I-T3-68	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-F	O	H	cyclopropyl	4.8	566
I-T3-69	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-H	C-F	O	H	1-(cyano)cyclo-propyl	4.5	557
I-T3-70	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-H	C-F	O	H	cyclopropyl	4.7	532
I-T3-71	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.5	593
I-T3-72	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.6	568
I-T3-73	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-F	O	H	cyclopropyl	4.5	592
I-T3-74	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-H	C-F	O	H	1-(cyano)cyclo-propyl	4.5	543
I-T3-75	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-H	C-F	O	H	cyclopropyl	4.7	518
I-T3-76	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	1-(cyano)cyclo-propyl	3.4	540
I-T3-77	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-H	C-H	O	H	cyclopropyl	3.4	515
I-T3-78	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	N	C-H	C-H	O	H	1-(cyano)cyclo-propyl	3.8	526
I-T3-79	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	N	C-H	C-H	O	H	cyclopropyl	3.3	501
I-T3-80	C-C_2H_5	C-H	C-C_2F_5	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.2	523
I-T3-81	C-C_2H_5	C-H	C-C_2F_5	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	498
I-T3-82	C-C_2H_5	C-H	C-C_2F_5	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.0	540

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-83	C-C_2H_5	C-H	C-C_2F_5	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.6	530
I-T3-84	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	CH_2CF_3	4.7	630
I-T3-85	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	thietan-3-yl	4.7	620
I-T3-86	C-CH_3	C-H	C-i-C_3F_7	C-H	C-Br	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.5	598
I-T3-87	C-Cl	C-H	C-OCF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.6	515
I-T3-88	C-Cl	C-H	C-OCF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.6	490
I-T3-89	C-Cl	C-H	C-OCF_3	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.5	481
I-T3-90	C-Cl	C-H	C-OCF_3	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.6	456
I-T3-91	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	3.3	555
I-T3-92	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclo-propyl	3.4	580
I-T3-93	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(tert.butyl)cyclo-propyl	4.7	588
I-T3-94	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(tert.butyl)cyclo-propyl	4.7	602
I-T3-95	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.1	500
I-T3-96	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	3.3	515
I-T3-97	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclo-propyl	3.4	540
I-T3-98	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.1	475
I-T3-99	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	3.5	489
I-T3-100	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.4	589
I-T3-101	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.4	549

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-102	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclo-propyl	4.3	614
I-T3-103	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclo-propyl	4.3	574
I-T3-104	C-C_2H_5	C-H	C-i-C_3F_8	C-H	C-H	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.2	535
I-T3-105	C-C_2H_5	C-H	C-i-C_3F_8	C-H	C-H	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.1	560
I-T3-106	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.0	589
I-T3-107	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.5	603
I-T3-108	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.0	614
I-T3-109	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.2	549
I-T3-110	C-C_2H_5	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.1	574
I-T3-111	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclo-propyl	4.4	628
I-T3-112	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.0	609
I-T3-113	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.0	623
I-T3-114	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.0	634
I-T3-115	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	CH_3	1-(cyano)cyclo-propyl	3.8	554
I-T3-116	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclo-propyl	4.3	648
I-T3-117	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	3.5	569
I-T3-118	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	3.8	583
I-T3-119	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclo-propyl	3.6	594
I-T3-120	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	3.6	529

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-121	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	N	C-H	C-Cl	N	O	H	cyclopropyl	4.5	536
I-T3-122	C-Cl	C-H	C-CF_3	C-H	N	H	H	C-H	C-H	C-H	C-H	O	H	cyclopropyl	3.0	407
I-T3-123	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-CH_3	C-H	O	CH_3	1-(cyano)cyclo-propyl	3.9	608
I-T3-124	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	3.5	589
I-T3-125	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclo-propyl	3.8	614
I-T3-126	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	CN	NH_2	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.1	639
I-T3-127	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	cyclopropyl	2.5	455
I-T3-128	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	2.8	469
I-T3-129	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	1-(cyano)cyclo-propyl	2.6	480
I-T3-130	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	3.8	603
I-T3-131	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	1-(cyano)cyclo-propyl	3.9	628
I-T3-132	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	1-(cyano)cyclo-propyl	2.9	494
I-T3-133	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	CH_3	cyclopropyl	3.7	569
I-T3-134	C-CF_3	C-H	C-i-C_3F_7	C-H	C-H	H	H	C-H	C-H	C-Cl	C-H	O	CH_3	cyclopropyl	4.9	588
I-T3-135	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-(1-pyrroli-dinyl)	C-H	O	H	cyclopropyl	4.3	610
I-T3-136	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-$NHCH_3$	C-H	O	H	cyclopropyl	3.5	570
I-T3-137	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-NH-cyclo-propyl	C-H	O	H	cyclopropyl	3.4	596

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-138	C-Cl	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-NH-$CH_2CH_2OCH_3$	C-H	O	H	cyclopropyl	4.1	614
I-T3-139	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-cyclo-propyl	C-H	O	H	1-(cyano)cyclo-propyl	4.1	566
I-T3-140	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-cyclo-propyl	C-H	O	H	cyclopropyl	4.2	541
I-T3-141	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-OCH_3	C-H	O	H	1-(cyano)cyclo-propyl	4.4	556
I-T3-142	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-cyclo-propyl	C-H	O	CH_3	cyclopropyl	4.6	555
I-T3-143	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-OCH_3	C-H	O	H	cyclopropyl	4.6	531
I-T3-144	C-CH_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-OCH_3	C-H	O	CH_3	cyclopropyl	4.4	545
I-T3-145	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	C_2H_5	cyclopropyl	3.8	503
I-T3-146	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	N-methyl-pyrazol-3-yl	2.8	515
I-T3-147	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-CH_3	C-H	O	H	C_2H_5	4.0	443
I-T3-148	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Br	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.5	652
I-T3-149	C-CF_3	C-H	C-CF_3	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.5	500
I-T3-150	C-CF_3	C-H	C-CF_3	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.6	475
I-T3-151	C-Cl	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.0	566
I-T3-152	C-Cl	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.1	541
I-T3-153	C-$S(O)C_2H_5$	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.7	608
I-T3-154	C-$S(O_2)C_2H_5$	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.8	624

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-155	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Br	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.4	677
I-T3-156	C-SC_2H_5	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.7	567
I-T3-157	C-$S(O)C_2H_5$	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.8	583
I-T3-158	C-$S(O_2)C_2H_5$	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.9	599
I-T3-159	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(thiocarbamoyl)-cyclopropyl	3.8	668
I-T3-160	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Br	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.0	653
I-T3-161	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	S	H	cyclopropyl	5.0	604
I-T3-162	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.6	624
I-T3-163	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.5	649
I-T3-164	C-Cl	C-H	C-CF_3	C-H	C-CN	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.1	490
I-T3-165	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Br	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.9	678
I-T3-166	C-SCH_3	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.3	578
I-T3-167	C-SC_2H_5	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.6	592
I-T3-168	C-Cl	C-H	C-CF_3	C-H	C-NO_2	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.3	485
I-T3-169	C-Cl	C-H	C-CF_3	C-H	C-NO_2	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.2	510
I-T3-170	C-SC_2H_5	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.7	525
I-T3-171	C-SCH_2CF_3	C-H	C-i-C_3F_7	C-H	N	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.5	646

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-172	C-SC_2H_5	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.9	500
I-T3-173	C-Cl	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	N	C-OCH_3	C-H	O	CH_3	cyclopropyl	4.4	585
I-T3-174	C-Cl	C-H	C-CF_3	C-H	C-CN	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.1	465
I-T3-175	C-CH_3	C-H	C-i-C_3F_7	C-H	C-I	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.5	646
I-T3-176	C-CH_3	C-H	C-i-C_3F_7	C-H	C-I	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.4	671
I-T3-177	C-SC_2H_5	C-H	C-CF_3	C-H	C-CN	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.4	516
I-T3-178	C-$S(O_2)C_2H_5$	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.2	532
I-T3-179	C-$S(O)C_2H_5$	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.0	516
I-T3-180	C-$S(O_2)C_2H_5$	C-H	C-CF_3	C-H	C-CN	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	2.8	523
I-T3-181	C-$S(O)C_2H_5$	C-H	C-CF_3	C-H	C-CN	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	2.7	507
I-T3-182	C-$S(O)C_2H_5$	C-H	C-CF_3	C-H	C-CN	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.0	541
I-T3-183	C-$S(O_2)C_2H_5$	C-H	C-CF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.1	557
I-T3-184	C-Cl	C-F	C-CF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.6	492
I-T3-185	C-Cl	C-F	C-CF_3	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.6	517
I-T3-186	C-Cl	C-H	C-CF_3	C-H	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.6	458
I-T3-187	C-Cl	C-H	C-CF_3	C-H	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.3	483
I-T3-188	C-F	C-F	C-CF_3	C-F	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.4	503

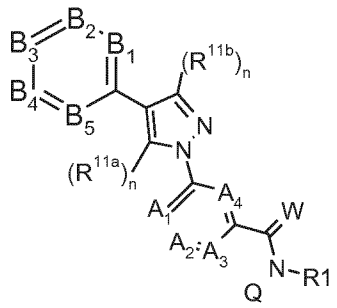
Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-189	C-OCF_3	C-H	C-i-C_3F_7	C-H	Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.3	625
I-T3-190	C-$S(O_2)C_2H_5$	C-H	C-CF_3	C-H	C-CN	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	2.9	548
I-T3-191	C-SC_2H_5	C-H	C-i-C_3F_7	C-H	C-SC_2H_5	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.7	651
I-T3-192	C-SC_2H_5	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.5	625
I-T3-193	C-CHF_2	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	590
I-T3-194	C-F	C-F	C-CF_3	C-F	C-F	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(carbamoyl)-cyclopropyl	2.8	521
I-T3-195	C-$S(O)C_2H_5$	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.8	641
I-T3-196	C-$OCHF_2$	C-H	C-i-C_3F_7	C-H	Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.9	607
I-T3-197	C-CF_3	C-H	C-i-C_3F_7	C-H	C-CH_3	H	H	C-H	N	C-Cl	C-H	O	H	(1-cyano-cyclo-propyl)methyl	4.0	628
I-T3-198	C-$S(O_2)C_2H_5$	C-H	C-i-C_3F_8	C-H	C-$S(O_2)C_2H_5$	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.7	715
I-T3-199	C-CF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	(1-cyano-cyclo-propyl)methyl	1.17 min[b)]	648
I-T3-200	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.1	650
I-T3-201	C-$S(O_2)C_2H_5$	C-H	C-i-C_3F_8	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.0	657
I-T3-202	C-SC_2H_5	C-H	C-i-C_3F_8	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.5	605
I-T3-203	C-SC_2H_5	C-H	C-i-C_3F_8	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.6	580

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-204	C-CN	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	3.9	580
I-T3-205	C-CN	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.5	566
I-T3-206	C-$S(O)C_2H_5$	C-H	C-i-C_3F_8	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.6	621
I-T3-207	C-CN	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.5	591
I-T3-208	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.6	639
I-T3-209	C-$S(O_2)C_2H_5$	C-H	C-i-C_3F_8	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.8	637
I-T3-210	C-$S(O_2)C_2H_5$	C-H	C-i-C_3F_8	C-H	C-CH_3	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	3.9	612
I-T3-211	C-OC_2H_5	C-H	C-i-C_3F_9	C-H	C-OC_2H_5	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.7	609
I-T3-212	C-I	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.3	691
I-T3-213	C-I	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.4	666
I-T3-214	C-$OCHF_2$	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.3	606
I-T3-215	C-$OCHF_2$	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.1	631
I-T3-216	C-$OCHF_2$	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	CH_3	cyclopropyl	4.7	620
I-T3-217	C-$OCHF_2$	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	4.2	621
I-T3-218	C-$OCHF_2$	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.7	632
I-T3-219	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	CH_3	cyclopropyl	5.1	638
I-T3-220	C-Cl	C-H	C-$C(CF_3)_2OH$	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	3.4	587

Ex. No.	B_1	B_2	B_3	B_4	B_5	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R1	Q	logP[a)]	Mass [m/z] [a)1)]
I-T3-221	C-Cl	C-H	C-$C(CF_3)_2$OH	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	3.0	573
I-T3-222	C-Cl	C-H	C-$C(CF_3)_2$OH	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	3.0	598
I-T3-223	C-Cl	C-H	C-$C(CF_3)_2$OH	C-H	C-Cl	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclo-propyl	3.3	612
I-T3-224	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-I	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.7	716
I-T3-225	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-I	H	H	C-H	C-H	C-Cl	C-H	O	CH_3	cyclopropyl	5.2	729
I-T3-226	C-OCF_3	C-H	C-i-C_3F_7	C-H	C-I	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.6	740
I-T3-227	C-CF_3	C-H	C-i-C_3F_7	C-H	C-I	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.5	700
I-T3-228	C-CF_3	C-H	C-i-C_3F_7	C-H	C-I	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclo-propyl	4.4	725
I-T3-229	C-CF_3	C-H	C-i-C_3F_7	C-H	C-I	H	H	C-H	C-H	C-Cl	C-H	O	CH_3	cyclopropyl	5.1	714

* b) Retention time measured with:
Instrument: Waters ACQUITY SQD UPLC system; Column: Waters Acquity UPLC HSS T3 1.8 µ 50 x 1 mm; Eluent A: 1 l water + 0.25 ml 99% strength formic acid; Eluent B: 1 l acetonitrile + 0.25 ml 99% strength formic acid; Gradient: 0.0 min 90% A → 1.2 min 5% A → 2.0 min 5% A; Furnace: 50°C; Flow rate: 0.40 ml/min; UV Detection: 208-400 nm.

Table I-T4

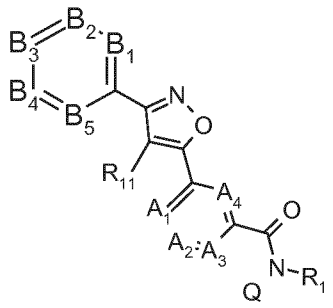


I-T4

B_2 and B_4 = C-H

Ex. No.	B_1	B_3	B_5	R_1	R^{11a}	R^{11b}	A_1	A_2	A_3	A_4	W	R_1	Q	logP[a)]	Mass [m/z] [a)I)]
I-T4-1	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	4.7	534
I-T4-2	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.6	559
I-T4-3	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.4	535
I-T4-4	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.3	560

Table I-T22

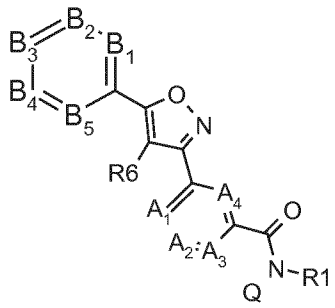


I-T22

B_2 and B_4 = C-H, W = O

Ex. No.	B_1	B_3	B_5	R_1	R_{11}	A_1	A_2	A_3	A_4	Q	logP[a)]	Mass [m/z] [a)1)]
I-T22-1	C-CH3	C-i-C_3F_7	C-CH3	H	H	C-H	C-H	C-Cl	C-H	cyclopropyl	4.8	535
I-T22-2	C-CH3	C-i-C_3F_7	C-CH3	H	H	C-H	C-H	C-Cl	C-H	1-(cyano)cyclopropyl	4.6	560
I-T22-3	C-CH3	C-i-C_3F_7	C-CH3	H	H	C-H	C-H	C-Cl	C-H	CH2CF3	5	577
I-T22-4	C-CF3	C-i-C_3F_7	C-CH3	H	H	C-H	N	C-Cl	C-H	1-(cyano)cyclopropyl	4.4	615
I-T22-5	C-CF3	C-i-C_3F_7	C-CH3	H	H	C-H	C-H	C-Cl	C-H	cyclopropyl	4.9	589
I-T22-6	C-CF3	C-i-C_3F_7	C-CH3	H	H	C-H	N	C-Cl	C-H	cyclopropyl	4.5	590
I-T22-7	C-CF3	C-i-C_3F_7	C-CH3	H	H	C-H	C-H	C-Cl	C-H	1-(cyano)cyclopropyl	4.7	614

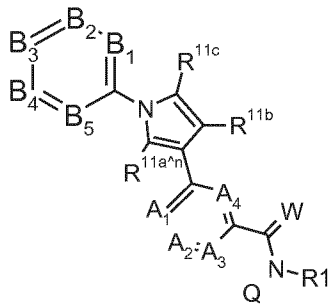
Table I-T23



B_2 and B_4 = C-H

Ex. No.	B_1	B_3	B_5	R^1	R^{11}	A_1	A_2	A_3	A_4	W	Q	logP[a)]	Mass [m/z] [a)1)]
I-T23-1	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	cyclopropyl	5.0	575
I-T23-2	C-Cl	C-i-C_3F_7	C-Cl	H	H	C-H	C-H	C-Cl	C-H	O	1-(cyano)cyclopropyl	4.8	600

Table I-T46



I-T46

B_2 and B_4 = C-H

Ex. No.	B_1	B_3	B_5	R^{11a}	R^{11b}	R^{11c}	A_1	A_2	A_3	A_4	W	R_1	Q	logP[a)]	Mass [m/z] [a)I)]
I-T46-1	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	H	C-H	C-H	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.9	558
I-T46-2	C-CH_3	C-i-C_3F_7	C-CH_3	H	H	H	C-H	C-H	C-Cl	C-H	O	H	cyclopropyl	5.0	533
I-T46-3	C-Cl	C-i-C_3F_7	C-Cl	H	H	H	C-H	N	C-Cl	C-H	O	CH_3	cyclopropyl	5.0	588
I-T46-4	C-Cl	C-i-C_3F_7	C-Cl	H	H	H	C-H	N	C-Cl	C-H	O	H	cyclopropyl	4.5	574
I-T46-5	C-Cl	C-i-C_3F_7	C-Cl	H	H	H	C-H	N	C-Cl	C-H	O	H	1-(cyano)cyclopropyl	4.4	599
I-T46-6	C-Cl	C-i-C_3F_7	C-Cl	H	H	H	C-H	N	C-Cl	C-H	O	CH_3	1-(cyano)cyclopropyl	4.8	613

NMR data of selected examples

The ^{1}H NMR data of selected examples are reported in the form of ^{1}H NMR peak lists. For each signal peak, first the δ value in ppm and then the signal intensity in round brackets are listed. The δ value – signal intensity number pairs for different signal peaks are listed with separation from one another by semicolons.

The peak list for one example therefore has the form of:

δ_1 (intensity$_1$); δ_2 (intensity$_2$);.....; δ_i (intensity$_i$);.....; δ_n (intensity$_n$)

The intensity of sharp signals correlates with the height of the signals in a printed example of an NMR spectrum in cm and shows the true ratios of the signal intensities. In the case of broad signals, several peaks or the middle of the signal and the relative intensity thereof may be shown in comparison to the most intense signal in the spectrum.

For calibration of the chemical shift of the ^{1}H NMR spectra we use tetramethylsilane and/or the chemical shift of the solvent, particularly in the case of spectra measured in DMSO. Therefore, the tetramethylsilane peak may but need not occur in NMR peak lists.

The lists of the ^{1}H NMR peaks are similar to the conventional ^{1}H NMR printouts and thus usually contain all peaks listed in conventional NMR interpretations.

In addition, like conventional ^{1}H NMR printouts, they may show solvent signals, signals of stereoisomers of the target compounds, which likewise form part of the subject-matter of the invention, and/or peaks of impurities.

In the reporting of compound signals in the delta range of solvents and/or water, our lists of 1H NMR peaks show the usual solvent peaks, for example peaks of DMSO in DMSO-D6 and the peak of water, which usually have a high intensity on average.

The peaks of stereoisomers of the target compounds and/or peaks of impurities usually have a lower intensity on average than the peaks of the target compounds (for example with a purity of > 90%).

Such stereoisomers and/or impurities may be typical of the particular preparation process. Their peaks can thus help in this case to identify reproduction of our preparation process with reference to "by-product fingerprints".

An expert calculating the peaks of the target compounds by known methods (MestreC, ACD simulation, but also with empirically evaluated expected values) can, if required, isolate the peaks of the target

compounds, optionally using additional intensity filters. This isolation would be similar to the relevant peak picking in conventional 1H NMR interpretation.

Further details of 1H NMR peak lists can be found in Research Disclosure Database Number 564025.

Beispiel I-T2-1: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,297 (5,2); 8,291 (5,1); 7,846 (9,6); 7,825 (3,3); 7,818 (2,0); 7,545 (3,5); 7,525 (2,9); 7,523 (2,8); 7,443 (9,1); 6,977 (1,2); 6,544 (5,1); 6,538 (4,9); 4,085 (0,4); 4,068 (1,3); 4,050 (1,4); 4,032 (0,5); 3,440 (0,4); 3,374 (0,4); 2,862 (0,8); 2,853 (1,2); 2,844 (1,9); 2,834 (1,8); 2,826 (1,3); 2,816 (0,9); 2,240 (41,5); 2,150 (23,6); 2,086 (3,2); 1,972 (6,1); 1,965 (1,2); 1,958 (2,9); 1,953 (13,9); 1,947 (24,8); 1,941 (32,9); 1,934 (22,7); 1,928 (11,7); 1,436 (16,0); 1,269 (0,5); 1,221 (1,6); 1,204 (3,1); 1,186 (1,5); 0,790 (1,0); 0,778 (3,2); 0,773 (4,1); 0,760 (4,2); 0,755 (3,2); 0,743 (1,4); 0,614 (1,3); 0,604 (3,7); 0,597 (3,9); 0,593 (3,4); 0,588 (3,3); 0,575 (1,0); 0,000 (3,0)
Beispiel I-T2-2: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,311 (4,9); 8,304 (5,0); 7,898 (10,0); 7,878 (3,3); 7,872 (2,0); 7,624 (2,0); 7,583 (3,2); 7,561 (2,8); 7,444 (9,7); 6,555 (4,9); 6,549 (4,9); 5,447 (0,7); 4,086 (0,5); 4,068 (1,6); 4,050 (1,6); 4,032 (0,6); 2,240 (45,7); 2,146 (80,1); 2,114 (0,7); 2,108 (0,7); 2,102 (0,5); 1,972 (7,1); 1,964 (3,1); 1,958 (8,0); 1,953 (36,5); 1,946 (65,9); 1,940 (87,5); 1,934 (62,1); 1,928 (33,1); 1,775 (0,4); 1,769 (0,6); 1,763 (0,4); 1,591 (2,0); 1,576 (5,7); 1,569 (5,7); 1,556 (2,8); 1,516 (0,4); 1,437 (16,0); 1,410 (0,4); 1,369 (2,8); 1,356 (5,7); 1,349 (6,0); 1,334 (2,1); 1,296 (0,3); 1,269 (1,9); 1,222 (1,9); 1,204 (3,6); 1,186 (1,8); 0,000 (4,5)
Beispiel I-T3-1: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,118 (11,7); 8,061 (12,6); 7,689 (7,9); 7,683 (8,6); 7,667 (0,7); 7,652 (4,9); 7,646 (3,5); 7,631 (5,5); 7,625 (4,3); 7,535 (16,0); 7,463 (7,8); 7,442 (6,2); 6,895 (2,5); 4,068 (0,8); 4,050 (0,8); 3,912 (0,7); 2,881 (0,5); 2,871 (1,5); 2,862 (2,1); 2,853 (3,2); 2,844 (3,2); 2,835 (2,2); 2,826 (1,5); 2,816 (0,5); 2,270 (0,5); 2,261 (0,3); 2,143 (107,9); 2,138 (145,5); 2,111 (71,2); 1,972 (5,1); 1,964 (10,3); 1,958 (27,0); 1,952 (94,0); 1,946 (160,4); 1,940 (199,1); 1,934 (136,5); 1,928 (68,3); 1,780 (0,5); 1,774 (0,9); 1,768 (1,1); 1,762 (0,8); 1,756 (0,4); 1,437 (13,0); 1,271 (1,0); 1,222 (1,0); 1,204 (1,9); 1,186 (0,9); 0,794 (1,7); 0,782 (6,4); 0,777 (7,2); 0,764 (7,9); 0,759 (5,7); 0,747 (2,4); 0,725 (0,3); 0,610 (2,4); 0,600 (7,1); 0,592 (7,5); 0,588 (6,7); 0,584 (5,9); 0,571 (1,7); 0,146 (0,4); 0,000 (86,0); -0,008 (5,2); -0,150 (0,4)
Beispiel I-T3-2: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,131 (12,6); 8,084 (13,3); 7,735 (7,6); 7,729 (9,9); 7,710 (5,2); 7,704 (3,5); 7,689 (5,8); 7,683 (4,6); 7,537 (16,0); 7,514 (8,9); 7,493 (7,4); 7,458 (1,9); 4,140 (1,8); 4,124 (2,1); 4,117 (5,8); 4,100 (5,9); 4,093 (6,2); 4,077 (5,9); 4,069 (2,6); 4,053 (2,1); 3,914 (0,6); 2,891 (0,7); 2,773 (0,6); 2,480 (0,7); 2,475 (1,3); 2,470 (1,8); 2,466 (1,3); 2,461 (0,7); 2,325 (0,4); 2,273 (1,9); 2,221 (979,0); 2,115 (79,7); 2,097 (1,4); 1,973 (3,4); 1,966 (10,4); 1,960 (22,6); 1,954 (102,7); 1,948 (182,7); 1,942 (241,3); 1,936 (167,3); 1,930 (87,0); 1,783 (0,7); 1,777 (1,1); 1,770 (1,5); 1,764 (1,1); 1,758 (0,6); 1,437 (15,2); 1,296 (0,5); 1,270 (1,7); 1,222 (0,7); 1,204 (1,3); 1,186 (0,6); 0,146 (0,3); 0,008 (2,7); 0,000 (69,9); -0,008 (3,3)
Beispiel I-T3-3: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,129 (2,6); 8,075 (2,6); 7,738 (1,6); 7,732 (2,0); 7,701 (1,1); 7,696 (0,8); 7,681 (1,2); 7,675 (1,1); 7,572 (0,5); 7,536 (3,2); 7,496 (1,8); 7,475 (1,5); 2,146 (33,6); 2,113 (16,5); 1,972 (0,4); 1,964 (2,4); 1,958 (5,6); 1,953 (29,5); 1,946 (53,8); 1,940 (72,5); 1,934 (50,1); 1,928 (25,8); 1,769 (0,4); 1,599 (0,8); 1,585 (1,9); 1,578 (2,0); 1,564 (1,1); 1,437 (16,0); 1,359 (1,1); 1,345 (2,0); 1,338 (2,0); 1,324 (0,8); 1,269 (0,6); 0,008 (1,9); 0,000 (51,3); -0,009 (2,0)
Beispiel I-T3-4: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,132 (5,7); 8,077 (6,1); 7,719 (3,4); 7,714 (4,3); 7,678 (2,2); 7,673 (1,8); 7,657 (2,6); 7,652 (2,3); 7,537 (7,8); 7,515 (1,0); 7,495 (1,0); 7,486 (4,3); 7,465 (3,3); 5,338 (0,9); 5,316 (1,8); 5,296 (1,8); 5,274 (1,0); 3,544 (2,3); 3,521 (4,7); 3,499 (3,1); 3,370 (3,0); 3,349 (4,6); 3,346 (4,3); 3,325 (2,4); 2,469 (0,4); 2,274 (0,4); 2,206 (300,4); 2,154 (0,5); 2,115 (36,2); 1,973 (1,3); 1,966 (3,0); 1,960 (6,3); 1,954 (30,3); 1,948 (55,1); 1,942 (73,7); 1,935 (52,5); 1,929 (28,5); 1,776 (0,4); 1,770 (0,5); 1,764 (0,4); 1,437 (16,0); 1,269 (1,6); 1,222 (0,3); 1,204 (0,6); 0,008 (0,7); 0,000 (20,8)
Beispiel I-T3-5: ^{1}H-NMR (601,6 MHz, CD3CN): δ= 8,125 (8,3); 8,124 (8,5); 8,072 (9,3); 8,071 (9,2); 7,680 (16,0); 7,677 (5,7); 7,668 (5,3); 7,664 (3,0); 7,537 (9,4); 7,485 (4,7); 7,482 (2,1); 7,473 (1,9); 7,470 (4,3); 7,461 (2,3); 2,146 (139,0); 2,113 (53,4); 2,060 (0,5); 2,056 (0,9); 2,052 (1,3); 2,048 (0,9); 2,044 (0,4); 1,966 (5,4); 1,958 (14,4); 1,953 (16,2); 1,950 (93,5); 1,945 (166,6); 1,941 (244,5); 1,937 (162,8); 1,933 (81,9); 1,924 (1,3); 1,835 (0,5); 1,831 (0,9); 1,827 (1,4); 1,822 (0,9); 1,818 (0,5); 1,393 (2,4); 1,383 (5,5); 1,380 (5,9); 1,370 (3,2); 1,343 (0,4); 1,269 (0,6); 1,251 (1,3); 1,248 (1,4); 1,238 (4,5); 1,228 (1,0); 1,225 (1,0); 0,096 (0,4); 0,005 (3,0); 0,000 (105,8); -0,006 (3,3); -0,100 (0,4)
Beispiel I-T3-6: ^{1}H-NMR (601,6 MHz, CD3CN): δ= 8,130 (11,9); 8,129 (12,8); 8,082 (13,1); 8,081 (13,4); 7,809 (8,6); 7,805 (9,0); 7,697 (5,1); 7,693 (4,8); 7,683 (5,9); 7,679 (5,7); 7,538 (13,6); 7,508 (9,3); 7,494 (8,0); 7,304 (1,1); 7,295 (1,9); 7,286 (1,1); 7,069 (1,2); 4,045 (16,0); 4,036 (15,9); 3,973 (1,6); 3,962 (1,8); 3,957 (5,2); 3,946 (5,2); 3,941 (5,5); 3,930 (5,3); 3,926 (2,0); 3,915 (1,8); 2,220 (0,4); 2,153 (19,3); 2,115 (73,8); 2,104 (1,0); 2,052 (0,4); 2,006 (0,4); 1,966 (1,4); 1,958 (3,8); 1,953 (4,5); 1,950 (25,7); 1,945 (45,5); 1,941 (67,9); 1,937 (46,1); 1,933 (22,7); 1,827 (0,4); 1,268 (1,1); 0,005 (0,8); 0,000 (28,7); -0,006 (0,9)
Beispiel I-T3-7: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,043 (1,2); 9,038 (1,2); 8,803 (1,3); 8,798 (1,3); 8,672 (3,2); 8,648 (0,9); 8,638 (0,9); 8,405 (3,2); 8,390 (1,1); 8,384 (1,9); 8,379 (1,0); 8,316 (0,3); 7,602 (3,5); 3,902 (9,7); 3,330 (83,7); 3,243 (0,6); 3,169 (0,4); 2,903 (0,3); 2,893 (0,5); 2,885 (0,7); 2,875 (0,7); 2,867 (0,4); 2,857 (0,3); 2,676 (0,4); 2,672 (0,5); 2,667 (0,4); 2,525 (1,4); 2,512 (30,7); 2,507 (61,4); 2,503 (80,2); 2,498 (57,8); 2,494 (27,6); 2,334 (0,3); 2,329 (0,5); 2,325 (0,3); 2,131 (16,0); 1,909 (0,3); 0,763 (0,4); 0,750 (1,1); 0,745 (1,6); 0,733 (1,5); 0,727 (1,3); 0,716 (0,6); 0,619 (0,6); 0,608 (1,7); 0,602 (1,4); 0,598 (1,4); 0,593 (1,2); 0,580 (0,4); 0,000 (9,2)
Beispiel I-T3-8: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,538 (2,0); 9,102 (1,4); 9,097 (1,4); 8,827 (1,4); 8,823 (1,5); 8,695 (3,2); 8,444 (1,1); 8,439 (1,9); 8,434 (1,2); 8,424 (3,3); 7,605 (3,8); 3,902 (6,0); 3,374 (0,4); 3,330 (90,4); 3,243 (0,4); 3,169 (2,1); 2,676 (0,4); 2,672 (0,6); 2,667 (0,5); 2,542 (0,5); 2,507 (75,8); 2,503 (97,5); 2,498 (74,7); 2,334 (0,4); 2,329 (0,6); 2,325 (0,5); 2,132 (16,0); 1,628 (0,7); 1,614 (2,0); 1,607 (2,1); 1,594 (0,9); 1,347 (0,9); 1,334 (2,1);

1,327 (2,1); 1,313 (0,7); 0,000 (8,2)
Beispiel I-T3-9: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,508 (2,0); 8,506 (2,0); 8,473 (1,0); 8,463 (1,0); 8,276 (2,2); 7,895 (0,5); 7,876 (1,0); 7,861 (0,5); 7,592 (4,1); 7,399 (0,5); 7,383 (1,0); 7,368 (0,7); 7,305 (1,1); 7,286 (1,7); 7,266 (0,7); 3,902 (5,7); 3,330 (72,5); 3,243 (0,4); 3,175 (0,4); 3,162 (0,3); 2,875 (0,4); 2,865 (0,5); 2,857 (0,7); 2,847 (0,7); 2,838 (0,5); 2,828 (0,3); 2,672 (0,5); 2,507 (63,9); 2,503 (80,2); 2,329 (0,5); 2,114 (16,0); 0,725 (0,4); 0,707 (1,8); 0,695 (1,7); 0,689 (1,5); 0,678 (0,6); 0,556 (0,6); 0,545 (1,8); 0,539 (1,8); 0,530 (1,6); 0,518 (0,5); 0,000 (6,1)
Beispiel I-T3-10: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,369 (2,0); 8,535 (1,8); 8,532 (1,9); 8,290 (2,0); 7,968 (0,4); 7,965 (0,5); 7,949 (0,9); 7,946 (0,9); 7,931 (0,5); 7,927 (0,5); 7,595 (3,9); 7,479 (0,4); 7,475 (0,4); 7,459 (0,9); 7,443 (0,6); 7,440 (0,5); 7,352 (1,0); 7,333 (1,7); 7,314 (0,8); 3,903 (8,2); 3,372 (0,4); 3,329 (104,6); 3,243 (0,6); 3,175 (0,3); 2,675 (0,4); 2,671 (0,5); 2,667 (0,4); 2,541 (0,5); 2,507 (70,8); 2,502 (89,6); 2,498 (66,7); 2,333 (0,4); 2,329 (0,5); 2,324 (0,4); 2,115 (16,0); 1,598 (0,8); 1,584 (2,0); 1,577 (2,1); 1,564 (0,9); 1,292 (0,9); 1,278 (2,1); 1,272 (2,2); 1,257 (0,8); 1,169 (0,3); 1,068 (0,4); 0,007 (0,4); 0,000 (7,5); -0,008 (0,4)
Beispiel I-T3-11: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,522 (0,9); 8,512 (0,9); 8,500 (3,3); 8,211 (3,2); 7,818 (1,8); 7,799 (1,8); 7,646 (1,8); 7,621 (1,8); 7,590 (3,5); 3,902 (3,1); 3,330 (117,7); 3,304 (0,3); 2,861 (0,3); 2,851 (0,4); 2,842 (0,7); 2,832 (0,7); 2,824 (0,4); 2,676 (0,4); 2,671 (0,5); 2,667 (0,3); 2,525 (1,5); 2,511 (29,4); 2,507 (58,1); 2,502 (75,7); 2,498 (54,9); 2,493 (26,6); 2,334 (0,3); 2,329 (0,5); 2,324 (0,3); 2,127 (16,0); 0,733 (0,4); 0,720 (1,2); 0,715 (1,7); 0,703 (1,6); 0,697 (1,3); 0,685 (0,6); 0,575 (0,6); 0,564 (1,7); 0,558 (1,5); 0,554 (1,4); 0,548 (1,3); 0,536 (0,4); 0,000 (7,9)
Beispiel I-T3-12: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,396 (1,8); 8,522 (3,2); 8,223 (3,2); 7,906 (1,6); 7,887 (1,6); 7,712 (1,6); 7,687 (1,6); 7,593 (3,7); 3,903 (2,7); 3,332 (98,2); 2,672 (0,5); 2,542 (0,4); 2,507 (67,0); 2,503 (83,7); 2,498 (62,0); 2,334 (0,4); 2,329 (0,5); 2,325 (0,4); 2,129 (16,0); 1,604 (0,8); 1,590 (2,0); 1,583 (2,1); 1,570 (0,9); 1,312 (0,9); 1,299 (2,0); 1,292 (2,0); 1,278 (0,8); 0,000 (7,1)
Beispiel I-T3-13: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,514 (1,8); 8,510 (1,9); 8,480 (0,9); 8,470 (0,9); 8,285 (2,1); 8,226 (0,8); 8,220 (0,8); 8,207 (0,8); 8,202 (0,8); 7,767 (0,4); 7,762 (0,5); 7,755 (0,5); 7,749 (0,6); 7,746 (0,6); 7,740 (0,5); 7,734 (0,5); 7,728 (0,4); 7,595 (3,7); 7,402 (0,9); 7,380 (0,9); 7,375 (1,0); 7,354 (0,8); 3,902 (1,5); 3,444 (0,4); 3,425 (0,6); 3,405 (1,1); 3,353 (438,8); 3,292 (0,5); 3,273 (0,3); 2,864 (0,5); 2,855 (0,7); 2,846 (0,7); 2,837 (0,5); 2,827 (0,3); 2,678 (0,4); 2,673 (0,5); 2,669 (0,4); 2,509 (61,5); 2,504 (78,8); 2,500 (57,5); 2,335 (0,4); 2,331 (0,5); 2,327 (0,4); 2,121 (16,0); 0,746 (0,4); 0,733 (1,2); 0,728 (1,7); 0,716 (1,6); 0,710 (1,3); 0,699 (0,6); 0,602 (0,6); 0,592 (1,7); 0,585 (1,6); 0,576 (1,3); 0,564 (0,4)
Beispiel I-T3-14: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,600 (1,8); 8,596 (1,8); 8,536 (1,1); 8,525 (1,1); 8,352 (1,9); 7,977 (1,6); 7,960 (1,6); 7,594 (3,7); 7,437 (1,7); 7,411 (1,7); 3,902 (4,8); 3,332 (129,0); 2,826 (0,4); 2,817 (0,7); 2,807 (0,7); 2,799 (0,4); 2,789 (0,3); 2,676 (0,4); 2,672 (0,5); 2,667 (0,4); 2,511 (32,0); 2,507 (61,8); 2,503 (79,3); 2,498 (57,6); 2,494 (28,2); 2,334 (0,3); 2,329 (0,5); 2,325 (0,4); 2,115 (16,0); 0,733 (0,4); 0,720 (1,2); 0,715 (1,6); 0,703 (1,5); 0,697 (1,3); 0,685 (0,5); 0,567 (0,5); 0,557 (1,7); 0,551 (1,5); 0,547 (1,4); 0,541 (1,3); 0,529 (0,4); 0,000 (6,1)
Beispiel I-T3-15: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,711 (3,3); 8,694 (1,1); 8,684 (1,0); 8,450 (3,3); 8,369 (1,8); 8,174 (1,8); 7,971 (1,8); 7,601 (3,9); 3,903 (1,0); 3,331 (150,2); 2,910 (0,3); 2,901 (0,5); 2,892 (0,7); 2,882 (0,7); 2,874 (0,5); 2,865 (0,4); 2,672 (0,5); 2,507 (59,3); 2,503 (74,7); 2,499 (55,2); 2,334 (0,4); 2,330 (0,5); 2,133 (16,0); 0,769 (0,4); 0,755 (1,3); 0,751 (1,7); 0,738 (1,6); 0,733 (1,4); 0,721 (0,6); 0,630 (0,6); 0,620 (1,8); 0,613 (1,7); 0,604 (1,4); 0,592 (0,4)
Beispiel I-T3-16: ^{1}H-NMR (601,6 MHz, d_6-DMSO): δ= 8,439 (0,8); 8,433 (0,9); 8,344 (3,1); 8,343 (3,2); 8,082 (3,2); 8,081 (3,3); 7,912 (1,7); 7,909 (1,7); 7,670 (0,9); 7,667 (0,9); 7,657 (1,0); 7,654 (1,0); 7,600 (3,4); 7,368 (1,3); 7,354 (1,2); 3,376 (0,5); 3,367 (1,1); 3,351 (401,9); 3,328 (0,5); 3,324 (0,5); 2,997 (3,2); 2,856 (0,4); 2,850 (0,7); 2,844 (0,7); 2,838 (0,4); 2,831 (0,3); 2,618 (0,4); 2,615 (0,6); 2,612 (0,4); 2,543 (5,5); 2,524 (1,0); 2,521 (1,3); 2,518 (1,2); 2,509 (30,4); 2,506 (67,4); 2,503 (93,3); 2,500 (68,5); 2,497 (31,5); 2,438 (7,5); 2,390 (0,4); 2,387 (0,6); 2,384 (0,4); 2,146 (16,0); 0,715 (0,4); 0,707 (1,2); 0,703 (1,6); 0,695 (1,5); 0,692 (1,3); 0,684 (0,5); 0,590 (0,6); 0,583 (1,6); 0,579 (1,4); 0,576 (1,3); 0,572 (1,3); 0,564 (0,4); 0,000 (2,6)
Beispiel I-T3-17: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,576 (0,4); 9,437 (2,3); 8,736 (0,7); 8,625 (1,7); 8,621 (1,8); 8,472 (0,7); 8,411 (0,4); 8,375 (1,8); 8,372 (1,9); 8,316 (0,5); 8,243 (0,4); 8,030 (1,7); 8,013 (1,6); 7,993 (0,3); 7,597 (3,8); 7,547 (1,7); 7,521 (1,9); 4,036 (1,1); 3,903 (6,7); 3,630 (0,4); 3,623 (0,4); 3,614 (0,4); 3,608 (0,3); 3,597 (0,3); 3,392 (0,7); 3,332 (259,6); 3,287 (0,3); 3,175 (0,4); 3,162 (0,5); 3,155 (0,4); 3,145 (0,5); 3,138 (0,4); 3,127 (0,5); 3,056 (0,4); 3,022 (4,3); 2,751 (0,4); 2,690 (1,7); 2,676 (0,8); 2,672 (1,1); 2,667 (0,9); 2,525 (3,7); 2,511 (72,5); 2,507 (143,5); 2,503 (187,7); 2,498 (136,4); 2,494 (66,3); 2,338 (0,4); 2,334 (0,8); 2,329 (1,1); 2,325 (0,8); 2,134 (3,5); 2,116 (16,0); 1,614 (0,5); 1,607 (1,1); 1,593 (1,9); 1,586 (2,0); 1,573 (0,8); 1,344 (0,5); 1,337 (0,5); 1,310 (0,9); 1,296 (1,9); 1,289 (2,1); 1,274 (3,8); 1,259 (6,5); 1,244 (6,0); 1,225 (1,2); 0,008 (0,5); 0,000 (16,5); -0,009 (0,5)
Beispiel I-T3-18: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,576 (2,0); 8,736 (3,2); 8,472 (3,3); 8,411 (1,7); 8,316 (0,3); 8,243 (1,6); 7,994 (1,6); 7,605 (3,6); 3,903 (10,2); 3,372 (0,7); 3,333 (152,4); 3,243 (1,3); 3,175 (0,4); 3,162 (0,4); 2,690 (0,4); 2,676 (0,4); 2,672 (0,6); 2,667 (0,4); 2,542 (0,6); 2,525 (1,9); 2,512 (39,2); 2,507 (77,8); 2,503 (101,6); 2,498 (73,7); 2,494 (35,7); 2,334 (0,4); 2,330 (0,6); 2,325 (0,4); 2,134 (16,0); 2,116 (0,5); 1,629 (0,7); 1,614 (1,8); 1,607 (2,0); 1,594 (0,9); 1,358 (0,9); 1,345 (1,9); 1,338 (2,0); 1,323 (0,7); 1,259 (0,5); 1,244 (0,4); 1,017 (0,6); 1,001 (0,6); 0,000 (9,1)
Beispiel I-T3-19: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,367 (1,9); 8,537 (1,8); 8,534 (1,9); 8,300 (2,2); 8,277 (0,8); 8,271 (0,9); 8,259 (0,9); 8,253 (0,8); 7,796 (0,4); 7,791 (0,5); 7,784 (0,5); 7,778 (0,6); 7,775 (0,6); 7,769 (0,6); 7,763 (0,5); 7,757 (0,5); 7,598 (3,8); 7,457 (0,8); 7,435 (0,8); 7,430 (1,0); 7,409 (0,7); 3,903 (4,8); 3,335 (104,3); 2,672 (0,4); 2,542 (0,3); 2,507 (54,0); 2,503 (69,3); 2,499 (52,7); 2,330 (0,4); 2,122 (16,0); 1,609 (0,8); 1,595 (2,0); 1,588 (2,1); 1,575 (0,9); 1,323 (0,9); 1,309 (2,0); 1,303 (2,1); 1,288 (0,8); 0,000 (5,6)
Beispiel I-T3-20: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,816 (2,3); 8,810 (2,3); 8,695 (3,4); 8,681 (1,1); 8,670 (1,1); 8,451 (3,4); 8,184 (2,3); 8,178 (2,2); 7,601 (3,8); 3,903 (7,0); 3,333 (173,9); 3,289 (0,4); 3,242 (0,9); 3,175 (0,6); 3,162 (0,5); 2,859 (0,4); 2,850 (0,7); 2,840 (0,7); 2,832 (0,4); 2,822 (0,3); 2,676 (0,4); 2,671 (0,5); 2,667 (0,4); 2,542 (0,4); 2,511 (34,1); 2,507 (66,3); 2,502 (85,9); 2,498 (63,0); 2,494 (31,0); 2,333 (0,4); 2,329 (0,5); 2,325 (0,4);

2,132 (0,7); 2,117 (16,0); 1,016 (0,4); 1,001 (0,4); 0,755 (0,5); 0,742 (1,3); 0,737 (1,7); 0,725 (1,6); 0,719 (1,4); 0,707 (0,5); 0,564 (0,6); 0,553 (1,7); 0,547 (1,6); 0,543 (1,5); 0,538 (1,4); 0,526 (0,4); 0,000 (7,1)
Beispiel I-T3-21: ^{1}H-NMR (600,1 MHz, d_6-DMSO):
δ= 9,593 (1,8); 8,868 (2,3); 8,864 (2,3); 8,709 (3,3); 8,456 (3,4); 8,262 (2,3); 8,258 (2,2); 7,603 (3,7); 3,388 (0,4); 3,383 (0,4); 3,381 (0,5); 3,369 (0,8); 3,340 (1164,0); 2,994 (0,7); 2,617 (0,6); 2,615 (0,8); 2,612 (0,6); 2,542 (39,9); 2,523 (1,4); 2,520 (1,7); 2,517 (1,8); 2,508 (48,7); 2,505 (103,1); 2,502 (140,8); 2,499 (100,9); 2,497 (46,2); 2,389 (0,6); 2,386 (0,8); 2,383 (0,6); 2,117 (16,0); 1,636 (0,8); 1,627 (2,0); 1,622 (2,1); 1,613 (0,8); 1,288 (0,9); 1,278 (1,9); 1,274 (2,1); 1,264 (0,8); 0,005 (0,8); 0,000 (21,9); -0,006 (0,7)
Beispiel I-T3-22: ^{1}H-NMR (400,1 MHz, d_6-DMSO):
δ= 9,397 (6,5); 8,682 (5,3); 8,677 (5,1); 8,405 (7,9); 8,366 (0,3); 8,087 (16,0); 8,060 (0,3); 8,041 (0,7); 7,981 (1,7); 7,966 (2,6); 7,963 (2,7); 7,948 (1,5); 7,944 (1,4); 7,763 (0,3); 7,505 (1,2); 7,501 (1,3); 7,486 (2,7); 7,470 (1,8); 7,466 (1,6); 7,384 (0,6); 7,374 (3,1); 7,365 (1,1); 7,355 (5,1); 7,345 (0,8); 7,336 (2,3); 5,761 (0,8); 3,348 (68,6); 3,028 (1,2); 2,875 (1,0); 2,712 (0,4); 2,671 (0,3); 2,542 (99,6); 2,507 (38,4); 2,502 (50,3); 2,498 (38,2); 2,368 (0,4); 2,087 (0,3); 1,601 (2,4); 1,587 (6,3); 1,580 (6,5); 1,567 (2,8); 1,288 (3,1); 1,275 (6,2); 1,268 (6,6); 1,254 (2,5); 1,234 (0,8); 1,169 (0,9); 0,146 (0,3); 0,000 (72,5); -0,008 (4,9); -0,150 (0,4)
Beispiel I-T3-23: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,202 (5,5); 8,187 (0,5); 8,161 (5,9); 8,146 (0,5); 7,931 (0,4); 7,900 (9,0); 7,886 (0,8); 7,739 (3,5); 7,734 (4,4); 7,720 (0,5); 7,707 (2,6); 7,701 (1,9); 7,686 (3,0); 7,680 (2,5); 7,648 (1,5); 7,507 (4,1); 7,486 (3,4); 4,360 (0,5); 4,342 (0,5); 4,086 (1,0); 4,068 (2,9); 4,050 (3,0); 4,032 (1,1); 2,162 (61,1); 2,149 (10,3); 2,120 (0,4); 2,114 (0,4); 2,108 (0,5); 2,102 (0,4); 1,972 (13,4); 1,965 (4,8); 1,959 (8,2); 1,953 (30,5); 1,947 (52,3); 1,940 (68,1); 1,934 (48,2); 1,928 (27,3); 1,769 (0,4); 1,596 (1,8); 1,581 (4,5); 1,574 (4,4); 1,561 (2,8); 1,437 (16,0); 1,422 (1,2); 1,401 (0,5); 1,371 (0,6); 1,361 (2,6); 1,353 (1,9); 1,347 (4,6); 1,341 (4,6); 1,336 (1,5); 1,326 (2,3); 1,268 (1,6); 1,222 (3,7); 1,204 (7,2); 1,186 (3,8); 0,000 (2,2)
Beispiel I-T3-24: ^{1}H-NMR (600,1 MHz, CD3CN):
δ= 8,189 (6,2); 8,144 (6,7); 7,897 (10,1); 7,690 (3,8); 7,687 (4,5); 7,652 (2,6); 7,648 (2,1); 7,638 (2,8); 7,634 (2,4); 7,471 (4,4); 7,457 (3,7); 6,891 (1,0); 5,446 (2,0); 4,077 (2,0); 4,065 (6,2); 4,053 (6,2); 4,041 (2,1); 2,864 (0,8); 2,857 (1,1); 2,852 (1,7); 2,845 (1,7); 2,839 (1,1); 2,833 (0,8); 2,129 (55,4); 2,054 (0,5); 2,050 (0,7); 2,046 (0,5); 1,971 (27,5); 1,963 (6,3); 1,955 (8,8); 1,951 (10,1); 1,947 (46,9); 1,943 (78,2); 1,939 (115,2); 1,935 (77,9); 1,931 (39,3); 1,922 (0,5); 1,828 (0,4); 1,824 (0,6); 1,820 (0,4); 1,437 (16,0); 1,270 (0,4); 1,216 (7,4); 1,204 (14,6); 1,192 (7,3); 0,786 (1,0); 0,777 (2,8); 0,774 (3,6); 0,765 (3,6); 0,762 (2,7); 0,754 (1,2); 0,606 (1,1); 0,599 (2,9); 0,598 (2,9); 0,595 (3,0); 0,591 (2,8); 0,588 (2,8); 0,580 (0,9); 0,005 (2,1); 0,000 (69,9); -0,006 (2,2)
Beispiel I-T3-25: ^{1}H-NMR (601,6 MHz, CD3CN):
δ= 8,201 (9,9); 8,163 (10,8); 7,899 (16,0); 7,738 (5,9); 7,734 (7,4); 7,710 (4,2); 7,706 (3,3); 7,696 (4,6); 7,693 (4,0); 7,522 (6,8); 7,508 (5,8); 7,328 (1,4); 7,265 (0,6); 7,251 (1,5); 7,239 (1,1); 7,195 (1,4); 7,183 (1,0); 7,162 (0,5); 7,150 (0,7); 5,446 (1,0); 4,127 (1,3); 4,116 (1,5); 4,111 (4,2); 4,100 (4,3); 4,095 (4,5); 4,085 (4,3); 4,080 (1,7); 4,069 (1,4); 2,328 (5,9); 2,134 (32,5); 2,132 (53,6); 2,058 (0,4); 2,054 (0,6); 2,050 (1,0); 2,046 (0,7); 1,971 (1,2); 1,964 (7,9); 1,955 (12,2); 1,951 (13,8); 1,947 (67,1); 1,943 (113,1); 1,939 (165,4); 1,935 (111,4); 1,931 (56,0); 1,833 (0,5); 1,829 (0,7); 1,825 (0,9); 1,821 (0,7); 1,437 (5,7); 1,269 (0,8); 1,204 (0,6); 1,192 (0,3); 0,000 (1,4)
Beispiel I-T3-26: ^{1}H-NMR (601,6 MHz, CD3CN):
δ= 8,222 (8,5); 8,184 (9,2); 8,183 (8,4); 7,933 (13,8); 7,743 (5,6); 7,739 (6,7); 7,712 (3,8); 7,709 (3,0); 7,699 (4,2); 7,695 (3,6); 7,530 (6,3); 7,516 (5,4); 7,228 (0,3); 7,216 (0,4); 7,172 (1,1); 5,481 (0,5); 4,022 (0,9); 3,653 (2,8); 3,641 (6,5); 3,631 (6,6); 3,620 (2,9); 2,605 (0,6); 2,594 (1,2); 2,586 (2,0); 2,582 (0,9); 2,575 (3,7); 2,568 (2,2); 2,564 (2,1); 2,556 (3,9); 2,549 (0,9); 2,545 (2,0); 2,538 (1,3); 2,527 (0,6); 2,505 (0,6); 2,502 (1,0); 2,499 (1,4); 2,496 (1,0); 2,361 (1,2); 2,216 (233,1); 2,214 (233,8); 2,213 (216,8); 2,211 (239,7); 2,210 (216,4); 2,206 (358,9); 2,092 (0,7); 2,088 (1,2); 2,084 (1,6); 2,080 (1,2); 2,076 (0,6); 2,005 (1,3); 1,998 (14,1); 1,990 (21,9); 1,985 (26,7); 1,982 (121,7); 1,978 (205,2); 1,973 (304,1); 1,969 (210,4); 1,965 (107,9); 1,867 (0,7); 1,863 (1,2); 1,859 (1,7); 1,855 (1,2); 1,850 (0,6); 1,470 (16,0); 1,303 (0,4); 1,237 (0,6); 0,033 (1,8)
Beispiel I-T3-27: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,439 (6,6); 8,693 (9,5); 8,441 (9,4); 8,317 (0,9); 8,274 (16,0); 7,807 (2,2); 7,802 (3,8); 7,792 (5,8); 7,786 (9,9); 7,569 (5,1); 7,553 (1,2); 7,546 (4,2); 4,020 (0,3); 3,568 (10,9); 3,328 (401,1); 2,675 (2,2); 2,671 (2,9); 2,666 (2,2); 2,506 (372,0); 2,502 (465,0); 2,497 (338,4); 2,333 (2,3); 2,328 (2,9); 2,324 (2,1); 1,989 (1,3); 1,615 (2,4); 1,601 (6,2); 1,594 (6,2); 1,581 (2,5); 1,398 (5,4); 1,287 (2,8); 1,274 (6,1); 1,267 (6,2); 1,253 (2,2); 1,235 (0,4); 1,192 (0,4); 1,175 (0,7); 1,157 (0,4); 0,146 (0,7); 0,000 (164,4); -0,008 (7,8); -0,150 (0,8)
Beispiel I-T3-28: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 8,684 (0,4); 8,672 (9,5); 8,535 (3,2); 8,524 (3,2); 8,453 (0,3); 8,427 (9,5); 8,271 (16,0); 7,749 (2,3); 7,744 (3,3); 7,723 (12,2); 7,519 (4,6); 7,498 (3,9); 4,056 (0,5); 4,038 (1,4); 4,020 (1,4); 4,002 (0,5); 3,568 (7,8); 3,329 (74,2); 2,857 (0,9); 2,848 (1,3); 2,839 (1,9); 2,829 (2,0); 2,820 (1,3); 2,811 (0,9); 2,801 (0,3); 2,676 (0,4); 2,671 (0,6); 2,667 (0,4); 2,524 (1,5); 2,511 (34,6); 2,507 (68,9); 2,502 (89,7); 2,498 (64,3); 2,493 (30,8); 2,333 (0,4); 2,329 (0,6); 2,324 (0,4); 1,989 (6,1); 1,397 (15,9); 1,193 (1,6); 1,175 (3,1); 1,157 (1,6); 0,728 (1,3); 0,716 (3,7); 0,711 (4,9); 0,698 (4,7); 0,693 (3,9); 0,681 (1,6); 0,561 (1,7); 0,551 (5,1); 0,544 (4,7); 0,535 (4,1); 0,523 (1,2); 0,008 (1,4); 0,000 (37,7); -0,008 (1,4)
Beispiel I-T3-29: ^{1}H-NMR (400,1 MHz, d_6-DMSO):
δ= 9,042 (6,2); 9,036 (6,0); 8,962 (0,4); 8,831 (6,4); 8,826 (6,3); 8,807 (9,8); 8,678 (3,3); 8,668 (3,2); 8,507 (9,6); 8,478 (0,5); 8,385 (3,9); 8,379 (6,4); 8,374 (3,5); 8,111 (16,0); 3,368 (0,3); 3,367 (0,3); 3,365 (0,4); 3,362 (0,5); 3,361 (0,6); 3,360 (0,6); 3,357 (0,7); 3,356 (0,8); 3,350 (1,8); 3,330 (278,8); 3,313 (3,5); 3,309 (2,7); 3,308 (2,6); 3,306 (2,5); 3,297 (1,0); 3,295 (1,0); 3,294 (0,9); 3,287 (0,6); 3,284 (0,5); 3,281 (0,4); 3,279 (0,4); 3,277 (0,4); 2,915 (0,4); 2,905 (1,0); 2,896 (1,5); 2,887 (2,2); 2,877 (2,3); 2,869 (1,5); 2,859 (1,1); 2,849 (0,4); 2,711 (0,4); 2,671 (0,3); 2,565 (0,4); 2,564 (0,5); 2,563 (0,5); 2,562 (0,6); 2,560 (0,7); 2,559 (0,8); 2,558 (0,9); 2,557 (1,1); 2,555 (1,4); 2,542 (109,1); 2,533 (2,6); 2,532 (2,3); 2,530 (2,0); 2,529 (1,9); 2,528 (1,8); 2,527 (1,8); 2,525 (1,9); 2,524 (2,0); 2,523 (2,0); 2,511 (15,9); 2,507 (30,0); 2,502 (38,9); 2,498 (28,5); 2,494 (14,2); 2,368 (0,4); 2,130 (0,7); 1,234 (0,5); 0,765 (1,4); 0,752 (4,2); 0,747 (5,5); 0,735 (5,4); 0,729 (4,4); 0,717 (2,0); 0,696 (0,3); 0,618 (2,1); 0,608 (5,9); 0,602 (5,4); 0,592 (4,5); 0,580 (1,5); 0,146 (0,5); 0,022 (0,4); 0,021 (0,5); 0,020 (0,6); 0,019 (0,7); 0,017 (0,7); 0,016 (0,9); 0,008 (6,5); 0,000 (110,7); -0,009 (5,4); -0,013 (2,0); -0,014 (1,7); -0,015 (1,6); -0,016 (1,4); -0,018 (1,3); -0,019 (1,2); -0,020 (1,1); -0,021 (1,0); -0,023 (1,0); -0,024 (0,9); -0,025 (0,9); -0,026 (0,8); -0,027 (0,7); -0,029 (0,7); -0,031 (0,5); -0,034 (0,5); -0,035 (0,4); -0,036 (0,4); -0,150 (0,5)
Beispiel I-T3-30: ^{1}H-NMR (400,1 MHz, d_6-DMSO):
δ= 9,562 (6,5); 9,101 (6,1); 9,095 (6,1); 8,989 (0,4); 8,855 (6,3); 8,850 (6,4); 8,829 (9,9); 8,5253 (9,7); 8,5245 (9,7); 8,496 (0,5); 8,438

(3,7); 8,432 (6,4); 8,427 (3,6); 8,115 (16,0); 5,759 (0,5); 3,361 (0,8); 3,329 (283,9); 2,712 (0,5); 2,671 (0,4); 2,568 (0,3); 2,567 (0,4); 2,565 (0,4); 2,564 (0,5); 2,563 (0,5); 2,562 (0,6); 2,560 (0,7); 2,559 (0,7); 2,558 (0,9); 2,557 (1,0); 2,555 (1,2); 2,554 (1,5); 2,542 (137,6); 2,533 (2,7); 2,532 (2,2); 2,530 (2,0); 2,529 (1,9); 2,528 (1,8); 2,527 (1,7); 2,525 (1,8); 2,524 (1,8); 2,523 (1,9); 2,511 (16,2); 2,507 (31,6); 2,502 (41,8); 2,498 (30,6); 2,493 (15,2); 2,368 (0,5); 1,631 (2,6); 1,617 (6,5); 1,610 (6,6); 1,597 (3,0); 1,348 (3,1); 1,334 (6,6); 1,328 (6,6); 1,313 (2,5); 1,234 (0,4); 0,146 (0,5); 0,026 (0,3); 0,025 (0,4); 0,024 (0,4); 0,022 (0,5); 0,021 (0,6); 0,020 (0,6); 0,019 (0,7); 0,016 (0,9); 0,008 (5,8); 0,000 (109,7); -0,008 (4,9); -0,014 (1,3); -0,015 (1,2); -0,016 (1,1); -0,018 (1,0); -0,019 (0,9); -0,020 (0,9); -0,023 (0,7); -0,024 (0,6); -0,025 (0,6); -0,027 (0,5); -0,029 (0,4); -0,030 (0,4); -0,031 (0,4); -0,150 (0,5)
Beispiel I-T3-31: ^{1}H-NMR (601,6 MHz, CD3CN):
δ= 19,953 (0,4); 8,476 (0,6); 8,461 (16,0); 8,193 (0,3); 8,170 (0,6); 8,156 (14,9); 8,148 (0,5); 8,052 (0,3); 7,934 (7,1); 7,931 (7,2); 7,901 (0,6); 7,866 (5,7); 7,852 (8,0); 7,779 (4,3); 7,765 (3,1); 7,707 (9,8); 7,703 (11,5); 7,689 (0,7); 7,669 (6,5); 7,665 (5,3); 7,655 (7,3); 7,651 (6,3); 7,609 (0,4); 7,477 (11,0); 7,463 (9,5); 6,905 (2,4); 3,912 (2,1); 2,873 (0,6); 2,866 (1,9); 2,860 (2,7); 2,854 (4,1); 2,848 (4,3); 2,842 (2,7); 2,836 (2,0); 2,830 (0,7); 2,145 (513,7); 2,068 (0,6); 2,064 (0,6); 2,060 (3,3); 2,056 (5,5); 2,052 (8,1); 2,048 (5,6); 2,044 (2,9); 1,966 (31,6); 1,958 (83,8); 1,953 (98,4); 1,950 (560,5); 1,945 (964,6); 1,941 (1429,4); 1,937 (989,8); 1,933 (503,8); 1,925 (8,1); 1,843 (0,3); 1,835 (3,0); 1,831 (5,4); 1,827 (7,9); 1,823 (5,4); 1,818 (2,7); 1,340 (0,3); 1,285 (0,7); 1,269 (2,9); 1,123 (0,4); 0,882 (0,7); 0,790 (2,5); 0,782 (6,8); 0,779 (9,4); 0,770 (9,0); 0,767 (7,4); 0,759 (3,0); 0,744 (0,4); 0,732 (0,4); 0,636 (0,4); 0,609 (2,9); 0,601 (7,4); 0,598 (7,8); 0,595 (7,3); 0,592 (7,5); 0,583 (2,4); 0,097 (2,5); 0,005 (17,5); 0,000 (598,4); -0,006 (20,1); -0,100 (2,5)
Beispiel I-T3-32: ^{1}H-NMR (601,6 MHz, CD3CN):
δ= 19,978 (0,8); 8,505 (16,0); 8,234 (0,7); 8,197 (15,1); 7,962 (7,3); 7,933 (1,0); 7,901 (6,0); 7,887 (8,2); 7,812 (4,3); 7,798 (3,2); 7,785 (9,1); 7,781 (11,3); 7,755 (6,0); 7,752 (4,8); 7,742 (6,5); 7,738 (5,8); 7,557 (10,5); 7,543 (9,3); 7,451 (1,9); 7,284 (1,2); 7,272 (0,9); 7,228 (1,1); 7,216 (0,9); 7,183 (0,6); 5,481 (0,6); 4,162 (2,0); 4,151 (2,3); 4,147 (6,6); 4,136 (6,5); 4,131 (7,2); 4,120 (6,5); 4,115 (3,0); 4,104 (2,2); 3,946 (0,8); 2,497 (1,3); 2,361 (4,7); 2,211 (114,1); 2,208 (135,0); 2,203 (158,6); 2,200 (140,9); 2,198 (164,0); 2,092 (0,8); 2,088 (1,1); 2,084 (1,6); 2,080 (1,1); 1,997 (12,7); 1,989 (19,6); 1,985 (22,3); 1,981 (108,3); 1,977 (181,4); 1,973 (268,0); 1,969 (184,4); 1,965 (94,6); 1,862 (1,0); 1,858 (1,5); 1,854 (1,1); 1,303 (1,1); 0,033 (2,1)
Beispiel I-T3-33: ^{1}H-NMR (601,6 MHz, CD3CN):
δ= 8,489 (10,8); 8,221 (0,7); 8,184 (10,0); 7,966 (4,8); 7,932 (1,1); 7,902 (4,0); 7,888 (5,4); 7,813 (3,0); 7,799 (2,1); 7,759 (6,4); 7,755 (7,3); 7,725 (4,1); 7,722 (3,2); 7,712 (4,4); 7,708 (3,5); 7,533 (7,0); 7,519 (5,9); 7,111 (1,4); 3,659 (3,4); 3,648 (7,7); 3,637 (7,6); 3,626 (3,3); 2,609 (0,8); 2,598 (1,4); 2,591 (2,3); 2,579 (4,4); 2,572 (2,5); 2,568 (2,5); 2,561 (4,4); 2,549 (2,4); 2,542 (1,5); 2,531 (0,8); 2,184 (375,5); 2,182 (324,4); 2,181 (324,2); 2,177 (394,7); 2,173 (444,9); 2,092 (1,2); 2,088 (2,1); 2,084 (3,3); 2,080 (2,2); 2,076 (1,1); 1,998 (27,5); 1,990 (42,2); 1,985 (47,1); 1,981 (234,7); 1,977 (393,2); 1,973 (581,0); 1,969 (400,8); 1,965 (207,8); 1,867 (1,2); 1,863 (2,2); 1,859 (3,3); 1,855 (2,2); 1,850 (1,2); 1,471 (16,0); 1,303 (1,3); 0,033 (3,4)
Beispiel I-T3-34: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,493 (16,0); 8,193 (15,4); 8,099 (0,4); 8,087 (6,7); 8,065 (8,0); 7,850 (4,4); 7,827 (4,3); 7,815 (7,2); 7,752 (9,3); 7,747 (11,6); 7,720 (6,3); 7,715 (4,4); 7,699 (7,2); 7,694 (5,8); 7,569 (4,2); 7,514 (10,8); 7,493 (8,8); 4,012 (0,8); 3,891 (0,5); 3,458 (0,5); 3,452 (0,5); 3,236 (1,8); 3,067 (0,5); 3,056 (0,5); 2,848 (0,4); 2,140 (115,1); 2,120 (1,0); 2,114 (1,4); 2,108 (1,6); 2,102 (1,2); 2,095 (0,6); 1,972 (1,7); 1,965 (8,4); 1,958 (21,0); 1,953 (103,8); 1,947 (185,9); 1,940 (245,9); 1,934 (166,9); 1,928 (84,5); 1,781 (0,6); 1,775 (1,1); 1,769 (1,5); 1,763 (1,0); 1,756 (0,6); 1,605 (4,6); 1,591 (11,9); 1,584 (11,8); 1,570 (6,0); 1,530 (0,8); 1,437 (6,2); 1,407 (0,7); 1,367 (6,3); 1,353 (11,8); 1,346 (12,0); 1,332 (4,7); 1,294 (0,6); 1,269 (5,1); 1,204 (0,6); 0,882 (0,6); 0,146 (1,2); 0,008 (11,5); 0,000 (282,0); -0,009 (9,7); -0,150 (1,3)
Beispiel I-T3-35: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,496 (0,7); 8,480 (16,0); 8,182 (15,3); 8,181 (14,8); 8,087 (6,6); 8,065 (7,9); 7,848 (4,7); 7,825 (4,8); 7,812 (7,7); 7,702 (9,9); 7,697 (11,9); 7,670 (6,9); 7,664 (4,9); 7,649 (7,8); 7,643 (6,3); 7,481 (10,8); 7,460 (8,6); 6,929 (2,9); 2,887 (0,7); 2,877 (2,1); 2,868 (2,9); 2,859 (4,5); 2,849 (4,5); 2,841 (2,9); 2,831 (2,1); 2,822 (0,7); 2,467 (0,4); 2,463 (0,5); 2,458 (0,4); 2,153 (188,6); 2,120 (0,8); 2,114 (1,1); 2,108 (1,3); 2,102 (0,9); 2,096 (0,5); 1,972 (2,2); 1,965 (8,7); 1,959 (23,3); 1,953 (95,7); 1,947 (167,7); 1,941 (215,6); 1,934 (146,4); 1,928 (73,1); 1,781 (0,5); 1,775 (0,9); 1,769 (1,2); 1,763 (0,8); 1,757 (0,4); 1,437 (6,9); 1,269 (0,6); 1,204 (0,5); 0,800 (2,4); 0,788 (7,7); 0,783 (9,7); 0,770 (10,2); 0,765 (7,3); 0,753 (3,1); 0,731 (0,4); 0,713 (0,4); 0,656 (0,4); 0,646 (0,4); 0,617 (3,3); 0,605 (8,7); 0,599 (9,2); 0,595 (8,3); 0,590 (7,6); 0,577 (2,2); 0,522 (0,3); 0,146 (1,0); 0,000 (233,4); -0,009 (9,6); -0,150 (1,0)
Beispiel I-T3-36: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,496 (16,0); 8,192 (15,3); 8,093 (6,4); 8,071 (7,7); 7,850 (4,3); 7,827 (4,3); 7,814 (7,1); 7,749 (9,1); 7,743 (11,5); 7,726 (6,8); 7,721 (4,1); 7,706 (7,6); 7,700 (5,6); 7,532 (10,3); 7,511 (8,3); 7,340 (2,4); 4,149 (2,3); 4,132 (2,8); 4,125 (7,1); 4,109 (7,4); 4,102 (7,4); 4,085 (7,2); 4,078 (2,6); 4,061 (2,3); 2,137 (51,6); 2,120 (0,6); 2,114 (0,9); 2,108 (1,0); 2,102 (0,7); 2,095 (0,4); 1,965 (6,7); 1,958 (18,2); 1,953 (74,7); 1,946 (129,6); 1,940 (165,9); 1,934 (111,8); 1,928 (55,4); 1,781 (0,4); 1,775 (0,7); 1,769 (1,0); 1,763 (0,6); 1,437 (3,7); 1,270 (0,3); 0,146 (0,8); 0,008 (11,2); 0,000 (188,1); -0,009 (6,3); -0,150 (0,8)
Beispiel I-T3-37: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,518 (0,5); 8,490 (16,0); 8,238 (0,5); 8,193 (14,9); 8,090 (6,7); 8,069 (7,7); 7,850 (4,2); 7,827 (4,0); 7,814 (6,7); 7,735 (9,2); 7,729 (11,3); 7,717 (0,4); 7,696 (6,1); 7,690 (4,5); 7,675 (7,0); 7,669 (5,9); 7,587 (0,4); 7,536 (0,3); 7,514 (0,6); 7,504 (11,0); 7,494 (0,6); 7,483 (9,1); 7,459 (1,7); 7,445 (1,6); 6,694 (0,4); 6,666 (0,3); 5,364 (0,6); 5,343 (2,4); 5,322 (4,7); 5,301 (4,6); 5,280 (2,4); 5,259 (0,7); 4,006 (0,5); 3,589 (0,4); 3,567 (0,4); 3,549 (6,1); 3,545 (3,8); 3,525 (11,4); 3,507 (4,3); 3,503 (7,9); 3,379 (8,1); 3,375 (5,1); 3,358 (11,5); 3,355 (10,8); 3,338 (3,6); 3,334 (6,2); 3,067 (0,5); 2,848 (0,5); 2,472 (0,5); 2,468 (1,0); 2,463 (1,3); 2,458 (1,0); 2,453 (0,5); 2,264 (0,3); 2,245 (0,4); 2,151 (305,9); 2,120 (1,6); 2,114 (2,3); 2,107 (2,8); 2,101 (2,0); 2,095 (1,0); 2,022 (1,9); 2,003 (0,5); 1,964 (14,6); 1,958 (33,8); 1,952 (185,3); 1,946 (333,6); 1,940 (449,3); 1,934 (307,4); 1,928 (157,3); 1,915 (1,9); 1,781 (1,0); 1,775 (1,8); 1,768 (2,5); 1,762 (1,7); 1,756 (0,8); 1,269 (2,1); 0,146 (3,1); 0,025 (0,7); 0,008 (22,9); 0,000 (696,9); -0,009 (23,3); -0,150 (3,1)
Beispiel I-T3-38: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,238 (7,9); 8,119 (7,5); 7,748 (4,6); 7,742 (5,7); 7,729 (4,0); 7,711 (3,1); 7,706 (2,3); 7,690 (3,5); 7,685 (2,8); 7,666 (1,4); 7,644 (2,6); 7,595 (5,4); 7,574 (4,0); 7,500 (5,1); 7,479 (4,2); 4,068 (1,0); 4,050 (1,0); 4,032 (0,3); 2,800 (1,9); 2,781 (5,9); 2,762 (6,0); 2,744 (2,0); 2,139 (27,7); 2,120 (0,5); 2,113 (0,5); 2,107 (0,6); 2,101 (0,4); 1,972 (4,6); 1,964 (2,9); 1,958 (7,5); 1,952 (33,5); 1,946 (58,9); 1,940 (77,3); 1,933 (53,2); 1,927 (27,2); 1,774 (0,4); 1,768 (0,5); 1,762 (0,3); 1,601 (2,2); 1,587 (6,0); 1,580 (6,0); 1,566 (3,0); 1,526 (0,4); 1,402 (0,3); 1,362 (3,0); 1,348 (6,0); 1,342 (6,1); 1,327 (2,3); 1,270 (1,6); 1,221 (1,2); 1,204 (2,3); 1,186 (1,1); 1,113 (7,7); 1,095 (16,0); 1,076 (7,4); 0,146 (1,1); 0,008 (13,7); 0,000 (231,5); -0,009 (10,7); -0,150 (1,1)

Beispiel I-T3-39: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,226 (8,7); 8,120 (0,4); 8,108 (8,2); 7,726 (4,1); 7,700 (4,7); 7,694 (5,9); 7,680 (0,5); 7,663 (4,5); 7,657 (3,5); 7,642 (6,1); 7,637 (5,3); 7,593 (5,2); 7,572 (2,8); 7,467 (5,6); 7,447 (4,6); 6,927 (1,4); 3,874 (0,7); 3,051 (0,4); 2,938 (0,4); 2,875 (0,9); 2,865 (1,4); 2,857 (2,1); 2,847 (2,1); 2,838 (1,4); 2,829 (1,0); 2,819 (0,3); 2,798 (2,0); 2,780 (6,2); 2,761 (6,4); 2,742 (2,2); 2,463 (0,4); 2,160 (108,1); 2,120 (0,8); 2,114 (0,9); 2,108 (1,0); 2,101 (0,7); 2,095 (0,4); 1,972 (0,6); 1,964 (3,4); 1,958 (8,7); 1,952 (47,6); 1,946 (86,2); 1,940 (115,8); 1,934 (80,2); 1,928 (41,7); 1,781 (0,4); 1,775 (0,5); 1,768 (0,7); 1,762 (0,5); 1,437 (6,6); 1,270 (1,4); 1,112 (7,8); 1,102 (1,0); 1,093 (16,0); 1,074 (7,6); 0,797 (1,2); 0,784 (3,7); 0,779 (4,7); 0,766 (4,9); 0,761 (3,7); 0,749 (1,7); 0,614 (1,6); 0,602 (4,5); 0,596 (4,5); 0,592 (4,0); 0,587 (4,0); 0,574 (1,2); 0,146 (1,3); 0,008 (10,2); 0,007 (10,2); 0,000 (266,8); -0,008 (11,5); -0,150 (1,3)
Beispiel I-T3-40: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,241 (8,2); 8,240 (8,8); 8,117 (8,2); 7,746 (4,6); 7,741 (6,2); 7,727 (4,2); 7,718 (3,5); 7,712 (2,4); 7,697 (3,6); 7,691 (3,1); 7,664 (1,4); 7,642 (2,6); 7,597 (5,2); 7,576 (2,7); 7,516 (5,5); 7,495 (4,5); 7,352 (0,9); 4,144 (1,2); 4,128 (1,3); 4,121 (3,6); 4,104 (3,6); 4,097 (3,8); 4,081 (3,6); 4,074 (1,4); 4,057 (1,2); 2,800 (2,0); 2,781 (6,2); 2,763 (6,3); 2,744 (2,1); 2,153 (11,7); 2,149 (14,3); 1,971 (0,5); 1,964 (1,3); 1,958 (3,1); 1,952 (16,8); 1,946 (30,8); 1,940 (41,6); 1,934 (28,7); 1,927 (14,8); 1,436 (10,4); 1,268 (0,4); 1,114 (7,8); 1,095 (16,0); 1,076 (7,6); 0,146 (0,6); 0,008 (4,4); 0,000 (116,7); -0,008 (5,1); -0,150 (0,6)
Beispiel I-T3-41: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,239 (7,9); 8,122 (7,5); 7,732 (8,1); 7,727 (9,3); 7,689 (3,0); 7,684 (2,4); 7,668 (4,6); 7,663 (4,2); 7,644 (2,6); 7,598 (4,8); 7,577 (2,6); 7,491 (5,3); 7,470 (4,9); 5,342 (1,2); 5,320 (2,4); 5,300 (2,4); 5,279 (1,2); 3,548 (3,0); 3,524 (6,0); 3,502 (4,1); 3,374 (4,1); 3,371 (2,6); 3,354 (6,0); 3,351 (5,6); 3,330 (3,2); 2,803 (1,9); 2,784 (5,9); 2,765 (6,0); 2,746 (2,1); 2,468 (0,8); 2,464 (0,9); 2,459 (0,7); 2,156 (336,8); 2,120 (1,6); 2,114 (2,0); 2,107 (2,3); 2,101 (1,6); 2,095 (1,0); 1,964 (10,5); 1,958 (27,4); 1,952 (132,9); 1,946 (239,9); 1,940 (318,6); 1,934 (221,8); 1,928 (114,5); 1,781 (0,8); 1,775 (1,4); 1,769 (1,9); 1,762 (1,3); 1,756 (0,7); 1,437 (0,8); 1,269 (2,2); 1,115 (7,6); 1,096 (16,0); 1,078 (7,4); 0,146 (3,8); 0,008 (39,2); 0,000 (832,6); -0,008 (44,8); -0,150 (4,0)
Beispiel I-T3-42: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,830 (5,8); 8,821 (4,0); 8,815 (4,0); 8,694 (1,8); 8,683 (1,8); 8,548 (5,3); 8,547 (5,5); 8,315 (0,6); 8,192 (4,1); 8,186 (3,9); 8,107 (8,4); 3,902 (16,0); 3,333 (334,0); 3,243 (1,4); 3,175 (0,9); 3,162 (0,9); 2,870 (0,5); 2,861 (0,7); 2,852 (1,1); 2,842 (1,1); 2,833 (0,7); 2,824 (0,5); 2,680 (0,3); 2,676 (0,7); 2,672 (0,9); 2,667 (0,7); 2,662 (0,3); 2,542 (0,6); 2,525 (2,7); 2,511 (58,6); 2,507 (116,6); 2,502 (152,6); 2,498 (110,8); 2,493 (53,8); 2,338 (0,3); 2,334 (0,7); 2,329 (0,9); 2,325 (0,7); 1,909 (0,5); 1,016 (0,6); 1,001 (0,6); 0,757 (0,7); 0,744 (2,0); 0,739 (2,8); 0,727 (2,6); 0,721 (2,2); 0,709 (0,9); 0,566 (0,9); 0,555 (2,6); 0,549 (2,4); 0,545 (2,3); 0,540 (2,2); 0,528 (0,7); 0,008 (0,5); 0,000 (16,2); -0,009 (0,5)
Beispiel I-T3-43: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,603 (7,1); 8,876 (6,9); 8,870 (6,9); 8,843 (10,4); 8,833 (0,4); 8,554 (10,3); 8,315 (0,8); 8,280 (7,0); 8,274 (6,8); 8,110 (16,0); 3,903 (14,5); 3,434 (0,4); 3,333 (565,4); 3,045 (0,5); 2,869 (0,5); 2,676 (1,3); 2,671 (1,7); 2,667 (1,3); 2,662 (0,7); 2,542 (1,5); 2,524 (5,6); 2,511 (106,6); 2,507 (206,6); 2,502 (266,2); 2,498 (191,5); 2,493 (91,5); 2,338 (0,5); 2,334 (1,1); 2,329 (1,5); 2,325 (1,1); 1,643 (2,4); 1,629 (5,7); 1,622 (6,0); 1,609 (2,6); 1,298 (2,9); 1,284 (5,7); 1,277 (6,1); 1,263 (2,3); 1,249 (0,4); 1,236 (0,4); 0,008 (0,8); 0,000 (22,4); -0,009 (0,7)
Beispiel I-T3-44: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,115 (9,4); 8,071 (10,0); 7,690 (6,4); 7,685 (6,3); 7,668 (1,1); 7,653 (3,9); 7,632 (4,2); 7,586 (0,3); 7,549 (8,1); 7,509 (0,4); 7,463 (5,6); 7,442 (4,5); 6,896 (2,5); 4,068 (0,5); 4,051 (0,5); 2,871 (1,3); 2,862 (1,9); 2,853 (2,6); 2,844 (2,5); 2,835 (1,9); 2,826 (1,2); 2,816 (0,5); 2,452 (2,7); 2,434 (7,4); 2,415 (7,5); 2,396 (2,8); 2,251 (0,5); 2,143 (127,4); 2,113 (3,7); 2,092 (29,0); 1,971 (7,1); 1,952 (73,0); 1,946 (111,8); 1,943 (112,2); 1,940 (130,1); 1,937 (90,9); 1,934 (90,5); 1,928 (48,4); 1,774 (0,6); 1,768 (0,7); 1,437 (3,1); 1,221 (0,7); 1,204 (1,2); 1,186 (0,6); 1,082 (8,3); 1,063 (16,0); 1,044 (7,9); 0,794 (1,7); 0,780 (6,1); 0,777 (6,2); 0,764 (6,6); 0,747 (2,1); 0,726 (0,4); 0,610 (2,4); 0,600 (6,7); 0,592 (7,0); 0,572 (1,7); 0,535 (0,4); 0,528 (0,3); 0,524 (0,3); 0,147 (1,4); 0,000 (240,4); -0,149 (1,3)
Beispiel I-T3-45: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,126 (9,0); 8,092 (9,4); 7,735 (4,9); 7,730 (6,5); 7,710 (3,2); 7,705 (2,4); 7,689 (3,6); 7,684 (3,1); 7,549 (5,9); 7,542 (5,8); 7,513 (5,6); 7,492 (4,6); 7,422 (1,5); 4,140 (1,2); 4,123 (1,5); 4,116 (3,7); 4,100 (3,9); 4,093 (4,1); 4,076 (3,7); 4,069 (1,6); 4,052 (1,2); 3,545 (1,6); 2,464 (1,4); 2,455 (2,7); 2,436 (6,7); 2,417 (6,9); 2,398 (2,4); 2,378 (0,9); 2,253 (0,5); 2,221 (1,4); 2,176 (369,0); 2,126 (0,6); 2,120 (0,7); 2,114 (1,0); 2,108 (1,5); 2,094 (27,0); 1,953 (71,9); 1,947 (129,9); 1,941 (173,4); 1,935 (125,8); 1,928 (67,7); 1,781 (0,4); 1,775 (0,7); 1,769 (1,1); 1,763 (0,7); 1,757 (0,4); 1,436 (9,9); 1,269 (0,4); 1,102 (0,5); 1,084 (8,0); 1,065 (16,0); 1,046 (7,7); 1,025 (0,5); 0,146 (2,0); 0,000 (393,0); -0,150 (2,0)
Beispiel I-T3-46: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,127 (4,1); 8,085 (4,4); 7,738 (2,5); 7,732 (3,1); 7,702 (1,6); 7,697 (1,2); 7,681 (1,8); 7,676 (1,5); 7,625 (0,9); 7,551 (2,4); 7,543 (2,3); 7,495 (2,9); 7,474 (2,3); 2,453 (1,1); 2,435 (3,1); 2,416 (3,2); 2,397 (1,1); 2,158 (61,0); 2,114 (0,4); 2,108 (0,5); 2,092 (12,6); 1,964 (2,0); 1,958 (4,9); 1,953 (25,4); 1,946 (45,6); 1,940 (61,1); 1,934 (42,3); 1,928 (21,8); 1,769 (0,4); 1,598 (1,2); 1,583 (3,1); 1,576 (3,1); 1,563 (1,6); 1,437 (16,0); 1,358 (1,6); 1,345 (3,1); 1,338 (3,2); 1,323 (1,3); 1,269 (1,8); 1,083 (4,2); 1,064 (8,8); 1,045 (4,0); 0,146 (0,7); 0,017 (0,4); 0,008 (5,9); 0,000 (150,8); -0,009 (6,1); -0,150 (0,7)
Beispiel I-T3-47: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,128 (3,6); 8,084 (3,8); 7,721 (2,0); 7,715 (2,5); 7,678 (1,2); 7,673 (1,0); 7,657 (1,4); 7,652 (1,2); 7,551 (2,1); 7,544 (2,1); 7,485 (2,4); 7,464 (2,2); 5,338 (0,6); 5,316 (1,1); 5,296 (1,1); 5,275 (0,6); 3,544 (1,4); 3,520 (2,8); 3,498 (1,8); 3,370 (1,7); 3,349 (2,6); 3,346 (2,4); 3,325 (1,4); 2,456 (0,9); 2,437 (2,6); 2,418 (2,7); 2,399 (0,9); 2,166 (9,4); 2,153 (19,8); 2,107 (0,4); 2,095 (10,7); 1,964 (1,2); 1,958 (3,1); 1,952 (15,2); 1,946 (27,1); 1,940 (36,2); 1,934 (25,2); 1,928 (13,1); 1,437 (16,0); 1,085 (3,2); 1,066 (6,7); 1,047 (3,1); 0,146 (0,4); 0,008 (3,9); 0,000 (86,8); -0,008 (4,3); -0,150 (0,5)
Beispiel I-T3-48: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,261 (10,8); 8,206 (0,8); 8,193 (16,0); 7,692 (9,7); 7,686 (12,3); 7,675 (1,0); 7,657 (6,5); 7,652 (4,9); 7,637 (9,5); 7,630 (13,3); 7,608 (11,0); 7,475 (11,5); 7,455 (9,1); 6,940 (2,5); 3,911 (0,6); 2,882 (0,7); 2,872 (2,0); 2,863 (2,8); 2,854 (4,4); 2,845 (4,3); 2,836 (2,9); 2,827 (2,0); 2,817 (0,7); 2,467 (0,3); 2,463 (0,4); 2,163 (117,4); 2,120 (0,3); 2,114 (0,5); 2,108 (0,7); 2,102 (0,5); 1,972 (1,7); 1,965 (3,3); 1,959 (8,5); 1,953 (43,3); 1,947 (77,6); 1,941 (103,6); 1,934 (71,4); 1,928 (36,7); 1,775 (0,4); 1,769 (0,6); 1,763 (0,4); 1,437 (2,0); 1,269 (0,7); 1,221 (0,4); 1,204 (0,7); 1,186 (0,3); 0,795 (2,4); 0,783 (7,5); 0,778 (9,7); 0,765 (10,2); 0,760 (7,3); 0,748 (3,3); 0,726 (0,4); 0,708 (0,4); 0,654 (0,4); 0,644 (0,4); 0,614 (3,3); 0,604 (8,6); 0,597 (9,0); 0,593 (7,8); 0,588 (7,7); 0,575 (2,3); 0,514 (0,4); 0,146 (1,3); 0,026 (0,4); 0,008 (10,5); 0,000 (259,4); -0,009 (10,3); -0,150 (1,2)

Beispiel I-T3-49: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,277 (10,6); 8,206 (16,0); 7,740 (9,1); 7,735 (12,1); 7,709 (6,2); 7,704 (4,7); 7,688 (7,6); 7,683 (7,1); 7,669 (3,6); 7,645 (1,5); 7,631 (10,9); 7,611 (10,7); 7,574 (0,5); 7,510 (11,0); 7,500 (0,6); 7,489 (9,0); 7,475 (0,4); 7,221 (0,4); 5,448 (8,3); 4,034 (0,9); 3,914 (1,0); 3,906 (0,7); 3,897 (0,5); 2,469 (1,1); 2,464 (1,5); 2,460 (1,1); 2,243 (0,4); 2,175 (509,2); 2,120 (1,2); 2,114 (1,7); 2,108 (2,0); 2,102 (1,5); 2,096 (0,9); 1,965 (8,1); 1,959 (21,5); 1,953 (116,7); 1,947 (211,5); 1,941 (284,4); 1,934 (197,6); 1,928 (103,4); 1,781 (0,8); 1,775 (1,3); 1,769 (1,8); 1,763 (1,3); 1,757 (0,7); 1,635 (0,4); 1,598 (4,6); 1,584 (12,3); 1,577 (12,3); 1,563 (6,3); 1,523 (0,8); 1,437 (0,7); 1,403 (0,8); 1,363 (6,4); 1,349 (12,1); 1,342 (12,8); 1,328 (4,9); 1,290 (0,6); 1,270 (2,7); 1,206 (1,3); 1,190 (1,2); 0,882 (0,3); 0,146 (3,5); 0,008 (26,4); 0,000 (693,0); -0,008 (31,4); -0,048 (0,4); -0,150 (3,5)
Beispiel I-T3-50: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,131 (3,8); 8,120 (0,3); 8,108 (3,8); 7,670 (2,4); 7,664 (2,9); 7,636 (1,7); 7,630 (1,2); 7,615 (1,9); 7,609 (1,6); 7,462 (2,8); 7,441 (2,1); 7,320 (3,0); 7,300 (1,2); 6,909 (0,6); 4,085 (0,5); 4,068 (1,4); 4,050 (1,4); 4,032 (0,5); 3,901 (16,0); 2,870 (0,5); 2,861 (0,7); 2,852 (1,1); 2,843 (1,1); 2,834 (0,7); 2,825 (0,5); 2,147 (64,0); 2,114 (0,3); 2,107 (0,4); 1,972 (6,8); 1,964 (3,1); 1,958 (6,8); 1,952 (27,1); 1,946 (46,5); 1,940 (60,6); 1,934 (41,2); 1,928 (20,8); 1,768 (0,3); 1,437 (1,1); 1,221 (1,7); 1,204 (3,2); 1,186 (1,6); 0,793 (0,6); 0,781 (1,8); 0,776 (2,3); 0,763 (2,4); 0,758 (1,7); 0,746 (0,8); 0,610 (0,9); 0,599 (2,1); 0,593 (2,1); 0,589 (1,9); 0,584 (1,8); 0,571 (0,5); 0,146 (0,7); 0,008 (9,0); 0,000 (144,6); -0,009 (5,4); -0,150 (0,7)
Beispiel I-T3-51: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,206 (0,4); 8,147 (3,5); 8,120 (3,6); 7,717 (2,2); 7,712 (2,8); 7,686 (1,6); 7,680 (1,3); 7,675 (0,4); 7,665 (2,0); 7,659 (1,9); 7,654 (0,6); 7,644 (0,5); 7,630 (0,5); 7,610 (0,3); 7,503 (0,4); 7,495 (2,6); 7,482 (0,3); 7,474 (2,1); 7,321 (2,8); 7,302 (1,1); 4,068 (0,9); 4,050 (0,9); 3,902 (16,0); 2,170 (60,8); 2,114 (0,4); 2,108 (0,5); 2,102 (0,3); 1,972 (4,1); 1,965 (2,3); 1,959 (5,7); 1,953 (31,1); 1,947 (56,0); 1,940 (74,9); 1,934 (51,0); 1,928 (25,9); 1,775 (0,3); 1,769 (0,4); 1,595 (1,1); 1,581 (2,7); 1,574 (2,7); 1,560 (1,5); 1,437 (1,0); 1,359 (1,5); 1,346 (2,7); 1,339 (2,8); 1,324 (1,1); 1,222 (1,1); 1,204 (2,1); 1,186 (1,0); 1,140 (0,5); 1,132 (0,6); 0,928 (0,6); 0,921 (0,6); 0,146 (0,8); 0,008 (7,0); 0,000 (187,7); -0,009 (6,3); -0,150 (0,8)
Beispiel I-T3-52: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,276 (6,4); 8,163 (0,3); 8,151 (6,6); 8,149 (7,0); 8,128 (3,5); 8,104 (1,6); 8,082 (1,8); 7,863 (2,9); 7,842 (2,4); 7,694 (4,0); 7,689 (5,1); 7,680 (0,5); 7,660 (3,0); 7,654 (2,2); 7,639 (3,3); 7,633 (2,8); 7,474 (4,9); 7,454 (3,9); 6,935 (1,1); 4,086 (0,7); 4,068 (2,0); 4,050 (2,1); 4,032 (0,7); 2,873 (0,8); 2,863 (1,2); 2,855 (1,8); 2,845 (1,9); 2,836 (1,2); 2,827 (0,9); 2,165 (66,0); 2,163 (75,8); 1,972 (9,5); 1,965 (1,3); 1,959 (3,0); 1,953 (16,9); 1,947 (30,5); 1,941 (41,0); 1,935 (28,3); 1,928 (14,5); 1,436 (16,0); 1,269 (0,5); 1,221 (2,5); 1,204 (4,8); 1,186 (2,4); 0,796 (1,0); 0,784 (2,9); 0,778 (3,9); 0,766 (4,1); 0,761 (3,0); 0,748 (1,4); 0,613 (1,4); 0,602 (3,5); 0,596 (3,5); 0,592 (3,2); 0,587 (3,2); 0,574 (1,0); 0,008 (2,1); 0,000 (62,9); -0,009 (2,3)
Beispiel I-T3-53: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,291 (3,8); 8,162 (4,2); 8,130 (2,0); 8,108 (0,9); 8,086 (1,0); 7,866 (1,8); 7,844 (1,5); 7,742 (2,5); 7,736 (3,2); 7,709 (2,0); 7,703 (1,5); 7,688 (2,7); 7,682 (2,4); 7,506 (3,0); 7,485 (2,4); 2,196 (8,5); 2,183 (24,4); 1,972 (1,1); 1,965 (0,6); 1,959 (1,4); 1,954 (7,8); 1,947 (14,2); 1,941 (19,1); 1,935 (13,1); 1,929 (6,7); 1,599 (1,3); 1,585 (3,1); 1,578 (3,1); 1,564 (1,7); 1,436 (16,0); 1,362 (1,7); 1,349 (3,0); 1,342 (3,1); 1,327 (1,3); 1,204 (0,6); 0,008 (1,6); 0,000 (44,8); -0,009 (1,6)
Beispiel I-T3-54: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,162 (0,9); 8,153 (15,7); 8,108 (12,4); 7,996 (6,8); 7,952 (7,0); 7,683 (9,7); 7,678 (12,2); 7,666 (0,8); 7,650 (6,7); 7,644 (4,9); 7,629 (7,9); 7,624 (6,4); 7,513 (0,4); 7,469 (11,7); 7,448 (9,3); 6,931 (2,4); 5,448 (0,6); 4,235 (0,4); 4,218 (0,4); 4,086 (0,6); 4,068 (1,8); 4,057 (0,4); 4,050 (1,8); 4,032 (0,6); 2,879 (0,8); 2,870 (2,2); 2,860 (2,8); 2,852 (4,7); 2,842 (4,7); 2,834 (2,9); 2,824 (2,2); 2,814 (0,7); 2,473 (0,6); 2,468 (1,0); 2,463 (1,4); 2,459 (1,0); 2,454 (0,5); 2,276 (0,4); 2,264 (0,4); 2,245 (0,6); 2,226 (0,8); 2,159 (388,9); 2,116 (47,5); 2,108 (3,9); 2,101 (1,9); 2,095 (1,0); 2,050 (0,8); 2,035 (0,7); 2,017 (1,1); 1,998 (1,0); 1,972 (9,4); 1,964 (12,6); 1,958 (30,5); 1,953 (165,9); 1,946 (298,2); 1,940 (398,5); 1,934 (272,4); 1,928 (139,0); 1,915 (1,9); 1,781 (0,9); 1,775 (1,6); 1,769 (2,3); 1,762 (1,6); 1,756 (0,8); 1,509 (0,3); 1,437 (13,5); 1,341 (0,4); 1,307 (1,0); 1,289 (1,9); 1,269 (16,0); 1,222 (2,4); 1,204 (4,5); 1,186 (2,2); 0,898 (0,7); 0,881 (2,2); 0,864 (1,0); 0,793 (2,4); 0,780 (7,3); 0,775 (9,5); 0,762 (10,1); 0,757 (6,9); 0,745 (3,2); 0,723 (0,5); 0,705 (0,5); 0,650 (0,4); 0,640 (0,5); 0,631 (0,5); 0,626 (0,6); 0,610 (3,5); 0,600 (7,9); 0,598 (7,8); 0,593 (8,2); 0,588 (7,1); 0,583 (7,2); 0,571 (2,4); 0,523 (0,3); 0,393 (0,5); 0,385 (0,5); 0,381 (0,5); 0,376 (0,5); 0,146 (3,4); 0,008 (28,7); 0,000 (825,5); -0,009 (28,8); -0,030 (0,5); -0,150 (3,4)
Beispiel I-T3-55: ^{1}H-NMR (601,6 MHz, CD3CN): δ= 8,166 (3,1); 8,165 (3,2); 8,124 (2,4); 8,000 (1,2); 7,954 (1,2); 7,732 (2,0); 7,729 (2,3); 7,697 (1,3); 7,693 (1,1); 7,683 (1,5); 7,679 (1,3); 7,499 (2,3); 7,485 (2,0); 2,180 (8,0); 2,177 (8,1); 2,175 (8,7); 2,172 (9,0); 2,169 (10,1); 2,167 (8,6); 2,163 (12,2); 2,117 (8,6); 1,973 (0,6); 1,966 (0,7); 1,958 (1,9); 1,954 (2,1); 1,950 (12,7); 1,946 (22,2); 1,942 (32,1); 1,938 (21,1); 1,934 (10,5); 1,591 (1,0); 1,581 (2,2); 1,577 (2,2); 1,568 (1,1); 1,436 (16,0); 1,354 (1,2); 1,345 (2,2); 1,341 (2,3); 1,331 (1,0); 1,204 (0,4); 0,005 (1,3); 0,000 (42,8); -0,006 (1,2)
Beispiel I-T3-56: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,210 (7,6); 8,194 (0,9); 8,186 (15,9); 8,185 (16,0); 8,161 (0,7); 8,149 (14,1); 8,059 (7,6); 7,686 (9,6); 7,681 (12,3); 7,653 (6,8); 7,647 (5,0); 7,632 (7,9); 7,626 (6,5); 7,517 (0,3); 7,473 (11,6); 7,452 (9,1); 6,900 (2,7); 2,878 (0,7); 2,869 (2,1); 2,859 (2,9); 2,851 (4,6); 2,841 (4,6); 2,832 (2,9); 2,823 (2,2); 2,813 (0,7); 2,136 (41,9); 2,120 (0,5); 2,113 (0,6); 2,107 (0,8); 2,101 (0,5); 2,086 (0,4); 1,964 (15,3); 1,958 (9,2); 1,952 (49,0); 1,946 (88,5); 1,940 (118,3); 1,934 (80,8); 1,927 (41,2); 1,915 (0,5); 1,774 (0,5); 1,768 (0,7); 1,762 (0,5); 1,270 (0,4); 0,792 (2,4); 0,780 (7,2); 0,775 (9,6); 0,762 (10,1); 0,757 (7,0); 0,745 (3,3); 0,723 (0,4); 0,705 (0,4); 0,650 (0,4); 0,640 (0,4); 0,610 (3,3); 0,600 (8,0); 0,599 (8,0); 0,593 (8,4); 0,589 (7,4); 0,584 (7,5); 0,571 (2,4); 0,520 (0,4); 0,146 (0,9); 0,008 (7,4); 0,000 (218,3); -0,009 (7,6); -0,150 (0,9)
Beispiel I-T3-57: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,211 (2,2); 8,197 (4,2); 8,163 (3,5); 8,060 (2,1); 7,735 (2,4); 7,730 (3,0); 7,704 (1,6); 7,699 (1,1); 7,683 (1,8); 7,678 (1,5); 7,553 (1,2); 7,508 (2,8); 7,487 (2,3); 2,133 (61,2); 2,113 (0,8); 2,107 (0,9); 2,101 (0,7); 2,095 (0,4); 1,964 (4,3); 1,958 (11,3); 1,952 (55,5); 1,946 (99,8); 1,940 (134,0); 1,934 (93,4); 1,927 (48,7); 1,774 (0,6); 1,768 (0,8); 1,762 (0,5); 1,596 (1,1); 1,582 (3,0); 1,575 (3,1); 1,561 (1,6); 1,437 (16,0); 1,361 (1,6); 1,348 (3,0); 1,341 (3,1); 1,326 (1,2); 1,269 (0,3); 0,146 (1,1); 0,008 (9,0); 0,000 (233,2); -0,009 (12,0); -0,150 (1,0)
Beispiel I-T3-58: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,212 (1,1); 8,196 (2,4); 8,168 (2,0); 8,062 (1,1); 7,732 (1,4); 7,727 (2,0); 7,710 (1,1); 7,704 (0,7); 7,689 (1,2); 7,683 (1,0); 7,523 (1,8); 7,502 (1,4); 4,139 (0,4); 4,123 (0,4); 4,116 (1,2); 4,099 (1,2); 4,092 (1,3); 4,076 (1,2); 4,068 (0,5); 4,052 (0,4); 2,154 (2,8); 2,152 (3,0); 1,958 (0,6); 1,952 (3,2); 1,946 (5,8); 1,940 (7,8); 1,934 (5,3); 1,928 (2,7); 1,436 (16,0); 0,008 (0,5); 0,000 (14,4); -0,009 (0,5)

Beispiel I-T3-59: ^{1}H-NMR (601,6 MHz, d_6-DMSO): δ= 19,976 (2,1); 9,451 (11,5); 9,045 (16,0); 8,978 (7,7); 8,792 (7,9); 8,789 (7,8); 8,502 (16,0); 8,320 (2,2); 7,918 (8,4); 7,914 (11,9); 7,904 (7,1); 7,900 (4,5); 7,890 (6,8); 7,886 (5,6); 7,573 (10,3); 7,560 (9,7); 4,034 (1,6); 4,022 (1,5); 3,338 (576,9); 2,615 (4,0); 2,524 (5,6); 2,521 (7,1); 2,518 (8,3); 2,509 (220,0); 2,506 (474,2); 2,503 (654,0); 2,500 (473,2); 2,497 (216,3); 2,387 (3,5); 1,990 (4,8); 1,615 (4,4); 1,606 (10,1); 1,602 (10,7); 1,593 (4,6); 1,398 (2,2); 1,300 (4,9); 1,291 (9,5); 1,286 (10,1); 1,277 (4,3); 1,175 (3,1); 0,096 (2,5); 0,005 (23,7); 0,000 (635,1); -0,006 (20,4); -0,100 (2,7)
Beispiel I-T3-60: ^{1}H-NMR (400,0 MHz, $CDCl_3$): δ= 8,687 (8,6); 8,685 (8,5); 8,596 (15,9); 8,577 (0,6); 8,173 (8,6); 8,168 (8,5); 8,114 (16,0); 7,901 (10,7); 7,896 (11,0); 7,567 (5,3); 7,561 (5,3); 7,555 (1,2); 7,546 (7,0); 7,540 (6,9); 7,483 (0,4); 7,426 (11,9); 7,406 (8,9); 7,264 (25,7); 6,415 (3,4); 5,301 (12,8); 2,991 (0,6); 2,982 (1,7); 2,973 (3,0); 2,964 (4,1); 2,955 (4,1); 2,946 (3,1); 2,937 (1,8); 2,928 (0,7); 1,601 (5,6); 1,378 (1,1); 1,333 (0,6); 1,327 (0,4); 1,285 (1,1); 1,255 (5,4); 0,938 (2,5); 0,921 (10,0); 0,907 (9,8); 0,903 (8,2); 0,890 (3,5); 0,880 (1,2); 0,868 (0,9); 0,862 (0,7); 0,850 (0,9); 0,836 (0,6); 0,742 (0,4); 0,733 (0,4); 0,703 (3,0); 0,689 (8,1); 0,685 (8,5); 0,680 (8,2); 0,676 (7,9); 0,662 (2,4); 0,557 (0,5); 0,551 (0,5); 0,008 (0,6); 0,000 (19,7); -0,008 (1,0)
Beispiel I-T3-61: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,266 (6,2); 8,208 (0,5); 8,195 (8,9); 7,692 (5,7); 7,687 (6,8); 7,678 (0,7); 7,658 (3,7); 7,652 (2,8); 7,637 (4,3); 7,632 (3,5); 7,593 (5,8); 7,572 (5,8); 7,475 (6,2); 7,454 (4,9); 6,962 (1,7); 5,449 (0,9); 4,086 (0,3); 4,068 (1,1); 4,050 (1,1); 4,032 (0,4); 2,882 (0,4); 2,873 (1,2); 2,863 (1,6); 2,855 (2,6); 2,845 (2,6); 2,837 (1,7); 2,827 (1,2); 2,817 (0,4); 2,181 (57,5); 1,972 (4,8); 1,965 (1,5); 1,959 (3,8); 1,953 (16,3); 1,947 (29,0); 1,941 (37,9); 1,935 (26,4); 1,929 (13,7); 1,436 (16,0); 1,268 (0,8); 1,221 (1,3); 1,204 (2,5); 1,186 (1,2); 0,795 (1,3); 0,783 (4,5); 0,777 (5,6); 0,765 (5,9); 0,760 (4,4); 0,747 (1,8); 0,615 (1,8); 0,605 (5,0); 0,603 (5,0); 0,598 (5,5); 0,593 (4,9); 0,588 (4,6); 0,576 (1,4); 0,000 (58,7); -0,009 (3,0)
Beispiel I-T3-62: ^{1}H-NMR (601,6 MHz, CD3CN): δ= 8,282 (5,8); 8,209 (9,7); 7,742 (5,2); 7,738 (6,1); 7,705 (3,5); 7,702 (2,9); 7,692 (4,0); 7,688 (3,5); 7,644 (0,8); 7,594 (5,2); 7,580 (5,1); 7,506 (6,4); 7,493 (5,6); 2,197 (13,4); 2,194 (14,8); 2,191 (16,6); 2,188 (16,2); 2,186 (16,6); 2,184 (16,2); 2,181 (15,5); 2,179 (16,7); 1,973 (1,0); 1,967 (1,1); 1,959 (2,7); 1,954 (3,0); 1,951 (18,5); 1,947 (31,7); 1,942 (46,4); 1,938 (30,9); 1,934 (15,5); 1,594 (2,6); 1,584 (6,6); 1,580 (6,4); 1,571 (3,2); 1,544 (0,3); 1,436 (16,0); 1,359 (3,2); 1,350 (6,2); 1,345 (6,8); 1,336 (2,7); 1,266 (0,4); 1,204 (0,5); 0,005 (1,2); 0,000 (39,8); -0,006 (1,3)
Beispiel I-T3-63: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,666 (5,1); 8,523 (1,9); 8,512 (2,0); 8,389 (5,2); 7,850 (2,9); 7,814 (2,7); 7,736 (1,2); 7,730 (1,9); 7,710 (7,1); 7,511 (2,5); 7,490 (2,1); 3,327 (42,2); 2,856 (0,5); 2,846 (0,8); 2,838 (1,2); 2,828 (1,2); 2,819 (0,8); 2,810 (0,5); 2,671 (0,4); 2,506 (46,0); 2,502 (59,6); 2,498 (46,8); 2,438 (0,6); 2,329 (0,4); 2,203 (0,6); 2,188 (12,9); 1,398 (16,0); 0,727 (0,7); 0,714 (2,3); 0,709 (3,0); 0,697 (2,8); 0,691 (2,5); 0,680 (0,9); 0,560 (0,9); 0,549 (3,0); 0,543 (3,1); 0,534 (2,7); 0,522 (0,7); 0,000 (42,2)
Beispiel I-T3-64: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,432 (2,1); 8,689 (2,8); 8,404 (2,9); 7,853 (1,5); 7,816 (1,5); 7,795 (0,6); 7,789 (1,2); 7,780 (1,7); 7,775 (2,6); 7,560 (1,6); 7,552 (0,4); 7,538 (1,4); 3,327 (22,2); 2,507 (17,7); 2,502 (23,3); 2,498 (17,9); 2,436 (0,3); 2,189 (6,9); 1,989 (0,4); 1,615 (0,7); 1,600 (1,8); 1,594 (1,9); 1,581 (0,8); 1,398 (16,0); 1,284 (0,8); 1,270 (1,8); 1,264 (2,0); 1,249 (0,7); 0,008 (0,7); 0,000 (19,4)
Beispiel I-T3-65: ^{1}H-NMR (500,1 MHz, d_6-DMSO): δ= 9,726 (2,4); 8,559 (1,7); 8,556 (1,8); 8,306 (2,2); 7,930 (0,7); 7,914 (1,5); 7,897 (0,8); 7,588 (3,9); 7,467 (1,5); 7,450 (1,4); 3,305 (13,5); 2,508 (2,9); 2,504 (6,0); 2,501 (8,2); 2,497 (6,1); 2,494 (3,0); 2,106 (16,0); 1,645 (0,8); 1,634 (2,0); 1,628 (2,1); 1,617 (0,8); 1,239 (1,1); 1,228 (2,0); 1,222 (2,1); 1,211 (0,8); 0,000 (5,4)
Beispiel I-T3-66: ^{1}H-NMR (400,2 MHz, d_6-DMSO): δ= 9,726 (4,5); 8,587 (3,6); 8,583 (3,6); 8,305 (4,5); 7,934 (1,5); 7,913 (3,1); 7,892 (1,7); 7,597 (3,1); 7,562 (3,1); 7,468 (3,1); 7,447 (2,9); 5,753 (0,4); 3,427 (0,5); 3,307 (130,4); 3,283 (0,9); 3,236 (0,8); 2,669 (0,5); 2,504 (61,2); 2,500 (82,9); 2,496 (61,6); 2,431 (1,1); 2,412 (3,4); 2,394 (3,5); 2,375 (1,2); 2,327 (0,5); 2,322 (0,4); 2,087 (16,0); 1,987 (0,6); 1,648 (1,6); 1,634 (4,0); 1,628 (4,2); 1,614 (1,7); 1,463 (0,4); 1,240 (2,1); 1,227 (4,0); 1,220 (4,2); 1,206 (1,5); 1,174 (0,4); 1,031 (5,0); 1,012 (10,6); 0,993 (4,8); 0,146 (0,6); 0,008 (5,8); 0,000 (128,9); -0,150 (0,6)
Beispiel I-T3-67: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,778 (1,2); 8,767 (1,2); 8,544 (1,7); 8,539 (1,8); 8,297 (2,1); 7,876 (0,8); 7,855 (1,5); 7,834 (0,8); 7,593 (3,9); 7,418 (1,5); 7,397 (1,4); 3,903 (3,9); 3,331 (120,3); 2,855 (0,5); 2,846 (0,7); 2,836 (0,7); 2,827 (0,5); 2,818 (0,3); 2,676 (0,5); 2,671 (0,7); 2,667 (0,6); 2,524 (2,0); 2,511 (45,1); 2,507 (87,8); 2,502 (113,1); 2,498 (83,2); 2,333 (0,5); 2,329 (0,7); 2,324 (0,5); 2,120 (0,9); 2,105 (16,0); 0,752 (0,4); 0,739 (1,3); 0,734 (1,7); 0,721 (1,7); 0,716 (1,4); 0,704 (0,5); 0,522 (0,6); 0,511 (1,6); 0,505 (1,6); 0,501 (1,5); 0,496 (1,5); 0,483 (0,5); 0,000 (6,3)
Beispiel I-T3-68: ^{1}H-NMR (500,1 MHz, d_6-DMSO): δ= 8,752 (2,4); 8,743 (2,4); 8,561 (3,4); 8,558 (3,7); 8,289 (4,4); 7,868 (1,5); 7,851 (3,0); 7,834 (1,6); 7,597 (3,0); 7,563 (3,0); 7,411 (3,0); 7,394 (2,9); 3,304 (38,0); 2,861 (0,6); 2,854 (0,9); 2,847 (1,4); 2,839 (1,4); 2,831 (0,9); 2,824 (0,7); 2,507 (6,9); 2,504 (14,1); 2,500 (19,4); 2,497 (14,5); 2,493 (7,2); 2,426 (1,2); 2,411 (3,5); 2,396 (3,6); 2,381 (1,2); 2,101 (1,1); 2,089 (16,0); 1,029 (5,5); 1,013 (11,1); 0,998 (5,0); 0,746 (0,9); 0,736 (2,7); 0,732 (3,5); 0,722 (3,4); 0,718 (2,8); 0,708 (1,0); 0,521 (1,1); 0,512 (3,3); 0,508 (3,3); 0,505 (3,1); 0,500 (3,1); 0,490 (0,9); 0,006 (0,7); 0,000 (14,7); -0,007 (0,6)
Beispiel I-T3-69: ^{1}H-NMR (400,2 MHz, d_6-DMSO): δ= 9,352 (4,3); 8,553 (4,2); 8,286 (4,4); 7,965 (1,0); 7,946 (2,0); 7,927 (1,1); 7,601 (3,3); 7,567 (3,5); 7,478 (0,9); 7,460 (2,0); 7,444 (1,3); 7,350 (2,0); 7,331 (3,4); 7,312 (1,5); 3,342 (0,4); 3,308 (118,1); 3,290 (0,6); 2,669 (0,3); 2,504 (47,2); 2,500 (55,9); 2,496 (39,1); 2,443 (1,2); 2,425 (3,6); 2,406 (3,6); 2,387 (1,2); 2,327 (0,3); 2,097 (16,0); 1,595 (1,7); 1,581 (4,8); 1,574 (4,3); 1,561 (1,8); 1,293 (2,0); 1,279 (4,8); 1,273 (4,3); 1,258 (1,6); 1,236 (0,8); 1,041 (4,9); 1,022 (10,0); 1,003 (4,6); 0,000 (32,0); -0,008 (1,3)
Beispiel I-T3-70: ^{1}H-NMR (400,2 MHz, d_6-DMSO): δ= 8,528 (3,4); 8,524 (3,6); 8,456 (1,7); 8,445 (1,7); 8,270 (4,0); 7,896 (0,9); 7,891 (0,9); 7,877 (1,7); 7,873 (1,8); 7,858 (1,0); 7,854 (0,9); 7,598 (2,8); 7,565 (2,8); 7,403 (0,8); 7,399 (0,8); 7,384 (1,7); 7,368 (1,2); 7,364 (1,1); 7,303 (2,5); 7,284 (3,9); 7,265 (1,7); 3,309 (77,4); 2,875 (0,6); 2,866 (0,8); 2,857 (1,3); 2,847 (1,4); 2,839 (0,8); 2,829 (0,6); 2,509 (11,1); 2,505 (23,7); 2,500 (33,3); 2,496 (24,3); 2,491

(11,5); 2,442 (1,1); 2,423 (3,4); 2,404 (3,5); 2,386 (1,2); 2,096 (16,0); 1,236 (0,6); 1,040 (5,1); 1,021 (11,2); 1,002 (5,0); 0,725 (0,9); 0,712 (2,5); 0,707 (3,5); 0,695 (3,3); 0,689 (2,7); 0,677 (1,2); 0,557 (1,2); 0,546 (3,4); 0,540 (3,0); 0,536 (2,8); 0,530 (2,8); 0,518 (0,9); 0,008 (0,7); 0,000 (21,2); -0,009 (0,8)
Beispiel I-T3-71: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,160 (3,6); 8,139 (3,7); 7,764 (2,0); 7,739 (2,0); 7,733 (2,7); 7,704 (1,3); 7,699 (1,2); 7,683 (3,4); 7,678 (2,3); 7,553 (1,2); 7,502 (2,4); 7,481 (1,9); 3,060 (0,5); 2,851 (0,5); 2,520 (0,8); 2,501 (2,5); 2,482 (2,5); 2,463 (0,9); 2,134 (30,8); 2,114 (0,4); 2,107 (0,5); 2,101 (0,4); 1,964 (2,0); 1,958 (4,9); 1,952 (28,1); 1,946 (52,7); 1,940 (72,6); 1,934 (52,6); 1,928 (28,4); 1,768 (0,4); 1,762 (0,3); 1,598 (1,0); 1,583 (2,5); 1,577 (2,7); 1,563 (1,4); 1,437 (16,0); 1,361 (1,3); 1,347 (2,7); 1,340 (2,9); 1,326 (1,1); 1,102 (3,5); 1,083 (7,4); 1,064 (3,4); 0,146 (0,4); 0,008 (3,1); 0,000 (97,3); -0,150 (0,4)
Beispiel I-T3-72: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,150 (5,4); 8,130 (5,6); 7,764 (2,7); 7,689 (4,2); 7,684 (6,5); 7,655 (1,9); 7,650 (1,5); 7,634 (2,2); 7,629 (1,9); 7,469 (3,6); 7,448 (2,9); 6,939 (0,9); 2,871 (0,6); 2,862 (0,9); 2,853 (1,4); 2,843 (1,4); 2,834 (1,0); 2,825 (0,6); 2,518 (1,2); 2,499 (3,7); 2,480 (3,8); 2,462 (1,4); 2,168 (77,5); 2,114 (0,3); 2,108 (0,4); 1,965 (1,9); 1,959 (4,8); 1,953 (25,8); 1,947 (47,0); 1,941 (63,4); 1,935 (44,6); 1,929 (23,7); 1,769 (0,4); 1,437 (16,0); 1,100 (5,0); 1,081 (10,2); 1,062 (4,8); 0,794 (0,8); 0,781 (2,3); 0,776 (3,1); 0,763 (3,2); 0,758 (2,4); 0,746 (1,1); 0,611 (1,0); 0,600 (2,8); 0,594 (2,9); 0,590 (2,6); 0,585 (2,6); 0,572 (0,8); 0,146 (0,3); 0,008 (2,6); 0,000 (69,9); -0,008 (4,3); -0,149 (0,3)
Beispiel I-T3-73: ^{1}H-NMR (400,1 MHz, d_6-DMSO): = 8,77 (0,0325); 8,76 (0,0329); 8,67 (0,0447); 8,40 (0,0688); 8,07 (0,1396); 7,89 (0,0039); 7,88 (0,0202); 7,87 (0,0405); 7,43 (0,0406); 7,42 (0,0383); 3,78 (0,0029); 3,59 (0,0071); 3,30 (1,0000); 3,17 (0,0044); 3,16 (0,0042); 2,85 (0,0123); 2,84 (0,0187); 2,83 (0,0088); 2,64 (0,0025); 2,50 (0,4120); 2,37 (0,0016); 1,24 (0,0054); 0,73 (0,0482); 0,72 (0,0467); 0,71 (0,0149); 0,52 (0,0154); 0,50 (0,0420); 0,49 (0,0128); 0,12 (0,0012); 0,00 (0,2886); -0,12 (0,0012)
Beispiel I-T3-74: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,381 (5,5); 8,653 (5,5); 8,317 (0,7); 8,293 (5,6); 7,988 (1,2); 7,984 (1,3); 7,969 (2,4); 7,965 (2,4); 7,950 (1,4); 7,946 (1,3); 7,747 (4,4); 7,734 (1,5); 7,713 (7,2); 7,706 (4,3); 7,683 (0,7); 7,493 (1,1); 7,489 (1,2); 7,474 (2,5); 7,458 (1,6); 7,454 (1,5); 7,362 (3,0); 7,343 (5,1); 7,324 (2,2); 3,903 (11,7); 3,333 (264,8); 3,267 (0,3); 3,174 (0,6); 3,162 (0,6); 2,802 (1,7); 2,783 (5,4); 2,765 (5,5); 2,746 (1,8); 2,676 (1,4); 2,672 (1,9); 2,667 (1,4); 2,542 (1,1); 2,525 (5,6); 2,511 (121,2); 2,507 (238,9); 2,503 (309,3); 2,498 (228,5); 2,494 (115,5); 2,334 (1,3); 2,329 (1,8); 2,325 (1,4); 1,603 (2,2); 1,589 (5,6); 1,582 (6,0); 1,569 (2,6); 1,298 (2,8); 1,285 (5,7); 1,278 (6,1); 1,264 (2,3); 1,237 (0,5); 1,060 (7,3); 1,042 (16,0); 1,023 (7,2); 0,008 (0,6); 0,000 (17,6); -0,008 (0,7)
Beispiel I-T3-75: ^{1}H-NMR (400,2 MHz, d_6-DMSO): δ= 8,621 (4,9); 8,618 (5,3); 8,463 (2,4); 8,452 (2,4); 8,277 (5,0); 8,274 (5,4); 7,913 (1,3); 7,909 (1,4); 7,894 (2,4); 7,890 (2,5); 7,875 (1,4); 7,871 (1,3); 7,742 (4,3); 7,730 (1,5); 7,709 (7,2); 7,702 (4,2); 7,679 (0,7); 7,416 (1,1); 7,412 (1,2); 7,397 (2,4); 7,381 (1,7); 7,377 (1,6); 7,313 (3,4); 7,294 (5,4); 7,275 (2,3); 3,333 (0,6); 3,324 (0,5); 3,307 (125,1); 3,285 (0,5); 2,879 (0,8); 2,870 (1,2); 2,861 (1,9); 2,851 (1,9); 2,842 (1,2); 2,833 (0,9); 2,822 (0,4); 2,798 (1,7); 2,780 (5,3); 2,761 (5,5); 2,742 (1,8); 2,509 (17,8); 2,505 (38,4); 2,500 (54,1); 2,496 (39,8); 2,491 (19,1); 2,327 (0,3); 1,235 (0,5); 1,061 (7,3); 1,042 (16,0); 1,023 (7,1); 0,729 (1,2); 0,716 (3,4); 0,711 (4,8); 0,699 (4,5); 0,693 (3,7); 0,682 (1,6); 0,562 (1,6); 0,552 (4,7); 0,546 (4,2); 0,542 (4,0); 0,536 (3,9); 0,524 (1,2); 0,008 (1,4); 0,000 (45,5); -0,009 (1,9)
Beispiel I-T3-76: ^{1}H-NMR (400,1 MHz, d_6-DMSO): δ= 9,531 (3,2); 9,102 (3,2); 9,096 (3,3); 8,822 (3,2); 8,817 (3,3); 8,727 (5,1); 8,442 (1,9); 8,436 (3,4); 8,428 (5,4); 7,617 (2,1); 7,582 (2,1); 5,759 (16,0); 3,568 (2,8); 3,437 (0,3); 3,424 (0,4); 3,326 (355,3); 3,303 (1,2); 2,711 (0,5); 2,675 (0,6); 2,670 (0,7); 2,667 (0,5); 2,557 (0,4); 2,554 (0,7); 2,552 (0,9); 2,551 (1,1); 2,541 (159,1); 2,530 (1,2); 2,528 (1,0); 2,527 (1,0); 2,524 (1,3); 2,510 (33,8); 2,506 (67,9); 2,502 (90,5); 2,497 (63,3); 2,493 (29,5); 2,458 (0,9); 2,440 (2,5); 2,421 (2,5); 2,402 (0,9); 2,368 (0,6); 2,333 (0,6); 2,329 (0,7); 2,324 (0,6); 2,111 (12,0); 2,086 (1,1); 1,629 (1,2); 1,615 (2,9); 1,608 (3,2); 1,595 (1,5); 1,346 (1,4); 1,332 (2,9); 1,325 (3,2); 1,311 (1,1); 1,072 (0,6); 1,055 (1,3); 1,048 (4,1); 1,037 (0,9); 1,029 (8,8); 1,010 (3,8); 0,008 (2,0); 0,000 (66,6); -0,008 (2,4); -0,014 (0,4)
Beispiel I-T3-77: ^{1}H-NMR (400,1 MHz, d_6-DMSO): δ= 9,043 (4,2); 9,038 (4,3); 8,798 (4,2); 8,793 (4,4); 8,705 (6,6); 8,645 (1,9); 8,635 (2,0); 8,409 (6,8); 8,389 (2,6); 8,384 (4,6); 8,379 (2,6); 7,613 (2,8); 7,580 (2,9); 5,759 (4,7); 3,327 (158,6); 2,902 (0,6); 2,892 (1,0); 2,884 (1,5); 2,874 (1,5); 2,866 (1,0); 2,856 (0,7); 2,671 (0,4); 2,541 (65,9); 2,511 (20,9); 2,506 (42,9); 2,502 (59,0); 2,498 (43,4); 2,493 (22,4); 2,458 (2,1); 2,438 (3,5); 2,419 (3,4); 2,401 (1,3); 2,367 (0,3); 2,329 (0,4); 2,110 (16,0); 2,086 (1,2); 1,989 (0,4); 1,072 (0,4); 1,055 (1,0); 1,048 (5,3); 1,029 (11,6); 1,010 (5,3); 0,763 (0,9); 0,750 (2,3); 0,745 (3,4); 0,733 (3,3); 0,727 (2,8); 0,716 (1,4); 0,617 (1,2); 0,607 (3,5); 0,600 (3,1); 0,591 (2,8); 0,579 (1,0); 0,008 (1,3); 0,000 (40,7); -0,008 (2,2)
Beispiel I-T3-78: ^{1}H-NMR (400,1 MHz, d_6-DMSO): δ= 9,542 (5,5); 9,127 (5,7); 9,122 (5,9); 8,857 (8,8); 8,834 (5,6); 8,829 (5,9); 8,472 (3,3); 8,467 (5,7); 8,461 (3,2); 8,434 (8,9); 7,757 (4,0); 7,724 (7,7); 7,699 (0,6); 5,759 (5,9); 4,020 (0,4); 3,611 (0,6); 3,568 (1,5); 3,426 (0,9); 3,326 (364,4); 3,303 (1,4); 3,235 (1,3); 2,821 (1,6); 2,802 (5,1); 2,783 (5,1); 2,765 (1,7); 2,711 (0,6); 2,670 (0,9); 2,666 (0,7); 2,541 (164,7); 2,510 (48,8); 2,506 (100,5); 2,502 (137,3); 2,497 (98,8); 2,493 (47,9); 2,367 (0,6); 2,329 (0,8); 1,989 (1,5); 1,633 (2,1); 1,619 (5,2); 1,612 (5,6); 1,599 (2,4); 1,350 (2,6); 1,337 (5,3); 1,330 (5,5); 1,316 (2,0); 1,234 (0,4); 1,192 (0,4); 1,174 (0,8); 1,156 (0,5); 1,146 (0,5); 1,069 (7,2); 1,050 (16,0); 1,032 (7,1); 0,146 (0,4); 0,008 (2,9); 0,000 (90,5); -0,008 (3,5)
Beispiel I-T3-79: ^{1}H-NMR (500,1 MHz, d_6-DMSO): δ= 9,064 (5,0); 9,059 (5,1); 8,821 (8,9); 8,811 (5,2); 8,807 (5,3); 8,630 (2,5); 8,622 (2,5); 8,413 (3,8); 8,408 (13,3); 7,748 (4,3); 7,738 (1,8); 7,721 (6,6); 7,712 (3,8); 7,695 (0,9); 5,752 (1,0); 3,305 (76,3); 3,281 (0,4); 2,910 (0,4); 2,902 (0,9); 2,895 (1,3); 2,888 (2,0); 2,880 (2,0); 2,873 (1,3); 2,865 (1,0); 2,858 (0,4); 2,813 (1,7); 2,798 (5,5); 2,783 (5,6); 2,768 (1,9); 2,508 (13,7); 2,504 (28,5); 2,501 (39,3); 2,497 (29,3); 2,494 (14,5); 1,908 (2,7); 1,236 (0,5); 1,068 (7,4); 1,053 (16,0); 1,038 (7,3); 0,761 (1,2); 0,751 (3,5); 0,747 (4,8); 0,737 (4,6); 0,733 (3,8); 0,723 (1,6); 0,620 (1,6); 0,612 (4,7); 0,607 (4,4); 0,604 (4,2); 0,599 (4,0); 0,589 (1,2); 0,006 (1,3); 0,000 (30,6); -0,007 (1,4)
Beispiel I-T3-80: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,128 (2,6); 8,082 (2,8); 7,736 (1,6); 7,731 (2,1); 7,701 (1,1); 7,696 (0,8); 7,680 (1,2); 7,675 (1,1); 7,608 (0,4); 7,562 (1,4); 7,549 (1,4); 7,494 (1,9); 7,473 (1,5); 2,448 (0,6); 2,429 (1,9); 2,410 (2,0); 2,391 (0,7); 2,164 (9,8); 2,155 (20,2); 2,088 (7,6); 1,965 (1,0); 1,959 (2,5); 1,953 (13,9); 1,946 (25,4); 1,940 (34,2); 1,934 (24,1); 1,928 (12,6); 1,598 (0,8); 1,583 (2,0); 1,577 (2,0); 1,563 (1,1); 1,437 (16,0); 1,358 (1,0); 1,345 (2,0); 1,338 (2,1); 1,323 (0,8); 1,268 (0,7); 1,092 (2,7); 1,073 (5,7); 1,054 (2,6); 0,008 (1,1); 0,000 (34,6); -0,009 (1,5)

Beispiel I-T3-81: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,115 (7,2); 8,067 (7,4); 7,688 (4,4); 7,683 (5,6); 7,667 (0,5); 7,652 (3,0); 7,646 (2,4); 7,631 (3,5); 7,625 (3,0); 7,560 (4,1); 7,546 (4,1); 7,462 (5,2); 7,441 (4,2); 6,903 (1,2); 2,880 (0,3); 2,871 (0,9); 2,861 (1,3); 2,853 (2,1); 2,843 (2,1); 2,835 (1,3); 2,825 (1,0); 2,815 (0,4); 2,447 (1,8); 2,428 (5,5); 2,409 (5,7); 2,390 (1,9); 2,141 (55,3); 2,120 (1,0); 2,113 (0,9); 2,107 (1,0); 2,101 (0,9); 2,086 (21,5); 1,964 (4,2); 1,958 (10,5); 1,952 (54,5); 1,946 (98,5); 1,940 (132,1); 1,934 (92,1); 1,927 (48,4); 1,774 (0,5); 1,768 (0,8); 1,762 (0,5); 1,437 (1,3); 1,270 (1,0); 1,090 (7,7); 1,071 (16,0); 1,052 (7,4); 0,794 (1,1); 0,781 (3,3); 0,776 (4,4); 0,763 (4,7); 0,758 (3,4); 0,746 (1,6); 0,610 (1,5); 0,598 (3,8); 0,592 (4,0); 0,588 (3,6); 0,583 (3,6); 0,571 (1,1); 0,146 (1,8); 0,031 (0,4); 0,030 (0,4); 0,0272 (0,4); 0,0265 (0,4); 0,026 (0,4); 0,022 (0,6); 0,008 (16,0); 0,000 (381,4); -0,009 (18,6); -0,150 (1,8)
Beispiel I-T3-82: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,127 (7,5); 8,085 (7,7); 7,734 (4,3); 7,729 (5,7); 7,708 (3,2); 7,703 (2,2); 7,688 (3,6); 7,682 (2,9); 7,561 (3,9); 7,548 (3,8); 7,512 (5,3); 7,491 (4,4); 7,365 (0,9); 4,141 (1,1); 4,124 (1,2); 4,117 (3,5); 4,100 (3,5); 4,093 (3,7); 4,077 (3,5); 4,070 (1,3); 4,053 (1,2); 2,462 (0,4); 2,457 (0,4); 2,450 (1,8); 2,431 (5,5); 2,412 (5,7); 2,393 (1,9); 2,150 (76,9); 2,120 (0,5); 2,113 (0,7); 2,107 (0,8); 2,101 (0,8); 2,090 (21,3); 1,964 (3,5); 1,958 (8,4); 1,952 (45,7); 1,946 (82,9); 1,940 (111,8); 1,934 (77,5); 1,927 (40,4); 1,774 (0,4); 1,768 (0,6); 1,762 (0,4); 1,437 (1,0); 1,269 (1,0); 1,093 (7,7); 1,074 (16,0); 1,055 (7,4); 0,146 (1,4); 0,008 (11,1); 0,000 (291,0); -0,009 (12,7); -0,150 (1,4)
Beispiel I-T3-83: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,128 (7,9); 8,079 (8,4); 7,719 (4,9); 7,713 (6,1); 7,677 (3,1); 7,671 (2,5); 7,656 (3,5); 7,650 (3,1); 7,562 (4,8); 7,548 (4,7); 7,484 (5,6); 7,463 (5,1); 7,436 (1,2); 5,447 (1,2); 5,337 (1,3); 5,316 (2,5); 5,295 (2,5); 5,274 (1,3); 4,068 (0,4); 4,050 (0,4); 3,543 (3,2); 3,540 (2,1); 3,520 (6,4); 3,498 (4,2); 3,370 (4,2); 3,367 (2,8); 3,350 (6,2); 3,346 (5,9); 3,326 (3,3); 2,462 (0,3); 2,451 (2,0); 2,432 (6,0); 2,413 (6,2); 2,394 (2,1); 2,150 (115,6); 2,120 (0,5); 2,114 (0,7); 2,107 (0,9); 2,091 (23,5); 1,972 (1,9); 1,964 (3,0); 1,958 (7,9); 1,952 (39,4); 1,946 (71,5); 1,940 (96,0); 1,934 (68,4); 1,928 (36,7); 1,774 (0,4); 1,768 (0,6); 1,762 (0,4); 1,437 (2,7); 1,268 (1,0); 1,221 (0,4); 1,204 (0,8); 1,186 (0,4); 1,094 (7,8); 1,075 (16,0); 1,056 (7,5); 0,146 (1,1); 0,008 (9,8); 0,000 (220,9); -0,150 (1,1)
Beispiel I-T3-84: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,162 (9,4); 8,125 (7,5); 7,997 (4,3); 7,952 (4,4); 7,729 (4,8); 7,724 (6,8); 7,707 (3,5); 7,701 (2,3); 7,686 (3,9); 7,680 (3,2); 7,519 (6,1); 7,498 (4,9); 7,348 (1,3); 4,140 (1,3); 4,123 (1,4); 4,116 (3,9); 4,100 (3,9); 4,092 (4,2); 4,076 (3,9); 4,069 (1,7); 4,052 (1,4); 2,146 (92,5); 2,120 (27,2); 2,108 (1,6); 2,101 (0,9); 2,095 (0,5); 1,971 (0,9); 1,964 (3,5); 1,958 (9,1); 1,952 (47,9); 1,946 (87,4); 1,940 (118,0); 1,934 (83,5); 1,928 (44,7); 1,774 (0,5); 1,768 (0,7); 1,762 (0,5); 1,437 (16,0); 1,270 (0,6); 0,146 (0,9); 0,008 (6,8); 0,000 (179,6); -0,008 (10,9); -0,150 (0,9)
Beispiel I-T3-85: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,163 (5,2); 8,118 (4,2); 7,998 (2,5); 7,953 (2,5); 7,716 (3,0); 7,710 (3,7); 7,675 (1,9); 7,669 (1,5); 7,654 (2,2); 7,648 (1,9); 7,490 (3,5); 7,469 (2,8); 7,418 (0,8); 7,400 (0,8); 5,335 (0,8); 5,314 (1,6); 5,293 (1,6); 5,272 (0,8); 3,542 (2,0); 3,538 (1,3); 3,518 (4,0); 3,496 (2,6); 3,370 (2,6); 3,367 (1,7); 3,349 (3,8); 3,346 (3,6); 3,326 (2,0); 2,133 (15,0); 2,120 (15,4); 2,101 (0,5); 1,971 (1,1); 1,964 (1,7); 1,958 (4,3); 1,952 (19,7); 1,946 (35,3); 1,940 (47,2); 1,934 (33,6); 1,927 (18,1); 1,437 (16,0); 1,204 (0,4); 0,146 (0,4); 0,008 (3,9); 0,000 (78,7); -0,150 (0,4)
Beispiel I-T3-86: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,252 (0,3); 8,146 (2,7); 8,110 (0,4); 8,102 (2,9); 7,899 (1,3); 7,708 (1,4); 7,690 (1,7); 7,685 (2,2); 7,655 (1,2); 7,649 (0,9); 7,634 (1,5); 7,628 (1,4); 7,468 (2,2); 7,447 (1,8); 6,891 (0,5); 2,871 (0,4); 2,862 (0,5); 2,853 (0,8); 2,843 (0,8); 2,835 (0,5); 2,825 (0,4); 2,415 (1,0); 2,171 (8,3); 2,132 (10,6); 1,971 (0,5); 1,964 (1,1); 1,958 (2,6); 1,952 (13,9); 1,946 (25,2); 1,940 (34,0); 1,933 (23,7); 1,927 (12,5); 1,437 (16,0); 1,269 (0,4); 0,794 (0,4); 0,781 (1,3); 0,776 (1,7); 0,764 (1,8); 0,758 (1,3); 0,746 (0,6); 0,611 (0,6); 0,599 (1,5); 0,593 (1,6); 0,589 (1,4); 0,584 (1,4); 0,571 (0,5); 0,008 (2,3); 0,000 (63,9); -0,009 (3,1)
Beispiel I-T3-87: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,171 (11,0); 8,170 (11,0); 8,122 (12,2); 8,120 (11,4); 7,729 (6,8); 7,724 (8,7); 7,697 (4,9); 7,691 (3,7); 7,676 (5,6); 7,670 (4,6); 7,606 (16,0); 7,604 (15,8); 7,551 (3,2); 7,500 (8,3); 7,479 (6,7); 5,446 (0,7); 4,085 (0,6); 4,068 (2,0); 4,050 (2,0); 4,032 (0,7); 3,240 (0,6); 2,132 (42,8); 2,119 (0,5); 2,113 (0,7); 2,107 (0,9); 2,101 (0,6); 2,095 (0,3); 1,971 (9,0); 1,964 (4,0); 1,958 (10,1); 1,952 (56,8); 1,946 (103,2); 1,940 (138,6); 1,933 (95,2); 1,927 (49,0); 1,914 (0,7); 1,780 (0,3); 1,774 (0,6); 1,768 (0,8); 1,762 (0,6); 1,595 (3,6); 1,581 (8,5); 1,574 (8,5); 1,560 (4,6); 1,520 (0,5); 1,437 (11,1); 1,400 (0,6); 1,360 (4,7); 1,346 (8,6); 1,340 (8,8); 1,325 (3,6); 1,317 (0,8); 1,287 (0,4); 1,269 (1,4); 1,221 (2,5); 1,204 (4,7); 1,186 (2,3); 0,146 (1,8); 0,008 (14,1); 0,000 (400,9); -0,009 (15,1); -0,150 (1,8)
Beispiel I-T3-88: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,160 (10,6); 8,111 (11,3); 7,681 (6,2); 7,675 (7,9); 7,647 (3,9); 7,642 (3,1); 7,627 (4,5); 7,621 (4,0); 7,605 (16,0); 7,467 (7,2); 7,447 (5,7); 6,936 (2,0); 5,448 (0,4); 4,067 (0,5); 4,049 (0,5); 2,879 (0,4); 2,869 (1,3); 2,860 (2,0); 2,851 (2,8); 2,842 (2,9); 2,833 (2,0); 2,824 (1,4); 2,814 (0,5); 2,467 (1,2); 2,462 (1,7); 2,458 (1,3); 2,253 (0,6); 2,226 (0,4); 2,158 (239,6); 2,120 (1,0); 2,113 (1,3); 2,107 (1,6); 2,101 (1,2); 2,095 (0,7); 1,971 (3,4); 1,964 (8,0); 1,958 (20,3); 1,952 (98,7); 1,946 (178,8); 1,940 (240,6); 1,934 (170,9); 1,928 (91,2); 1,781 (0,5); 1,774 (1,0); 1,768 (1,3); 1,762 (1,0); 1,756 (0,5); 1,437 (3,0); 1,269 (0,9); 1,221 (0,5); 1,203 (1,0); 1,185 (0,5); 0,792 (1,7); 0,779 (4,8); 0,774 (6,6); 0,761 (6,5); 0,756 (5,1); 0,744 (2,2); 0,610 (2,2); 0,599 (6,0); 0,592 (6,3); 0,583 (5,4); 0,571 (1,6); 0,146 (3,3); 0,007 (29,1); 0,000 (640,2); -0,150 (3,3)
Beispiel I-T3-89: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,437 (11,1); 8,788 (15,9); 8,367 (16,0); 8,317 (0,8); 7,986 (0,4); 7,903 (6,6); 7,897 (6,7); 7,824 (9,1); 7,810 (13,0); 7,805 (11,4); 7,802 (13,2); 7,797 (8,0); 7,791 (3,7); 7,614 (3,7); 7,610 (3,5); 7,591 (2,9); 7,588 (2,9); 7,560 (9,0); 7,551 (1,7); 7,546 (1,5); 7,537 (7,7); 3,903 (8,5); 3,332 (418,5); 3,174 (0,7); 3,162 (0,6); 2,676 (2,0); 2,671 (2,7); 2,667 (2,1); 2,541 (1,6); 2,507 (359,7); 2,502 (464,1); 2,498 (346,7); 2,333 (2,1); 2,329 (2,9); 2,325 (2,2); 1,618 (3,7); 1,604 (9,3); 1,597 (9,9); 1,584 (4,2); 1,543 (0,4); 1,327 (0,4); 1,287 (4,3); 1,274 (9,4); 1,267 (9,9); 1,253 (3,8); 1,234 (1,5); 1,215 (0,5); 1,181 (0,4); 1,177 (0,4); 0,861 (0,4); 0,853 (0,4); 0,843 (0,4); 0,834 (0,4); 0,824 (0,4); 0,813 (0,3); 0,008 (0,9); 0,000 (24,6); -0,008 (1,1)
Beispiel I-T3-90: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,565 (0,4); 8,349 (0,6); 8,333 (14,0); 8,123 (0,6); 8,109 (13,1); 8,096 (0,6); 7,904 (0,4); 7,881 (0,4); 7,712 (8,7); 7,689 (16,0); 7,683 (10,7); 7,672 (1,0); 7,654 (5,5); 7,648 (4,2); 7,633 (6,1); 7,627 (5,3); 7,617 (5,0); 7,611 (5,5); 7,475 (0,5); 7,467 (9,7); 7,454 (0,7); 7,446 (9,4); 7,438 (3,3); 7,422 (2,4); 7,419 (2,6); 7,416 (2,5); 6,891 (2,1); 5,446 (0,4); 3,899 (0,6); 2,881 (0,6); 2,872 (1,7); 2,862 (2,4); 2,854 (3,8); 2,844 (3,9); 2,835 (2,5); 2,826 (1,8); 2,816 (0,6); 2,132 (62,2); 2,113 (1,1); 2,107 (1,3); 2,101 (0,9); 2,095 (0,5); 1,996 (0,3); 1,971 (0,9); 1,964 (5,7); 1,958 (14,2); 1,952 (81,0); 1,946 (147,9); 1,940 (200,1); 1,933 (139,4); 1,927 (72,6); 1,780 (0,5); 1,774 (0,8); 1,768 (1,1);

1,762 (0,8); 1,756 (0,4); 1,268 (2,3); 0,881 (0,3); 0,796 (2,0); 0,783 (5,8); 0,778 (7,9); 0,765 (8,2); 0,760 (6,0); 0,748 (2,8); 0,726 (0,4); 0,709 (0,4); 0,653 (0,3); 0,643 (0,3); 0,613 (2,8); 0,601 (6,7); 0,595 (7,1); 0,591 (6,3); 0,586 (6,3); 0,574 (2,0); 0,146 (2,4); 0,008 (17,6); 0,000 (508,1); -0,009 (24,9); -0,150 (2,4)
Beispiel I-T3-91: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,837 (3,4); 8,831 (3,6); 8,747 (6,3); 8,532 (1,9); 8,521 (2,0); 8,474 (6,2); 8,100 (9,7); 7,954 (3,3); 7,949 (3,5); 4,109 (0,4); 4,095 (0,4); 3,904 (16,0); 3,335 (287,0); 3,267 (0,5); 3,243 (0,4); 3,174 (2,4); 3,162 (2,5); 2,877 (0,6); 2,868 (0,9); 2,859 (1,3); 2,849 (1,3); 2,840 (0,9); 2,831 (0,6); 2,676 (1,0); 2,671 (1,3); 2,667 (1,0); 2,507 (156,9); 2,502 (206,2); 2,498 (158,4); 2,334 (0,9); 2,329 (1,2); 2,325 (0,9); 1,258 (0,4); 1,002 (1,3); 0,986 (1,2); 0,740 (0,8); 0,727 (2,3); 0,722 (3,1); 0,710 (2,9); 0,704 (2,4); 0,693 (1,0); 0,568 (1,0); 0,558 (3,1); 0,552 (2,9); 0,548 (2,7); 0,542 (2,5); 0,530 (0,7); 0,000 (1,8)
Beispiel I-T3-92: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,415 (4,9); 8,892 (4,2); 8,886 (4,4); 8,765 (7,6); 8,488 (7,3); 8,104 (11,7); 8,044 (4,2); 8,039 (4,3); 3,904 (16,0); 3,593 (0,4); 3,336 (427,9); 3,173 (1,6); 3,163 (1,6); 2,676 (1,4); 2,672 (1,7); 2,667 (1,3); 2,518 (32,9); 2,511 (114,6); 2,507 (211,5); 2,503 (266,6); 2,498 (196,7); 2,334 (1,1); 2,329 (1,5); 2,325 (1,1); 1,613 (1,8); 1,599 (4,5); 1,592 (4,8); 1,579 (2,0); 1,315 (2,1); 1,301 (4,6); 1,295 (4,7); 1,280 (1,7); 1,235 (0,3); 0,000 (2,1)
Beispiel I-T3-93: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,187 (3,1); 8,146 (3,3); 7,899 (4,8); 7,653 (1,3); 7,648 (2,7); 7,639 (0,5); 7,624 (1,5); 7,618 (1,0); 7,462 (1,9); 7,441 (1,5); 7,115 (0,7); 5,449 (1,2); 4,068 (0,5); 4,050 (0,5); 2,174 (33,4); 1,972 (2,4); 1,965 (0,8); 1,959 (1,9); 1,953 (10,3); 1,947 (18,6); 1,941 (24,9); 1,934 (16,9); 1,928 (8,7); 1,448 (9,5); 1,437 (16,0); 1,270 (0,5); 1,221 (0,6); 1,204 (1,2); 1,186 (0,6); 0,837 (0,7); 0,824 (2,1); 0,820 (2,2); 0,808 (0,9); 0,673 (1,1); 0,661 (2,4); 0,656 (2,5); 0,644 (0,8); 0,008 (0,4); 0,000 (10,3); -0,009 (0,3)
Beispiel I-T3-94: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,149 (5,3); 8,106 (4,3); 7,996 (2,3); 7,951 (2,4); 7,645 (2,3); 7,639 (5,5); 7,632 (0,8); 7,618 (2,7); 7,612 (1,8); 7,457 (3,0); 7,436 (2,4); 7,098 (1,2); 2,468 (0,4); 2,464 (0,5); 2,459 (0,4); 2,165 (184,2); 2,116 (15,3); 2,102 (0,5); 1,972 (1,1); 1,965 (3,0); 1,959 (7,6); 1,953 (41,5); 1,947 (74,8); 1,940 (100,0); 1,934 (68,4); 1,928 (35,0); 1,775 (0,4); 1,769 (0,6); 1,763 (0,4); 1,447 (16,0); 1,437 (3,0); 1,270 (2,2); 1,204 (0,3); 0,835 (1,1); 0,822 (3,7); 0,818 (3,8); 0,807 (1,5); 0,673 (1,8); 0,662 (4,3); 0,656 (4,3); 0,644 (1,3); 0,008 (1,2); 0,000 (38,1); -0,009 (1,4)
Beispiel I-T3-95: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,596 (2,3); 8,893 (2,0); 8,887 (2,0); 8,791 (3,3); 8,545 (3,3); 8,315 (0,5); 8,300 (2,2); 8,294 (2,3); 8,283 (5,7); 4,038 (0,4); 4,020 (0,4); 3,322 (38,3); 2,671 (0,6); 2,502 (83,6); 2,328 (0,6); 1,989 (1,8); 1,643 (0,8); 1,628 (2,2); 1,621 (2,3); 1,609 (0,9); 1,398 (16,0); 1,298 (1,0); 1,285 (2,2); 1,278 (2,3); 1,264 (0,8); 1,193 (0,5); 1,175 (0,9); 1,157 (0,5); 0,146 (0,4); 0,000 (75,9); -0,150 (0,4)
Beispiel I-T3-96: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,838 (2,0); 8,833 (2,0); 8,618 (3,2); 8,513 (1,0); 8,502 (1,0); 8,377 (3,3); 7,954 (1,9); 7,949 (1,9); 7,596 (3,6); 4,104 (0,3); 3,903 (10,1); 3,409 (0,5); 3,350 (346,6); 3,302 (0,5); 3,175 (1,8); 3,162 (1,8); 2,865 (0,4); 2,857 (0,7); 2,847 (0,7); 2,838 (0,4); 2,677 (0,4); 2,672 (0,6); 2,668 (0,4); 2,526 (1,8); 2,512 (37,4); 2,508 (74,7); 2,503 (97,3); 2,499 (71,2); 2,494 (35,6); 2,489 (12,6); 2,335 (0,4); 2,330 (0,6); 2,325 (0,5); 2,117 (16,0); 1,003 (0,6); 0,987 (0,6); 0,739 (0,5); 0,726 (1,2); 0,721 (1,7); 0,709 (1,6); 0,703 (1,3); 0,692 (0,6); 0,568 (0,6); 0,557 (1,7); 0,551 (1,5); 0,547 (1,4); 0,542 (1,4); 0,529 (0,4); 0,000 (0,7)
Beispiel I-T3-97: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,395 (2,2); 8,892 (2,0); 8,886 (2,0); 8,640 (3,3); 8,391 (3,4); 8,040 (1,9); 8,035 (1,9); 7,599 (3,7); 4,108 (0,5); 4,095 (0,5); 3,904 (10,2); 3,333 (130,8); 3,174 (2,4); 3,161 (2,4); 2,676 (0,4); 2,671 (0,6); 2,667 (0,5); 2,541 (0,4); 2,525 (1,8); 2,511 (39,6); 2,507 (81,0); 2,502 (95,3); 2,498 (69,0); 2,493 (34,2); 2,334 (0,4); 2,329 (0,6); 2,324 (0,4); 2,118 (16,0); 1,613 (0,8); 1,599 (1,9); 1,592 (2,1); 1,579 (0,9); 1,311 (0,9); 1,297 (2,0); 1,291 (2,1); 1,276 (0,8); 1,002 (0,5); 0,987 (0,5); 0,000 (1,2)
Beispiel I-T3-98: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,839 (6,0); 8,833 (6,2); 8,791 (0,5); 8,781 (9,8); 8,692 (3,1); 8,681 (3,2); 8,549 (0,5); 8,540 (9,8); 8,282 (16,0); 8,217 (6,2); 8,210 (6,1); 5,756 (1,1); 3,326 (37,2); 2,871 (0,8); 2,861 (1,2); 2,852 (1,8); 2,842 (1,9); 2,833 (1,2); 2,824 (0,9); 2,814 (0,3); 2,671 (0,4); 2,525 (0,9); 2,511 (20,9); 2,507 (43,3); 2,502 (58,6); 2,498 (44,1); 2,494 (22,5); 2,329 (0,4); 1,989 (0,4); 1,397 (0,4); 0,757 (1,2); 0,744 (3,4); 0,739 (4,7); 0,726 (4,5); 0,721 (3,8); 0,709 (1,5); 0,568 (1,5); 0,557 (4,5); 0,551 (4,2); 0,548 (4,1); 0,542 (3,9); 0,530 (1,2); 0,146 (0,5); 0,008 (3,4); 0,000 (97,0); -0,008 (4,2); -0,150 (0,5)
Beispiel I-T3-99: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,851 (0,6); 8,845 (0,8); 8,840 (3,5); 8,834 (3,6); 8,770 (6,0); 8,525 (5,8); 8,337 (3,6); 8,331 (3,5); 8,283 (11,0); 8,226 (0,6); 8,220 (0,6); 3,328 (25,7); 3,030 (16,0); 2,798 (0,7); 2,790 (0,8); 2,781 (1,3); 2,771 (0,9); 2,758 (2,9); 2,543 (55,4); 2,525 (0,6); 2,508 (28,1); 2,503 (37,2); 2,499 (27,6); 0,814 (0,3); 0,773 (0,4); 0,604 (0,5); 0,585 (2,1); 0,576 (2,8); 0,566 (1,0); 0,543 (1,2); 0,532 (2,2); 0,514 (2,0); 0,501 (0,4); 0,495 (0,4); 0,008 (1,0); 0,000 (28,2); -0,008 (1,0)
Beispiel I-T3-100: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,826 (5,3); 8,817 (2,9); 8,811 (2,8); 8,531 (4,2); 8,320 (2,7); 8,314 (2,7); 8,206 (0,4); 8,200 (0,4); 8,111 (7,7); 3,904 (16,0); 3,395 (0,6); 3,337 (288,8); 3,257 (0,4); 3,243 (0,4); 3,175 (0,9); 3,162 (1,0); 3,029 (12,3); 2,795 (0,5); 2,788 (0,6); 2,778 (1,0); 2,768 (0,8); 2,757 (2,2); 2,676 (0,8); 2,672 (1,1); 2,668 (0,8); 2,512 (73,1); 2,507 (138,1); 2,503 (175,3); 2,499 (129,8); 2,334 (0,7); 2,330 (1,0); 2,325 (0,7); 1,002 (1,0); 0,987 (1,0); 0,833 (0,4); 0,815 (0,3); 0,603 (0,4); 0,584 (1,7); 0,574 (2,2); 0,565 (0,8); 0,542 (0,9); 0,531 (1,7); 0,513 (1,5); 0,000 (1,8)
Beispiel I-T3-101: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,828 (0,4); 8,823 (0,4); 8,815 (2,1); 8,809 (2,2); 8,690 (3,8); 8,442 (0,7); 8,435 (3,3); 8,293 (2,2); 8,287 (2,1); 8,190 (0,4); 8,184 (0,3); 7,603 (4,3); 3,904 (8,8); 3,339 (233,4); 3,175 (0,6); 3,162 (0,6); 3,027 (9,9); 2,795 (0,4); 2,787 (0,5); 2,778 (0,8); 2,768 (0,6); 2,756 (1,8); 2,676 (0,6); 2,672 (0,8); 2,667 (0,6); 2,512 (51,7); 2,507 (99,0); 2,503 (126,8); 2,498 (93,4); 2,494 (47,1); 2,334 (0,6); 2,330 (0,8); 2,325 (0,6); 2,130 (16,0); 2,122 (3,6); 1,002 (0,4); 0,987 (0,4); 0,583 (1,3); 0,574 (1,7); 0,565 (0,6); 0,543 (0,7); 0,531 (1,3); 0,514 (1,1); 0,000 (0,9)
Beispiel I-T3-102: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,908 (0,7); 8,879 (2,4); 8,874 (2,4); 8,833 (4,2); 8,820 (1,2); 8,538 (3,8); 8,496 (1,0); 8,431 (0,7); 8,427 (0,7); 8,288 (2,4); 8,283 (2,4); 8,111 (9,5); 3,904 (16,0); 3,591 (0,4); 3,341 (514,4); 3,175 (1,0); 3,162 (1,0); 3,136 (2,9); 2,914 (11,4); 2,676 (1,1); 2,672 (1,5); 2,668 (1,1);

2,507 (189,0); 2,503 (242,9); 2,499 (186,3); 2,334 (1,1); 2,330 (1,5); 2,326 (1,1); 1,713 (2,7); 1,489 (2,0); 0,000 (2,0)
Beispiel I-T3-103: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,907 (0,4); 8,878 (1,3); 8,872 (1,3); 8,702 (2,2); 8,685 (0,6); 8,443 (2,1); 8,406 (0,9); 8,270 (1,3); 8,264 (1,3); 7,604 (4,3); 3,904 (12,6); 3,395 (0,4); 3,338 (210,6); 3,270 (0,4); 3,256 (0,3); 3,175 (0,8); 3,162 (0,9); 3,133 (1,6); 2,915 (6,3); 2,676 (0,6); 2,672 (0,8); 2,668 (0,6); 2,525 (2,1); 2,507 (102,9); 2,503 (131,5); 2,498 (97,6); 2,334 (0,7); 2,330 (0,9); 2,325 (0,6); 2,122 (16,0); 1,718 (1,3); 1,713 (1,4); 1,484 (1,0); 1,002 (0,8); 0,987 (0,8); 0,000 (1,9)
Beispiel I-T3-104: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,865 (9,2); 8,857 (0,5); 8,845 (6,3); 8,839 (6,4); 8,694 (3,1); 8,683 (3,1); 8,470 (0,5); 8,459 (9,4); 8,229 (6,5); 8,223 (6,4); 7,751 (4,6); 7,728 (0,3); 7,710 (11,3); 4,457 (0,4); 4,403 (0,4); 4,392 (0,4); 4,121 (0,3); 4,108 (1,0); 4,095 (1,0); 4,082 (0,4); 3,904 (15,4); 3,395 (0,4); 3,334 (355,6); 3,243 (0,4); 3,175 (4,8); 3,161 (4,8); 2,883 (0,3); 2,873 (0,9); 2,864 (1,2); 2,855 (1,9); 2,845 (1,9); 2,836 (1,2); 2,827 (0,9); 2,816 (0,5); 2,807 (1,7); 2,788 (5,3); 2,769 (5,4); 2,751 (1,8); 2,680 (0,6); 2,676 (1,1); 2,671 (1,4); 2,667 (1,1); 2,542 (1,0); 2,525 (4,5); 2,511 (90,6); 2,507 (178,4); 2,502 (231,0); 2,498 (168,2); 2,494 (82,9); 2,334 (1,0); 2,329 (1,4); 2,325 (1,0); 1,056 (7,2); 1,038 (16,0); 1,019 (7,1); 1,002 (1,6); 0,987 (1,5); 0,759 (1,2); 0,746 (3,5); 0,741 (4,8); 0,729 (4,5); 0,723 (3,7); 0,711 (1,5); 0,568 (1,5); 0,557 (4,5); 0,551 (4,3); 0,547 (4,0); 0,542 (3,9); 0,529 (1,2); 0,000 (3,5)
Beispiel I-T3-105: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,606 (5,9); 8,899 (6,1); 8,893 (6,2); 8,882 (8,7); 8,466 (9,0); 8,308 (6,0); 8,302 (5,8); 7,753 (4,6); 7,730 (0,3); 7,712 (11,2); 3,904 (12,3); 3,332 (328,2); 3,175 (1,4); 3,161 (1,4); 3,047 (0,5); 2,866 (0,5); 2,807 (1,7); 2,789 (5,3); 2,770 (5,4); 2,751 (1,8); 2,676 (1,1); 2,671 (1,5); 2,667 (1,1); 2,524 (4,8); 2,511 (97,8); 2,507 (190,1); 2,502 (244,3); 2,498 (178,1); 2,493 (87,7); 2,333 (1,1); 2,329 (1,5); 2,324 (1,1); 1,650 (2,1); 1,636 (5,3); 1,629 (5,6); 1,616 (2,3); 1,295 (2,5); 1,281 (5,3); 1,275 (5,7); 1,260 (2,1); 1,055 (7,3); 1,037 (16,0); 1,018 (7,1); 0,000 (3,2)
Beispiel I-T3-106: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,824 (4,0); 8,818 (4,1); 8,781 (4,7); 8,694 (1,9); 8,683 (1,9); 8,515 (6,0); 8,223 (2,4); 8,196 (4,1); 8,190 (4,0); 7,937 (2,5); 4,456 (0,3); 4,402 (0,4); 4,391 (0,4); 4,107 (0,7); 4,094 (0,8); 3,904 (16,0); 3,332 (223,1); 3,243 (0,4); 3,174 (4,3); 3,161 (4,4); 2,868 (0,5); 2,859 (0,8); 2,850 (1,2); 2,840 (1,2); 2,831 (0,8); 2,822 (0,6); 2,676 (0,9); 2,671 (1,2); 2,667 (0,9); 2,541 (0,7); 2,525 (3,7); 2,511 (78,4); 2,507 (154,9); 2,502 (201,4); 2,498 (148,3); 2,493 (74,4); 2,334 (0,9); 2,329 (1,2); 2,325 (0,9); 2,147 (13,7); 1,002 (1,6); 0,987 (1,6); 0,755 (0,8); 0,742 (2,2); 0,737 (3,1); 0,725 (2,9); 0,719 (2,4); 0,708 (1,0); 0,563 (1,0); 0,552 (2,9); 0,546 (2,7); 0,542 (2,6); 0,536 (2,5); 0,524 (0,8); 0,000 (2,7)
Beispiel I-T3-107: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,833 (0,5); 8,826 (0,6); 8,819 (2,8); 8,813 (2,8); 8,770 (3,5); 8,503 (0,9); 8,495 (4,3); 8,312 (2,8); 8,306 (2,6); 8,223 (2,0); 8,207 (0,5); 8,201 (0,4); 7,939 (2,1); 3,904 (16,0); 3,332 (177,8); 3,175 (1,5); 3,162 (1,6); 3,027 (12,7); 2,794 (0,5); 2,787 (0,6); 2,778 (1,0); 2,767 (0,8); 2,760 (2,8); 2,751 (0,4); 2,676 (0,8); 2,672 (1,0); 2,667 (0,7); 2,525 (3,3); 2,511 (67,3); 2,507 (128,5); 2,503 (163,4); 2,498 (118,9); 2,494 (59,0); 2,334 (0,7); 2,329 (1,0); 2,325 (0,7); 2,158 (9,9); 1,002 (1,1); 0,987 (1,1); 0,830 (0,3); 0,813 (0,3); 0,606 (0,4); 0,586 (1,6); 0,577 (2,2); 0,568 (0,8); 0,545 (1,0); 0,534 (1,7); 0,516 (1,5); 0,000 (2,1)
Beispiel I-T3-108: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,604 (5,0); 8,878 (4,1); 8,872 (4,2); 8,793 (5,7); 8,519 (7,0); 8,277 (4,3); 8,271 (4,2); 8,225 (3,2); 7,938 (3,2); 4,458 (0,3); 4,404 (0,4); 4,393 (0,4); 4,123 (0,4); 4,110 (1,1); 4,097 (1,1); 4,083 (0,4); 3,904 (16,0); 3,433 (0,4); 3,337 (510,1); 3,270 (0,6); 3,256 (0,4); 3,242 (0,4); 3,175 (4,2); 3,162 (4,3); 3,043 (0,4); 2,872 (0,4); 2,672 (1,4); 2,506 (184,9); 2,503 (232,7); 2,499 (181,4); 2,329 (1,4); 2,148 (15,6); 1,643 (1,6); 1,629 (4,1); 1,622 (4,4); 1,609 (1,8); 1,293 (1,8); 1,280 (4,1); 1,273 (4,3); 1,259 (1,6); 1,002 (1,2); 0,987 (1,2); 0,000 (0,9)
Beispiel I-T3-109: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,821 (4,5); 8,815 (4,5); 8,727 (6,7); 8,683 (2,3); 8,672 (2,3); 8,456 (6,9); 8,191 (4,6); 8,185 (4,4); 7,611 (3,0); 7,577 (3,0); 4,112 (0,4); 4,099 (0,5); 3,904 (16,0); 3,433 (0,3); 3,422 (0,4); 3,341 (478,8); 3,283 (0,5); 3,272 (0,4); 3,269 (0,4); 3,257 (0,4); 3,243 (0,3); 3,175 (2,2); 3,162 (2,3); 2,868 (0,6); 2,858 (0,9); 2,850 (1,4); 2,840 (1,4); 2,831 (0,9); 2,821 (0,7); 2,676 (0,9); 2,672 (1,2); 2,667 (0,9); 2,542 (0,7); 2,525 (3,9); 2,511 (83,9); 2,507 (159,5); 2,503 (202,9); 2,498 (149,6); 2,443 (1,3); 2,424 (3,5); 2,405 (3,5); 2,387 (1,2); 2,334 (0,9); 2,330 (1,2); 2,325 (0,9); 2,096 (16,0); 1,169 (1,4); 1,035 (5,1); 1,016 (10,9); 1,002 (2,2); 0,997 (5,0); 0,987 (1,4); 0,755 (0,9); 0,742 (2,7); 0,737 (3,5); 0,725 (3,4); 0,719 (2,8); 0,708 (1,1); 0,563 (1,1); 0,553 (3,4); 0,547 (3,3); 0,543 (3,1); 0,537 (3,0); 0,525 (0,9); 0,000 (2,0)
Beispiel I-T3-110: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,594 (4,6); 8,875 (3,8); 8,869 (3,9); 8,742 (6,3); 8,462 (6,5); 8,272 (3,9); 8,266 (3,9); 7,613 (3,3); 7,578 (3,3); 4,108 (0,5); 4,095 (0,5); 3,904 (12,4); 3,405 (0,3); 3,334 (307,0); 3,269 (0,5); 3,256 (0,4); 3,242 (0,4); 3,175 (2,2); 3,161 (2,3); 3,043 (0,4); 2,871 (0,4); 2,671 (1,3); 2,502 (210,6); 2,445 (1,6); 2,426 (3,6); 2,407 (3,7); 2,388 (1,4); 2,329 (1,3); 2,097 (16,0); 1,645 (1,5); 1,630 (4,1); 1,624 (4,4); 1,610 (1,8); 1,291 (1,8); 1,277 (4,2); 1,271 (4,6); 1,256 (1,7); 1,235 (0,5); 1,169 (1,0); 1,036 (4,8); 1,018 (10,0); 0,999 (5,0); 0,987 (1,2); 0,000 (2,4)
Beispiel I-T3-111: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,917 (0,5); 8,913 (0,5); 8,882 (1,9); 8,876 (1,9); 8,782 (2,6); 8,753 (0,7); 8,503 (3,1); 8,461 (0,8); 8,419 (0,5); 8,414 (0,5); 8,284 (1,9); 8,279 (1,8); 8,223 (2,2); 7,938 (2,3); 3,904 (16,0); 3,334 (271,2); 3,175 (0,9); 3,162 (1,0); 3,131 (2,1); 2,919 (9,2); 2,676 (0,8); 2,672 (1,0); 2,667 (0,8); 2,525 (3,1); 2,511 (66,1); 2,507 (129,1); 2,503 (166,9); 2,498 (121,9); 2,494 (60,4); 2,334 (0,8); 2,329 (1,0); 2,325 (0,8); 2,149 (11,9); 1,718 (1,7); 1,712 (1,9); 1,487 (1,3); 0,000 (2,6)
Beispiel I-T3-112: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,843 (5,5); 8,825 (4,0); 8,819 (4,0); 8,701 (2,1); 8,690 (2,0); 8,561 (6,3); 8,513 (3,0); 8,198 (3,9); 8,192 (3,8); 8,094 (2,9); 4,109 (0,4); 4,096 (0,5); 3,904 (16,0); 3,333 (218,4); 3,267 (0,4); 3,174 (2,5); 3,162 (2,6); 2,870 (0,6); 2,860 (0,9); 2,851 (1,3); 2,841 (1,3); 2,833 (0,9); 2,823 (0,6); 2,676 (0,9); 2,671 (1,2); 2,667 (0,9); 2,524 (3,8); 2,507 (149,9); 2,502 (194,0); 2,498 (144,0); 2,333 (0,9); 2,329 (1,2); 2,325 (0,9); 1,002 (1,2); 0,987 (1,2); 0,756 (0,8); 0,743 (2,5); 0,738 (3,3); 0,726 (3,1); 0,720 (2,6); 0,709 (1,0); 0,564 (1,0); 0,553 (3,2); 0,547 (3,1); 0,544 (2,9); 0,538 (2,8); 0,526 (0,8); 0,000 (2,3)
Beispiel I-T3-113: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,831 (3,5); 8,818 (2,5); 8,812 (2,5); 8,547 (0,8); 8,540 (3,7); 8,512 (1,9); 8,325 (2,4); 8,319 (2,4); 8,213 (0,4); 8,207 (0,4); 8,096 (1,8); 3,904 (16,0); 3,381 (0,4); 3,332 (195,5); 3,175 (1,3); 3,161 (1,4); 3,028 (11,1); 2,794 (0,5); 2,787 (0,5); 2,777 (0,9); 2,767 (0,7); 2,760 (2,4); 2,676 (0,7); 2,672 (0,9); 2,667 (0,7); 2,525 (2,8); 2,511 (58,6); 2,507 (114,3); 2,502 (147,1); 2,498 (107,3); 2,494 (52,8); 2,334 (0,6); 2,329 (0,9); 2,325 (0,6); 1,002 (1,0); 0,987 (0,9); 0,585 (1,4); 0,577 (1,9); 0,568 (0,7); 0,545 (0,8); 0,534 (1,4); 0,516 (1,3); 0,000 (2,0)

Beispiel I-T3-114: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,607 (2,4); 8,880 (2,4); 8,874 (2,4); 8,854 (3,1); 8,566 (3,7); 8,515 (1,6); 8,282 (2,4); 8,276 (2,4); 8,095 (1,6); 4,108 (0,4); 4,095 (0,4); 3,904 (16,0); 3,334 (175,5); 3,175 (2,1); 3,161 (2,1); 3,044 (0,5); 2,872 (0,5); 2,676 (0,6); 2,672 (0,8); 2,667 (0,6); 2,541 (0,5); 2,525 (2,4); 2,511 (50,8); 2,507 (99,8); 2,502 (129,1); 2,498 (94,9); 2,494 (47,4); 2,334 (0,6); 2,329 (0,7); 2,325 (0,6); 1,643 (0,8); 1,629 (2,0); 1,622 (2,2); 1,608 (0,9); 1,298 (1,0); 1,284 (2,0); 1,278 (2,2); 1,263 (0,8); 1,002 (0,9); 0,987 (0,8); 0,000 (1,0)
Beispiel I-T3-115: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,898 (1,1); 8,630 (1,1); 8,376 (0,7); 7,972 (0,4); 7,595 (4,0); 3,903 (4,3); 3,328 (177,7); 2,876 (1,2); 2,675 (0,9); 2,671 (1,2); 2,667 (0,9); 2,541 (0,9); 2,506 (159,0); 2,502 (205,8); 2,498 (157,5); 2,385 (2,8); 2,333 (1,0); 2,329 (1,3); 2,324 (1,0); 2,122 (16,0); 1,686 (0,6); 1,487 (0,8); 0,000 (1,2)
Beispiel I-T3-116: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,911 (1,0); 8,880 (3,4); 8,874 (3,4); 8,842 (5,1); 8,810 (1,3); 8,548 (5,6); 8,512 (4,5); 8,423 (0,9); 8,292 (3,4); 8,286 (3,4); 8,093 (4,3); 3,904 (4,9); 3,327 (229,2); 3,133 (3,9); 2,918 (16,0); 2,675 (1,2); 2,671 (1,6); 2,667 (1,3); 2,541 (1,5); 2,506 (202,4); 2,502 (261,5); 2,498 (200,6); 2,333 (1,1); 2,329 (1,5); 2,325 (1,2); 1,711 (3,8); 1,488 (2,6); -0,001 (1,3)
Beispiel I-T3-117: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,837 (3,9); 8,832 (3,9); 8,696 (5,5); 8,528 (2,3); 8,517 (2,3); 8,440 (6,7); 8,213 (3,3); 7,955 (3,9); 7,949 (3,9); 7,929 (3,4); 3,904 (3,8); 3,328 (223,0); 2,875 (0,7); 2,865 (1,0); 2,857 (1,5); 2,847 (1,5); 2,838 (1,1); 2,828 (0,7); 2,671 (1,5); 2,502 (230,7); 2,329 (1,4); 2,145 (16,0); 0,738 (0,9); 0,720 (3,6); 0,708 (3,4); 0,702 (3,0); 0,691 (1,1); 0,566 (1,2); 0,555 (3,7); 0,549 (3,6); 0,540 (3,2); 0,527 (0,9); 0,000 (1,2)
Beispiel I-T3-118: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,825 (3,2); 8,820 (3,1); 8,700 (5,9); 8,438 (7,3); 8,213 (3,4); 8,037 (3,0); 8,031 (3,0); 7,930 (3,5); 7,908 (0,5); 3,904 (11,1); 3,330 (239,1); 3,022 (14,7); 2,779 (0,4); 2,764 (0,9); 2,753 (1,3); 2,743 (1,0); 2,737 (1,0); 2,723 (2,0); 2,676 (1,0); 2,671 (1,3); 2,667 (1,0); 2,542 (1,0); 2,524 (4,1); 2,511 (78,7); 2,507 (153,6); 2,502 (199,9); 2,498 (148,4); 2,392 (13,3); 2,364 (1,8); 2,333 (0,9); 2,329 (1,2); 2,325 (0,9); 2,154 (16,0); 0,817 (0,5); 0,802 (0,5); 0,755 (0,6); 0,484 (4,8); 0,466 (2,5); 0,000 (1,4)
Beispiel I-T3-119: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,408 (4,7); 8,892 (3,9); 8,886 (3,9); 8,716 (5,6); 8,452 (7,3); 8,217 (2,9); 8,041 (3,8); 8,035 (3,8); 7,932 (3,0); 3,904 (9,3); 3,330 (168,1); 3,175 (1,1); 3,162 (1,1); 2,676 (0,7); 2,671 (1,0); 2,667 (0,8); 2,541 (0,9); 2,511 (82,5); 2,507 (129,7); 2,502 (165,2); 2,498 (122,9); 2,333 (0,7); 2,329 (1,0); 2,325 (0,7); 2,147 (16,0); 1,612 (1,5); 1,598 (4,0); 1,591 (4,3); 1,578 (1,8); 1,312 (1,8); 1,299 (4,1); 1,292 (4,2); 1,278 (1,5); 0,000 (1,1)
Beispiel I-T3-120: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,826 (1,6); 8,821 (1,6); 8,621 (4,1); 8,375 (3,7); 8,025 (1,5); 8,020 (1,6); 7,593 (4,8); 3,903 (7,6); 3,331 (235,6); 3,022 (7,6); 2,756 (0,7); 2,743 (0,5); 2,720 (1,0); 2,671 (1,1); 2,541 (0,9); 2,507 (130,2); 2,502 (168,8); 2,498 (127,0); 2,386 (6,8); 2,359 (0,9); 2,329 (1,0); 2,129 (16,0); 0,482 (2,7); 0,465 (1,4); 0,000 (1,0)
Beispiel I-T3-121: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,836 (16,0); 8,460 (13,4); 8,441 (12,5); 7,871 (1,5); 7,554 (14,8); 2,909 (0,5); 2,899 (1,4); 2,890 (2,1); 2,881 (3,1); 2,871 (3,2); 2,862 (2,1); 2,853 (1,6); 2,843 (0,5); 2,469 (0,5); 2,464 (0,6); 2,460 (0,5); 2,287 (0,5); 2,263 (0,4); 2,245 (0,8); 2,226 (0,6); 2,164 (134,4); 2,128 (74,2); 2,108 (1,2); 2,102 (0,8); 2,096 (0,5); 1,976 (0,8); 1,965 (34,9); 1,959 (10,4); 1,953 (53,7); 1,947 (97,8); 1,941 (132,8); 1,935 (92,8); 1,928 (48,6); 1,829 (0,7); 1,781 (0,4); 1,775 (0,6); 1,769 (0,8); 1,763 (0,5); 1,540 (0,4); 1,470 (0,3); 1,429 (0,3); 1,320 (1,0); 1,269 (9,8); 1,135 (0,4); 0,897 (0,4); 0,881 (1,1); 0,864 (0,5); 0,834 (1,8); 0,821 (4,8); 0,816 (6,9); 0,803 (6,8); 0,798 (5,3); 0,786 (2,4); 0,764 (0,4); 0,746 (0,4); 0,721 (0,4); 0,710 (0,4); 0,681 (2,4); 0,669 (6,3); 0,663 (6,5); 0,659 (5,7); 0,653 (5,3); 0,641 (1,6); 0,000 (1,3)
Beispiel I-T3-122: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,795 (7,1); 8,792 (7,1); 8,712 (16,0); 8,398 (7,3); 8,393 (7,2); 8,249 (14,8); 8,230 (0,4); 8,035 (5,4); 8,031 (10,0); 8,027 (5,8); 7,832 (3,6); 7,830 (4,9); 7,826 (3,7); 7,821 (2,0); 7,814 (5,0); 7,810 (5,4); 7,716 (5,3); 7,700 (3,9); 7,697 (5,2); 7,585 (0,4); 7,519 (5,8); 7,500 (9,9); 7,480 (4,3); 7,146 (1,9); 4,086 (0,4); 4,068 (1,3); 4,050 (1,3); 4,033 (0,5); 2,907 (0,6); 2,897 (1,9); 2,888 (2,8); 2,879 (4,2); 2,869 (4,1); 2,861 (2,8); 2,851 (2,0); 2,842 (0,7); 2,468 (0,7); 2,463 (0,9); 2,459 (0,7); 2,266 (0,3); 2,250 (0,4); 2,144 (668,5); 2,120 (3,2); 2,114 (4,0); 2,108 (5,1); 2,101 (3,3); 2,095 (1,7); 2,016 (0,5); 2,014 (0,5); 1,972 (7,8); 1,964 (22,3); 1,958 (55,1); 1,952 (312,9); 1,946 (568,6); 1,940 (766,2); 1,934 (526,3); 1,928 (270,3); 1,787 (0,4); 1,781 (1,7); 1,775 (3,2); 1,769 (4,4); 1,762 (3,0); 1,756 (1,5); 1,437 (5,8); 1,356 (0,3); 1,338 (0,6); 1,319 (0,4); 1,285 (0,5); 1,270 (2,2); 1,222 (1,6); 1,204 (3,0); 1,186 (1,6); 1,089 (0,9); 0,881 (0,4); 0,793 (2,2); 0,781 (6,2); 0,775 (8,7); 0,763 (8,9); 0,757 (6,5); 0,746 (3,2); 0,724 (0,5); 0,707 (0,5); 0,687 (0,5); 0,677 (0,4); 0,647 (3,3); 0,637 (8,3); 0,630 (8,0); 0,626 (7,0); 0,620 (6,8); 0,608 (2,2); 0,008 (1,7); 0,000 (60,4); -0,009 (2,1)
Beispiel I-T3-123: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,894 (2,1); 8,708 (1,4); 8,439 (1,2); 8,213 (2,9); 7,984 (0,8); 7,930 (3,0); 3,904 (15,2); 3,331 (445,1); 3,174 (0,5); 3,161 (0,5); 3,121 (0,5); 2,877 (2,5); 2,675 (1,3); 2,671 (1,8); 2,667 (1,4); 2,542 (1,7); 2,506 (224,4); 2,502 (292,1); 2,498 (219,8); 2,389 (5,1); 2,333 (1,3); 2,329 (1,8); 2,325 (1,4); 2,148 (16,0); 1,687 (1,2); 1,492 (1,5); 1,416 (0,6); 1,249 (0,4); 1,235 (0,4); 0,000 (1,8)
Beispiel I-T3-124: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,836 (5,2); 8,831 (5,2); 8,756 (7,5); 8,544 (2,8); 8,534 (2,9); 8,502 (4,3); 8,488 (8,8); 8,087 (4,0); 7,952 (5,0); 7,946 (5,0); 4,467 (0,8); 4,454 (2,0); 4,440 (0,8); 4,113 (0,5); 4,100 (0,5); 3,904 (16,0); 3,507 (0,4); 3,482 (0,5); 3,468 (0,5); 3,456 (0,5); 3,395 (5,7); 3,388 (4,9); 3,381 (6,3); 3,340 (838,4); 3,174 (2,4); 3,161 (2,3); 2,886 (0,3); 2,876 (0,9); 2,867 (1,2); 2,858 (1,9); 2,848 (1,9); 2,840 (1,3); 2,830 (0,9); 2,820 (0,4); 2,676 (1,6); 2,672 (2,1); 2,667 (1,7); 2,507 (264,8); 2,503 (344,8); 2,498 (274,4); 2,334 (1,5); 2,329 (2,0); 2,325 (1,5); 1,273 (0,4); 1,258 (0,8); 1,242 (0,8); 0,873 (0,4); 0,739 (1,2); 0,726 (3,4); 0,721 (4,6); 0,709 (4,3); 0,703 (3,7); 0,692 (1,5); 0,567 (1,5); 0,556 (4,6); 0,550 (4,3); 0,546 (4,1); 0,540 (3,8); 0,528 (1,1); 0,008 (2,2); 0,000 (60,2); -0,008 (2,5)
Beispiel I-T3-125: ^{1}H-NMR (400,1 MHz, d_6-DMSO): δ= 9,41 (0,0144); 8,89 (0,0123); 8,83 (0,0014); 8,77 (0,0184); 8,49 (0,0301); 8,23 (0,0012); 8,09 (0,0103); 8,03 (0,0119); 3,31 (1,0000); 2,54 (0,6709); 2,50 (0,2387); 1,59 (0,0138); 1,30 (0,0136); 0,15 (0,0007); 0,00 (0,1822); -0,16 (0,0004)
Beispiel I-T3-126: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,406 (0,9); 8,069 (2,0); 7,667 (0,4); 7,646 (1,1); 7,621 (0,6); 7,616 (0,6); 7,538 (0,8); 7,533 (0,7); 6,479 (0,9); 3,322 (20,1); 2,524 (0,4); 2,519 (0,7); 2,511 (11,8); 2,506 (24,6); 2,502 (33,4); 2,497 (24,8); 2,493 (12,4); 1,989 (0,8); 1,608 (0,4); 1,594 (0,8); 1,587 (0,9); 1,574

(0,4); 1,398 (16,0); 1,291 (0,4); 1,278 (0,7); 1,271 (0,8); 1,257 (0,3); 1,175 (0,5); 0,008 (0,6); 0,000 (18,6); -0,009 (0,7)
Beispiel I-T3-127: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,850 (5,1); 8,845 (5,4); 8,692 (9,2); 8,530 (3,1); 8,520 (3,2); 8,464 (9,2); 8,273 (16,0); 7,973 (5,1); 7,967 (5,3); 4,105 (0,5); 4,091 (0,5); 3,903 (5,0); 3,329 (87,9); 3,175 (1,9); 3,162 (1,8); 2,877 (0,8); 2,868 (1,2); 2,859 (1,9); 2,849 (1,9); 2,840 (1,3); 2,831 (0,9); 2,820 (0,3); 2,672 (0,6); 2,667 (0,5); 2,507 (79,2); 2,502 (111,9); 2,463 (0,7); 2,334 (0,5); 2,329 (0,6); 0,740 (1,1); 0,727 (3,5); 0,722 (4,8); 0,710 (4,4); 0,704 (4,0); 0,693 (1,5); 0,571 (1,5); 0,561 (4,6); 0,555 (4,7); 0,551 (4,6); 0,545 (4,2); 0,533 (1,1); 0,000 (0,4)
Beispiel I-T3-128: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,840 (3,6); 8,835 (3,5); 8,698 (8,9); 8,465 (8,7); 8,272 (15,4); 8,058 (3,3); 8,053 (3,4); 7,922 (0,5); 3,903 (5,1); 3,328 (66,8); 3,175 (1,0); 3,162 (1,0); 3,026 (16,0); 2,891 (0,3); 2,784 (0,4); 2,767 (0,9); 2,756 (1,4); 2,746 (1,0); 2,721 (1,9); 2,676 (0,5); 2,672 (0,6); 2,667 (0,5); 2,542 (0,7); 2,511 (37,1); 2,507 (71,3); 2,503 (93,3); 2,498 (71,7); 2,395 (14,5); 2,369 (1,9); 2,334 (0,4); 2,329 (0,6); 2,325 (0,4); 0,819 (0,5); 0,803 (0,5); 0,758 (0,6); 0,481 (5,4); 0,463 (2,8); 0,000 (0,4)
Beispiel I-T3-129: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,412 (6,2); 8,906 (4,7); 8,900 (5,0); 8,710 (9,0); 8,478 (8,5); 8,276 (16,0); 8,063 (4,7); 8,058 (4,9); 3,903 (5,3); 3,434 (0,4); 3,334 (71,6); 3,169 (3,4); 2,672 (0,8); 2,520 (27,6); 2,507 (94,6); 2,503 (122,2); 2,499 (100,6); 2,329 (0,7); 1,612 (1,9); 1,598 (5,2); 1,591 (5,7); 1,578 (2,3); 1,317 (2,3); 1,304 (5,3); 1,297 (5,6); 1,283 (1,9); 0,000 (0,4)
Beispiel I-T3-130: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,821 (3,6); 8,815 (3,5); 8,760 (6,9); 8,499 (4,1); 8,484 (8,5); 8,085 (3,9); 8,046 (3,3); 8,040 (3,3); 7,911 (0,5); 3,904 (10,2); 3,327 (87,7); 3,176 (0,7); 3,163 (0,7); 3,025 (16,0); 2,779 (0,4); 2,768 (0,8); 2,762 (0,9); 2,753 (1,5); 2,742 (1,1); 2,736 (1,1); 2,724 (2,2); 2,676 (0,5); 2,672 (0,7); 2,667 (0,5); 2,525 (2,4); 2,512 (41,2); 2,507 (81,2); 2,503 (106,8); 2,498 (80,2); 2,494 (41,1); 2,398 (14,3); 2,369 (1,8); 2,334 (0,5); 2,330 (0,7); 2,325 (0,5); 0,820 (0,5); 0,803 (0,5); 0,757 (0,6); 0,485 (4,9); 0,467 (2,7); 0,000 (0,5)
Beispiel I-T3-131: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,891 (3,3); 8,768 (2,3); 8,499 (5,4); 8,485 (2,0); 8,085 (4,9); 7,990 (1,3); 3,903 (16,0); 3,327 (119,4); 3,175 (0,8); 3,162 (0,9); 3,122 (0,7); 2,879 (3,8); 2,676 (0,7); 2,672 (1,0); 2,667 (0,8); 2,542 (0,7); 2,525 (3,3); 2,511 (61,8); 2,507 (121,8); 2,503 (160,9); 2,498 (122,6); 2,494 (64,2); 2,396 (8,3); 2,334 (0,8); 2,329 (1,0); 2,325 (0,8); 1,686 (1,8); 1,497 (2,2); 1,420 (0,8); 0,000 (0,7)
Beispiel I-T3-132: ^{1}H-NMR (400,1 MHz, d_6-DMSO): δ= 8,907 (3,3); 8,699 (3,2); 8,461 (1,9); 8,269 (16,0); 8,002 (1,1); 4,088 (0,5); 4,075 (0,5); 3,311 (245,5); 3,269 (0,3); 3,175 (2,1); 3,162 (2,1); 3,123 (0,6); 2,875 (3,1); 2,710 (0,5); 2,674 (0,4); 2,670 (0,5); 2,540 (120,2); 2,505 (48,9); 2,501 (64,0); 2,497 (45,6); 2,464 (0,3); 2,396 (8,6); 2,367 (0,8); 2,328 (0,5); 2,323 (0,4); 1,686 (1,6); 1,495 (2,0); 1,431 (0,8); 1,423 (0,8); 0,146 (0,4); 0,008 (3,2); 0,000 (89,8); -0,008 (4,5); -0,150 (0,4)
Beispiel I-T3-133: ^{1}H-NMR (400,1 MHz, d_6-DMSO): δ= 8,822 (3,7); 8,817 (3,4); 8,750 (9,7); 8,470 (9,1); 8,094 (15,1); 8,040 (3,3); 8,035 (3,3); 7,903 (0,4); 3,311 (86,3); 3,287 (0,3); 3,026 (16,0); 2,781 (0,4); 2,765 (1,0); 2,754 (1,5); 2,743 (1,1); 2,738 (1,1); 2,721 (1,6); 2,711 (0,7); 2,555 (0,4); 2,554 (0,5); 2,553 (0,6); 2,552 (0,7); 2,550 (0,8); 2,549 (1,0); 2,540 (89,5); 2,529 (0,7); 2,528 (0,6); 2,527 (0,6); 2,525 (0,6); 2,524 (0,6); 2,523 (0,6); 2,522 (0,6); 2,510 (12,1); 2,505 (23,8); 2,501 (31,3); 2,497 (21,3); 2,492 (9,9); 2,395 (14,5); 2,371 (1,7); 0,819 (0,4); 0,804 (0,5); 0,755 (0,6); 0,482 (5,8); 0,464 (3,0); 0,013 (0,3); 0,011 (0,4); 0,008 (2,1); 0,007 (1,4); 0,000 (61,4); -0,006 (1,7); -0,009 (2,2); -0,013 (0,4); -0,014 (0,3)
Beispiel I-T3-134: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,823 (4,4); 8,427 (4,3); 8,403 (0,4); 8,263 (1,3); 8,242 (1,6); 8,112 (2,9); 8,071 (2,1); 8,050 (1,8); 7,818 (2,7); 7,813 (2,7); 7,760 (1,6); 7,755 (1,5); 7,747 (1,0); 7,739 (1,8); 7,734 (1,5); 7,724 (0,9); 7,560 (1,0); 7,553 (2,6); 7,540 (1,0); 7,532 (2,1); 3,327 (28,9); 3,321 (6,8); 3,015 (11,5); 2,766 (0,4); 2,756 (0,8); 2,748 (1,0); 2,740 (1,3); 2,730 (1,2); 2,716 (2,7); 2,676 (0,4); 2,673 (0,4); 2,507 (45,7); 2,503 (53,0); 2,499 (41,0); 2,330 (0,4); 2,076 (16,0); 2,068 (2,0); 1,170 (0,4); 0,820 (0,4); 0,812 (0,4); 0,804 (0,4); 0,757 (0,5); 0,748 (0,5); 0,559 (2,6); 0,551 (2,5); 0,503 (0,4); 0,472 (2,1); 0,455 (2,2); 0,000 (51,7); -0,009 (7,9)
Beispiel I-T3-135: ^{1}H-NMR (400,1 MHz, d_6-DMSO): δ= 8,547 (0,5); 8,505 (10,0); 8,454 (9,8); 8,448 (8,1); 8,442 (4,1); 8,281 (10,0); 8,068 (16,0); 7,686 (6,9); 7,680 (6,8); 3,568 (0,4); 3,410 (4,1); 3,394 (11,2); 3,378 (4,3); 3,309 (165,8); 3,286 (0,7); 2,832 (0,3); 2,822 (0,9); 2,812 (1,3); 2,804 (2,0); 2,794 (2,0); 2,785 (1,3); 2,776 (0,9); 2,765 (0,4); 2,710 (0,9); 2,674 (0,5); 2,669 (0,6); 2,665 (0,5); 2,560 (0,6); 2,540 (226,8); 2,523 (1,6); 2,509 (31,4); 2,505 (60,7); 2,500 (78,7); 2,496 (53,0); 2,492 (24,2); 2,366 (0,8); 2,332 (0,4); 2,327 (0,6); 2,323 (0,4); 1,887 (4,2); 1,871 (11,1); 1,854 (3,9); 1,235 (0,4); 0,704 (1,4); 0,691 (3,7); 0,686 (5,2); 0,674 (4,8); 0,668 (4,0); 0,657 (1,7); 0,547 (1,8); 0,536 (5,3); 0,530 (4,6); 0,526 (4,3); 0,520 (4,2); 0,508 (1,3); 0,146 (0,5); 0,008 (4,2); 0,000 (120,8); -0,008 (4,5); -0,150 (0,5)
Beispiel I-T3-136: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,510 (2,6); 8,502 (7,1); 8,497 (6,4); 8,441 (8,5); 8,259 (8,4); 8,129 (2,2); 8,117 (2,5); 8,106 (1,0); 8,088 (5,7); 8,080 (16,0); 4,467 (1,4); 4,453 (4,0); 4,439 (1,5); 4,111 (0,4); 4,099 (0,4); 3,904 (15,8); 3,804 (0,4); 3,483 (0,4); 3,470 (0,5); 3,455 (0,4); 3,395 (8,9); 3,388 (7,6); 3,381 (9,5); 3,338 (810,3); 3,174 (1,7); 3,161 (1,6); 2,953 (0,4); 2,932 (11,5); 2,920 (11,5); 2,847 (0,4); 2,837 (0,9); 2,828 (1,3); 2,819 (1,9); 2,810 (1,9); 2,801 (1,3); 2,792 (0,9); 2,783 (0,4); 2,671 (2,2); 2,616 (0,3); 2,506 (280,8); 2,502 (354,5); 2,498 (275,8); 2,329 (2,2); 1,234 (0,6); 0,873 (0,6); 0,854 (0,5); 0,742 (1,0); 0,724 (4,4); 0,711 (4,1); 0,706 (3,6); 0,694 (1,4); 0,587 (1,5); 0,576 (4,6); 0,570 (4,4); 0,561 (3,8); 0,548 (1,1); 0,000 (48,0)
Beispiel I-T3-137: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,543 (6,9); 8,537 (7,0); 8,455 (8,0); 8,364 (2,9); 8,356 (3,0); 8,268 (8,1); 8,118 (4,5); 8,113 (4,5); 8,083 (13,0); 4,467 (0,5); 4,453 (1,5); 4,439 (0,6); 4,112 (0,4); 4,099 (0,4); 3,904 (16,0); 3,483 (0,3); 3,469 (0,4); 3,433 (0,5); 3,407 (0,8); 3,395 (4,1); 3,388 (3,4); 3,381 (4,6); 3,338 (731,2); 3,174 (1,7); 3,161 (1,6); 2,955 (0,8); 2,852 (0,8); 2,844 (1,2); 2,835 (1,8); 2,826 (2,0); 2,818 (2,0); 2,809 (2,0); 2,800 (2,0); 2,791 (1,8); 2,782 (1,2); 2,772 (0,8); 2,676 (1,4); 2,672 (1,9); 2,667 (1,5); 2,507 (235,5); 2,502 (302,0); 2,498 (229,6); 2,333 (1,4); 2,329 (1,8); 2,325 (1,4); 1,237 (0,4); 0,873 (0,4); 0,854 (0,3); 0,765 (1,1); 0,753 (3,5); 0,748 (4,4); 0,736 (5,1); 0,731 (4,0); 0,718 (5,1); 0,706 (3,9); 0,700 (3,5); 0,689 (1,4); 0,582 (1,4); 0,571 (4,3); 0,565 (4,0); 0,556 (3,5); 0,544 (1,0); 0,466 (1,3); 0,455 (4,0); 0,450 (4,1); 0,445 (4,0); 0,440 (3,9); 0,428 (1,1); 0,000 (39,5)
Beispiel I-T3-138: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,524 (1,8); 8,515 (1,9); 8,487 (3,8); 8,482 (3,9); 8,443 (6,4); 8,432 (1,1); 8,419 (1,9); 8,405 (1,0); 8,274 (0,4); 8,262 (6,3); 8,120 (4,0); 8,114 (3,6); 8,081 (10,3); 4,453 (0,7); 3,904 (16,0); 3,606 (1,0); 3,592 (3,0); 3,579 (3,7); 3,566 (1,8); 3,523 (3,7); 3,511 (4,9); 3,498 (1,9);

3,473 (0,5); 3,449 (0,3); 3,395 (2,5); 3,387 (2,3); 3,381 (2,9); 3,338 (556,7); 3,299 (28,1); 3,286 (1,6); 3,262 (0,8); 3,256 (0,7); 3,174 (0,9); 3,161 (0,9); 2,840 (0,6); 2,831 (0,9); 2,822 (1,3); 2,812 (1,4); 2,804 (0,9); 2,795 (0,6); 2,676 (1,4); 2,672 (2,0); 2,667 (1,4); 2,507 (219,1); 2,503 (282,2); 2,498 (210,9); 2,334 (1,2); 2,329 (1,7); 2,325 (1,3); 1,235 (0,5); 0,747 (0,8); 0,734 (2,3); 0,729 (3,2); 0,717 (2,9); 0,711 (2,6); 0,700 (1,0); 0,589 (1,1); 0,579 (3,3); 0,573 (3,0); 0,569 (3,0); 0,563 (2,7); 0,551 (0,9); 0,008 (1,7); 0,000 (45,2); -0,008 (1,8)
Beispiel I-T3-139: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,474 (2,4); 8,837 (1,9); 8,831 (2,1); 8,602 (3,2); 8,355 (3,4); 7,970 (2,0); 7,965 (2,2); 7,596 (4,3); 4,467 (0,4); 4,453 (1,0); 4,440 (0,4); 3,904 (6,3); 3,423 (0,3); 3,395 (2,3); 3,387 (2,3); 3,381 (2,8); 3,340 (340,7); 3,174 (0,4); 3,161 (0,4); 3,063 (0,6); 2,880 (0,6); 2,672 (0,9); 2,668 (0,7); 2,507 (107,5); 2,503 (142,8); 2,498 (119,4); 2,329 (1,2); 2,325 (1,2); 2,312 (0,8); 2,299 (0,6); 2,292 (0,5); 2,110 (16,0); 1,615 (0,8); 1,601 (2,0); 1,594 (2,3); 1,581 (1,0); 1,324 (0,9); 1,310 (2,1); 1,304 (2,3); 1,289 (0,8); 1,257 (0,4); 1,243 (0,4); 1,168 (0,4); 0,993 (2,1); 0,982 (3,3); 0,962 (1,9); 0,000 (10,4)
Beispiel I-T3-140: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 8,785 (2,0); 8,780 (1,9); 8,595 (1,3); 8,584 (4,5); 8,345 (3,4); 7,890 (2,0); 7,885 (1,9); 7,594 (4,2); 4,455 (0,3); 3,904 (3,2); 3,408 (0,5); 3,394 (1,3); 3,382 (1,7); 3,342 (322,7); 3,174 (0,4); 3,162 (0,4); 2,892 (0,5); 2,883 (0,7); 2,873 (0,7); 2,865 (0,5); 2,855 (0,4); 2,672 (0,7); 2,503 (110,1); 2,352 (0,4); 2,345 (0,5); 2,334 (1,3); 2,314 (0,5); 2,111 (16,0); 0,973 (1,9); 0,961 (1,8); 0,951 (1,9); 0,931 (1,6); 0,740 (0,4); 0,723 (1,7); 0,710 (1,7); 0,705 (1,4); 0,694 (0,6); 0,582 (0,6); 0,571 (1,8); 0,564 (1,8); 0,555 (1,5); 0,543 (0,4); 0,000 (8,3)
Beispiel I-T3-141: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,093 (2,2); 8,668 (2,1); 8,662 (2,2); 8,577 (3,2); 8,327 (3,3); 8,314 (2,3); 8,308 (2,2); 7,593 (3,8); 3,969 (10,4); 3,904 (3,5); 3,409 (0,5); 3,343 (332,3); 3,285 (0,3); 2,676 (0,5); 2,672 (0,7); 2,668 (0,6); 2,525 (2,4); 2,512 (45,6); 2,507 (89,1); 2,503 (116,0); 2,498 (87,1); 2,334 (0,5); 2,330 (0,7); 2,325 (0,5); 2,121 (16,0); 1,602 (0,8); 1,587 (2,0); 1,581 (2,2); 1,567 (0,9); 1,305 (1,0); 1,292 (2,1); 1,285 (2,2); 1,271 (0,8); 0,008 (0,4); 0,000 (11,6); -0,008 (0,5)
Beispiel I-T3-142: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 8,767 (2,0); 8,582 (3,2); 8,343 (3,2); 7,948 (2,0); 7,851 (0,3); 7,591 (5,1); 4,454 (0,8); 3,904 (4,5); 3,381 (3,9); 3,341 (346,8); 3,218 (0,4); 3,175 (0,5); 3,162 (0,4); 3,043 (7,9); 2,791 (1,0); 2,781 (0,9); 2,766 (1,5); 2,672 (1,0); 2,503 (159,1); 2,330 (1,0); 2,122 (16,0); 1,926 (0,6); 1,915 (0,9); 1,901 (0,7); 1,882 (0,4); 0,992 (1,5); 0,961 (2,3); 0,943 (2,0); 0,824 (0,4); 0,809 (0,4); 0,764 (0,5); 0,540 (2,1); 0,482 (1,7); 0,467 (1,6); 0,000 (14,1)
Beispiel I-T3-143: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 8,608 (2,1); 8,602 (2,1); 8,556 (3,2); 8,308 (3,3); 8,266 (1,0); 8,256 (1,0); 8,227 (2,2); 8,221 (2,1); 7,590 (3,9); 3,948 (10,3); 3,904 (3,5); 3,395 (0,9); 3,343 (295,8); 3,175 (0,3); 2,873 (0,3); 2,863 (0,5); 2,855 (0,7); 2,845 (0,7); 2,837 (0,5); 2,827 (0,3); 2,676 (0,5); 2,672 (0,7); 2,668 (0,5); 2,507 (88,5); 2,503 (112,5); 2,498 (84,8); 2,334 (0,5); 2,329 (0,7); 2,325 (0,5); 2,120 (16,0); 0,740 (0,4); 0,727 (1,3); 0,722 (1,8); 0,709 (1,6); 0,704 (1,4); 0,692 (0,6); 0,580 (0,6); 0,570 (1,8); 0,564 (1,7); 0,554 (1,4); 0,542 (0,4); 0,008 (0,7); 0,000 (14,6)
Beispiel I-T3-144: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 8,563 (2,0); 8,558 (2,0); 8,526 (3,6); 8,302 (3,3); 8,005 (1,9); 7,999 (2,0); 7,590 (4,6); 4,468 (0,3); 4,454 (0,8); 4,440 (0,3); 3,915 (9,8); 3,904 (7,4); 3,425 (0,4); 3,395 (2,6); 3,388 (2,3); 3,381 (3,0); 3,341 (345,9); 3,282 (0,4); 2,981 (8,7); 2,748 (0,5); 2,738 (0,8); 2,724 (0,6); 2,711 (0,3); 2,700 (0,9); 2,676 (0,7); 2,672 (0,9); 2,668 (0,8); 2,507 (111,1); 2,503 (144,6); 2,499 (113,9); 2,334 (0,6); 2,329 (0,8); 2,127 (16,0); 0,466 (3,1); 0,449 (1,7); 0,000 (11,6)
Beispiel I-T3-145: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 8,848 (0,6); 8,841 (0,8); 8,835 (4,1); 8,829 (4,2); 8,781 (6,9); 8,537 (7,1); 8,316 (0,4); 8,283 (13,4); 8,274 (4,6); 8,257 (0,6); 8,251 (0,5); 3,424 (0,3); 3,409 (0,3); 3,398 (0,4); 3,387 (0,3); 3,371 (0,4); 3,324 (185,3); 2,776 (0,4); 2,764 (0,8); 2,759 (0,9); 2,750 (1,6); 2,739 (1,0); 2,733 (0,9); 2,722 (0,5); 2,675 (1,1); 2,671 (1,5); 2,667 (1,1); 2,524 (4,5); 2,506 (173,0); 2,502 (225,3); 2,497 (167,2); 2,333 (1,1); 2,329 (1,5); 2,324 (1,1); 1,398 (16,0); 1,238 (4,1); 1,220 (8,5); 1,202 (3,9); 1,120 (0,5); 1,102 (1,0); 1,085 (0,5); 0,951 (0,4); 0,935 (0,5); 0,577 (2,8); 0,549 (2,5); 0,532 (2,1); 0,146 (0,9); 0,008 (7,2); 0,000 (188,0); -0,008 (8,4); -0,150 (0,9)
Beispiel I-T3-146: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 10,752 (3,5); 8,900 (3,6); 8,894 (3,7); 8,806 (5,3); 8,571 (5,2); 8,570 (5,2); 8,393 (3,7); 8,387 (3,6); 8,284 (8,3); 8,283 (8,3); 8,028 (4,8); 7,502 (4,8); 7,501 (5,0); 5,756 (5,9); 4,056 (0,5); 4,038 (1,6); 4,020 (1,6); 4,002 (0,5); 3,837 (16,0); 3,324 (33,1); 2,671 (0,4); 2,524 (1,0); 2,520 (1,4); 2,511 (20,1); 2,507 (41,3); 2,502 (54,9); 2,497 (40,1); 2,493 (19,7); 2,329 (0,4); 1,989 (6,9); 1,193 (1,9); 1,175 (3,8); 1,157 (1,9); 0,008 (1,9); 0,000 (58,8); -0,009 (2,2)
Beispiel I-T3-147: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 8,999 (3,5); 8,993 (3,6); 8,778 (6,5); 8,499 (6,5); 8,384 (3,5); 8,378 (3,5); 8,279 (10,7); 5,757 (1,1); 4,384 (1,6); 4,366 (5,0); 4,348 (5,1); 4,331 (1,7); 3,894 (0,5); 3,324 (128,6); 2,714 (16,0); 2,675 (0,9); 2,671 (1,3); 2,666 (1,0); 2,524 (3,3); 2,511 (69,0); 2,506 (138,7); 2,502 (184,5); 2,498 (139,2); 2,333 (0,8); 2,329 (1,1); 2,325 (0,9); 1,989 (0,7); 1,377 (5,4); 1,360 (11,3); 1,342 (5,4); 1,234 (0,5); 1,175 (0,4); 0,146 (0,9); 0,008 (6,9); 0,000 (189,8); -0,150 (0,9)
Beispiel I-T3-148: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,344 (1,0); 8,180 (2,1); 8,179 (2,0); 8,138 (1,8); 8,094 (1,0); 7,688 (1,2); 7,683 (1,6); 7,655 (0,9); 7,650 (0,6); 7,634 (1,0); 7,629 (0,8); 7,474 (1,5); 7,454 (1,2); 6,895 (0,4); 6,892 (0,4); 2,860 (0,4); 2,851 (0,6); 2,842 (0,6); 2,833 (0,4); 2,132 (17,4); 2,107 (0,3); 1,964 (1,5); 1,958 (3,8); 1,952 (20,1); 1,946 (36,2); 1,940 (48,4); 1,933 (33,3); 1,927 (17,3); 1,437 (16,0); 0,781 (1,0); 0,776 (1,2); 0,763 (1,3); 0,758 (0,9); 0,746 (0,4); 0,611 (0,4); 0,601 (1,1); 0,594 (1,2); 0,590 (1,0); 0,584 (1,0); 0,000 (2,5)
Beispiel I-T3-149: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 18,228 (0,3); 18,070 (0,4); 11,873 (0,3); 9,464 (0,4); 9,435 (13,6); 9,407 (0,4); 9,265 (9,2); 9,168 (16,0); 8,869 (9,9); 8,544 (15,8); 8,514 (0,4); 8,316 (1,1); 8,148 (0,4); 8,012 (0,4); 7,945 (12,0); 7,931 (6,4); 7,910 (6,2); 7,905 (5,4); 7,850 (0,4); 7,843 (0,4); 7,839 (0,4); 7,702 (0,4); 7,639 (0,4); 7,582 (9,8); 7,561 (9,0); 7,543 (0,4); 3,637 (0,4); 3,591 (0,4); 3,572 (0,4); 3,547 (0,4); 3,535 (0,6); 3,512 (0,5); 3,469 (0,6); 3,434 (0,9); 3,392 (2,8); 3,344 (1316,4); 3,339 (765,9); 3,331 (992,7); 3,218 (1,0); 3,211 (0,9); 3,178 (0,5); 3,121 (0,3); 3,058 (0,3); 2,731 (0,4); 2,671 (5,7); 2,638 (0,4); 2,584 (0,4); 2,506 (689,3); 2,502 (847,8); 2,417 (1,1); 2,381 (0,8); 2,333 (4,7); 2,328 (5,7); 2,288 (0,4); 2,283 (0,4); 1,658 (0,3); 1,620 (4,0); 1,606 (11,5); 1,599 (12,3); 1,586 (5,4); 1,546 (0,6); 1,489 (0,4); 1,370 (0,3); 1,350 (0,7); 1,310 (5,0); 1,296 (11,9); 1,290 (12,3); 1,275 (4,4); 1,237 (0,5); 0,146 (2,0); 0,000 (404,8); -0,150 (2,2); -3,146 (0,3)
Beispiel I-T3-150: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,265 (5,5); 9,179 (0,4); 9,144 (12,1); 9,086 (0,6); 8,868 (5,9); 8,863 (6,0); 8,554 (0,6); 8,536 (16,0); 8,525 (4,5); 8,504 (0,7); 8,316

(0,8); 8,292 (0,4); 7,872 (14,1); 7,866 (7,0); 7,855 (6,0); 7,850 (3,3); 7,569 (0,3); 7,534 (7,4); 7,527 (1,7); 7,518 (1,6); 7,511 (6,7); 3,568 (0,6); 3,468 (0,4); 3,455 (0,4); 3,444 (0,5); 3,341 (576,1); 3,339 (590,5); 3,331 (552,2); 2,875 (0,5); 2,864 (1,2); 2,855 (1,6); 2,846 (2,6); 2,836 (2,6); 2,828 (1,7); 2,818 (1,3); 2,807 (0,5); 2,676 (2,6); 2,672 (3,7); 2,667 (2,8); 2,662 (1,4); 2,580 (0,4); 2,525 (9,0); 2,520 (13,1); 2,511 (197,7); 2,507 (411,4); 2,502 (559,2); 2,498 (423,2); 2,493 (212,6); 2,458 (0,5); 2,334 (2,7); 2,329 (3,7); 2,325 (2,7); 0,736 (1,7); 0,724 (4,5); 0,718 (6,6); 0,706 (6,1); 0,700 (5,1); 0,689 (2,3); 0,650 (0,3); 0,608 (0,4); 0,578 (2,2); 0,568 (6,4); 0,562 (5,7); 0,558 (5,5); 0,552 (5,2); 0,540 (1,7); 0,146 (1,7); 0,030 (0,4); 0,024 (0,4); 0,017 (0,6); 0,008 (12,6); 0,000 (401,4); -0,009 (15,0); -0,150 (1,7)
Beispiel I-T3-151: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,444 (12,0); 9,048 (16,0); 8,890 (7,0); 8,886 (7,3); 8,610 (8,1); 8,605 (7,8); 8,506 (15,9); 8,495 (0,3); 8,317 (4,4); 7,899 (6,5); 7,894 (13,4); 7,885 (2,6); 7,870 (6,7); 7,865 (4,8); 7,579 (9,1); 7,559 (8,2); 3,410 (0,4); 3,383 (0,7); 3,364 (1,2); 3,327 (1576,2); 3,293 (1,2); 2,694 (0,5); 2,676 (8,0); 2,671 (11,2); 2,667 (8,3); 2,643 (0,4); 2,630 (0,4); 2,623 (0,5); 2,599 (0,7); 2,524 (28,8); 2,520 (43,4); 2,511 (594,8); 2,507 (1217,9); 2,502 (1623,1); 2,498 (1195,4); 2,493 (589,7); 2,419 (0,6); 2,338 (3,7); 2,333 (7,9); 2,329 (11,1); 2,324 (8,1); 2,320 (4,0); 1,620 (3,9); 1,606 (9,5); 1,599 (10,3); 1,586 (4,4); 1,546 (0,4); 1,342 (0,4); 1,303 (4,6); 1,289 (9,5); 1,282 (10,2); 1,268 (3,8); 1,234 (0,6); 1,148 (0,9); 0,146 (8,7); 0,049 (0,4); 0,039 (0,7); 0,008 (63,6); 0,000 (1893,8); -0,009 (67,7); -0,035 (1,3); -0,045 (0,8); -0,088 (0,3); -0,150 (8,7)
Beispiel I-T3-152: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,046 (0,6); 9,022 (16,0); 8,893 (8,5); 8,608 (9,0); 8,604 (8,5); 8,543 (6,0); 8,532 (6,0); 8,515 (0,9); 8,496 (15,9); 8,453 (0,3); 8,317 (2,0); 7,901 (0,4); 7,896 (0,4); 7,828 (8,6); 7,823 (11,4); 7,818 (11,0); 7,812 (8,2); 7,682 (0,3); 7,532 (8,5); 7,521 (2,4); 7,510 (7,5); 3,508 (0,4); 3,327 (1034,9); 3,230 (0,5); 3,210 (0,4); 2,874 (0,7); 2,864 (1,6); 2,854 (2,4); 2,846 (3,5); 2,836 (3,5); 2,827 (2,5); 2,817 (1,7); 2,807 (0,8); 2,671 (8,3); 2,622 (0,7); 2,608 (0,8); 2,506 (980,0); 2,502 (1179,0); 2,329 (8,1); 2,297 (0,4); 2,281 (0,3); 1,236 (0,7); 1,149 (0,6); 0,735 (2,2); 0,717 (8,7); 0,705 (8,5); 0,699 (7,0); 0,688 (2,9); 0,666 (0,5); 0,648 (0,4); 0,615 (0,3); 0,603 (0,4); 0,574 (3,0); 0,563 (9,1); 0,556 (9,0); 0,548 (7,5); 0,535 (2,1); 0,525 (0,5); 0,488 (0,3); 0,146 (5,2); 0,000 (1050,7); -0,150 (5,5)
Beispiel I-T3-153: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,441 (7,1); 9,380 (9,1); 8,960 (4,8); 8,954 (5,0); 8,641 (9,2); 8,581 (3,9); 8,577 (3,9); 8,317 (0,9); 8,166 (1,1); 8,002 (5,1); 7,997 (6,5); 7,969 (3,3); 7,963 (2,5); 7,948 (3,5); 7,942 (3,0); 7,589 (6,2); 7,568 (5,7); 3,430 (0,6); 3,411 (1,9); 3,393 (2,3); 3,378 (2,6); 3,359 (2,8); 3,328 (240,7); 2,950 (0,6); 2,932 (2,1); 2,913 (2,4); 2,898 (2,1); 2,880 (1,9); 2,862 (0,5); 2,676 (1,9); 2,671 (2,7); 2,667 (2,0); 2,542 (1,0); 2,525 (6,6); 2,520 (10,2); 2,511 (145,4); 2,507 (298,6); 2,502 (396,9); 2,498 (292,6); 2,493 (144,6); 2,334 (1,9); 2,329 (2,6); 2,325 (1,9); 2,320 (1,0); 2,075 (0,6); 1,908 (0,5); 1,627 (2,3); 1,613 (5,6); 1,606 (6,0); 1,593 (2,7); 1,314 (2,6); 1,301 (5,6); 1,294 (5,9); 1,279 (2,3); 1,106 (7,4); 1,088 (16,0); 1,069 (7,2); 0,146 (2,3); 0,008 (17,1); 0,000 (509,3); -0,009 (19,8); -0,031 (0,4); -0,034 (0,4); -0,150 (2,3)
Beispiel I-T3-154: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,448 (6,4); 9,231 (4,3); 9,226 (4,3); 9,186 (8,2); 8,634 (4,2); 8,629 (4,2); 8,596 (8,2); 8,317 (3,6); 7,954 (4,3); 7,949 (6,0); 7,934 (3,1); 7,929 (2,0); 7,913 (3,2); 7,908 (2,5); 7,595 (5,2); 7,574 (4,7); 4,152 (1,7); 4,133 (5,6); 4,115 (5,6); 4,096 (1,8); 3,459 (0,4); 3,445 (0,3); 3,436 (0,3); 3,328 (1346,5); 2,694 (0,4); 2,676 (6,7); 2,671 (9,0); 2,667 (6,9); 2,629 (0,5); 2,620 (0,5); 2,524 (24,4); 2,506 (1009,7); 2,502 (1305,6); 2,498 (988,2); 2,405 (0,6); 2,389 (0,6); 2,333 (6,4); 2,329 (8,7); 2,325 (6,5); 1,623 (2,1); 1,608 (5,2); 1,602 (5,6); 1,589 (2,4); 1,575 (0,5); 1,326 (6,4); 1,308 (16,0); 1,289 (11,7); 1,274 (2,1); 1,258 (0,6); 1,247 (0,5); 1,236 (0,7); 1,158 (0,5); 1,147 (0,4); 1,068 (0,8); 0,146 (6,9); 0,008 (62,7); 0,000 (1428,7); -0,059 (0,5); -0,080 (0,4); -0,101 (0,4); -0,150 (7,0)
Beispiel I-T3-155: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,345 (0,9); 8,192 (1,8); 8,153 (1,5); 8,094 (0,9); 7,738 (1,0); 7,732 (1,3); 7,706 (0,6); 7,700 (0,5); 7,685 (0,7); 7,680 (0,6); 7,563 (0,4); 7,507 (1,1); 7,486 (0,9); 2,144 (6,2); 2,114 (0,5); 2,108 (0,4); 1,972 (1,1); 1,964 (1,1); 1,958 (2,8); 1,952 (14,4); 1,946 (26,2); 1,940 (35,3); 1,934 (25,1); 1,928 (13,6); 1,596 (0,5); 1,582 (1,3); 1,575 (1,3); 1,561 (0,7); 1,437 (16,0); 1,362 (0,6); 1,349 (1,3); 1,342 (1,4); 1,327 (0,5); 1,204 (0,5); 0,146 (0,8); 0,008 (7,0); 0,000 (147,1); -0,008 (10,2); -0,150 (0,7)
Beispiel I-T3-156: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,077 (8,4); 9,076 (8,4); 8,593 (4,1); 8,589 (4,2); 8,540 (3,1); 8,529 (3,2); 8,471 (8,5); 8,469 (8,4); 8,317 (0,7); 8,019 (4,1); 8,015 (4,0); 7,848 (1,5); 7,843 (5,5); 7,839 (7,4); 7,834 (5,9); 7,826 (4,6); 7,820 (2,2); 7,526 (5,7); 7,517 (1,0); 7,513 (0,9); 7,504 (5,1); 3,328 (238,4); 3,109 (1,9); 3,091 (6,4); 3,072 (6,5); 3,054 (2,0); 2,874 (0,4); 2,864 (0,9); 2,854 (1,2); 2,846 (1,9); 2,836 (2,0); 2,827 (1,2); 2,818 (1,0); 2,808 (0,4); 2,676 (1,5); 2,671 (2,2); 2,667 (1,6); 2,662 (0,8); 2,525 (5,6); 2,520 (8,4); 2,511 (110,7); 2,507 (227,2); 2,502 (302,7); 2,498 (222,3); 2,493 (109,6); 2,338 (0,6); 2,334 (1,4); 2,329 (1,9); 2,324 (1,4); 2,320 (0,7); 1,398 (1,0); 1,235 (8,0); 1,217 (16,0); 1,198 (7,0); 0,736 (1,2); 0,723 (3,4); 0,718 (4,9); 0,706 (4,5); 0,700 (3,8); 0,688 (1,6); 0,577 (1,6); 0,566 (4,8); 0,560 (4,3); 0,556 (4,1); 0,550 (3,9); 0,538 (1,2); 0,146 (0,6); 0,008 (4,5); 0,000 (140,4); -0,009 (5,1); -0,150 (0,6)
Beispiel I-T3-157: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,389 (0,4); 9,355 (9,8); 8,964 (5,4); 8,959 (5,4); 8,642 (0,5); 8,627 (9,7); 8,577 (4,7); 8,540 (3,8); 8,529 (3,8); 8,317 (1,2); 7,913 (12,3); 7,893 (4,1); 7,887 (2,8); 7,541 (4,9); 7,520 (4,4); 4,038 (0,9); 4,020 (0,8); 4,002 (0,4); 3,454 (0,4); 3,425 (0,9); 3,406 (2,4); 3,387 (2,9); 3,372 (3,7); 3,353 (5,7); 3,329 (694,0); 2,952 (0,7); 2,934 (2,2); 2,915 (2,5); 2,900 (2,2); 2,882 (2,0); 2,864 (1,6); 2,855 (1,6); 2,846 (2,3); 2,836 (2,3); 2,827 (1,6); 2,818 (1,1); 2,807 (0,5); 2,676 (3,2); 2,671 (4,1); 2,667 (3,2); 2,507 (462,3); 2,502 (589,8); 2,498 (442,8); 2,333 (2,8); 2,329 (3,8); 2,325 (2,8); 1,989 (3,4); 1,398 (1,9); 1,234 (0,7); 1,193 (1,0); 1,175 (1,8); 1,157 (0,9); 1,099 (7,6); 1,081 (16,0); 1,063 (7,3); 0,741 (1,3); 0,728 (4,0); 0,723 (5,4); 0,711 (5,1); 0,705 (4,3); 0,694 (1,7); 0,583 (1,8); 0,573 (5,5); 0,566 (5,3); 0,557 (4,5); 0,545 (1,3); 0,146 (0,3); 0,008 (3,2); 0,000 (63,6)
Beispiel I-T3-158: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,234 (1,6); 9,229 (1,6); 9,165 (3,1); 8,632 (1,6); 8,627 (1,6); 8,584 (3,2); 8,547 (1,2); 8,536 (1,2); 7,875 (4,5); 7,871 (1,9); 7,857 (1,5); 7,852 (0,9); 7,548 (1,5); 7,543 (0,7); 7,529 (0,6); 7,525 (1,4); 4,151 (0,7); 4,132 (2,2); 4,114 (2,2); 4,095 (0,7); 3,329 (71,4); 2,867 (0,3); 2,857 (0,4); 2,849 (0,7); 2,839 (0,7); 2,830 (0,5); 2,821 (0,3); 2,676 (0,4); 2,672 (0,6); 2,667 (0,4); 2,525 (1,6); 2,511 (33,5); 2,507 (66,9); 2,502 (87,7); 2,498 (64,8); 2,494 (32,5); 2,334 (0,4); 2,329 (0,6); 2,325 (0,4); 1,398 (16,0); 1,324 (2,6); 1,306 (5,7); 1,287 (2,6); 1,236 (0,3); 0,738 (0,4); 0,725 (1,3); 0,720 (1,8); 0,708 (1,6); 0,702 (1,4); 0,691 (0,6); 0,580 (0,6); 0,569 (1,8); 0,563 (1,6); 0,554 (1,4); 0,541 (0,4); 0,008 (0,4); 0,000 (10,6); -0,008 (0,4)
Beispiel I-T3-159: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,812 (2,8); 9,173 (7,1); 8,904 (2,9); 8,880 (0,5); 8,874 (0,4); 8,852 (1,7); 8,845 (2,6); 8,822 (6,9); 8,816 (7,2); 8,765 (9,2); 8,566 (0,7); 8,554 (1,9); 8,512 (5,8); 8,484 (11,2); 8,455 (6,7); 8,449 (6,6); 8,318 (0,7); 8,263 (1,1); 8,257 (1,1); 8,237 (0,4); 8,093 (5,7); 3,903 (16,0); 3,680 (2,8); 3,593 (0,6); 3,582 (0,9); 3,570 (0,7); 3,388 (0,9); 3,333 (306,9); 3,276 (1,0); 3,267 (1,3); 3,168 (13,0); 3,044 (0,4); 2,980 (0,9);

2,891 (2,0); 2,732 (1,7); 2,676 (1,9); 2,672 (2,6); 2,667 (1,9); 2,542 (0,9); 2,525 (6,2); 2,511 (158,8); 2,507 (322,0); 2,503 (423,2); 2,498 (311,3); 2,494 (156,1); 2,334 (2,0); 2,329 (2,7); 2,325 (2,1); 2,083 (0,4); 2,065 (0,3); 1,877 (2,4); 1,867 (5,7); 1,857 (6,2); 1,848 (2,6); 1,718 (0,4); 1,709 (0,4); 1,435 (0,4); 1,355 (0,6); 1,298 (0,6); 1,284 (0,5); 1,276 (0,6); 1,259 (3,3); 1,249 (6,9); 1,239 (9,7); 1,236 (9,6); 1,001 (0,6); 0,991 (0,5); 0,986 (0,5); 0,871 (0,5); 0,862 (0,6); 0,854 (1,3); 0,843 (0,5); 0,837 (0,7); 0,827 (0,3); 0,008 (0,7); 0,000 (25,7); -0,008 (1,0)
Beispiel I-T3-160: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,728 (0,3); 8,722 (0,5); 8,704 (9,5); 8,698 (9,6); 8,524 (0,3); 8,353 (7,7); 8,234 (15,1); 8,219 (12,8); 8,100 (7,8); 8,052 (10,3); 8,046 (10,1); 7,603 (0,4); 7,592 (0,6); 7,560 (0,5); 7,537 (0,5); 7,495 (0,5); 7,490 (0,5); 7,342 (0,5); 7,067 (2,6); 5,449 (0,7); 4,054 (1,4); 3,893 (0,3); 3,441 (0,7); 3,375 (0,6); 3,241 (1,1); 3,154 (3,0); 3,070 (0,6); 2,886 (0,9); 2,876 (1,9); 2,867 (2,7); 2,858 (3,9); 2,849 (3,9); 2,840 (2,7); 2,831 (1,9); 2,821 (0,7); 2,600 (0,3); 2,590 (0,4); 2,531 (0,4); 2,470 (3,6); 2,465 (5,0); 2,460 (3,7); 2,432 (0,3); 2,425 (0,4); 2,394 (0,4); 2,368 (0,5); 2,359 (0,5); 2,329 (0,6); 2,316 (0,6); 2,289 (0,8); 2,261 (1,3); 2,257 (1,3); 2,255 (1,3); 2,243 (1,9); 2,178 (1072,5); 2,127 (0,9); 2,121 (1,9); 2,114 (3,1); 2,108 (4,0); 2,102 (2,8); 2,096 (1,6); 2,087 (0,7); 2,057 (0,4); 2,036 (0,7); 2,017 (1,1); 1,998 (1,2); 1,965 (20,6); 1,959 (52,5); 1,953 (270,7); 1,947 (487,5); 1,941 (651,6); 1,935 (450,7); 1,929 (234,0); 1,782 (1,4); 1,775 (2,7); 1,769 (3,6); 1,763 (2,5); 1,757 (1,3); 1,711 (2,4); 1,384 (0,4); 1,380 (0,8); 1,269 (16,0); 0,897 (0,7); 0,881 (1,8); 0,864 (0,9); 0,808 (2,2); 0,795 (6,8); 0,790 (8,9); 0,778 (9,1); 0,772 (6,9); 0,760 (3,0); 0,738 (0,4); 0,721 (0,4); 0,661 (0,4); 0,651 (0,4); 0,621 (3,0); 0,609 (8,1); 0,603 (8,3); 0,599 (7,4); 0,594 (7,1); 0,581 (2,1); 0,543 (0,5); 0,390 (0,4); 0,385 (0,5); 0,146 (8,5); 0,085 (0,4); 0,078 (0,5); 0,065 (0,5); 0,008 (68,5); 0,000 (1708,3); -0,009 (75,1); -0,049 (0,5); -0,058 (0,4); -0,150 (8,4)
Beispiel I-T3-161: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,626 (2,2); 8,153 (1,1); 8,140 (16,0); 8,100 (13,1); 7,994 (7,6); 7,949 (7,7); 7,629 (9,3); 7,624 (11,5); 7,596 (6,2); 7,591 (4,8); 7,585 (2,3); 7,575 (7,4); 7,570 (6,0); 7,488 (0,5); 7,467 (0,4); 7,436 (11,0); 7,415 (8,4); 4,085 (1,8); 4,068 (5,5); 4,050 (5,6); 4,032 (1,9); 3,435 (0,7); 3,425 (1,5); 3,416 (1,9); 3,407 (3,0); 3,394 (2,9); 3,383 (1,8); 3,376 (1,3); 3,365 (0,6); 3,033 (0,5); 2,905 (0,4); 2,683 (0,6); 2,665 (0,6); 2,467 (0,8); 2,143 (2313,8); 2,117 (49,9); 2,108 (11,0); 2,101 (6,8); 2,095 (3,7); 1,972 (32,2); 1,964 (49,2); 1,958 (118,9); 1,953 (611,9); 1,946 (1099,9); 1,940 (1474,5); 1,934 (1019,6); 1,928 (525,2); 1,781 (2,8); 1,775 (5,7); 1,769 (7,9); 1,762 (5,4); 1,756 (2,4); 1,437 (7,6); 1,270 (1,1); 1,222 (6,5); 1,204 (13,0); 1,186 (6,4); 0,951 (2,0); 0,939 (6,4); 0,934 (8,6); 0,921 (8,9); 0,915 (6,5); 0,902 (2,8); 0,881 (0,8); 0,863 (0,6); 0,821 (0,5); 0,811 (0,4); 0,782 (2,8); 0,770 (7,8); 0,764 (8,1); 0,760 (6,9); 0,754 (6,8); 0,741 (1,9); 0,192 (0,4); 0,146 (19,2); 0,087 (1,0); 0,063 (1,5); 0,008 (155,4); 0,000 (3971,4); -0,009 (173,7); -0,068 (0,4); -0,150 (18,8)
Beispiel I-T3-162: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,194 (6,9); 8,179 (6,7); 7,972 (3,4); 7,759 (3,0); 7,688 (3,5); 7,682 (4,6); 7,655 (2,4); 7,650 (1,8); 7,635 (2,7); 7,629 (2,4); 7,477 (4,3); 7,456 (3,4); 6,951 (1,1); 2,872 (0,7); 2,862 (1,1); 2,854 (1,6); 2,844 (1,6); 2,835 (1,1); 2,826 (0,8); 2,471 (0,3); 2,466 (0,5); 2,461 (0,3); 2,180 (199,2); 2,134 (0,5); 2,115 (0,5); 2,109 (0,6); 2,102 (0,4); 1,965 (2,7); 1,959 (6,7); 1,953 (37,6); 1,947 (69,0); 1,941 (93,6); 1,935 (65,6); 1,929 (34,4); 1,776 (0,4); 1,770 (0,5); 1,763 (0,4); 1,437 (16,0); 1,269 (0,4); 0,795 (0,9); 0,782 (2,6); 0,777 (3,6); 0,765 (3,7); 0,759 (2,8); 0,747 (1,2); 0,612 (1,2); 0,601 (3,3); 0,595 (3,4); 0,591 (3,1); 0,586 (3,0); 0,573 (0,9); 0,146 (1,5); 0,008 (10,7); 0,000 (294,5); -0,150 (1,5)
Beispiel I-T3-163: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,205 (4,0); 8,190 (4,1); 7,973 (2,2); 7,760 (2,0); 7,736 (2,0); 7,731 (2,6); 7,704 (1,2); 7,700 (1,0); 7,684 (1,4); 7,679 (1,2); 7,600 (0,8); 7,509 (2,3); 7,488 (1,9); 2,161 (116,4); 2,121 (0,5); 2,114 (0,5); 2,108 (0,6); 2,102 (0,4); 1,963 (2,5); 1,952 (29,4); 1,946 (52,9); 1,941 (70,8); 1,934 (50,0); 1,928 (26,6); 1,769 (0,4); 1,598 (1,0); 1,583 (2,9); 1,576 (2,8); 1,563 (1,3); 1,436 (16,0); 1,362 (1,3); 1,348 (2,9); 1,341 (3,0); 1,327 (1,0); 1,269 (0,5); 0,145 (1,2); 0,000 (226,5); -0,150 (1,2)
Beispiel I-T3-164: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,460 (5,0); 8,854 (7,4); 8,671 (4,0); 8,651 (4,0); 8,535 (7,4); 7,846 (1,3); 7,840 (3,0); 7,833 (4,3); 7,827 (5,4); 7,824 (4,4); 7,818 (1,5); 7,594 (4,1); 7,584 (0,8); 7,582 (0,8); 7,572 (3,6); 4,056 (1,2); 4,038 (3,7); 4,020 (3,7); 4,002 (1,3); 3,934 (1,6); 3,329 (39,1); 2,671 (0,4); 2,525 (1,1); 2,507 (42,6); 2,502 (56,3); 2,498 (42,6); 2,329 (0,4); 1,989 (16,0); 1,619 (1,7); 1,605 (4,3); 1,598 (4,6); 1,585 (1,9); 1,397 (5,6); 1,295 (2,0); 1,281 (4,2); 1,275 (4,5); 1,260 (1,6); 1,193 (4,2); 1,175 (8,4); 1,157 (4,1); 1,069 (10,8); 0,008 (1,8); 0,000 (48,4); -0,008 (2,3)
Beispiel I-T3-165: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,748 (1,7); 8,742 (1,8); 8,353 (1,5); 8,243 (2,8); 8,228 (2,4); 8,116 (1,9); 8,110 (2,1); 8,101 (1,5); 7,706 (0,5); 3,236 (0,9); 3,070 (0,4); 2,883 (0,4); 2,284 (0,3); 2,154 (118,3); 2,120 (0,8); 2,114 (0,9); 2,108 (0,9); 2,102 (0,7); 2,095 (0,4); 1,972 (0,7); 1,965 (3,4); 1,958 (8,8); 1,953 (47,0); 1,946 (85,3); 1,940 (114,8); 1,934 (80,1); 1,928 (41,8); 1,775 (0,5); 1,769 (0,7); 1,763 (0,5); 1,612 (0,8); 1,597 (2,0); 1,591 (2,0); 1,577 (1,0); 1,437 (16,0); 1,370 (1,0); 1,356 (2,0); 1,349 (2,1); 1,334 (0,8); 1,269 (0,9); 0,146 (1,9); 0,008 (15,7); 0,000 (390,9); -0,009 (19,9); -0,150 (2,0)
Beispiel I-T3-166: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,440 (11,8); 9,127 (15,9); 8,569 (7,7); 8,491 (16,0); 8,318 (2,5); 7,965 (7,6); 7,961 (7,7); 7,926 (7,5); 7,921 (12,0); 7,912 (6,7); 7,906 (3,4); 7,891 (6,2); 7,885 (4,8); 7,573 (10,1); 7,553 (9,2); 3,459 (0,4); 3,399 (0,7); 3,365 (1,8); 3,331 (1516,7); 3,298 (1,6); 2,701 (0,4); 2,694 (0,3); 2,676 (6,5); 2,671 (9,1); 2,667 (6,9); 2,638 (0,4); 2,576 (1,1); 2,529 (53,9); 2,520 (35,9); 2,511 (509,9); 2,507 (1041,8); 2,502 (1375,8); 2,498 (1016,8); 2,417 (0,5); 2,351 (0,6); 2,334 (6,6); 2,329 (9,1); 2,325 (6,8); 2,302 (0,3); 1,621 (3,9); 1,607 (9,8); 1,600 (10,6); 1,587 (4,4); 1,547 (0,4); 1,348 (0,4); 1,307 (4,5); 1,294 (9,7); 1,287 (10,6); 1,273 (3,7); 1,237 (0,4); 0,146 (3,4); 0,024 (0,3); 0,008 (24,7); 0,000 (766,8); -0,008 (29,5); -0,032 (0,8); -0,150 (3,5)
Beispiel I-T3-167: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,440 (6,2); 9,103 (8,3); 9,094 (0,8); 8,587 (4,2); 8,479 (8,5); 8,317 (1,1); 8,021 (4,5); 7,917 (3,9); 7,911 (6,2); 7,903 (3,6); 7,898 (1,8); 7,882 (3,2); 7,877 (2,5); 7,597 (0,4); 7,574 (5,4); 7,554 (4,7); 3,329 (494,7); 3,110 (1,9); 3,092 (6,3); 3,074 (6,4); 3,056 (2,0); 2,871 (0,3); 2,676 (3,0); 2,671 (4,2); 2,667 (3,1); 2,524 (9,6); 2,507 (478,6); 2,502 (637,0); 2,498 (477,3); 2,408 (0,8); 2,333 (2,9); 2,329 (4,1); 2,325 (3,1); 1,621 (2,0); 1,607 (5,2); 1,600 (5,6); 1,587 (2,3); 1,306 (2,4); 1,293 (5,3); 1,286 (5,7); 1,272 (2,1); 1,261 (0,6); 1,235 (7,6); 1,217 (16,0); 1,199 (7,1); 0,146 (1,6); 0,008 (11,5); 0,000 (362,6); -0,008 (14,5); -0,026 (0,6); -0,150 (1,6)
Beispiel I-T3-168: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,917 (4,0); 8,676 (2,2); 8,612 (2,2); 8,554 (1,4); 8,543 (1,4); 8,439 (4,1); 7,783 (0,8); 7,777 (1,6); 7,770 (2,3); 7,764 (3,0); 7,539 (2,1); 7,527 (0,4); 7,517 (1,8); 4,038 (0,4); 4,020 (0,4); 3,936 (2,3); 3,333 (40,9); 2,864 (0,4); 2,854 (0,6); 2,846 (0,8); 2,836 (0,8); 2,827 (0,6); 2,818 (0,4); 2,507 (26,6); 2,503 (34,6); 2,498 (26,4); 1,989 (1,7); 1,296 (0,7); 1,193 (0,5); 1,175 (0,9); 1,157 (0,5); 1,069 (16,0); 0,733 (0,5); 0,720 (1,6); 0,716 (2,1); 0,703 (2,0); 0,698 (1,8); 0,686 (0,7); 0,566 (0,7); 0,555 (2,1); 0,549 (2,0); 0,540 (1,8); 0,527 (0,6); 0,000 (11,0)

Beispiel I-T3-169: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,461 (11,1); 9,416 (0,4); 8,936 (15,7); 8,681 (8,8); 8,616 (8,7); 8,450 (16,0); 7,833 (11,0); 7,827 (9,7); 7,820 (7,2); 7,652 (0,3); 7,589 (8,1); 7,578 (1,9); 7,567 (7,0); 7,556 (0,5); 4,038 (0,8); 4,020 (0,8); 3,937 (0,6); 3,333 (133,2); 2,672 (0,7); 2,503 (110,4); 2,330 (0,7); 1,989 (3,2); 1,622 (3,6); 1,607 (9,7); 1,601 (10,5); 1,587 (4,3); 1,563 (0,4); 1,556 (0,4); 1,547 (0,5); 1,334 (0,4); 1,314 (0,5); 1,300 (4,8); 1,294 (5,2); 1,281 (9,9); 1,274 (10,4); 1,259 (3,7); 1,235 (0,6); 1,193 (0,9); 1,175 (1,7); 1,157 (0,9); 1,069 (3,7); 0,000 (35,7)
Beispiel I-T3-170: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,441 (1,5); 9,436 (2,4); 8,694 (1,7); 8,619 (3,2); 8,443 (1,7); 8,398 (3,2); 8,274 (2,8); 7,960 (1,6); 7,956 (1,6); 7,810 (0,9); 7,804 (2,1); 7,797 (2,3); 7,792 (2,9); 7,787 (3,1); 7,782 (0,9); 7,742 (1,6); 7,739 (1,6); 7,569 (1,0); 7,557 (2,1); 7,546 (1,3); 7,535 (1,8); 4,056 (1,2); 4,038 (3,6); 4,020 (3,7); 4,002 (1,2); 3,332 (35,6); 3,116 (0,7); 3,097 (2,3); 3,079 (2,4); 3,061 (0,7); 2,525 (0,5); 2,512 (10,5); 2,507 (21,4); 2,503 (28,1); 2,498 (20,5); 2,494 (9,9); 1,990 (16,0); 1,615 (1,1); 1,601 (2,8); 1,594 (2,9); 1,581 (1,3); 1,289 (1,3); 1,276 (2,8); 1,269 (3,0); 1,255 (1,1); 1,208 (2,7); 1,193 (5,6); 1,190 (6,2); 1,175 (9,2); 1,157 (4,2); 0,000 (3,5)
Beispiel I-T3-171: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,443 (12,6); 9,162 (16,0); 8,676 (8,2); 8,530 (16,0); 8,412 (7,8); 8,317 (4,0); 7,937 (8,0); 7,932 (12,0); 7,921 (6,8); 7,915 (3,8); 7,900 (6,4); 7,895 (5,0); 7,716 (0,4); 7,584 (10,3); 7,563 (9,1); 4,358 (2,5); 4,332 (7,5); 4,306 (7,8); 4,280 (2,7); 4,104 (0,5); 4,079 (0,4); 3,496 (0,5); 3,480 (0,4); 3,466 (0,5); 3,452 (0,4); 3,396 (0,8); 3,329 (1554,1); 3,287 (1,0); 2,676 (8,0); 2,671 (11,1); 2,667 (8,6); 2,645 (0,6); 2,525 (28,7); 2,511 (614,7); 2,507 (1266,3); 2,502 (1687,1); 2,498 (1264,4); 2,389 (0,6); 2,380 (0,6); 2,333 (7,8); 2,329 (11,0); 2,325 (8,3); 2,256 (0,4); 2,075 (1,4); 1,623 (4,0); 1,608 (10,0); 1,601 (10,8); 1,588 (4,6); 1,548 (0,5); 1,347 (0,4); 1,306 (4,7); 1,293 (10,0); 1,286 (10,8); 1,272 (3,9); 1,234 (0,7); 0,146 (0,5); 0,017 (0,4); 0,008 (3,6); 0,000 (115,1); -0,008 (5,1); -0,150 (0,6)
Beispiel I-T3-172: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,613 (0,3); 8,596 (8,4); 8,529 (2,9); 8,518 (3,0); 8,492 (0,7); 8,381 (8,5); 8,333 (0,6); 7,956 (4,4); 7,953 (4,4); 7,749 (2,3); 7,743 (4,8); 7,739 (5,0); 7,725 (13,2); 7,507 (4,3); 7,488 (2,3); 7,485 (3,1); 4,055 (1,2); 4,038 (3,6); 4,020 (3,7); 4,002 (1,2); 3,329 (51,5); 3,112 (1,9); 3,094 (6,1); 3,076 (6,1); 3,057 (2,0); 3,048 (0,4); 3,029 (0,9); 3,011 (0,9); 2,856 (0,8); 2,847 (1,1); 2,838 (1,8); 2,828 (1,8); 2,819 (1,1); 2,809 (0,9); 2,676 (0,4); 2,671 (0,5); 2,667 (0,4); 2,524 (1,3); 2,511 (30,4); 2,507 (60,9); 2,502 (79,7); 2,498 (58,7); 2,494 (29,4); 2,333 (0,4); 2,329 (0,5); 2,324 (0,4); 1,989 (16,0); 1,235 (0,4); 1,207 (6,8); 1,192 (7,1); 1,189 (14,7); 1,175 (10,4); 1,170 (7,2); 1,157 (4,7); 1,068 (0,4); 0,727 (1,1); 0,714 (3,3); 0,709 (4,6); 0,697 (4,3); 0,691 (3,7); 0,680 (1,5); 0,563 (1,5); 0,552 (4,6); 0,546 (4,3); 0,536 (3,8); 0,524 (1,1); 0,008 (2,2); 0,000 (61,3); -0,008 (2,4)
Beispiel I-T3-173: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,653 (6,0); 8,567 (3,1); 8,561 (3,2); 8,401 (5,7); 8,091 (10,1); 8,013 (3,1); 8,007 (3,2); 7,957 (0,4); 6,579 (0,7); 5,409 (0,3); 3,923 (16,0); 3,592 (0,3); 3,367 (923,7); 2,985 (14,3); 2,767 (0,4); 2,740 (1,3); 2,725 (0,9); 2,704 (1,4); 2,674 (0,9); 2,509 (96,0); 2,505 (123,6); 2,501 (91,6); 2,332 (0,8); 2,074 (1,6); 1,271 (0,8); 1,169 (5,1); 0,467 (4,6); 0,450 (2,4); 0,008 (1,4); 0,000 (28,9)
Beispiel I-T3-174: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,835 (7,5); 8,672 (3,0); 8,669 (4,0); 8,650 (3,9); 8,649 (3,9); 8,645 (2,9); 8,556 (2,5); 8,545 (2,5); 8,525 (7,6); 7,787 (1,7); 7,781 (2,9); 7,766 (4,0); 7,763 (11,3); 7,546 (3,2); 7,542 (1,7); 7,527 (1,5); 7,524 (2,8); 4,056 (1,2); 4,038 (3,6); 4,020 (3,7); 4,002 (1,2); 3,329 (59,6); 2,865 (0,7); 2,856 (0,9); 2,847 (1,4); 2,836 (1,5); 2,828 (0,9); 2,818 (0,7); 2,671 (0,4); 2,525 (1,0); 2,520 (1,6); 2,511 (21,0); 2,507 (42,8); 2,502 (56,7); 2,498 (41,2); 2,493 (19,8); 2,329 (0,4); 1,989 (16,0); 1,193 (4,3); 1,175 (8,7); 1,157 (4,2); 0,733 (1,0); 0,720 (2,7); 0,715 (3,8); 0,703 (3,5); 0,697 (2,9); 0,686 (1,3); 0,566 (1,3); 0,555 (3,7); 0,549 (3,3); 0,545 (3,1); 0,540 (3,0); 0,527 (0,9); 0,008 (1,4); 0,000 (40,4); -0,009 (1,3)
Beispiel I-T3-175: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,146 (3,1); 8,082 (4,8); 7,714 (1,6); 7,697 (2,0); 7,692 (2,5); 7,663 (1,3); 7,658 (1,0); 7,642 (1,5); 7,637 (1,3); 7,472 (2,3); 7,451 (1,8); 6,931 (0,6); 2,873 (0,4); 2,864 (0,6); 2,855 (0,9); 2,845 (0,9); 2,837 (0,6); 2,827 (0,4); 2,165 (79,0); 2,115 (0,4); 2,108 (0,5); 2,102 (0,3); 1,965 (1,5); 1,959 (4,0); 1,953 (28,1); 1,947 (52,6); 1,941 (72,5); 1,935 (50,5); 1,929 (26,2); 1,769 (0,4); 1,437 (16,0); 0,796 (0,5); 0,783 (1,5); 0,778 (2,0); 0,765 (2,0); 0,760 (1,5); 0,748 (0,7); 0,613 (0,6); 0,601 (1,7); 0,595 (1,8); 0,591 (1,6); 0,586 (1,6); 0,574 (0,5); 0,000 (0,6)
Beispiel I-T3-176: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 19,983 (0,4); 8,920 (0,7); 8,270 (0,3); 8,158 (11,0); 8,124 (0,4); 8,095 (11,8); 8,083 (6,1); 8,035 (0,7); 7,746 (6,2); 7,741 (7,8); 7,713 (9,2); 7,692 (4,8); 7,686 (4,4); 7,669 (3,3); 7,590 (0,6); 7,505 (6,9); 7,484 (5,7); 3,901 (3,1); 2,470 (2,5); 2,466 (3,4); 2,461 (2,6); 2,417 (1,0); 2,179 (1701,9); 2,153 (39,9); 2,121 (2,8); 2,115 (3,6); 2,109 (4,3); 2,103 (3,2); 2,096 (1,9); 2,034 (0,5); 1,965 (12,0); 1,954 (216,5); 1,947 (401,4); 1,941 (546,5); 1,935 (384,1); 1,929 (201,2); 1,782 (1,6); 1,776 (2,6); 1,770 (3,4); 1,764 (2,5); 1,599 (3,1); 1,584 (8,5); 1,577 (8,4); 1,564 (4,1); 1,524 (0,7); 1,437 (16,0); 1,401 (0,7); 1,362 (3,9); 1,349 (8,6); 1,342 (8,8); 1,327 (3,1); 1,268 (2,7); 0,882 (0,4); 0,000 (4,2)
Beispiel I-T3-177: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,462 (7,5); 8,855 (1,9); 8,790 (8,8); 8,673 (1,1); 8,653 (1,1); 8,536 (1,9); 8,483 (8,9); 8,391 (4,5); 8,388 (4,6); 8,105 (4,5); 8,102 (4,5); 7,846 (0,5); 7,840 (1,0); 7,833 (2,8); 7,827 (5,2); 7,820 (5,9); 7,814 (7,0); 7,810 (5,4); 7,804 (1,9); 7,595 (1,3); 7,586 (5,5); 7,573 (1,8); 7,564 (4,6); 4,055 (0,5); 4,038 (1,4); 4,020 (1,4); 4,002 (0,5); 3,331 (91,4); 3,168 (2,0); 3,150 (6,5); 3,131 (6,6); 3,113 (2,0); 2,676 (0,5); 2,672 (0,7); 2,667 (0,5); 2,525 (1,8); 2,511 (39,2); 2,507 (78,6); 2,502 (103,0); 2,498 (76,1); 2,494 (38,1); 2,334 (0,5); 2,329 (0,7); 2,325 (0,5); 1,989 (6,1); 1,619 (2,5); 1,604 (6,3); 1,598 (6,8); 1,585 (2,8); 1,397 (5,9); 1,293 (2,9); 1,279 (6,3); 1,273 (6,7); 1,258 (2,4); 1,203 (7,5); 1,193 (2,5); 1,184 (16,0); 1,175 (4,1); 1,166 (7,2); 1,157 (2,0); 1,069 (0,5); 0,008 (2,2); 0,000 (62,2); -0,008 (2,5)
Beispiel I-T3-178: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,730 (5,4); 8,726 (5,4); 8,701 (10,4); 8,556 (3,7); 8,545 (3,7); 8,483 (0,5); 8,463 (10,3); 8,318 (0,6); 8,268 (5,5); 8,264 (5,4); 7,760 (2,4); 7,754 (3,8); 7,736 (14,8); 7,524 (4,5); 7,505 (2,3); 7,502 (3,8); 4,055 (1,2); 4,037 (3,6); 4,020 (3,7); 4,002 (1,2); 3,460 (1,7); 3,442 (5,0); 3,424 (5,0); 3,405 (1,7); 3,329 (124,3); 2,868 (0,4); 2,858 (1,0); 2,848 (1,4); 2,840 (2,2); 2,830 (2,2); 2,821 (1,4); 2,811 (1,0); 2,802 (0,4); 2,675 (1,1); 2,671 (1,5); 2,667 (1,2); 2,541 (6,3); 2,506 (175,4); 2,502 (223,8); 2,498 (167,1); 2,333 (1,1); 2,329 (1,4); 2,324 (1,1); 1,989 (15,7); 1,235 (0,4); 1,193 (4,2); 1,175 (8,3); 1,157 (5,1); 1,150 (7,5); 1,132 (16,0); 1,113 (7,2); 0,728 (1,4); 0,715 (4,2); 0,710 (5,5); 0,698 (5,2); 0,692 (4,4); 0,681 (1,7); 0,561 (1,8); 0,551 (5,6); 0,545 (5,4); 0,535 (4,6); 0,523 (1,3); 0,146 (0,4); 0,000 (94,7); -0,008 (4,3); -0,150 (0,4)
Beispiel I-T3-179: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,862 (9,5); 8,701 (0,4); 8,548 (3,2); 8,537 (3,2); 8,504 (0,4); 8,487 (10,0); 8,482 (5,1); 8,477 (4,7); 8,463 (0,4); 8,317 (1,4); 8,095 (4,8);

8,091 (4,8); 7,769 (2,1); 7,764 (3,9); 7,753 (5,3); 7,748 (11,5); 7,736 (0,7); 7,540 (5,3); 7,533 (1,3); 7,524 (1,3); 7,517 (4,5); 4,055 (1,0); 4,037 (3,2); 4,020 (3,2); 4,002 (1,1); 3,507 (0,3); 3,443 (0,4); 3,424 (0,4); 3,396 (0,5); 3,373 (0,8); 3,332 (779,0); 3,293 (0,7); 3,061 (0,5); 3,042 (1,8); 3,024 (2,1); 3,008 (2,2); 2,995 (0,5); 2,990 (2,0); 2,971 (0,6); 2,870 (0,4); 2,860 (0,9); 2,850 (1,3); 2,842 (2,0); 2,831 (2,1); 2,822 (1,3); 2,813 (1,0); 2,803 (0,4); 2,680 (1,3); 2,676 (2,7); 2,671 (3,7); 2,667 (2,8); 2,584 (1,0); 2,565 (2,6); 2,547 (3,3); 2,542 (5,6); 2,525 (10,0); 2,520 (15,4); 2,511 (205,0); 2,507 (417,5); 2,502 (550,6); 2,498 (403,5); 2,493 (198,2); 2,333 (2,6); 2,329 (3,6); 2,325 (2,7); 1,989 (13,8); 1,298 (0,3); 1,259 (0,5); 1,235 (0,9); 1,193 (3,9); 1,175 (7,6); 1,157 (3,8); 1,132 (0,6); 1,047 (7,2); 1,029 (16,0); 1,010 (6,9); 0,733 (1,3); 0,720 (3,5); 0,715 (5,2); 0,703 (4,7); 0,697 (4,1); 0,685 (1,7); 0,563 (1,7); 0,552 (5,0); 0,546 (4,7); 0,542 (4,4); 0,536 (4,2); 0,524 (1,3); 0,146 (1,1); 0,008 (8,8); 0,000 (281,7); -0,009 (10,6); -0,150 (1,1)
Beispiel I-T3-180: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,105 (5,5); 9,100 (4,5); 8,889 (0,7); 8,871 (9,2); 8,581 (4,6); 8,570 (6,0); 8,564 (6,8); 8,559 (5,5); 8,545 (9,1); 8,317 (0,9); 7,817 (0,3); 7,812 (0,3); 7,774 (3,3); 7,768 (4,2); 7,755 (7,5); 7,751 (13,2); 7,553 (4,7); 7,548 (2,1); 7,535 (2,4); 7,530 (3,5); 4,055 (0,8); 4,037 (2,1); 4,020 (2,1); 4,002 (0,7); 3,559 (2,3); 3,541 (6,5); 3,523 (6,4); 3,504 (2,1); 3,334 (39,2); 3,328 (131,0); 2,866 (1,3); 2,856 (1,8); 2,847 (2,5); 2,837 (2,3); 2,829 (1,5); 2,819 (1,0); 2,809 (0,4); 2,676 (2,3); 2,671 (2,5); 2,667 (1,8); 2,621 (0,4); 2,507 (343,0); 2,502 (380,1); 2,498 (256,9); 2,333 (2,1); 2,329 (2,4); 2,324 (1,6); 1,995 (2,3); 1,989 (8,7); 1,298 (0,4); 1,258 (0,6); 1,249 (0,7); 1,236 (1,2); 1,193 (3,8); 1,181 (8,8); 1,175 (7,3); 1,163 (16,0); 1,157 (4,7); 1,144 (6,8); 1,114 (0,6); 0,731 (1,9); 0,719 (5,2); 0,714 (5,7); 0,702 (5,8); 0,696 (4,2); 0,684 (1,6); 0,593 (0,3); 0,563 (2,7); 0,553 (6,7); 0,547 (6,1); 0,538 (4,5); 0,525 (1,3); 0,006 (15,8); 0,000 (61,8); -0,008 (2,7)
Beispiel I-T3-181: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,108 (0,4); 9,087 (10,3); 8,892 (5,1); 8,888 (5,2); 8,613 (0,4); 8,591 (10,7); 8,579 (3,8); 8,568 (3,7); 8,407 (5,3); 8,403 (5,3); 7,787 (2,0); 7,781 (4,5); 7,775 (6,6); 7,769 (7,7); 7,765 (6,0); 7,759 (2,3); 7,575 (6,0); 7,564 (1,5); 7,552 (5,0); 4,056 (1,1); 4,038 (3,4); 4,020 (3,4); 4,002 (1,2); 3,330 (39,4); 3,101 (0,5); 3,083 (1,8); 3,065 (2,2); 3,049 (2,3); 3,031 (2,1); 3,012 (0,6); 2,879 (0,4); 2,869 (1,0); 2,860 (1,4); 2,851 (2,1); 2,841 (2,1); 2,833 (1,4); 2,823 (1,0); 2,813 (0,4); 2,676 (0,5); 2,672 (0,6); 2,667 (0,5); 2,601 (0,7); 2,583 (2,1); 2,564 (2,5); 2,549 (2,3); 2,530 (2,5); 2,525 (2,1); 2,507 (69,4); 2,503 (90,4); 2,498 (68,1); 2,334 (0,4); 2,329 (0,6); 2,325 (0,4); 1,989 (14,7); 1,193 (3,9); 1,175 (7,7); 1,158 (3,8); 1,081 (0,4); 1,067 (7,5); 1,048 (16,0); 1,030 (7,2); 0,738 (1,3); 0,725 (4,0); 0,720 (5,5); 0,708 (5,1); 0,702 (4,4); 0,691 (1,8); 0,566 (1,8); 0,555 (5,4); 0,549 (5,2); 0,539 (4,6); 0,527 (1,3); 0,008 (0,6); 0,000 (16,1)
Beispiel I-T3-182: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,454 (7,2); 8,884 (10,2); 8,500 (10,2); 8,482 (4,9); 8,478 (5,0); 8,317 (0,4); 8,098 (5,0); 8,093 (5,0); 7,829 (1,5); 7,823 (5,9); 7,821 (7,8); 7,815 (6,3); 7,807 (4,8); 7,801 (2,4); 7,588 (5,9); 7,579 (1,0); 7,574 (1,0); 7,566 (5,1); 4,056 (1,2); 4,038 (3,6); 4,020 (3,6); 4,002 (1,2); 3,329 (62,1); 3,069 (0,5); 3,051 (1,8); 3,032 (2,1); 3,017 (2,3); 2,998 (2,1); 2,980 (0,6); 2,676 (0,6); 2,672 (0,8); 2,667 (0,6); 2,594 (0,6); 2,575 (2,1); 2,557 (2,5); 2,541 (2,4); 2,523 (3,8); 2,520 (3,9); 2,511 (46,1); 2,507 (93,1); 2,503 (122,1); 2,498 (89,1); 2,494 (44,0); 2,334 (0,6); 2,329 (0,8); 2,325 (0,6); 1,989 (15,8); 1,622 (2,4); 1,607 (5,9); 1,601 (6,4); 1,588 (2,7); 1,290 (2,8); 1,276 (5,9); 1,270 (6,4); 1,255 (2,4); 1,235 (0,5); 1,193 (4,2); 1,175 (8,3); 1,157 (4,1); 1,134 (0,3); 1,051 (7,3); 1,033 (16,0); 1,014 (7,1); 0,008 (0,8); 0,000 (23,6); -0,008 (0,9)
Beispiel I-T3-183: ^{1}H-NMR (400,0 MHz, d_6-DMSO):
δ= 9,464 (4,6); 8,733 (3,3); 8,729 (3,6); 8,723 (6,9); 8,477 (6,6); 8,270 (3,3); 8,266 (3,3); 7,820 (1,3); 7,814 (3,0); 7,808 (4,3); 7,803 (4,8); 7,798 (3,7); 7,792 (1,4); 7,573 (4,0); 7,562 (0,9); 7,551 (3,4); 4,055 (1,2); 4,038 (3,6); 4,020 (3,7); 4,002 (1,2); 3,465 (0,9); 3,447 (2,9); 3,429 (3,0); 3,410 (1,0); 3,329 (48,5); 2,676 (0,4); 2,671 (0,6); 2,667 (0,5); 2,525 (1,6); 2,511 (35,4); 2,507 (71,4); 2,502 (93,1); 2,498 (68,1); 2,494 (33,4); 2,333 (0,4); 2,329 (0,6); 2,325 (0,4); 1,989 (16,0); 1,614 (1,6); 1,600 (3,9); 1,593 (4,1); 1,580 (1,7); 1,290 (1,9); 1,277 (4,0); 1,270 (4,3); 1,256 (1,6); 1,235 (0,5); 1,193 (4,4); 1,175 (8,8); 1,157 (4,9); 1,152 (5,1); 1,134 (10,7); 1,115 (4,8); 0,008 (0,6); 0,000 (19,6); -0,009 (0,7)
Beispiel I-T3-184: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 8,222 (1,1); 8,212 (14,6); 8,193 (0,9); 8,163 (0,7); 8,151 (14,2); 8,150 (13,6); 7,984 (5,6); 7,968 (5,6); 7,937 (0,6); 7,860 (0,5); 7,837 (0,5); 7,699 (8,7); 7,694 (11,4); 7,666 (5,9); 7,660 (4,9); 7,645 (6,7); 7,639 (6,1); 7,588 (0,8); 7,523 (0,3); 7,480 (10,7); 7,459 (8,5); 6,928 (2,6); 5,448 (5,4); 2,881 (0,7); 2,871 (1,9); 2,862 (2,7); 2,853 (4,3); 2,844 (4,3); 2,835 (2,8); 2,825 (2,1); 2,816 (0,7); 2,474 (0,9); 2,469 (1,8); 2,464 (2,4); 2,460 (1,9); 2,455 (1,0); 2,293 (0,4); 2,270 (0,7); 2,266 (0,7); 2,246 (1,0); 2,227 (1,0); 2,160 (875,2); 2,121 (3,1); 2,114 (4,2); 2,108 (5,3); 2,102 (3,8); 2,096 (2,1); 2,036 (0,6); 2,018 (0,8); 1,998 (0,9); 1,965 (19,7); 1,959 (49,7); 1,953 (311,9); 1,947 (575,9); 1,941 (786,4); 1,935 (548,9); 1,929 (287,9); 1,883 (0,6); 1,782 (1,8); 1,775 (3,4); 1,769 (4,7); 1,763 (3,2); 1,757 (1,8); 1,525 (0,4); 1,385 (0,3); 1,372 (0,5); 1,359 (0,4); 1,340 (1,4); 1,335 (0,8); 1,285 (2,9); 1,270 (16,0); 1,204 (0,3); 0,918 (0,4); 0,899 (0,9); 0,882 (2,1); 0,864 (1,1); 0,832 (0,4); 0,795 (2,4); 0,783 (7,1); 0,777 (9,7); 0,765 (9,8); 0,760 (7,5); 0,747 (3,3); 0,726 (0,5); 0,708 (0,5); 0,652 (0,5); 0,643 (0,5); 0,627 (0,4); 0,613 (3,3); 0,601 (8,2); 0,595 (8,8); 0,591 (7,8); 0,586 (7,8); 0,573 (2,3); 0,536 (0,3); 0,520 (0,4); 0,478 (0,3); 0,392 (0,4); 0,387 (0,4); 0,008 (0,7); 0,000 (20,9); -0,009 (1,0)
Beispiel I-T3-185: ^{1}H-NMR (400,0 MHz, CD3CN):
δ= 17,517 (0,4); 15,219 (0,3); 14,973 (0,3); 13,920 (0,3); 8,404 (0,4); 8,394 (0,4); 8,224 (16,0); 8,208 (0,8); 8,165 (12,9); 7,986 (5,2); 7,970 (5,1); 7,938 (1,2); 7,864 (0,5); 7,840 (0,4); 7,747 (7,8); 7,741 (10,5); 7,715 (5,2); 7,710 (4,3); 7,694 (6,0); 7,689 (5,7); 7,654 (3,5); 7,624 (1,2); 7,601 (2,1); 7,594 (1,3); 7,590 (2,0); 7,564 (1,9); 7,541 (1,1); 7,513 (9,5); 7,492 (7,5); 7,292 (0,7); 7,282 (0,4); 7,270 (0,7); 7,201 (0,4); 7,176 (1,6); 7,168 (0,4); 7,151 (0,4); 7,064 (0,5); 7,045 (0,4); 6,914 (0,4); 6,892 (0,4); 6,881 (0,8); 6,859 (0,6); 6,178 (0,3); 6,160 (0,4); 6,111 (0,4); 6,099 (0,4); 6,067 (0,4); 6,042 (0,4); 6,038 (0,4); 6,017 (0,4); 5,640 (0,4); 5,594 (0,3); 5,540 (0,3); 5,516 (0,4); 5,485 (0,4); 5,427 (0,3); 5,373 (0,3); 4,507 (0,6); 4,491 (0,6); 4,068 (1,3); 4,050 (1,1); 4,032 (0,5); 3,789 (0,5); 3,776 (1,0); 3,758 (2,9); 3,656 (0,4); 3,149 (0,4); 3,128 (0,4); 2,720 (13,7); 2,656 (0,5); 2,492 (0,9); 2,475 (2,8); 2,470 (6,1); 2,465 (9,0); 2,461 (6,7); 2,456 (3,4); 2,285 (0,4); 2,264 (0,7); 2,247 (1,5); 2,237 (1,1); 2,171 (2483,4); 2,121 (7,1); 2,114 (9,5); 2,108 (11,9); 2,102 (8,8); 2,096 (5,2); 2,075 (1,8); 2,032 (0,9); 2,020 (0,7); 2,011 (0,6); 1,972 (8,4); 1,965 (39,5); 1,959 (102,1); 1,953 (642,3); 1,947 (1199,8); 1,941 (1645,9); 1,935 (1167,9); 1,929 (619,1); 1,818 (1,3); 1,782 (4,2); 1,775 (7,5); 1,769 (10,3); 1,763 (7,4); 1,757 (4,5); 1,722 (0,9); 1,708 (0,9); 1,696 (0,9); 1,688 (0,9); 1,674 (0,7); 1,638 (0,8); 1,597 (4,8); 1,583 (11,6); 1,576 (12,0); 1,562 (6,3); 1,543 (0,8); 1,522 (1,2); 1,501 (0,6); 1,472 (0,6); 1,437 (9,0); 1,402 (1,2); 1,361 (6,2); 1,348 (11,9); 1,341 (12,8); 1,327 (7,6); 1,311 (3,5); 1,269 (8,7); 1,222 (1,9); 1,204 (3,2); 1,186 (1,7); 1,164 (0,6); 1,154 (0,6); 1,145 (0,5); 1,131 (0,6); 1,109 (0,6); 1,095 (0,6); 1,091 (0,6); 1,047 (0,5); 1,040 (0,4); 1,031 (0,4); 1,009 (0,4); 0,987 (0,4); 0,976 (0,4); 0,952 (0,4); 0,945 (0,5); 0,897 (0,8); 0,881 (1,6); 0,855 (1,3); 0,838 (0,9); 0,824 (0,5); 0,806 (0,5); 0,797 (0,4); 0,776 (0,4); 0,766 (0,5); 0,739 (0,4); 0,636 (0,3); 0,526 (0,3); 0,147 (0,4); 0,008 (2,5); 0,000 (80,2); -0,020 (0,5); -0,121 (0,3); -0,149 (0,4); -0,213 (0,4); -2,478 (0,3); -3,017 (0,3)

Beispiel I-T3-186: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,202 (8,0); 8,190 (8,4); 7,927 (0,7); 7,858 (4,8); 7,731 (2,7); 7,708 (2,9); 7,690 (4,8); 7,685 (6,1); 7,657 (2,8); 7,652 (2,5); 7,637 (3,4); 7,632 (3,2); 7,590 (0,8); 7,477 (5,0); 7,456 (4,0); 6,984 (0,3); 6,951 (1,9); 6,041 (0,3); 5,521 (0,4); 5,491 (0,4); 5,466 (0,3); 3,874 (0,9); 3,056 (0,3); 2,890 (4,6); 2,872 (1,0); 2,863 (1,5); 2,853 (2,1); 2,844 (2,2); 2,835 (1,7); 2,825 (1,1); 2,799 (0,4); 2,772 (4,2); 2,711 (0,4); 2,684 (0,4); 2,671 (0,4); 2,662 (0,4); 2,619 (0,4); 2,601 (1,1); 2,583 (0,4); 2,543 (0,5); 2,522 (0,5); 2,505 (0,6); 2,466 (6,3); 2,351 (0,9); 2,310 (1,3); 2,298 (1,3); 2,179 (2377,2); 2,121 (5,6); 2,115 (6,3); 2,108 (7,1); 2,102 (5,6); 2,043 (0,8); 2,018 (1,0); 1,953 (344,9); 1,947 (623,4); 1,941 (840,7); 1,935 (641,3); 1,929 (374,2); 1,827 (0,6); 1,781 (2,1); 1,776 (3,6); 1,770 (4,8); 1,763 (3,6); 1,758 (2,2); 1,437 (16,0); 1,311 (0,4); 1,283 (0,5); 1,268 (0,9); 0,794 (1,2); 0,777 (5,1); 0,764 (5,1); 0,747 (1,8); 0,738 (0,4); 0,612 (1,5); 0,600 (4,9); 0,594 (5,3); 0,586 (4,9); 0,573 (1,5); 0,000 (28,5)
Beispiel I-T3-187: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 19,987 (0,6); 8,214 (12,6); 8,200 (13,9); 7,859 (6,8); 7,738 (9,0); 7,733 (14,7); 7,707 (9,2); 7,701 (5,6); 7,686 (6,6); 7,680 (5,9); 7,610 (3,2); 7,587 (1,7); 7,510 (9,9); 7,489 (8,2); 7,448 (0,5); 2,469 (1,8); 2,464 (2,6); 2,459 (2,0); 2,157 (1156,2); 2,120 (5,2); 2,114 (6,3); 2,108 (7,5); 2,102 (5,6); 2,096 (3,3); 1,965 (26,5); 1,959 (71,5); 1,953 (401,8); 1,947 (750,3); 1,941 (1019,6); 1,935 (723,9); 1,928 (383,2); 1,781 (2,7); 1,775 (4,6); 1,769 (6,2); 1,763 (4,5); 1,757 (2,6); 1,634 (0,6); 1,597 (4,4); 1,583 (11,2); 1,576 (11,2); 1,563 (6,0); 1,523 (1,0); 1,437 (16,0); 1,401 (1,1); 1,361 (6,0); 1,347 (11,3); 1,341 (12,0); 1,326 (4,9); 1,270 (8,5); 0,882 (2,0); 0,857 (2,2); 0,000 (34,6)
Beispiel I-T3-188: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,340 (9,9); 8,272 (16,0); 8,192 (0,3); 7,761 (9,7); 7,755 (12,3); 7,742 (0,4); 7,737 (0,3); 7,727 (6,7); 7,721 (5,0); 7,706 (7,8); 7,700 (6,5); 7,569 (4,5); 7,524 (11,5); 7,503 (9,3); 5,447 (0,8); 2,576 (0,8); 2,572 (0,8); 2,250 (0,4); 2,139 (89,4); 2,120 (0,7); 2,114 (0,7); 2,108 (0,9); 2,102 (0,6); 2,095 (0,3); 1,965 (3,2); 1,959 (8,4); 1,953 (52,4); 1,947 (96,8); 1,940 (132,2); 1,934 (91,5); 1,928 (47,5); 1,781 (0,3); 1,775 (0,6); 1,769 (0,8); 1,763 (0,6); 1,604 (5,0); 1,590 (12,7); 1,583 (12,8); 1,569 (6,7); 1,529 (0,9); 1,406 (0,8); 1,366 (6,8); 1,352 (12,5); 1,346 (13,2); 1,331 (5,3); 1,309 (0,5); 1,293 (0,9); 1,285 (1,5); 1,269 (7,2); 0,898 (0,3); 0,881 (0,9); 0,864 (0,4); 0,000 (3,9)
Beispiel I-T3-189: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,726 (0,3); 8,720 (0,4); 8,701 (10,1); 8,694 (10,3); 8,265 (0,8); 8,253 (16,0); 8,246 (15,9); 8,062 (0,6); 8,051 (11,3); 8,045 (11,1); 7,978 (7,4); 7,766 (6,5); 7,051 (2,2); 5,449 (0,6); 4,068 (0,4); 4,050 (0,4); 3,024 (0,4); 2,888 (0,6); 2,878 (1,7); 2,869 (2,5); 2,860 (3,8); 2,851 (3,8); 2,842 (2,5); 2,833 (1,8); 2,823 (0,6); 2,729 (0,6); 2,473 (0,5); 2,468 (0,9); 2,464 (1,2); 2,459 (0,9); 2,454 (0,5); 2,166 (234,9); 2,121 (0,8); 2,114 (1,2); 2,108 (1,5); 2,102 (1,1); 2,096 (0,6); 2,087 (0,5); 2,035 (0,4); 2,017 (0,7); 1,998 (0,6); 1,972 (2,6); 1,965 (5,7); 1,959 (13,8); 1,953 (85,4); 1,947 (157,6); 1,941 (215,5); 1,935 (150,1); 1,928 (78,1); 1,782 (0,5); 1,775 (0,9); 1,769 (1,3); 1,763 (0,9); 1,757 (0,5); 1,437 (3,4); 1,308 (0,3); 1,268 (8,7); 1,222 (0,6); 1,204 (1,0); 1,186 (0,5); 0,898 (0,4); 0,881 (1,1); 0,864 (0,5); 0,810 (2,1); 0,797 (6,2); 0,792 (8,4); 0,779 (8,6); 0,774 (6,4); 0,762 (2,8); 0,740 (0,4); 0,722 (0,4); 0,662 (0,3); 0,652 (0,4); 0,622 (2,8); 0,610 (7,3); 0,604 (7,7); 0,600 (6,9); 0,595 (6,8); 0,582 (2,1); 0,543 (0,4); 0,391 (0,3); 0,386 (0,3); 0,008 (1,2); 0,000 (38,3); -0,009 (1,6)
Beispiel I-T3-190: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,487 (7,1); 9,105 (5,1); 9,102 (5,1); 8,887 (9,5); 8,557 (11,6); 8,317 (0,4); 7,826 (4,4); 7,820 (6,3); 7,815 (6,9); 7,810 (5,3); 7,602 (5,1); 7,591 (1,5); 7,580 (4,2); 4,055 (1,3); 4,038 (3,8); 4,020 (3,8); 4,002 (1,3); 3,560 (1,9); 3,542 (6,2); 3,523 (6,3); 3,505 (2,1); 3,328 (157,1); 2,671 (1,6); 2,506 (190,5); 2,502 (243,8); 2,329 (1,7); 1,989 (16,0); 1,617 (2,3); 1,602 (6,1); 1,596 (6,6); 1,583 (2,7); 1,296 (2,7); 1,282 (6,2); 1,276 (6,6); 1,261 (2,3); 1,193 (4,5); 1,181 (7,3); 1,175 (10,1); 1,163 (14,9); 1,158 (7,2); 1,145 (6,8); 0,000 (25,1)
Beispiel I-T3-191: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,426 (3,3); 8,594 (4,6); 8,359 (4,8); 8,317 (0,5); 7,785 (4,0); 7,779 (2,8); 7,770 (2,1); 7,765 (1,1); 7,545 (2,7); 7,537 (0,6); 7,530 (0,5); 7,522 (2,3); 7,351 (6,5); 3,331 (366,6); 3,015 (2,0); 2,997 (6,6); 2,979 (6,7); 2,960 (2,1); 2,676 (1,1); 2,671 (1,6); 2,667 (1,2); 2,524 (4,4); 2,511 (86,9); 2,507 (177,3); 2,502 (236,3); 2,498 (176,3); 2,493 (90,0); 2,333 (1,1); 2,329 (1,5); 2,324 (1,2); 1,611 (1,1); 1,597 (2,7); 1,590 (2,9); 1,577 (1,2); 1,398 (15,1); 1,285 (1,3); 1,271 (2,7); 1,264 (2,9); 1,250 (1,1); 1,195 (7,5); 1,177 (16,0); 1,158 (7,3); 0,146 (1,7); 0,008 (13,5); 0,000 (371,8); -0,008 (16,5); -0,150 (1,7)
Beispiel I-T3-192: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,435 (6,5); 8,687 (9,2); 8,408 (9,3); 8,317 (1,5); 7,796 (4,7); 7,787 (4,3); 7,780 (6,0); 7,775 (6,7); 7,770 (5,2); 7,764 (2,0); 7,559 (5,8); 7,548 (5,4); 7,537 (5,3); 3,330 (735,7); 3,123 (0,7); 3,082 (1,9); 3,063 (6,4); 3,045 (6,6); 3,027 (2,0); 2,838 (0,6); 2,676 (2,8); 2,671 (4,1); 2,667 (3,1); 2,525 (10,0); 2,520 (15,7); 2,511 (220,9); 2,507 (459,4); 2,502 (612,6); 2,498 (450,6); 2,493 (223,7); 2,333 (2,9); 2,329 (4,0); 2,324 (3,0); 1,614 (2,1); 1,600 (5,3); 1,593 (5,7); 1,580 (2,4); 1,284 (2,5); 1,271 (5,3); 1,264 (5,7); 1,250 (2,1); 1,205 (7,5); 1,187 (16,0); 1,168 (7,5); 0,146 (1,8); 0,008 (13,1); 0,000 (404,0); -0,009 (15,5); -0,150 (1,8)
Beispiel I-T3-193: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,458 (0,3); 8,777 (8,3); 8,542 (3,2); 8,531 (3,0); 8,504 (0,3); 8,462 (8,6); 8,337 (3,7); 8,317 (1,8); 7,962 (3,6); 7,750 (2,0); 7,745 (3,2); 7,738 (1,0); 7,726 (12,9); 7,717 (1,1); 7,710 (1,7); 7,692 (1,1); 7,659 (1,1); 7,653 (0,9); 7,569 (1,2); 7,548 (1,0); 7,529 (3,7); 7,526 (2,4); 7,510 (2,0); 7,507 (3,2); 7,484 (1,3); 7,465 (0,8); 7,420 (0,5); 7,402 (0,6); 7,058 (1,6); 6,924 (3,7); 6,789 (1,9); 4,055 (1,2); 4,037 (3,6); 4,020 (3,6); 4,002 (1,2); 3,328 (98,6); 3,305 (0,8); 2,858 (0,9); 2,849 (1,2); 2,840 (1,9); 2,830 (1,9); 2,821 (1,3); 2,812 (0,9); 2,801 (0,4); 2,676 (1,1); 2,671 (1,6); 2,667 (1,2); 2,662 (0,6); 2,524 (3,6); 2,511 (83,9); 2,507 (175,0); 2,502 (233,7); 2,498 (171,2); 2,493 (84,1); 2,338 (0,5); 2,333 (1,1); 2,329 (1,5); 2,324 (1,1); 1,989 (16,0); 1,234 (0,8); 1,193 (4,2); 1,175 (8,4); 1,157 (4,2); 0,729 (1,2); 0,716 (3,5); 0,711 (4,9); 0,699 (4,5); 0,693 (4,0); 0,682 (1,6); 0,568 (0,4); 0,559 (1,8); 0,549 (5,1); 0,543 (4,5); 0,534 (3,7); 0,522 (1,2); 0,146 (0,4); 0,008 (2,5); 0,000 (83,8); -0,009 (3,2); -0,150 (0,4)
Beispiel I-T3-194: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,349 (9,1); 8,304 (0,4); 8,286 (14,8); 8,241 (0,3); 7,801 (9,7); 7,795 (11,3); 7,718 (6,0); 7,712 (5,6); 7,697 (7,3); 7,692 (6,9); 7,665 (0,5); 7,647 (0,7); 7,643 (0,7); 7,635 (0,5); 7,617 (0,6); 7,614 (0,7); 7,584 (1,1); 7,541 (0,6); 7,522 (11,4); 7,501 (9,2); 7,484 (0,5); 7,453 (4,1); 7,422 (0,4); 7,236 (0,4); 7,215 (0,3); 6,837 (0,5); 6,673 (0,4); 6,617 (1,3); 6,575 (0,4); 5,973 (0,3); 5,954 (0,3); 5,896 (1,4); 5,447 (5,8); 3,817 (0,8); 3,769 (0,4); 3,550 (1,0); 3,545 (0,9); 2,579 (0,4); 2,575 (0,5); 2,269 (0,4); 2,253 (0,5); 2,140 (512,8); 2,120 (7,2); 2,114 (6,9); 2,108 (7,9); 2,102 (5,5); 2,095 (3,1); 1,965 (25,3); 1,959 (63,5); 1,953 (411,4); 1,947 (768,8); 1,940 (1065,1); 1,934 (761,0); 1,928 (406,5); 1,849 (1,2); 1,799 (0,7); 1,781 (2,8); 1,775 (4,8); 1,769 (6,7); 1,763 (4,7); 1,756 (2,7); 1,728 (0,5); 1,714 (0,5); 1,699 (0,5); 1,677 (0,4); 1,666 (0,5); 1,649 (0,4); 1,628 (0,4); 1,580 (0,4); 1,570 (0,4); 1,556 (0,4); 1,515 (0,6); 1,477 (5,4); 1,466 (14,4); 1,457 (16,0); 1,447 (6,5); 1,407 (0,7); 1,398 (0,5); 1,386 (0,8); 1,366 (0,5); 1,340 (6,0); 1,305 (1,0); 1,285 (8,1); 1,270 (5,0); 1,247 (0,7); 1,230 (0,5); 1,217 (0,6); 1,199 (0,5); 1,190 (0,6); 1,185 (0,7); 1,145 (6,1); 1,135 (15,7); 1,126 (14,8); 1,115 (5,4); 1,076 (0,6); 1,063 (0,4); 0,994 (0,4); 0,976 (0,8); 0,958 (0,5); 0,951 (0,4); 0,930 (0,4); 0,923 (0,4); 0,882 (1,1); 0,856 (0,9); 0,842 (0,7); 0,783 (0,4); 0,771 (0,4); 0,764 (0,5); 0,735

(0,4); 0,597 (0,3); 0,564 (0,4); 0,008 (1,0); 0,000 (32,8)
Beispiel I-T3-195: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,457 (8,1); 8,920 (11,3); 8,511 (11,3); 8,325 (5,6); 8,319 (6,1); 8,030 (5,3); 7,802 (8,5); 7,797 (7,4); 7,789 (5,4); 7,784 (3,0); 7,591 (6,0); 7,582 (1,3); 7,569 (5,0); 4,037 (0,6); 4,019 (0,6); 3,329 (278,3); 3,090 (0,5); 3,071 (1,9); 3,053 (2,4); 3,037 (2,5); 3,019 (2,1); 3,000 (0,7); 2,675 (3,1); 2,671 (4,3); 2,667 (3,5); 2,597 (0,4); 2,506 (494,1); 2,502 (653,4); 2,498 (511,0); 2,470 (6,8); 2,452 (3,7); 2,434 (2,4); 2,416 (1,0); 2,333 (3,0); 2,329 (4,1); 2,325 (3,3); 1,989 (2,4); 1,621 (2,6); 1,607 (6,7); 1,600 (7,6); 1,587 (3,1); 1,397 (1,3); 1,335 (0,4); 1,327 (0,3); 1,297 (0,8); 1,286 (3,2); 1,273 (7,0); 1,266 (7,6); 1,252 (3,2); 1,235 (5,1); 1,193 (0,7); 1,175 (1,3); 1,157 (0,7); 1,107 (0,4); 0,982 (7,4); 0,964 (16,0); 0,945 (7,3); 0,854 (0,5); 0,835 (0,3); 0,000 (20,8)
Beispiel I-T3-196: ^{1}H-NMR (601,6 MHz, CD3CN): δ= 8,223 (0,5); 8,218 (0,5); 8,045 (0,3); 8,041 (0,3); 2,621 (0,7); 2,150 (4,8); 1,948 (1,3); 1,944 (2,2); 1,940 (3,2); 1,936 (2,2); 1,932 (1,1); 1,135 (16,0); 0,000 (0,9)
Beispiel I-T3-197: ^{1}H-NMR (601,6 MHz, CD3CN): δ= 8,765 (7,5); 8,761 (7,5); 8,2493 (9,5); 8,2486 (9,9); 8,230 (8,0); 8,115 (8,0); 8,111 (8,0); 8,038 (4,4); 7,992 (4,5); 7,394 (1,5); 3,844 (16,0); 3,552 (11,2); 3,542 (11,1); 3,312 (0,7); 3,303 (0,7); 2,172 (78,0); 2,155 (28,3); 2,088 (0,6); 2,084 (0,8); 2,080 (0,6); 1,998 (2,0); 1,989 (5,4); 1,985 (7,5); 1,982 (52,9); 1,977 (98,7); 1,973 (145,4); 1,969 (98,4); 1,965 (48,4); 1,956 (0,7); 1,863 (0,5); 1,859 (0,8); 1,854 (0,6); 1,312 (2,7); 1,303 (8,1); 1,299 (8,0); 1,291 (3,5); 1,266 (0,4); 1,192 (0,4); 1,166 (3,5); 1,158 (7,9); 1,154 (7,9); 1,146 (2,6)
Beispiel I-T3-198: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,484 (3,8); 9,467 (0,6); 8,776 (0,9); 8,753 (5,3); 8,574 (0,6); 8,561 (8,6); 8,509 (5,3); 8,491 (0,8); 8,317 (1,8); 8,178 (0,4); 7,782 (7,1); 7,778 (3,2); 7,765 (2,2); 7,759 (1,3); 7,579 (2,8); 7,557 (2,4); 4,049 (0,4); 3,497 (0,3); 3,479 (0,7); 3,461 (0,7); 3,413 (1,0); 3,395 (1,5); 3,377 (1,6); 3,329 (582,9); 3,287 (1,0); 2,676 (4,0); 2,671 (5,5); 2,667 (4,1); 2,524 (14,3); 2,507 (629,0); 2,502 (826,7); 2,498 (606,0); 2,333 (3,8); 2,329 (5,2); 2,324 (3,9); 1,614 (1,3); 1,600 (3,4); 1,593 (3,7); 1,580 (1,5); 1,289 (1,5); 1,276 (3,3); 1,269 (3,6); 1,255 (1,3); 1,237 (0,4); 1,150 (0,4); 1,126 (0,7); 1,108 (8,3); 1,089 (16,0); 1,071 (7,0); 0,008 (0,5); 0,000 (18,9); -0,008 (0,7)
Beispiel I-T3-199: ^{1}H-NMR (400,1 MHz, d_6-DMSO): d= 8,86 (0,0328); 8,85 (0,0664); 8,56 (0,0471);8,51 (0,0250);8,18 (0,0290);8,17 (0,0298);8,09 (0,0245);3,47 (0,0401);3,45 (0,0407);3,31 (0,7767);2,54 (0,3233);2,50 (0,3250);2,50 (0,4400);2,50 (0,3578);1,25 (0,0306);1,25 (0,0369);1,15 (0,0210);1,14 (0,0347);1,13 (0,0321);0,00 (1,0000)
Beispiel I-T3-200: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,745 (8,9); 8,739 (8,9); 8,566 (1,6); 8,560 (1,6); 8,264 (13,9); 8,256 (14,3); 8,244 (0,7); 8,115 (9,6); 8,109 (9,4); 8,056 (1,8); 8,050 (1,7); 7,998 (0,4); 7,983 (7,2); 7,980 (7,2); 7,767 (6,3); 7,690 (2,3); 7,666 (0,6); 7,587 (0,3); 5,448 (3,1); 3,724 (0,8); 3,071 (0,5); 2,882 (0,5); 2,626 (0,7); 2,603 (0,5); 2,468 (0,4); 2,463 (0,5); 2,458 (0,4); 2,152 (189,2); 2,120 (1,4); 2,114 (1,8); 2,108 (2,1); 2,102 (1,5); 2,096 (0,8); 1,965 (8,9); 1,959 (23,8); 1,953 (126,4); 1,947 (227,5); 1,941 (305,0); 1,935 (212,6); 1,928 (110,8); 1,868 (0,3); 1,781 (0,8); 1,775 (1,4); 1,769 (1,9); 1,763 (1,3); 1,757 (0,7); 1,615 (3,9); 1,600 (10,0); 1,593 (10,8); 1,580 (6,7); 1,571 (2,5); 1,557 (1,3); 1,540 (0,7); 1,410 (0,6); 1,386 (0,4); 1,370 (5,3); 1,356 (10,0); 1,350 (10,4); 1,335 (5,3); 1,325 (2,3); 1,310 (1,1); 1,297 (0,5); 1,285 (0,7); 1,270 (2,4); 1,202 (0,6); 1,134 (16,0); 0,882 (0,4); 0,008 (0,5); 0,000 (15,0); -0,008 (0,8)
Beispiel I-T3-201: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,467 (2,2); 8,775 (3,1); 8,578 (1,5); 8,573 (1,5); 8,490 (3,1); 8,177 (1,4); 7,800 (0,6); 7,795 (1,2); 7,787 (1,8); 7,782 (2,4); 7,778 (1,9); 7,578 (1,7); 7,555 (1,5); 3,498 (0,6); 3,479 (1,9); 3,461 (1,9); 3,443 (0,6); 3,330 (198,5); 2,676 (0,7); 2,671 (1,0); 2,667 (0,7); 2,524 (2,5); 2,507 (107,2); 2,502 (141,8); 2,498 (106,1); 2,333 (0,7); 2,329 (0,9); 2,325 (0,7); 1,989 (0,4); 1,614 (0,7); 1,600 (1,8); 1,593 (1,9); 1,580 (0,8); 1,398 (16,0); 1,287 (0,8); 1,274 (1,8); 1,267 (2,0); 1,253 (0,7); 1,235 (0,3); 1,126 (2,1); 1,108 (4,7); 1,089 (2,1); 0,146 (0,9); 0,008 (7,4); 0,000 (188,9); -0,008 (8,7); -0,150 (0,9)
Beispiel I-T3-202: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,428 (4,8); 8,626 (0,4); 8,603 (6,6); 8,357 (6,9); 8,316 (0,6); 7,790 (1,3); 7,785 (2,8); 7,777 (4,1); 7,772 (5,1); 7,768 (4,0); 7,562 (3,3); 7,548 (3,9); 7,537 (0,8); 7,525 (3,2); 7,428 (3,2); 3,343 (390,5); 2,991 (1,5); 2,973 (4,8); 2,955 (5,1); 2,937 (1,8); 2,676 (1,0); 2,672 (1,3); 2,668 (1,0); 2,507 (163,2); 2,503 (208,0); 2,499 (152,2); 2,334 (1,0); 2,330 (1,3); 2,325 (0,9); 2,188 (1,0); 2,100 (16,0); 2,075 (0,5); 1,613 (1,6); 1,598 (4,1); 1,592 (4,5); 1,579 (2,0); 1,284 (2,0); 1,270 (4,3); 1,263 (4,5); 1,249 (1,6); 1,232 (0,4); 1,214 (0,7); 1,192 (5,5); 1,173 (11,4); 1,155 (5,2); 0,146 (0,5); 0,008 (4,9); 0,000 (117,1); -0,008 (4,9); -0,150 (0,5)
Beispiel I-T3-203: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,601 (0,6); 8,581 (6,8); 8,520 (2,4); 8,509 (2,4); 8,343 (7,1); 8,137 (0,8); 7,732 (1,5); 7,726 (2,4); 7,707 (9,8); 7,561 (3,2); 7,499 (2,9); 7,477 (2,5); 7,427 (3,2); 3,329 (31,4); 2,989 (1,5); 2,971 (5,0); 2,952 (5,1); 2,940 (0,7); 2,934 (1,6); 2,922 (0,4); 2,854 (0,6); 2,844 (0,9); 2,836 (1,4); 2,826 (1,4); 2,818 (1,0); 2,808 (0,7); 2,676 (0,5); 2,671 (0,7); 2,667 (0,5); 2,524 (1,7); 2,511 (39,4); 2,507 (80,4); 2,502 (106,1); 2,498 (78,2); 2,333 (0,5); 2,329 (0,7); 2,324 (0,5); 2,187 (1,2); 2,116 (0,8); 2,101 (16,0); 2,075 (1,0); 1,909 (0,5); 1,230 (0,4); 1,212 (0,9); 1,190 (5,7); 1,172 (11,9); 1,154 (5,4); 0,726 (0,9); 0,713 (2,6); 0,708 (3,6); 0,696 (3,5); 0,690 (3,0); 0,679 (1,3); 0,560 (1,2); 0,550 (3,7); 0,544 (3,5); 0,534 (3,0); 0,522 (0,9); 0,008 (2,2); 0,000 (67,6); -0,008 (2,8)
Beispiel I-T3-204: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,968 (6,3); 8,871 (0,8); 8,864 (4,0); 8,858 (3,7); 8,617 (5,8); 8,558 (2,8); 8,554 (2,9); 8,469 (3,0); 8,464 (2,8); 8,379 (3,8); 8,373 (3,6); 8,318 (1,3); 8,261 (0,5); 8,255 (0,6); 4,155 (1,4); 3,332 (210,2); 3,309 (0,8); 3,036 (16,0); 3,014 (1,0); 2,886 (0,9); 2,809 (0,3); 2,798 (0,7); 2,791 (0,8); 2,782 (1,3); 2,772 (1,0); 2,762 (3,0); 2,727 (0,4); 2,676 (0,8); 2,672 (1,1); 2,667 (0,9); 2,541 (0,4); 2,525 (2,7); 2,511 (61,5); 2,507 (127,7); 2,503 (170,1); 2,498 (126,6); 2,494 (64,4); 2,334 (0,8); 2,329 (1,1); 2,325 (0,9); 2,075 (2,2); 1,169 (0,5); 0,836 (0,3); 0,817 (0,4); 0,775 (0,4); 0,608 (0,4); 0,587 (2,1); 0,579 (2,6); 0,570 (1,1); 0,562 (0,6); 0,544 (1,0); 0,532 (2,1); 0,515 (2,1); 0,496 (0,5); 0,146 (0,4); 0,008 (2,9); 0,000 (95,4); -0,008 (4,6); -0,150 (0,4)
Beispiel I-T3-205: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,991 (0,5); 8,972 (14,8); 8,876 (0,4); 8,861 (9,9); 8,855 (10,1); 8,716 (4,8); 8,706 (5,3); 8,672 (0,4); 8,661 (0,4); 8,642 (0,8); 8,631 (14,8); 8,562 (7,0); 8,557 (7,2); 8,471 (7,3); 8,467 (6,8); 8,318 (8,7); 8,264 (0,7); 8,258 (0,8); 8,247 (9,6); 8,240 (9,4); 7,948 (0,4); 7,942 (0,4); 7,795 (0,4); 4,156 (4,3); 3,329 (163,2); 3,306 (4,7); 2,887 (0,6); 2,877 (1,4); 2,867 (2,0); 2,859 (3,0); 2,849 (3,2); 2,840 (2,2); 2,830 (1,7); 2,821 (0,8); 2,676 (1,6); 2,671 (2,1); 2,667 (1,6); 2,525 (5,4); 2,507 (239,7); 2,502 (316,6); 2,498 (235,7); 2,333 (1,4); 2,329 (2,0); 2,325 (1,5); 2,076 (16,0); 0,760 (1,9); 0,747 (5,6); 0,743 (7,6); 0,730 (7,4); 0,725 (6,3); 0,713 (2,8); 0,570 (2,3); 0,559 (7,1); 0,553 (7,0);

0,550 (6,7); 0,544 (6,4); 0,532 (2,3); 0,495 (0,4); 0,146 (0,8); 0,008 (5,8); 0,000 (177,1); -0,008 (8,0); -0,150 (0,8)
Beispiel I-T3-206: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,449 (4,9); 8,859 (6,6); 8,459 (6,7); 8,318 (4,2); 8,038 (3,0); 7,936 (3,0); 7,803 (3,4); 7,799 (4,7); 7,793 (4,8); 7,787 (3,7); 7,781 (1,6); 7,581 (4,2); 7,570 (0,9); 7,558 (3,6); 3,733 (0,3); 3,690 (0,4); 3,329 (896,7); 3,282 (0,7); 2,981 (1,3); 2,963 (1,5); 2,947 (1,5); 2,929 (1,4); 2,910 (0,5); 2,676 (7,6); 2,671 (10,3); 2,667 (7,7); 2,525 (28,4); 2,511 (589,6); 2,507 (1188,5); 2,502 (1555,2); 2,498 (1146,1); 2,493 (578,6); 2,389 (1,6); 2,370 (1,8); 2,354 (1,8); 2,333 (8,0); 2,329 (10,4); 2,324 (7,7); 2,296 (16,0); 1,909 (0,6); 1,621 (1,6); 1,607 (4,0); 1,600 (4,3); 1,587 (2,0); 1,282 (2,1); 1,269 (3,9); 1,262 (4,2); 1,248 (1,6); 1,147 (0,8); 0,945 (4,8); 0,927 (10,5); 0,908 (4,6); 0,146 (3,6); 0,008 (30,4); 0,000 (880,4); -0,008 (42,5); -0,150 (3,7)
Beispiel I-T3-207: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,624 (6,5); 9,586 (0,7); 8,984 (9,3); 8,916 (5,7); 8,910 (5,5); 8,728 (0,7); 8,636 (9,3); 8,571 (1,5); 8,560 (4,6); 8,473 (4,6); 8,469 (4,3); 8,330 (6,1); 8,324 (6,0); 7,943 (0,4); 7,798 (0,4); 7,793 (0,4); 4,156 (3,5); 3,332 (174,7); 3,051 (0,6); 2,875 (0,6); 2,672 (1,1); 2,667 (0,9); 2,507 (117,6); 2,503 (153,3); 2,499 (115,3); 2,330 (1,0); 2,325 (0,7); 2,076 (16,0); 1,648 (2,1); 1,634 (5,4); 1,627 (6,2); 1,614 (2,5); 1,304 (2,4); 1,291 (5,2); 1,284 (5,7); 1,269 (2,1); 1,262 (0,8); 1,254 (0,7); 1,240 (0,3); 0,146 (0,4); 0,008 (2,8); 0,000 (78,1); -0,150 (0,4)
Beispiel I-T3-208: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,696 (3,0); 8,690 (3,1); 8,249 (4,2); 8,240 (4,6); 8,003 (3,2); 7,997 (3,1); 7,982 (2,3); 7,978 (2,3); 7,946 (0,5); 7,940 (0,5); 7,766 (2,1); 3,068 (16,0); 2,800 (2,7); 2,783 (0,6); 2,776 (0,6); 2,767 (1,1); 2,756 (0,7); 2,748 (0,6); 2,465 (0,4); 2,170 (94,3); 2,115 (0,5); 2,109 (0,6); 2,102 (0,4); 1,965 (2,7); 1,959 (7,1); 1,954 (39,1); 1,947 (71,0); 1,941 (94,9); 1,935 (64,8); 1,929 (33,1); 1,776 (0,4); 1,770 (0,5); 1,763 (0,4); 0,855 (0,3); 0,789 (0,4); 0,579 (1,4); 0,535 (1,7); 0,525 (1,1); 0,518 (1,6); 0,000 (0,5)
Beispiel I-T3-209: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,461 (4,8); 8,713 (6,6); 8,448 (6,8); 8,317 (1,4); 8,281 (3,0); 8,094 (3,1); 7,800 (1,3); 7,794 (2,8); 7,787 (4,1); 7,782 (5,1); 7,778 (4,1); 7,569 (3,8); 7,557 (0,8); 7,546 (3,2); 3,393 (0,4); 3,331 (347,0); 2,676 (2,0); 2,672 (2,7); 2,667 (2,1); 2,524 (7,4); 2,507 (323,5); 2,503 (427,2); 2,498 (324,8); 2,426 (0,4); 2,334 (1,9); 2,329 (2,7); 2,325 (2,1); 2,197 (0,8); 2,160 (16,0); 1,614 (1,5); 1,600 (4,0); 1,593 (4,4); 1,580 (1,8); 1,284 (1,8); 1,270 (4,0); 1,264 (4,4); 1,249 (1,5); 1,147 (0,6); 1,079 (4,6); 1,061 (10,1); 1,042 (4,5); 0,146 (0,9); 0,008 (6,6); 0,000 (197,0); -0,150 (1,0)
Beispiel I-T3-210: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,835 (0,4); 8,692 (6,8); 8,552 (2,5); 8,540 (2,5); 8,513 (0,5); 8,435 (7,0); 8,318 (0,5); 8,278 (3,0); 8,094 (3,0); 7,873 (0,4); 7,742 (1,5); 7,736 (2,5); 7,718 (10,2); 7,520 (3,0); 7,502 (1,5); 7,498 (2,5); 3,357 (1,0); 3,329 (76,1); 3,304 (1,0); 2,857 (0,6); 2,847 (0,9); 2,839 (1,4); 2,829 (1,4); 2,820 (0,9); 2,811 (0,7); 2,676 (0,8); 2,671 (1,1); 2,667 (0,9); 2,524 (3,0); 2,511 (66,6); 2,507 (135,2); 2,502 (178,3); 2,498 (130,4); 2,493 (64,6); 2,333 (0,9); 2,329 (1,2); 2,324 (0,9); 2,193 (1,1); 2,159 (16,0); 2,075 (0,6); 1,153 (0,3); 1,135 (0,7); 1,078 (4,8); 1,060 (10,5); 1,041 (4,6); 0,727 (0,9); 0,714 (2,6); 0,709 (3,6); 0,697 (3,5); 0,691 (3,0); 0,680 (1,3); 0,559 (1,2); 0,548 (3,6); 0,542 (3,3); 0,539 (3,1); 0,533 (3,0); 0,521 (0,9); 0,146 (0,4); 0,008 (3,0); 0,000 (92,3); -0,008 (3,7); -0,150 (0,4)
Beispiel I-T3-211: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,641 (0,5); 8,541 (0,8); 8,530 (3,2); 8,524 (3,1); 8,504 (5,0); 8,495 (0,7); 8,385 (0,5); 8,318 (1,5); 8,288 (5,2); 8,280 (0,8); 7,971 (3,1); 7,965 (3,0); 7,943 (0,5); 7,803 (0,8); 7,532 (2,9); 7,375 (2,7); 7,322 (0,3); 7,209 (0,3); 4,421 (0,8); 4,404 (2,1); 4,386 (2,3); 4,369 (1,0); 4,240 (1,1); 4,224 (3,6); 4,206 (3,6); 4,189 (1,2); 4,179 (0,5); 4,162 (0,4); 3,741 (0,4); 3,727 (0,4); 3,328 (176,8); 3,027 (0,8); 2,985 (16,0); 2,886 (0,8); 2,775 (0,5); 2,762 (1,0); 2,748 (1,4); 2,734 (1,2); 2,717 (2,0); 2,676 (2,7); 2,671 (3,8); 2,667 (2,8); 2,524 (10,0); 2,510 (212,4); 2,507 (426,0); 2,502 (559,5); 2,498 (412,6); 2,456 (0,7); 2,333 (2,6); 2,329 (3,5); 2,324 (2,7); 2,075 (1,5); 1,361 (0,8); 1,344 (1,7); 1,329 (5,1); 1,312 (10,0); 1,294 (5,0); 1,282 (0,6); 1,229 (0,6); 1,213 (4,5); 1,196 (8,4); 1,178 (4,2); 1,160 (0,4); 1,147 (0,4); 0,788 (0,3); 0,779 (0,4); 0,704 (0,4); 0,469 (4,1); 0,454 (2,9); 0,146 (1,0); 0,008 (7,5); 0,000 (219,5); -0,008 (9,3); -0,150 (1,0)
Beispiel I-T3-212: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 9,450 (2,0); 8,714 (2,7); 8,433 (2,7); 8,220 (1,3); 8,083 (1,3); 7,802 (0,5); 7,796 (1,2); 7,790 (1,7); 7,785 (1,8); 7,780 (1,4); 7,774 (0,6); 7,567 (1,5); 7,556 (0,4); 7,545 (1,3); 3,329 (62,0); 2,675 (0,5); 2,671 (0,7); 2,667 (0,5); 2,506 (78,1); 2,502 (103,1); 2,498 (77,2); 2,329 (0,7); 1,615 (0,6); 1,601 (1,6); 1,594 (1,7); 1,581 (0,7); 1,398 (16,0); 1,287 (0,7); 1,274 (1,6); 1,267 (1,7); 1,253 (0,6); 0,008 (1,3); 0,000 (41,2); -0,008 (1,8)
Beispiel I-T3-213: ^{1}H-NMR (400,0 MHz, d_6-DMSO): δ= 8,692 (2,3); 8,542 (0,8); 8,531 (0,8); 8,417 (2,3); 8,220 (1,0); 8,216 (1,1); 8,079 (1,1); 8,075 (1,0); 7,742 (0,5); 7,737 (0,8); 7,717 (3,3); 7,517 (1,0); 7,496 (0,9); 3,348 (0,4); 3,330 (73,9); 2,839 (0,5); 2,829 (0,5); 2,676 (0,3); 2,671 (0,5); 2,667 (0,4); 2,525 (1,2); 2,520 (1,9); 2,511 (26,1); 2,507 (54,6); 2,502 (72,8); 2,498 (52,8); 2,493 (25,6); 2,333 (0,3); 2,329 (0,5); 2,324 (0,3); 1,398 (16,0); 0,716 (0,8); 0,710 (1,2); 0,698 (1,1); 0,692 (0,9); 0,681 (0,4); 0,562 (0,4); 0,552 (1,2); 0,545 (1,1); 0,536 (0,9); 0,008 (1,1); 0,000 (33,4); -0,009 (1,1)
Beispiel I-T3-214: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 20,020 (0,4); 8,203 (15,1); 8,187 (0,8); 8,173 (15,3); 7,865 (8,4); 7,716 (8,3); 7,711 (10,7); 7,683 (5,4); 7,677 (4,2); 7,662 (6,4); 7,656 (5,5); 7,608 (8,3); 7,528 (0,3); 7,504 (10,0); 7,484 (7,9); 7,016 (4,8); 6,931 (3,0); 6,835 (9,8); 6,653 (5,0); 2,910 (0,6); 2,901 (1,7); 2,891 (2,6); 2,883 (3,9); 2,873 (4,0); 2,865 (2,6); 2,855 (1,8); 2,846 (0,6); 2,174 (590,6); 2,150 (3,3); 2,144 (3,9); 2,138 (4,9); 2,132 (3,3); 2,125 (2,0); 1,995 (20,3); 1,988 (51,7); 1,983 (284,0); 1,977 (520,7); 1,970 (703,8); 1,964 (488,9); 1,958 (254,0); 1,811 (1,6); 1,805 (2,8); 1,799 (4,0); 1,793 (2,8); 1,786 (1,4); 1,467 (16,0); 1,299 (0,7); 0,824 (2,1); 0,811 (6,5); 0,807 (8,8); 0,794 (8,9); 0,789 (6,8); 0,777 (2,9); 0,755 (0,4); 0,737 (0,4); 0,670 (0,4); 0,641 (2,8); 0,629 (8,1); 0,623 (8,3); 0,614 (7,3); 0,602 (2,1); 0,030 (2,9)
Beispiel I-T3-215: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,215 (15,4); 8,189 (16,0); 7,866 (9,4); 7,763 (8,8); 7,758 (11,3); 7,732 (5,7); 7,726 (4,7); 7,711 (6,6); 7,705 (5,9); 7,672 (4,3); 7,609 (9,4); 7,536 (9,6); 7,515 (7,8); 7,022 (4,7); 6,840 (9,6); 6,659 (4,7); 4,096 (0,8); 4,079 (0,8); 2,495 (1,5); 2,491 (1,3); 2,206 (651,9); 2,150 (2,6); 2,144 (2,8); 2,138 (3,0); 2,131 (2,4); 2,001 (6,5); 1,994 (14,1); 1,983 (141,8); 1,976 (255,1); 1,970 (340,8); 1,964 (252,4); 1,958 (142,1); 1,811 (1,0); 1,805 (1,6); 1,799 (2,1); 1,793 (1,6); 1,787 (1,0); 1,664 (0,3); 1,626 (4,3); 1,611 (12,2); 1,605 (12,9); 1,591 (6,2); 1,551 (0,7); 1,466 (4,4); 1,431 (0,8); 1,390 (5,7); 1,376 (12,2); 1,370 (13,2); 1,355 (4,7); 1,318 (0,5); 1,297 (1,2); 1,251 (1,0); 1,233 (1,9); 1,215 (1,0); 0,029 (1,1)
Beispiel I-T3-216: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,197 (4,6); 8,169 (4,8); 7,865 (3,0); 7,669 (1,3); 7,664 (1,9); 7,644 (6,9); 7,609 (3,0); 7,584 (0,6); 7,579 (0,6); 7,516 (2,2); 7,495 (1,7); 7,023 (1,3); 7,016 (0,4); 6,841 (2,7); 6,835 (0,7); 6,660 (1,3); 3,086 (16,0); 2,794 (3,5); 2,778 (0,8); 2,769 (1,2); 2,759 (0,9); 2,751 (0,7);

2,741 (0,3); 2,184 (18,2); 2,175 (42,1); 2,144 (0,3); 2,138 (0,4); 2,002 (1,1); 1,994 (1,5); 1,988 (3,9); 1,983 (19,8); 1,976 (36,2); 1,970 (48,7); 1,964 (34,4); 1,958 (18,2); 1,466 (8,2); 1,233 (0,5); 0,869 (0,5); 0,852 (0,5); 0,806 (0,6); 0,795 (0,5); 0,598 (1,8); 0,512 (1,7); 0,504 (1,6); 0,495 (1,8)
Beispiel I-T3-217: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,724 (2,9); 8,717 (3,2); 8,247 (7,4); 8,240 (1,1); 8,028 (3,1); 8,022 (3,1); 7,971 (0,5); 7,965 (0,5); 7,869 (2,3); 7,615 (2,4); 7,034 (1,5); 6,852 (2,9); 6,846 (0,6); 6,671 (1,5); 3,097 (16,0); 2,828 (2,6); 2,812 (0,6); 2,805 (0,6); 2,797 (1,1); 2,786 (0,7); 2,778 (0,6); 2,179 (56,3); 2,150 (0,4); 2,144 (0,5); 2,138 (0,6); 2,131 (0,4); 1,994 (4,3); 1,988 (6,2); 1,982 (37,6); 1,976 (69,1); 1,970 (93,5); 1,964 (64,7); 1,958 (33,4); 1,805 (0,4); 1,799 (0,6); 1,792 (0,4); 0,817 (0,4); 0,608 (1,4); 0,573 (1,0); 0,565 (1,7); 0,556 (1,1); 0,548 (1,5)
Beispiel I-T3-218: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 20,011 (0,4); 8,773 (8,6); 8,766 (9,0); 8,741 (1,2); 8,735 (1,2); 8,265 (14,9); 8,261 (16,0); 8,253 (3,2); 8,250 (2,9); 8,143 (9,4); 8,137 (9,5); 8,009 (1,3); 8,002 (1,3); 7,870 (7,3); 7,689 (3,7); 7,614 (8,2); 7,029 (4,5); 6,847 (9,1); 6,666 (4,5); 5,477 (0,5); 3,753 (3,4); 3,653 (0,4); 3,636 (0,6); 3,628 (0,6); 3,611 (0,4); 3,327 (0,4); 3,315 (0,8); 3,304 (0,7); 3,098 (0,7); 3,087 (0,6); 2,911 (0,4); 2,168 (284,6); 2,150 (2,8); 2,144 (3,6); 2,138 (4,5); 2,131 (3,1); 2,125 (1,7); 1,994 (21,0); 1,988 (48,8); 1,982 (280,0); 1,976 (513,9); 1,970 (694,8); 1,964 (480,4); 1,958 (247,2); 1,811 (1,5); 1,805 (2,9); 1,799 (4,1); 1,792 (2,9); 1,786 (1,4); 1,644 (3,6); 1,629 (9,1); 1,623 (9,3); 1,609 (4,8); 1,568 (0,6); 1,440 (0,5); 1,399 (4,9); 1,386 (9,0); 1,379 (9,4); 1,364 (3,7); 1,327 (0,4); 1,299 (0,5); 1,164 (0,7); 0,029 (2,4)
Beispiel I-T3-219: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,186 (4,3); 8,170 (4,3); 7,971 (2,5); 7,758 (2,2); 7,641 (1,2); 7,636 (1,8); 7,616 (6,7); 7,558 (0,6); 7,552 (0,5); 7,490 (2,0); 7,488 (1,7); 7,483 (0,7); 7,470 (1,3); 7,468 (1,5); 7,462 (0,6); 3,057 (16,0); 2,765 (3,5); 2,755 (0,7); 2,747 (0,7); 2,738 (1,1); 2,728 (0,7); 2,720 (0,6); 2,139 (32,4); 2,114 (0,4); 2,108 (0,5); 2,102 (0,4); 1,965 (2,1); 1,959 (5,3); 1,953 (31,9); 1,947 (58,9); 1,941 (79,9); 1,934 (55,2); 1,928 (28,6); 1,775 (0,3); 1,769 (0,5); 1,437 (6,1); 0,840 (0,4); 0,822 (0,4); 0,777 (0,5); 0,766 (0,4); 0,568 (1,4); 0,482 (1,4); 0,474 (1,3); 0,464 (1,5)
Beispiel I-T3-220: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,695 (3,0); 8,689 (3,2); 8,219 (7,0); 8,000 (3,0); 7,994 (3,0); 7,937 (8,6); 7,897 (0,6); 5,449 (12,1); 3,067 (16,0); 2,891 (0,7); 2,869 (0,3); 2,798 (2,8); 2,785 (0,6); 2,778 (0,7); 2,769 (1,2); 2,758 (0,8); 2,750 (0,7); 2,741 (0,4); 2,474 (0,3); 2,469 (0,5); 2,464 (0,4); 2,189 (56,5); 2,121 (0,4); 2,115 (0,4); 2,109 (0,5); 2,103 (0,4); 2,087 (3,4); 1,965 (1,9); 1,959 (4,3); 1,954 (23,2); 1,947 (42,6); 1,941 (57,3); 1,935 (40,0); 1,929 (20,9); 1,770 (0,3); 1,316 (1,1); 1,300 (0,9); 1,285 (0,3); 1,269 (1,0); 0,853 (0,4); 0,834 (0,4); 0,787 (0,4); 0,776 (0,4); 0,578 (1,6); 0,535 (1,9); 0,525 (1,3); 0,518 (1,7); 0,146 (0,6); 0,008 (4,9); 0,000 (131,9); -0,008 (6,9); -0,150 (0,6)
Beispiel I-T3-221: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,693 (6,2); 8,687 (6,2); 8,234 (0,7); 8,225 (9,9); 8,212 (10,1); 8,053 (0,4); 8,042 (6,8); 8,036 (6,6); 7,932 (16,0); 7,011 (1,9); 5,447 (15,9); 2,886 (0,5); 2,876 (1,3); 2,867 (1,8); 2,858 (2,8); 2,848 (2,8); 2,840 (1,8); 2,830 (1,3); 2,821 (0,4); 2,149 (16,6); 2,121 (1,4); 2,114 (1,2); 2,108 (1,2); 2,102 (0,9); 2,096 (0,6); 1,965 (6,2); 1,959 (9,3); 1,953 (46,1); 1,947 (83,1); 1,941 (110,8); 1,934 (76,5); 1,928 (39,4); 1,775 (0,5); 1,769 (0,7); 1,763 (0,4); 1,269 (1,0); 1,259 (0,5); 0,809 (1,5); 0,796 (4,5); 0,791 (5,9); 0,778 (6,1); 0,773 (4,5); 0,761 (2,0); 0,620 (2,0); 0,608 (5,1); 0,603 (5,5); 0,599 (4,9); 0,593 (4,7); 0,581 (1,4); 0,146 (1,3); 0,008 (11,5); 0,000 (286,0); -0,009 (12,3); -0,150 (1,3)
Beispiel I-T3-222: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,742 (7,6); 8,736 (7,9); 8,237 (11,7); 8,230 (10,9); 8,112 (8,3); 8,106 (8,3); 7,935 (16,0); 7,717 (1,6); 6,777 (0,5); 5,448 (3,1); 2,170 (68,6); 2,121 (0,4); 2,115 (0,6); 2,108 (0,7); 2,102 (0,5); 1,965 (4,0); 1,959 (7,7); 1,953 (42,0); 1,947 (76,9); 1,941 (104,1); 1,935 (72,7); 1,929 (37,9); 1,776 (0,5); 1,769 (0,6); 1,763 (0,5); 1,697 (0,5); 1,612 (3,1); 1,598 (7,6); 1,591 (7,8); 1,577 (4,2); 1,537 (0,5); 1,523 (1,3); 1,505 (1,2); 1,408 (0,5); 1,368 (4,3); 1,355 (7,7); 1,348 (8,0); 1,333 (3,2); 1,277 (0,4); 1,269 (0,9); 1,259 (1,1); 1,193 (0,9); 1,187 (0,6); 1,183 (0,4); 1,177 (1,0); 1,171 (0,6); 1,166 (0,4); 0,146 (1,1); 0,008 (9,5); 0,000 (259,4); -0,009 (11,5); -0,150 (1,1)
Beispiel I-T3-223: ^{1}H-NMR (600,1 MHz, CD3CN): δ= 8,772 (0,8); 8,732 (3,1); 8,728 (3,0); 8,222 (7,7); 8,215 (5,8); 8,200 (0,8); 8,021 (3,2); 8,017 (3,1); 7,943 (13,2); 6,642 (0,5); 4,077 (1,3); 4,065 (3,9); 4,053 (3,9); 4,042 (1,3); 3,752 (0,8); 3,165 (3,1); 3,069 (0,4); 2,934 (16,0); 2,880 (0,4); 2,245 (0,5); 2,240 (0,6); 2,222 (0,8); 2,146 (25,4); 2,078 (1,0); 2,059 (0,8); 2,055 (1,1); 2,050 (1,3); 2,046 (1,0); 2,042 (0,7); 1,972 (17,2); 1,964 (2,0); 1,956 (5,4); 1,952 (7,4); 1,948 (55,6); 1,944 (100,9); 1,940 (146,1); 1,936 (99,1); 1,931 (49,9); 1,833 (0,4); 1,829 (0,7); 1,825 (0,9); 1,821 (0,7); 1,816 (0,4); 1,664 (3,8); 1,661 (4,0); 1,505 (0,4); 1,473 (3,0); 1,443 (0,6); 1,425 (0,6); 1,422 (0,6); 1,409 (0,8); 1,406 (0,8); 1,390 (2,1); 1,388 (1,6); 1,372 (1,4); 1,363 (0,5); 1,358 (0,7); 1,341 (1,7); 1,316 (0,9); 1,303 (0,9); 1,285 (3,5); 1,277 (3,9); 1,271 (6,9); 1,221 (1,2); 1,216 (6,4); 1,214 (5,7); 1,204 (9,5); 1,201 (2,5); 1,192 (4,8); 1,180 (0,6); 1,175 (0,3); 0,948 (0,4); 0,893 (0,9); 0,882 (1,8); 0,870 (1,5); 0,863 (0,9); 0,860 (0,9); 0,856 (0,9); 0,846 (0,9); 0,000 (7,9)
Beispiel I-T3-224: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,271 (7,9); 8,267 (7,8); 8,184 (15,8); 8,183 (15,9); 8,152 (0,7); 8,141 (16,0); 7,791 (6,9); 7,693 (9,4); 7,688 (12,0); 7,678 (0,8); 7,662 (6,6); 7,656 (4,7); 7,641 (7,7); 7,635 (6,2); 7,591 (0,7); 7,479 (11,5); 7,458 (9,1); 6,959 (2,7); 4,086 (0,9); 4,068 (2,7); 4,050 (2,8); 4,032 (0,9); 2,986 (0,4); 2,883 (0,8); 2,873 (2,2); 2,864 (3,0); 2,855 (4,6); 2,846 (4,6); 2,837 (2,9); 2,828 (2,2); 2,818 (0,9); 2,567 (0,7); 2,536 (0,3); 2,503 (0,4); 2,477 (1,2); 2,472 (1,9); 2,467 (2,6); 2,462 (1,9); 2,458 (1,1); 2,411 (0,5); 2,398 (0,5); 2,373 (0,6); 2,310 (0,9); 2,281 (1,2); 2,187 (1104,6); 2,121 (0,9); 2,115 (2,0); 2,109 (2,7); 2,103 (1,9); 2,096 (0,9); 1,993 (0,6); 1,973 (14,2); 1,966 (15,1); 1,960 (36,7); 1,954 (209,3); 1,948 (380,7); 1,941 (511,0); 1,935 (347,0); 1,929 (175,8); 1,916 (1,4); 1,782 (1,0); 1,776 (1,9); 1,770 (2,8); 1,764 (1,8); 1,757 (0,8); 1,437 (14,7); 1,340 (0,4); 1,285 (0,8); 1,270 (2,8); 1,222 (3,4); 1,204 (6,6); 1,186 (3,2); 0,882 (0,5); 0,857 (0,5); 0,841 (0,4); 0,796 (2,4); 0,784 (7,0); 0,779 (9,4); 0,766 (9,7); 0,761 (6,9); 0,749 (3,1); 0,727 (0,5); 0,709 (0,4); 0,654 (0,4); 0,644 (0,4); 0,614 (3,2); 0,602 (7,9); 0,597 (8,2); 0,593 (7,3); 0,587 (7,3); 0,575 (2,2); 0,526 (0,3); 0,146 (7,1); 0,138 (0,4); 0,079 (0,4); 0,069 (0,4); 0,066 (0,3); 0,058 (0,5); 0,054 (0,5); 0,049 (0,5); 0,045 (0,6); 0,037 (0,8); 0,023 (2,0); 0,008 (59,7); 0,000 (1582,5); -0,009 (57,5); -0,033 (0,5); -0,036 (0,5); -0,150 (7,0)
Beispiel I-T3-225: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,269 (2,4); 8,266 (2,4); 8,170 (4,4); 8,126 (4,2); 7,787 (2,2); 7,644 (1,2); 7,639 (1,7); 7,624 (1,0); 7,618 (5,4); 7,613 (1,7); 7,561 (0,6); 7,556 (0,5); 7,490 (2,1); 7,489 (2,0); 7,482 (0,7); 7,470 (1,6); 7,468 (1,6); 7,462 (0,6); 3,058 (14,9); 3,006 (0,4); 2,778 (0,6); 2,771 (3,2); 2,761 (0,6); 2,753 (0,7); 2,744 (1,1); 2,734 (0,7); 2,726 (0,8); 2,127 (33,1); 2,113 (0,8); 2,106 (0,7); 2,100 (0,5); 1,971 (0,8); 1,963 (2,6); 1,957 (6,7); 1,951 (37,7); 1,945 (68,8); 1,939 (92,9); 1,933 (64,3); 1,927 (33,3); 1,774 (0,4); 1,767 (0,5); 1,761 (0,4); 1,437 (16,0); 1,270 (0,8); 1,204 (0,4); 0,841 (0,5); 0,823 (0,4); 0,780 (0,5); 0,769 (0,4); 0,581 (1,4); 0,575 (1,4); 0,487 (1,5); 0,479 (1,3); 0,470 (1,5); 0,146

(1,1); 0,008 (9,5); 0,000 (262,4); -0,009 (11,4); -0,150 (1,2)
Beispiel I-T3-226: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,269 (7,2); 8,266 (7,5); 8,191 (16,0); 8,147 (15,3); 8,056 (0,9); 7,789 (6,5); 7,741 (8,2); 7,735 (10,5); 7,708 (5,2); 7,703 (4,0); 7,687 (6,0); 7,682 (5,1); 7,582 (0,8); 7,554 (4,5); 7,509 (10,0); 7,488 (8,2); 4,084 (0,6); 4,067 (1,9); 4,049 (1,9); 4,032 (0,6); 3,063 (0,7); 3,040 (5,6); 2,902 (4,9); 2,854 (0,6); 2,568 (0,4); 2,126 (170,0); 2,112 (2,8); 2,106 (2,7); 2,100 (1,9); 2,093 (1,0); 2,035 (0,4); 1,970 (10,0); 1,962 (11,5); 1,956 (26,7); 1,951 (152,2); 1,944 (278,1); 1,938 (376,5); 1,932 (259,9); 1,926 (134,2); 1,913 (1,4); 1,779 (0,8); 1,773 (1,5); 1,767 (2,1); 1,761 (1,4); 1,754 (0,7); 1,597 (4,0); 1,583 (10,7); 1,576 (10,4); 1,563 (5,3); 1,523 (0,7); 1,436 (8,2); 1,404 (0,7); 1,364 (5,4); 1,350 (10,4); 1,344 (11,2); 1,329 (4,1); 1,318 (0,3); 1,292 (0,5); 1,269 (2,7); 1,221 (2,2); 1,203 (4,2); 1,185 (2,1); 0,881 (0,4); 0,858 (0,3); 0,145 (5,2); 0,031 (0,9); 0,0071 (35,1); 0,0066 (35,1); -0,001 (985,7); -0,009 (44,0); -0,026 (0,9); -0,040 (0,4); -0,151 (5,1)
Beispiel I-T3-227: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,511 (7,8); 8,508 (7,8); 8,174 (16,0); 8,118 (13,4); 8,099 (7,8); 7,694 (9,8); 7,688 (12,4); 7,662 (6,6); 7,656 (5,0); 7,641 (7,7); 7,635 (6,4); 7,499 (0,3); 7,476 (11,6); 7,455 (9,2); 6,938 (2,9); 3,062 (0,6); 2,880 (0,7); 2,870 (2,1); 2,861 (3,0); 2,852 (4,7); 2,843 (4,7); 2,834 (3,0); 2,825 (2,2); 2,815 (0,7); 2,543 (0,4); 2,468 (0,4); 2,463 (0,6); 2,459 (0,4); 2,163 (162,8); 2,120 (1,0); 2,114 (1,0); 2,108 (1,1); 2,102 (0,9); 2,087 (20,5); 1,972 (1,6); 1,965 (5,0); 1,959 (13,4); 1,953 (69,2); 1,947 (125,1); 1,941 (166,4); 1,935 (115,7); 1,928 (59,8); 1,781 (0,4); 1,775 (0,7); 1,769 (1,0); 1,763 (0,6); 1,757 (0,3); 1,285 (0,4); 1,269 (1,7); 1,204 (0,6); 1,186 (0,3); 1,179 (0,8); 0,794 (2,5); 0,781 (7,3); 0,776 (9,8); 0,763 (10,2); 0,758 (7,4); 0,746 (3,4); 0,724 (0,4); 0,707 (0,4); 0,652 (0,4); 0,642 (0,4); 0,612 (3,3); 0,601 (8,5); 0,595 (8,9); 0,591 (8,1); 0,586 (7,9); 0,573 (2,5); 0,536 (0,4); 0,528 (0,3); 0,146 (2,7); 0,029 (0,4); 0,008 (25,1); 0,000 (580,3); -0,009 (29,4); -0,028 (0,7); -0,150 (2,7)
Beispiel I-T3-228: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,508 (2,3); 8,184 (4,7); 8,130 (3,9); 8,099 (2,3); 7,741 (2,6); 7,735 (3,4); 7,711 (1,8); 7,705 (1,3); 7,690 (2,1); 7,684 (1,7); 7,644 (1,3); 7,509 (3,2); 7,488 (2,6); 2,545 (0,6); 2,468 (0,5); 2,463 (0,7); 2,459 (0,5); 2,159 (239,3); 2,119 (0,6); 2,113 (0,8); 2,107 (0,9); 2,101 (0,7); 2,095 (0,4); 1,971 (1,0); 1,964 (3,7); 1,958 (9,3); 1,952 (53,0); 1,946 (96,2); 1,940 (130,0); 1,933 (90,1); 1,927 (46,8); 1,780 (0,3); 1,774 (0,6); 1,768 (0,8); 1,762 (0,6); 1,595 (1,3); 1,581 (3,4); 1,574 (3,5); 1,560 (1,8); 1,437 (16,0); 1,363 (1,8); 1,349 (3,4); 1,343 (3,5); 1,328 (1,4); 1,270 (0,7); 1,204 (0,4); 0,146 (1,3); 0,008 (10,5); 0,000 (282,8); -0,009 (11,9); -0,150 (1,3)
Beispiel I-T3-229: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,507 (1,6); 8,161 (3,4); 8,104 (3,1); 7,644 (0,8); 7,639 (1,1); 7,619 (3,9); 7,562 (0,4); 7,557 (0,4); 7,488 (1,4); 7,481 (0,5); 7,466 (1,1); 7,460 (0,4); 3,056 (10,5); 2,855 (0,4); 2,771 (2,3); 2,763 (0,5); 2,755 (0,5); 2,745 (0,8); 2,736 (0,5); 2,728 (0,4); 2,544 (0,4); 2,131 (16,7); 1,971 (0,5); 1,963 (1,1); 1,957 (2,7); 1,951 (15,4); 1,945 (28,4); 1,939 (38,5); 1,933 (26,5); 1,927 (13,7); 1,437 (16,0); 0,779 (0,4); 0,576 (1,0); 0,488 (1,0); 0,480 (0,9); 0,471 (1,0); 0,146 (0,4); 0,008 (3,0); 0,000 (85,2); -0,009 (3,4); -0,150 (0,4)
Beispiel I-T4-1: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,170 (4,8); 7,860 (5,7); 7,840 (2,0); 7,833 (1,3); 7,687 (4,2); 7,561 (1,9); 7,539 (1,6); 7,436 (5,5); 6,972 (0,9); 2,871 (0,5); 2,862 (0,8); 2,853 (1,1); 2,843 (1,1); 2,835 (0,8); 2,825 (0,5); 2,251 (24,5); 2,140 (6,0); 1,971 (0,5); 1,964 (0,6); 1,958 (1,4); 1,952 (6,2); 1,946 (11,2); 1,940 (15,0); 1,934 (10,9); 1,928 (5,9); 1,436 (16,0); 0,796 (0,6); 0,784 (1,9); 0,779 (2,5); 0,766 (2,6); 0,761 (2,0); 0,749 (0,9); 0,619 (0,8); 0,608 (2,3); 0,601 (2,5); 0,592 (2,1); 0,580 (0,6); 0,000 (15,7)
Beispiel I-T4-2: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,184 (6,7); 8,183 (6,5); 7,920 (2,5); 7,915 (8,6); 7,894 (3,0); 7,887 (1,9); 7,699 (6,2); 7,680 (1,6); 7,602 (3,0); 7,600 (2,8); 7,582 (2,4); 7,580 (2,6); 7,438 (7,8); 2,463 (0,3); 2,253 (39,2); 2,151 (134,8); 2,120 (0,5); 2,114 (0,7); 2,108 (0,9); 2,102 (0,6); 2,095 (0,4); 1,972 (1,2); 1,965 (4,2); 1,959 (10,5); 1,953 (54,2); 1,947 (98,7); 1,940 (132,9); 1,934 (93,2); 1,928 (48,4); 1,775 (0,6); 1,769 (0,8); 1,763 (0,6); 1,599 (1,8); 1,585 (4,6); 1,578 (4,7); 1,564 (2,4); 1,437 (16,0); 1,415 (0,4); 1,375 (2,4); 1,361 (4,7); 1,354 (4,9); 1,340 (1,8); 1,269 (1,5); 1,204 (0,4); 0,146 (0,7); 0,008 (5,3); 0,000 (150,3); -0,008 (7,3); -0,149 (0,7)
Beispiel I-T4-3: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,929 (2,4); 8,922 (2,4); 8,231 (2,7); 8,224 (2,6); 8,205 (4,3); 7,754 (3,8); 7,444 (5,0); 7,072 (0,7); 2,881 (0,4); 2,872 (0,7); 2,863 (1,0); 2,853 (1,0); 2,845 (0,7); 2,835 (0,4); 2,252 (22,9); 2,140 (16,7); 1,964 (1,1); 1,952 (13,4); 1,946 (23,9); 1,940 (31,3); 1,934 (21,8); 1,928 (11,3); 1,436 (16,0); 0,814 (0,5); 0,800 (1,8); 0,796 (2,2); 0,783 (2,3); 0,778 (1,7); 0,766 (0,7); 0,633 (0,7); 0,622 (2,1); 0,616 (2,2); 0,612 (2,0); 0,607 (1,8); 0,594 (0,5); 0,146 (0,6); 0,000 (113,1); -0,150 (0,6)
Beispiel I-T4-4: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,974 (3,9); 8,967 (3,9); 8,300 (4,1); 8,294 (4,0); 8,216 (6,7); 7,764 (6,3); 7,753 (0,6); 7,735 (1,8); 7,446 (7,8); 4,067 (0,9); 4,050 (0,9); 3,076 (1,0); 2,898 (1,0); 2,254 (38,8); 2,144 (39,1); 2,114 (0,6); 2,107 (0,6); 2,101 (0,4); 2,095 (0,4); 2,086 (0,4); 2,063 (0,4); 1,972 (4,1); 1,964 (2,3); 1,958 (6,0); 1,952 (30,2); 1,946 (53,9); 1,940 (71,6); 1,934 (48,9); 1,928 (25,1); 1,768 (0,4); 1,617 (1,7); 1,602 (4,5); 1,595 (4,4); 1,581 (2,2); 1,437 (16,0); 1,388 (2,3); 1,375 (4,5); 1,368 (4,5); 1,353 (1,7); 1,269 (0,9); 1,221 (1,0); 1,204 (2,0); 1,186 (1,0); 0,146 (1,1); 0,008 (8,7); 0,000 (211,3); -0,009 (8,7); -0,150 (1,1)
Beispiel I-T22-1: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 7,934 (2,4); 7,928 (3,4); 7,908 (1,9); 7,902 (1,3); 7,887 (2,0); 7,882 (1,6); 7,615 (3,0); 7,594 (2,6); 7,486 (5,3); 7,037 (0,7); 6,864 (0,4); 6,858 (6,5); 2,877 (0,5); 2,867 (0,8); 2,858 (1,2); 2,849 (1,2); 2,840 (0,8); 2,831 (0,6); 2,258 (25,0); 2,168 (12,6); 1,965 (0,4); 1,959 (1,0); 1,953 (5,8); 1,947 (10,6); 1,941 (14,3); 1,935 (10,0); 1,928 (5,3); 1,436 (16,0); 0,800 (0,6); 0,788 (1,8); 0,783 (2,5); 0,770 (2,6); 0,765 (1,9); 0,753 (0,9); 0,624 (0,9); 0,613 (2,2); 0,606 (2,3); 0,602 (2,0); 0,597 (2,0); 0,585 (0,7); 0,008 (0,7); 0,000 (20,3); -0,009 (0,9)
Beispiel I-T22-2: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 7,992 (6,1); 7,986 (8,0); 7,960 (4,3); 7,954 (3,3); 7,939 (4,6); 7,933 (4,0); 7,709 (2,2); 7,654 (7,3); 7,633 (6,4); 7,487 (13,6); 6,877 (16,0); 5,448 (2,4); 2,418 (0,4); 2,260 (66,3); 2,153 (49,7); 2,120 (0,4); 2,114 (0,4); 2,108 (0,5); 2,098 (0,5); 2,086 (1,9); 1,972 (0,6); 1,964 (1,9); 1,958 (4,9); 1,953 (28,0); 1,946 (51,5); 1,940 (70,2); 1,934 (49,9); 1,928 (27,0); 1,775 (0,3); 1,769 (0,4); 1,603 (3,1); 1,588 (8,0); 1,581 (8,3); 1,568 (4,3); 1,528 (0,5); 1,436 (0,9); 1,419 (0,5); 1,379 (4,2); 1,365 (8,0); 1,359 (8,7); 1,344 (3,3); 1,268 (0,4); 0,146 (0,5); 0,008 (3,8); 0,000 (117,9); -0,008 (7,0); -0,150 (0,6)
Beispiel I-T22-3: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 7,982 (3,5); 7,977 (5,3); 7,966 (3,0); 7,960 (1,9); 7,945 (2,9); 7,939 (2,5); 7,669 (4,3); 7,648 (3,7); 7,487 (9,9); 6,883 (8,4); 4,152 (1,0); 4,136 (1,1); 4,129 (3,0); 4,112 (3,1); 4,105 (3,3); 4,089 (3,1); 4,082 (1,4); 4,065 (1,1); 2,262 (40,4); 2,156 (20,4); 2,101 (0,4); 1,972 (0,5); 1,964 (1,0); 1,958 (2,4); 1,953 (12,4); 1,946 (23,1); 1,940 (31,5); 1,934 (23,1); 1,928 (12,8); 1,436 (16,0); 0,008 (2,0); 0,000 (53,5)

Beispiel I-T22-4: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,983 (1,2); 8,977 (1,3); 8,360 (1,3); 8,355 (1,3); 7,953 (1,3); 7,944 (1,4); 7,036 (2,1); 2,306 (6,0); 2,160 (8,1); 1,953 (4,2); 1,947 (7,8); 1,941 (10,6); 1,935 (7,9); 1,929 (4,3); 1,619 (0,6); 1,604 (1,6); 1,597 (1,6); 1,584 (0,8); 1,437 (16,0); 1,390 (0,8); 1,376 (1,6); 1,369 (1,7); 1,354 (0,6)
Beispiel I-T22-5: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 7,942 (4,2); 7,936 (5,2); 7,918 (1,6); 7,912 (1,1); 7,897 (1,6); 7,892 (1,3); 7,619 (2,4); 7,598 (2,1); 7,045 (0,8); 6,922 (4,2); 2,874 (0,4); 2,865 (0,7); 2,856 (1,0); 2,847 (1,0); 2,838 (0,7); 2,828 (0,4); 2,305 (10,8); 2,183 (27,7); 1,960 (0,8); 1,954 (3,8); 1,948 (6,9); 1,942 (9,3); 1,936 (6,5); 1,930 (3,4); 1,436 (16,0); 0,799 (0,5); 0,786 (1,7); 0,781 (2,2); 0,769 (2,2); 0,764 (1,7); 0,751 (0,7); 0,624 (0,7); 0,613 (2,1); 0,607 (2,1); 0,603 (2,0); 0,597 (1,8); 0,585 (0,5); 0,000 (23,8)
Beispiel I-T22-6: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,939 (1,4); 8,933 (1,4); 8,292 (1,5); 8,286 (1,4); 7,952 (1,1); 7,942 (1,1); 7,150 (0,3); 7,022 (2,3); 2,874 (0,4); 2,865 (0,5); 2,855 (0,5); 2,847 (0,4); 2,305 (5,7); 2,187 (7,7); 1,973 (0,7); 1,960 (0,4); 1,954 (2,8); 1,948 (5,1); 1,942 (7,0); 1,936 (4,8); 1,930 (2,5); 1,436 (16,0); 1,204 (0,3); 0,803 (0,9); 0,798 (1,1); 0,785 (1,2); 0,780 (0,9); 0,767 (0,4); 0,636 (0,4); 0,624 (1,0); 0,619 (1,1); 0,615 (0,9); 0,609 (0,9); 0,000 (5,3)
Beispiel I-T22-7: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 7,999 (1,6); 7,994 (2,1); 7,970 (1,1); 7,965 (0,8); 7,949 (2,6); 7,944 (2,6); 7,937 (1,8); 7,659 (2,2); 7,638 (1,6); 6,939 (3,3); 2,306 (8,4); 2,155 (9,0); 1,972 (0,6); 1,965 (0,3); 1,953 (5,6); 1,947 (10,3); 1,941 (14,0); 1,935 (9,7); 1,929 (5,0); 1,602 (0,8); 1,587 (2,1); 1,581 (2,1); 1,567 (1,1); 1,436 (16,0); 1,380 (1,1); 1,366 (2,1); 1,360 (2,2); 1,345 (0,8)
Beispiel I-T23-1: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 7,961 (5,3); 7,958 (2,0); 7,942 (1,7); 7,937 (1,0); 7,864 (5,1); 7,609 (1,6); 7,606 (1,0); 7,590 (1,0); 7,587 (1,4); 7,148 (5,1); 6,968 (0,5); 2,876 (0,4); 2,867 (0,6); 2,858 (0,9); 2,849 (0,9); 2,840 (0,6); 2,831 (0,4); 2,134 (6,5); 1,964 (1,6); 1,958 (2,5); 1,952 (11,3); 1,946 (20,0); 1,940 (26,1); 1,934 (17,8); 1,928 (9,0); 1,437 (16,0); 0,800 (0,5); 0,787 (1,5); 0,782 (1,9); 0,770 (2,0); 0,764 (1,4); 0,752 (0,7); 0,624 (0,7); 0,614 (1,6); 0,606 (1,7); 0,602 (1,5); 0,597 (1,5); 0,584 (0,5); 0,000 (0,7)
Beispiel I-T23-2: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,014 (3,3); 8,010 (1,3); 7,997 (1,1); 7,991 (0,6); 7,866 (3,6); 7,648 (1,5); 7,642 (0,8); 7,630 (0,6); 7,625 (1,2); 7,162 (3,0); 5,447 (16,0); 2,140 (12,0); 1,972 (0,4); 1,964 (2,4); 1,958 (4,0); 1,952 (17,2); 1,946 (30,2); 1,940 (39,3); 1,934 (26,8); 1,928 (13,7); 1,600 (0,6); 1,586 (1,7); 1,579 (1,7); 1,565 (0,9); 1,437 (0,9); 1,380 (0,9); 1,367 (1,6); 1,360 (1,7); 1,345 (0,7); 0,000 (0,9)
Beispiel I-T46-1: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 7,669 (6,3); 7,664 (9,6); 7,654 (5,5); 7,648 (2,9); 7,633 (5,5); 7,627 (4,3); 7,582 (3,1); 7,509 (16,0); 7,426 (8,2); 7,405 (6,8); 7,166 (4,7); 7,161 (8,3); 7,156 (5,0); 6,767 (3,7); 6,760 (7,3); 6,754 (5,5); 6,735 (5,6); 6,730 (6,3); 6,723 (3,8); 2,468 (0,7); 2,463 (1,0); 2,459 (0,7); 2,298 (0,5); 2,161 (388,0); 2,139 (78,8); 2,121 (1,2); 2,114 (1,5); 2,108 (1,7); 2,102 (1,2); 2,096 (0,7); 1,993 (0,7); 1,977 (0,9); 1,965 (8,8); 1,959 (16,3); 1,953 (98,1); 1,947 (179,6); 1,941 (243,9); 1,935 (167,4); 1,928 (86,0); 1,856 (0,9); 1,842 (0,6); 1,782 (0,6); 1,775 (1,1); 1,769 (1,5); 1,763 (1,0); 1,757 (0,5); 1,585 (3,5); 1,570 (9,4); 1,563 (9,3); 1,550 (4,6); 1,510 (0,5); 1,394 (0,5); 1,354 (4,7); 1,340 (9,4); 1,333 (9,8); 1,319 (3,5); 0,146 (0,4); 0,008 (2,9); 0,000 (87,8); -0,008 (3,4); -0,150 (0,4)
Beispiel I-T46-2: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 7,682 (3,3); 7,677 (6,3); 7,676 (6,2); 7,673 (6,2); 7,668 (4,7); 7,665 (5,9); 7,653 (5,1); 7,647 (7,8); 7,628 (1,3); 7,623 (1,7); 7,606 (1,1); 7,600 (0,7); 7,585 (1,1); 7,579 (1,0); 7,518 (4,3); 7,517 (4,5); 7,507 (3,5); 7,496 (6,1); 7,478 (6,1); 7,475 (3,5); 7,459 (3,7); 7,422 (2,5); 7,419 (1,8); 7,409 (1,0); 7,403 (2,8); 7,394 (1,8); 7,385 (1,0); 7,373 (1,2); 7,153 (0,9); 7,148 (1,6); 7,143 (1,1); 6,961 (0,8); 6,900 (0,5); 6,760 (0,8); 6,753 (1,5); 6,747 (1,1); 6,724 (1,1); 6,720 (1,3); 6,717 (1,2); 6,713 (0,9); 3,855 (0,7); 3,051 (1,3); 2,881 (0,4); 2,871 (1,1); 2,862 (1,6); 2,853 (2,4); 2,843 (3,0); 2,834 (1,8); 2,826 (1,3); 2,816 (0,6); 2,476 (0,8); 2,472 (1,3); 2,467 (1,8); 2,462 (1,4); 2,427 (0,5); 2,391 (0,4); 2,383 (0,3); 2,359 (0,4); 2,327 (0,5); 2,182 (852,2); 2,138 (15,6); 2,121 (1,5); 2,115 (2,2); 2,109 (2,8); 2,102 (2,4); 2,096 (1,2); 1,992 (0,9); 1,966 (9,9); 1,959 (26,3); 1,954 (166,7); 1,947 (309,9); 1,941 (423,2); 1,935 (291,5); 1,929 (148,5); 1,782 (0,9); 1,776 (1,7); 1,770 (2,4); 1,764 (1,7); 1,757 (0,9); 1,437 (16,0); 1,270 (1,6); 0,790 (1,1); 0,778 (3,3); 0,773 (4,8); 0,766 (2,0); 0,760 (4,8); 0,755 (4,0); 0,743 (1,7); 0,736 (0,5); 0,614 (1,5); 0,602 (4,2); 0,593 (4,9); 0,587 (4,7); 0,575 (1,8); 0,000 (1,7)
Beispiel I-T46-3: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,649 (2,9); 8,643 (3,2); 7,935 (2,9); 7,929 (2,9); 7,873 (7,9); 7,322 (1,5); 7,318 (2,7); 7,313 (1,9); 6,923 (1,5); 6,917 (2,0); 6,916 (2,3); 6,910 (1,9); 6,802 (1,7); 6,798 (2,2); 6,795 (2,0); 6,790 (1,9); 3,058 (16,0); 2,790 (2,7); 2,783 (0,4); 2,772 (0,6); 2,765 (0,6); 2,757 (1,2); 2,745 (0,7); 2,738 (0,6); 2,170 (18,1); 1,966 (1,0); 1,960 (2,0); 1,954 (11,8); 1,948 (21,8); 1,941 (29,7); 1,935 (20,7); 1,929 (10,7); 1,269 (0,6); 0,844 (0,3); 0,826 (0,4); 0,783 (0,4); 0,573 (1,4); 0,528 (1,7); 0,518 (1,1); 0,511 (1,6); 0,000 (7,0); -0,008 (0,3)
Beispiel I-T46-4: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,649 (6,8); 8,643 (7,0); 7,990 (0,3); 7,976 (7,4); 7,970 (7,3); 7,871 (16,0); 7,320 (4,1); 7,315 (6,6); 7,310 (4,1); 6,976 (1,8); 6,920 (3,8); 6,914 (4,9); 6,912 (5,2); 6,907 (4,0); 6,805 (4,5); 6,801 (4,8); 6,798 (4,5); 6,794 (3,8); 5,448 (0,6); 2,876 (0,4); 2,867 (1,2); 2,857 (1,7); 2,849 (2,7); 2,839 (2,8); 2,831 (1,8); 2,821 (1,3); 2,811 (0,4); 2,143 (54,7); 2,114 (0,4); 2,108 (0,4); 1,965 (2,0); 1,959 (5,3); 1,953 (26,5); 1,947 (48,2); 1,941 (64,2); 1,934 (44,7); 1,928 (23,1); 1,769 (0,4); 1,269 (0,9); 1,200 (0,4); 0,799 (1,4); 0,786 (4,5); 0,781 (5,9); 0,769 (6,1); 0,763 (4,5); 0,751 (1,9); 0,614 (1,9); 0,602 (5,1); 0,597 (5,6); 0,593 (5,0); 0,587 (4,8); 0,575 (1,4); 0,008 (0,5); 0,000 (15,3)
Beispiel I-T46-5: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,693 (7,0); 8,687 (7,3); 8,034 (7,5); 8,028 (7,5); 7,873 (16,0); 7,693 (1,3); 7,335 (3,9); 7,330 (6,8); 7,325 (4,4); 6,927 (3,7); 6,922 (4,7); 6,920 (5,0); 6,914 (4,3); 6,816 (4,3); 6,812 (4,8); 6,808 (4,4); 6,804 (3,9); 5,449 (14,1); 2,173 (58,5); 2,115 (0,4); 2,109 (0,5); 2,103 (0,4); 1,966 (2,9); 1,960 (5,1); 1,954 (29,3); 1,948 (53,8); 1,941 (72,9); 1,935 (50,8); 1,929 (26,4); 1,776 (0,3); 1,770 (0,4); 1,764 (0,3); 1,602 (2,9); 1,588 (7,3); 1,581 (7,4); 1,567 (3,9); 1,551 (0,4); 1,523 (0,7); 1,505 (0,6); 1,405 (0,5); 1,365 (4,1); 1,351 (7,2); 1,345 (7,6); 1,330 (3,0); 1,269 (0,9); 1,259 (0,5); 1,200 (0,6); 1,193 (0,4); 1,187 (0,4); 1,177 (0,5); 1,171 (0,4); 0,008 (0,4); 0,000 (13,0)
Beispiel I-T46-6: ^{1}H-NMR (400,0 MHz, CD3CN): δ= 8,729 (1,0); 8,692 (3,0); 8,687 (3,0); 8,145 (1,0); 7,954 (3,0); 7,949 (3,0); 7,871 (14,1); 7,325 (3,5); 7,071 (0,6); 6,926 (2,7); 6,920 (3,2); 6,914 (2,1); 6,808 (2,6); 6,803 (2,8); 6,643 (1,1); 6,496 (1,1); 3,751 (1,8); 3,659 (0,8); 3,649 (0,9); 3,643 (2,1); 3,624 (1,8); 3,159 (4,2); 3,076 (1,9); 3,062 (0,3); 2,927 (16,0); 2,905 (0,3); 2,887 (0,3); 2,874 (0,3); 2,240 (1,1); 2,176 (137,5); 2,121 (0,6); 2,115 (0,7); 2,109 (0,7); 2,103 (0,6); 2,097 (0,4); 1,966 (2,5); 1,960 (6,5); 1,954 (35,6); 1,948 (65,4); 1,942 (88,3); 1,935 (62,6); 1,929 (33,5); 1,819 (1,0); 1,811

(1,1); 1,803 (2,6); 1,794 (1,2); 1,786 (1,1); 1,776 (0,6); 1,770 (0,8); 1,764 (0,6); 1,758 (0,4); 1,698 (0,4); 1,653 (4,1); 1,599 (0,4); 1,586 (0,3); 1,548 (0,4); 1,541 (0,4); 1,523 (0,9); 1,505 (1,0); 1,468 (3,4); 1,453 (1,6); 1,415 (1,4); 1,405 (1,4); 1,389 (9,5); 1,358 (1,0); 1,340 (1,1); 1,315 (1,4); 1,303 (3,2); 1,285 (4,6); 1,270 (11,8); 1,221 (12,0); 1,214 (12,0); 1,200 (3,3); 1,193 (1,3); 1,190 (1,5); 1,177 (1,0); 1,172 (1,1); 1,161 (0,7); 1,121 (0,6); 1,107 (0,6); 1,093 (0,9); 1,057 (0,7); 0,974 (0,4); 0,957 (0,5); 0,947 (0,6); 0,934 (0,5); 0,923 (0,7); 0,898 (1,3); 0,882 (3,1); 0,876 (2,5); 0,858 (2,8); 0,840 (1,7); 0,815 (0,6); 0,000 (3,4)

[1)] The stated mass is the peak of the isotope pattern of the $[M+H]^+$ ion of the highest intensity; if the $[M-H]^-$ ion was detected, the stated mass is identified with [2].

[2] The stated mass is the peak of the isotope pattern of the $[M-H]^-$ ion of the highest intensity.

[a)] Note regarding the determination of the logP values and mass detection: The logP values were determined according to EEC Directive 79/831 Annex V.A8 by HPLC (high-performance liquid chromatography) on a reversed-phase column (C18) Agilent 1100 LC system; 50*4.6 Zorbax Eclipse Plus C18 1.8 micron; eluent A: acetonitrile (0.1% formic acid); eluent B: water (0.09% formic acid); linear gradient from 10% acetonitrile to 95% acetonitrile in 4.25 min, then 95% acetonitrile for a further 1.25 min; oven temperature 55°C; flow rate: 2.0 ml/min. Mass detection is effected by means of an Agilent MSD system.

Biological Examples

Rhipicephalus sanguineus - in vitro contact tests with adult brown dog ticks

For the coating of the test tubes, 9 mg of active ingredient are first dissolved in 1 ml of acetone p.a. and then diluted to the desired concentration with acetone p.a. 250 µl of the solution are distributed homogeneously on the inner walls and base of a 25 ml test tube by turning and rocking on an orbital shaker (rocking rotation at 30 rpm for 2 h). With 900 ppm active ingredient solution and internal surface 44.7 cm², given homogeneous distribution, an area-based dose of 5 µg/cm² is achieved.

After the solvent has evaporated off, the tubes are populated with 5-10 adult dog ticks (*Rhipicephalus sanguineus*), sealed with a perforated plastic lid and incubated in a horizontal position in the dark at room temperature and ambient humidity. After 48 h, efficacy is determined. To this end, the ticks are knocked to the floor of the tube and incubated on a hotplate at 45-50°C for not more than 5 min. Ticks which remain motionless on the floor or move in such an uncoordinated manner that they are unable to deliberately avoid the heat by climbing upwards are considered to be dead or moribund.

A substance shows good efficacy against *Rhipicephalus sanguineus* if at least 80% efficacy was achieved in this test at an application rate of 5 µg/cm². An efficacy of 100% means that all the ticks were dead or moribund. 0% efficacy means that none of the ticks had been harmed.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 5 µg/cm²: I-T3-1, I-T3-3, I-T3-20, I-T3-21, I-T3-23, I-T3-24, I-T3-42, I-T3-44, I-T3-46, I-T3-47, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-61, I-T3-63, I-T3-71, I-T3-72, I-T3-81, I-T3-90, I-T3-91, I-T3-96, I-T3-97, I-T3-98, I-T3-104, I-T3-106, I-T3-109, I-T3-110, I-T3-112, I-T3-117, I-T3-119, I-T3-148, I-T3-155, I-T3-160, I-T3-161, I-T3-162, I-T3-163, I-T3-165, I-T3-175, I-T3-176, I-T3-189, I-T3-196, I-T4-1, I-T4-2, I-T4-3, I-T4-4, I-T22-2, I-T22-1, I-T22-4, I-T22-5, I-T22-6, I-T22-7

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 5 µg/cm²: I-T3-38, I-T3-43, I-T3-80, I-T3-88, I-T3-92, I-T3-143

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 1 µg/cm²: I-T3-108, I-T3-114, I-T3-141

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 1 µg/cm²: I-T3-94, I-T3-123

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 0.2 µg/cm²: I-T3-105

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 0.2 µg/cm²: I-T3-64

Ctenocephalides felis – in vitro contact tests with adult cat fleas

For the coating of the test tubes, 9 mg of active ingredient are first dissolved in 1 ml of acetone p.a. and then diluted to the desired concentration with acetone p.a. 250 µl of the solution are distributed homogeneously on the inner walls and base of a 25 ml test tube by turning and rocking on an orbital shaker (rocking rotation at 30 rpm for 2 h). With 900 ppm active ingredient solution and internal surface area 44.7 cm², given homogeneous distribution, an area-based dose of 5 µg/cm² is achieved.

After the solvent has evaporated off, the tubes are populated with 5-10 adult cat fleas (*Ctenocephalides felis*), sealed with a perforated plastic lid and incubated in a horizontal position at room temperature and ambient humidity. After 48 h, efficacy is determined. To this end, the test tubes are stood upright and the fleas are knocked to the base of the tube. Fleas which remain motionless at the base or move in an uncoordinated manner are considered to be dead or moribund.

A substance shows good efficacy against *Ctenocephalides felis* if at least 80% efficacy was achieved in this test at an application rate of 5 µg/cm². 100% efficacy means that all the fleas were dead or moribund. 0% efficacy means that no fleas were harmed.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 5 µg/cm² (= 500 g/ha): I-T3-1, I-T3-3, I-T3-7, I-T3-9, I-T3-17, I-T3-20, I-T3-21, I-T3-23, I-T3-24, I-T3-25, I-T3-27, I-T3-28, I-T3-29, I-T3-30, I-T3-31, I-T3-42, I-T3-43, I-T3-44, I-T3-46, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-61, I-T3-63, I-T3-64, I-T3-71, I-T3-72, I-T3-80, I-T3-81, I-T3-84, I-T3-85, I-T3-86, I-T3-87, I-T3-88, I-T3-91, I-T3-92, I-T3-93, I-T3-94, I-T3-95, I-T3-96, I-T3-97, I-T3-98, I-T3-99, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-111, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-116, I-T3-117, I-T3-118, I-T3-119, I-T3-120, I-T3-123, I-T3-124, I-T3-125, I-T3-127, I-T3-128, I-T3-129, I-T3-130, I-T3-131, I-T3-132, I-T3-133, I-T3-136, I-T3-137, I-T3-138, I-T3-143, I-T3-145, I-T3-147, I-T3-148, I-T3-155, I-T3-160, I-T3-162, I-T3-163, I-T3-165, I-T3-175, I-T3-176, I-T3-189, I-T3-196, I-T3-199, I-T4-2, I-T4-3, I-T4-4, I-T22-1, I-T22-2, I-T22-3, I-T22-5, I-T22-7, I-T23-1, I-T23-2, I-T46-2

Amblyomma hebraeum test

Solvent: dimethyl sulphoxide

To produce an appropriate active ingredient formulation, 10 mg of active ingredient are mixed with 0.5 ml of dimethyl sulphoxide, and the concentrate is diluted with water to the desired concentration.

Tick nymphs (*Amblyomma hebraeum*) are placed into perforated plastic beakers and immersed in the desired concentration for one minute. The ticks are transferred on filter paper into a Petri dish and stored in a climate-controlled cabinet.

After 42 days, the kill in % is determined. 100% means that all of the ticks have been killed; 0% means that none of the ticks have been killed.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 100 ppm: I-T3-1, I-T3-3, I-T3-20, I-T3-21, I-T3-24, I-T3-28, I-T3-42, I-T3-43, I-T3-44, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-63, I-T3-64, I-T3-71, I-T3-72, I-T3-81, I-T3-86, I-T3-91, I-T3-92, I-T3-95, I-T3-96, I-T3-97, I-T3-98, I-T3-100, I-T3-104, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-112, I-T3-114, I-T3-116, I-T3-117, I-T3-119, I-T3-124, I-T3-125, I-T3-131, I-T3-148, I-T3-155, I-T3-162, I-T3-163, I-T22-1, I-T22-2, I-T23-1, I-T4-3, I-T4-4

In this test, for example, the following compounds from the preparation examples show an efficacy of 95% at an application rate of 100 ppm: I-T3-101

In this test, for example, the following compounds from the preparation examples show an efficacy of 90% at an application rate of 100 ppm: I-T3-102, I-T3-103

In this test, for example, the following compounds from the preparation examples show an efficacy of 85% at an application rate of 100 ppm: I-T3-105

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 100 ppm: I-T3-53, I-T3-61, I-T3-111, I-T3-123

Boophilus microplus – injection test

Solvent: dimethyl sulphoxide

To produce an appropriate active ingredient formulation, 10 mg of active ingredient are mixed with 0.5 ml of solvent and the concentrate is diluted with solvent to the desired concentration.

1 µl of the active ingredient solution is injected into the abdomen of 5 engorged adult female cattle ticks *(Boophilus microplus)*. The animals are transferred into dishes and kept in a climate-controlled room.

Efficacy is assessed after 7 days by laying of fertile eggs. Eggs which are not visibly fertile are stored in a climate-controlled cabinet until the larvae hatch after about 42 days. An efficacy of 100% means that none of the ticks has laid any fertile eggs; 0% means that all the eggs are fertile.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 20 µg/animal: I-T2-1, I-T2-2, I-T3-1, I-T3-2, I-T3-3, I-T3-4, I-T3-5, I-T3-6, I-T3-7, I-T3-8, I-T3-9, I-T3-10, I-T3-11, I-T3-12, I-T3-13, I-T3-15, I-T3-17, I-T3-18, I-T3-19, I-

T3-20, I-T3-21, I-T3-23, I-T3-24, I-T3-25, I-T3-26, I-T3-27, I-T3-28, I-T3-29, I-T3-30, I-T3-31, I-T3-32, I-T3-33, I-T3-34, I-T3-35, I-T3-36, I-T3-37, I-T3-38, I-T3-39, I-T3-40, I-T3-41, I-T3-42, I-T3-43, I-T3-44, I-T3-45, I-T3-46, I-T3-47, I-T3-48, I-T3-49, I-T3-50, I-T3-51, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-59, I-T3-60, I-T3-61, I-T3-62, I-T3-63, I-T3-64, I-T3-65, I-T3-66, I-T3-67, I-T3-68, I-T3-69, I-T3-70, I-T3-71, I-T3-72, I-T3-73, I-T3-74, I-T3-76, I-T3-77, I-T3-78, I-T3-79, I-T3-80, I-T3-81, I-T3-82, I-T3-83, I-T3-84, I-T3-85, I-T3-86, I-T3-87, I-T3-88, I-T3-89, I-T3-90, I-T3-91, I-T3-92, I-T3-93, I-T3-94, I-T3-95, I-T3-96, I-T3-97, I-T3-98, I-T3-99, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-104, I-T3-105, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-111, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-116, I-T3-117, I-T3-118, I-T3-119, I-T3-120, I-T3-123, I-T3-124, I-T3-125, I-T3-126, I-T3-127, I-T3-128, I-T3-129, I-T3-130, I-T3-131, I-T3-132, I-T3-133, I-T3-136, I-T3-137, I-T3-145, I-T3-139, I-T3-140, I-T3-141, I-T3-142, I-T3-143, I-T3-144, I-T3-146, I-T3-148, I-T3-149, I-T3-150, I-T3-151, I-T3-155, I-T3-160, I-T3-161, I-T3-162, I-T3-163, I-23-165, I-T3-168, I-T3-175, I-T3-176, I-T3-89, I-T4-1, I-T4-2, I-T4-3, I-T4-4, I-T22-1, I-T22-2, I-T22-3, I-T22-4, I-T22-5, I-T22-6, I-T22-7, I-T23-1, I-T23-2, I-T46-2

In this test, for example, the following compounds from the preparation examples show an efficacy of 90% at an application rate of 20 µg/animal: I-T3-75

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 20 µg/animal: I-T3-121

Boophilus microplus - dip test

Test animals: cattle ticks (*Boophilus microplus)* Parkhurst strain, SP-resistant

Solvent: dimethyl sulphoxide

10 mg of active ingredient are dissolved in 0.5 ml of dimethyl sulphoxide. For the purpose of producing a suitable formulation, the active ingredient solution is diluted with water to the concentration desired in each case.

This active ingredient formulation is pipetted into tubes. 8-10 adult engorged female cattle ticks (*Boophilus microplus*) are transferred into a further tube with holes. The tube is immersed into the active ingredient formulation, and all the ticks are completely wetted. After the liquid has run out, the ticks are transferred on filter discs into plastic dishes and stored in a climate-controlled room.

Efficacy is assessed after 7 days by laying of fertile eggs. Eggs which are not visibly fertile are stored in a climate-controlled cabinet until the larvae hatch after about 42 days. An efficacy of 100% means that none of the ticks has laid any fertile eggs; 0% means that all the eggs are fertile.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 100 ppm: I-T3-1, I-T3-3, I-T3-20, I-T3-21, I-T3-24, I-T3-28, I-T3-39, I-

T3-42, I-T3-43, I-T3-44, I-T3-48, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-61, I-T3-63, I-T3-64, I-T3-71, I-T3-72, I-T3-81, I-T3-86, I-T3-91, I-T3-92, I-T3-95, I-T3-96, I-T3-97, I-T3-98, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-104, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-116, I-T3-117, I-T3-118, I-T3-119, I-T3-120, I-T3-123, I-T3-124, I-T3-125, I-T3-130, I-T3-131, I-T3-133, I-T3-148, I-T3-155, I-T3-160, I-T3-162, I-T3-163, I-T3-165, I-T3-175, I-T3-176, I-T4-3, I-T4-4, I-T22-1, I-T22-2, I-T22-4, I-T22-5, I-T22-6, I-T22-7, I-T23-1

In this test, for example, the following compounds from the preparation examples show an efficacy of 98% at an application rate of 100 ppm: I-T3-111

In this test, for example, the following compounds from the preparation examples show an efficacy of 90% at an application rate of 100 ppm: I-T3-99

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 100 ppm: I-T3-27, I-T3-80

Ctenocephalides felis - oral test

Solvent: dimethyl sulphoxide

For the purpose of producing an appropriate active ingredient formulation, 10 mg of active ingredient are mixed with 0.5 ml of dimethyl sulphoxide. Dilution with citrated cattle blood gives the desired concentration.

About 20 unfed adult cat fleas (*Ctenocephalides felis*) are placed into a chamber which is closed at the top and bottom with gauze. A metal cylinder whose bottom end is closed with parafilm is placed onto the chamber. The cylinder contains the blood/active ingredient preparation, which can be imbibed by the fleas through the parafilm membrane.

After 2 days, the kill in % is determined. 100% means that all of the fleas have been killed; 0% means that none of the fleas have been killed.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 100 ppm: I-T3-1, I-T3-2, I-T3-3, I-T3-4, I-T3-5, I-T3-7, I-T3-8, I-T3-9, I-T3-10, I-T3-12, I-T3-18, I-T3-20, I-T3-21, I-T3-23, I-T3-24, I-T3-25, I-T3-26, I-T3-27, I-T3-28, I-T3-29, I-T3-30, I-T3-31, I-T3-32, I-T3-33, I-T3-34, I-T3-35, I-T3-38, I-T3-39, I-T3-40, I-T3-42, I-T3-43, I-T3-44, I-T3-46, I-T3-47, I-T3-48, I-T3-49, I-T3-50, I-T3-51, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-59, I-T3-61, I-T3-62, I-T3-63, I-T3-64, I-T3-65, I-T3-66, I-T3-67, I-T3-68, I-T3-69, I-T3-71, I-T3-72, I-T3-73, I-T3-76, I-T3-77, I-T3-78, I-T3-80, I-T3-81, I-T3-84, I-T3-85, I-T3-86, I-T3-87, I-T3-88, I-T3-89, I-T3-90, I-T3-91, I-T3-92, I-T3-93, I-T3-94, I-T3-95, I-T3-96, I-T3-97, I-T3-98, I-T3-99, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-104, I-T3-105, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-111, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-116, I-T3-117, I-T3-

118, I-T3-119, I-T3-120, I-T3-123, I-T3-124, I-T3-125, I-T3-127, I-T3-128, I-T3-129, I-T3-130, I-T3-131, I-T3-132, I-T3-133, I-T3-135, I-T3-136, I-T3-137, I-T3-139, I-T3-140, I-T3-141, I-T3-143, I-T3-145, I-T3-146, I-T3-148, I-T3-149, I-T3-150, I-T3-151, I-T3-155, I-T3-160, I-T3-161, I-T3-162, I-T3-163, I-T3-165, I-T3-168, I-T3-175, I-T3-176, I-T3-189, I-T4-1, I-T4-2, I-T4-3, I-T4-4, I-T22-1, I-T22-2, I-T22-3, I-T22-4, I-T22-5, I-T22-7, I-T23-1, I-T23-2, I-T46-2

In this test, for example, the following compounds from the preparation examples show an efficacy of 95% at an application rate of 100 ppm: I-T3-11, I-T3-17, I-T3-19, I-T3-41, I-T3-45, I-T3-70, I-T3-79, I-T3-82, I-T3-83, I-T22-6

In this test, for example, the following compounds from the preparation examples show an efficacy of 90% at an application rate of 100 ppm: I-T3-15, I-T3-37, I-T3-60, I-T3-126, I-T3-144

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 100 ppm: I-T3-13, I-T3-16, I-T3-36

Lucilia cuprina test

Solvent: dimethyl sulphoxide

To produce an appropriate active ingredient formulation, 10 mg of active ingredient are mixed with 0.5 ml of dimethyl sulphoxide, and the concentrate is diluted with water to the desired concentration.

About 20 L1 larvae of the Australian sheep blowfly (*Lucilia cuprina*) are transferred into a test vessel containing minced horsemeat and the active ingredient preparation of the desired concentration.

After 2 days, the kill in % is determined. 100% means that all the larvae have been killed; 0% means that none of the larvae have been killed.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 100 ppm: I-T3-1, I-T3-2, I-T3-3, I-T3-4, I-T3-5, I-T3-6, I-T3-7, I-T3-8, I-T3-9, I-T3-10, I-T3-15, I-T3-17, I-T3-18, I-T3-20, I-T3-21, I-T3-23, I-T3-24, I-T3-25, I-T3-26, I-T3-27, I-T3-28, I-T3-29, I-T3-30, I-T3-31, I-T3-32, I-T3-33, I-T3-34, I-T3-35, I-T3-36, I-T3-37, I-T3-38, I-T3-39, I-T3-40, I-T3-42, I-T3-43, I-T3-44, I-T3-45, I-T3-46, I-T3-47, I-T3-48, I-T3-49, I-T3-50, I-T3-51, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-59, I-T3-61, I-T3-62, I-T3-63, I-T3-64, I-T3-65, I-T3-66, I-T3-67, I-T3-68, I-T3-70, I-T3-71, I-T3-72, I-T3-73, I-T3-77, I-T3-78, I-T3-80, I-T3-81, I-T3-82, I-T3-83, I-T3-84, I-T3-85, I-T3-86, I-T3-87, I-T3-88, I-T3-89, I-T3-90, I-T3-91, I-T3-92, I-T3-93, I-T3-94, I-T3-96, I-T3-97, I-T3-98, I-T3-99, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-104, I-T3-105, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-111, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-116, I-T3-117, I-T3-118, I-T3-119, I-T3-120, I-T3-123, I-T3-124, I-T3-125, I-T3-130, I-T3-131, I-T3-133, I-T3-136, I-T3-139, I-T3-140, I-T3-141, I-T3-143, I-T3-144, I-T3-145, I-T3-148, I-T3-149, I-T3-150, I-T3-151, I-T3-155, I-T3-160, I-T3-161, I-T3-162, I-T3-163, I-T3-165, I-T3-

168, I-T3-175, I-T3-176, I-T3-189, I-T4-1, I-T4-2, I-T4-3, I-T4-4, I-T22-1, I-T22-2, I-T22-3, I-T22-5, I-T22-6, I-T22-7, I-T23-1, I-T23-2, I-T46-2

In this test, for example, the following compounds from the preparation examples show an efficacy of 95% at an application rate of 100 ppm: I-T3-69

In this test, for example, the following compounds from the preparation examples show an efficacy of 90% at an application rate of 100 ppm: I-T3-41, I-T3-60, I-T3-74, I-T3-76, I-T3-127, I-T3-146

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 100 ppm: I-T3-12, I-T3-75, I-T3-79, I-T3-121, I-T3-137

Musca domestica test

Solvent: dimethyl sulphoxide

To produce an appropriate active ingredient formulation, 10 mg of active ingredient are mixed with 0.5 ml of dimethyl sulphoxide, and the concentrate is diluted with water to the desired concentration.

Vessels containing a sponge treated with sugar solution and the active ingredient formulation of the desired concentration are populated with 10 adult houseflies *(Musca domestica)*.

After 2 days, the kill in % is determined. 100% means that all of the flies have been killed; 0% means that none of the flies have been killed.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 100 ppm: I-T3-1, I-T3-2, I-T3-3, I-T3-4, I-T3-5, I-T3-8, I-T3-20, I-T3-21, I-T3-23, I-T3-24, I-T3-25, I-T3-26, I-T3-27, I-T3-29, I-T3-31, I-T3-34, I-T3-38, I-T3-42, I-T3-43, I-T3-46, I-T3-48, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-61, I-T3-62, I-T3-63, I-T3-64, I-T3-65, I-T3-71, I-T3-72, I-T3-73, I-T3-77, I-T3-80, I-T3-84, I-T3-85, I-T3-86, I-T3-87, I-T3-89, I-T3-91, I-T3-92, I-T3-93, I-T3-94, I-T3-96, I-T3-97, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-104, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-111, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-116, I-T3-117, I-T3-118, I-T3-119, I-T3-120, I-T3-123, I-T3-124, I-T3-125, I-T3-130, I-T3-131, I-T3-133, I-T3-136, I-T3-137, I-T3-141, I-T3-143, I-T3-144, I-T3-148, I-T3-149, I-T3-150, I-T3-151, I-T3-155, I-T3-160, I-T3-161, I-T3-162, I-T3-163, I-T3-165, I-T3-175, I-T3-176, I-T3-189, I-T4-2, I-T22-1, I-T22-2, I-T22-3, I-T22-5, I-T22-7, I-T23-1, I-T23-2

In this test, for example, the following compounds from the preparation examples show an efficacy of 95% at an application rate of 100 ppm: I-T3-51

In this test, for example, the following compounds from the preparation examples show an efficacy of 90% at an application rate of 100 ppm: I-T3-30, I-T3-67, I-T3-76, I-T3-81, I-T3-90, I-T3-98, I-T3-99, I-T3-139, I-T3-145, I-T22-6

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 100 ppm: I-T3-7, I-T3-66, I-T3-68, I-T3-79, I-T3-88, I-T3-105, I-T3-121, I-T3-129

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 20 ppm: I-T3-28

In this test, for example, the following compounds from the preparation examples show an efficacy of 80% at an application rate of 4 ppm: I-T3-35

Meloidogyne incognita test

Solvent: 125.0 parts by weight of acetone

To produce an appropriate active ingredient formulation, 1 part by weight of active ingredient is mixed with the stated amount of solvent and the concentrate is diluted with water to the desired concentration.

Vessels are filled with sand, active ingredient solution, an egg/larvae suspension of the southern root-knot nematode (*Meloidogyne incognita*) and lettuce seeds. The lettuce seeds germinate and the plants develop. The galls develop on the roots.

After 14 days, the nematicidal efficacy in % is determined by the formation of galls. 100% means that no galls were found; 0% means that the number of galls on the treated plants corresponds to the untreated control.

In this test, for example, the following compounds from the preparation examples show efficacy of 90% at an application rate of 20 ppm: I-T3-27, I-T3-28, I-T3-184, I-T3-185

Myzus persicae – spray test

Solvent: 78 parts by weight of acetone and 1.5 parts by weight of dimethylformamide

Emulsifier: alkylaryl polyglycol ether

To produce an appropriate active ingredient formulation, 1 part by weight of active ingredient is dissolved using the specified parts by weight of solvent and made up with water containing an emulsifier concentration of 1000 ppm until the desired concentration is attained. To produce further test concentrations, the preparation is diluted with emulsifier-containing water.

Discs of Chinese cabbage leaves (*Brassica pekinensis*) infested by all stages of the green peach aphid (*Myzus persicae*) are sprayed with an active ingredient formulation of the desired concentration.

After 6 days, efficacy in % is determined. 100% means that all the aphids have been killed; 0% means that none of the aphids have been killed.

In this test, for example, the following compounds from the preparation examples show efficacy of 100% at an application rate of 500 g/ha: I-T3-7, I-T3-20, I-T3-43, I-T3-44, I-T3-46, I-T3-92, I-T3-100, I-T3-106, I-T3-107, I-T3-108, I-T3-110, I-T3-122, I-T3-185, I-T3-187

In this test, for example, the following compounds from the preparation examples show efficacy of 90% at an application rate of 500 g/ha: I-T3-8, I-T3-21, I-T3-29, I-T3-30, I-T3-42, I-T3-91, I-T3-97, I-T3-103, I-T3-105, I-T3-109, I-T3-114, I-T3-117, I-T3-119, I-T3-120, I-T3-186

In this test, for example, the following compounds from the preparation examples show efficacy of 100% at an application rate of 100 g/ha: I-T3-1, I-T3-3, I-T3-27, I-T3-54, I-T3-55, I-T3-77, I-T3-88, I-T3-99, I-T3-101, I-T3-112, I-T3-113, I-T3-115, I-T3-116, I-T3-118, I-T3-120, I-T3-123, I-T3-124, I-T3-125, I-T3-127, I-T3-128, I-T3-129, I-T3-130, I-T3-162, I-T3-165, I-T3-170, I-T3-174, I-T3-175, I-T3-176, I-T3-179, I-T3-184, I-T3-189, I-T22-1, I-T22-2, I-T22-5, I-T22-7

In this test, for example, the following compounds from the preparation examples show efficacy of 90% at an application rate of 100 g/ha: I-T3-28, I-T3-38, I-T3-39, I-T3-53, I-T3-64, I-T3-72, I-T3-76, I-T3-80, I-T3-81, I-T3-85, I-T3-87, I-T3-95, I-T3-96, I-T3-98, I-T3-131, I-T3-132, I-T3-145, I-T3-160, I-T3-164, I-T3-163, I-T4-3

In this test, for example, the following compounds from the preparation examples show efficacy of 90% at an application rate of 20 g/ha: I-T3-182, I-T4-2

Phaedon cochleariae – spray test

Solvent: 78.0 parts by weight of acetone and 1.5 parts by weight of dimethylformamide

Emulsifier: alkylaryl polyglycol ether

To produce an appropriate active ingredient formulation, 1 part by weight of active ingredient is dissolved using the specified parts by weight of solvent and made up with water containing an emulsifier concentration of 1000 ppm until the desired concentration is attained. To produce further test concentrations, the preparation is diluted with emulsifier-containing water.

Discs of Chinese cabbage leaves (*Brassica pekinensis*) are sprayed with an active ingredient formulation of the desired concentration and, after drying, populated with larvae of the mustard beetle (*Phaedon cochleariae*).

After 7 days, efficacy in % is determined. 100% means that all the beetle larvae have been killed; 0% means that no beetle larvae have been killed.

In this test, for example, the following compounds from the preparation examples show efficacy of 100% at an application rate of 500 g/ha: I-T3-7, I-T3-8, I-T3-9, I-T3-10, I-T3-12, I-T3-15, I-T3-17, I-T3-18, I-T3-19, I-T3-20, I-T3-21, I-T3-22, I-T3-23, I-T3-24, I-T3-25, I-T3-26, I-T3-29, I-T3-30, I-T3-31, I-T3-34, I-T3-35, I-T3-36, I-T3-37, I-T3-42, I-T3-43, I-T3-44, I-T3-45, I-T3-46, I-T3-47, I-T3-65, I-T3-66, I-T3-67, I-T3-68, I-T3-69, I-T3-70, I-T3-73, I-T3-74, I-T3-75, I-T3-76, I-T3-77, I-T3-78, I-T3-79, I-T3-89, I-T3-90, I-T3-91, I-T3-92, I-T3-96, I-T3-97, I-T3-98, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-104, I-T3-105, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-111, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-116, I-T3-117, I-T3-118, I-T3-119, I-T3-120, I-T3-126, I-T3-184, I-T3-185, I-T3-186, I-T3-187, I-T3-188, I-T23-1, I-T23-2

In this test, for example, the following compounds from the preparation examples show efficacy of 100% at an application rate of 100 g/ha: I-T2-1, I-T2-2, I-T3-1, I-T3-2, I-T3-3, I-T3-4, I-T3-5, I-T3-6, I-T3-27, I-T3-28, I-T3-38, I-T3-39, I-T3-40, I-T3-41, I-T3-48, I-T3-49, I-T3-50, I-T3-51, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-59, I-T3-61, I-T3-62, I-T3-63, I-T3-64, I-T3-71, I-T3-72, I-T3-80, I-T3-81, I-T3-82, I-T3-83, I-T3-84, I-T3-85, I-T3-86, I-T3-87, I-T3-88, I-T3-93, I-T3-94, I-T3-95, I-T3-99, I-T3-123, I-T3-124, I-T3-125, I-T3-127, I-T3-128, I-T3-129, I-T3-130, I-T3-131, I-T3-132, I-T3-133, I-T3-136, I-T3-137, I-T3-139, I-T3-140, I-T3-141, I-T3-143, I-T3-144, I-T3-145, I-T3-148, I-T3-149, I-T3-151, I-T3-152, I-T3-153, I-T3-155, I-T3-160, I-T3-161, I-T3-162, I-T3-163, I-T3-164, I-T3-165, I-T3-168, I-T3-169, I-T3-170, I-T3-171, I-T3-172, I-T3-174, I-T3-175, I-T3-176, I-T3-177, I-T3-178, I-T3-179, I-T3-180, I-T3-181, I-T3-182, I-T3-183, I-T3-189, I-T3-190, I-T3-191, I-T3-192, I-T3-195, I-T3-197, I-T3-198, I-T3-220, I-T3-221, I-T3-222, I-T3-223, I-T4-1, I-T4-2, I-T4-3, I-T4-4, I-T22-1, I-T22-2, I-T22-3, I-T22-4, I-T22-5, I-T22-6, I-T22-7, I-T46-2, I-T46-3, I-T46-4, I-T46-5, I-T46-6

In this test, for example, the following compounds from the preparation examples show efficacy of 83% at an application rate of 100 g/ha: I-T3-138

Spodoptera frugiperda – spray test

Solvent: 78.0 parts by weight of acetone and 1.5 parts by weight of dimethylformamide

Emulsifier: alkylaryl polyglycol ether

To produce an appropriate active ingredient formulation, 1 part by weight of active ingredient is dissolved using the specified parts by weight of solvent and made up with water containing an emulsifier concentration of 1000 ppm until the desired concentration is attained. To produce further test concentrations, the preparation is diluted with emulsifier-containing water.

Leaf discs of maize (*Zea mays*) are sprayed with an active ingredient formulation of the desired concentration and, after drying, populated with caterpillars of the armyworm (*Spodoptera frugiperda*).

After 7 days, efficacy in % is determined. 100% means that all the caterpillars have been killed; 0% means that no caterpillars have been killed.

In this test, for example, the following compounds from the preparation examples show efficacy of 100% at an application rate of 500 g/ha: I-T3-7, I-T3-8, I-T3-9, I-T3-10, I-T3-12, I-T3-17, I-T3-18, I-T3-19, I-T3-20, I-T3-21, I-T3-22, I-T3-23, I-T3-24, I-T3-25, I-T3-26, I-T3-29, I-T3-30, I-T3-31, I-T3-34, I-T3-42, I-T3-43, I-T3-44, I-T3-45, I-T3-46, I-T3-47, I-T3-65, I-T3-66, I-T3-67, I-T3-68, I-T3-69, I-T3-70, I-T3-73, I-T3-74, I-T3-75, I-T3-76, I-T3-77, I-T3-78, I-T3-79, I-T3-89, I-T3-90, I-T3-91, I-T3-92, I-T3-96, I-T3-97, I-T3-98, I-T3-100, I-T3-102, I-T3-103, I-T3-104, I-T3-105, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-111, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-116, I-T3-117, I-T3-118, I-T3-119, I-T3-120, I-T3-126, I-T3-184, I-T3-185, I-T3-186, I-T3-187, I-T23-1, I-T23-2

In this test, for example, the following compounds from the preparation examples show efficacy of 83% at an application rate of 500 g/ha: I-T3-101

In this test, for example, the following compounds from the preparation examples show efficacy of 100% at an application rate of 100 g/ha: I-T2-2, I-T3-1, I-T3-2, I-T3-3, I-T3-4, I-T3-27, I-T3-28, I-T3-38, I-T3-39, I-T3-40, I-T3-41, I-T3-48, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-61, I-T3-62, I-T3-63, I-T3-64, I-T3-71, I-T3-72, I-T3-80, I-T3-81, I-T3-82, I-T3-83, I-T3-84, I-T3-85, I-T3-86, I-T3-87, I-T3-88, I-T3-93, I-T3-94, I-T3-95, I-T3-99, I-T3-123, I-T3-124, I-T3-125, I-T3-130, I-T3-131, I-T3-133, I-T3-136, I-T3-137, I-T3-138, I-T3-139, I-T3-140, I-T3-141, I-T3-143, I-T3-145, I-T3-148, I-T3-151, I-T3-152, I-T3-155, I-T3-160, I-T3-161, I-T3-162, I-T3-163, I-T3-164, I-T3-165, I-T3-170, I-T3-174, I-T3-175, I-T3-176, I-T3-189, I-T3-191, I-T3-192, I-T3-197, I-T3-198, I-T4-1, I-T4-2, I-T4-3, I-T4-4, I-T22-1, I-T22-2, I-T22-3, I-T22-5, I-T22-7, I-T46-2, I-T46-3, I-T46-4, I-T46-5, I-T46-6

In this test, for example, the following compounds from the preparation examples show efficacy of 83% at an application rate of 100 g/ha: I-T3-35, I-T3-50, I-T3-169, I-T3-177

Tetranychus urticae – spray test, OP-resistant

Solvent: 78.0 parts by weight of acetone and 1.5 parts by weight of dimethylformamide

Emulsifier: alkylaryl polyglycol ether

To produce an appropriate active ingredient formulation, 1 part by weight of active ingredient is dissolved using the specified parts by weight of solvent and made up with water containing an emulsifier concentration of 1000 ppm until the desired concentration is attained. To produce further test concentrations, the preparation is diluted with emulsifier-containing water.

Discs of bean leaves (*Phaseolus vulgaris*) infested by all stages of the greenhouse red spider mite (*Tetranychus urticae*) are sprayed with an active ingredient formulation of the desired concentration.

After 6 days, efficacy in % is determined. 100% means that all the spider mites have been killed; 0% means that none of the spider mites have been killed.

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 500 g/ha: I-T3-7, I-T3-8, I-T3-9, I-T3-10, I-T3-20, I-T3-21, I-T3-22, I-T3-23, I-T3-24, I-T3-26, I-T3-29, I-T3-30, I-T3-31, I-T3-34, I-T3-42, I-T3-43, I-T3-44, I-T3-45, I-T3-46, I-T3-47, I-T3-69, I-T3-75, I-T3-76, I-T3-77, I-T3-78, I-T3-91, I-T3-92, I-T3-96, I-T3-97, I-T3-98, I-T3-100, I-T3-101, I-T3-103, I-T3-106, I-T3-107, I-T3-108, I-T3-109, I-T3-110, I-T3-112, I-T3-113, I-T3-114, I-T3-115, I-T3-119, I-T3-120, I-T3-184, I-T3-185, I-T3-186, I-T3-187, I-T23-1, I-T23-2

In this test, for example, the following compounds from the preparation examples show an efficacy of 90% at an application rate of 500 g/ha: I-T3-25, I-T3-65, I-T3-70, I-T3-89, I-T3-90, I-T3-102, I-T3-104, I-T3-105, I-T3-116, I-T3-117, I-T3-118

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 100 g/ha: I-T3-1, I-T3-2, I-T3-3, I-T3-4, I-T3-27, I-T3-28, I-T3-38, I-T3-39, I-T3-41, I-T3-51, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-61, I-T3-62, I-T3-63, I-T3-64, I-T3-72, I-T3-73, I-T3-80, I-T3-81, I-T3-82, I-T3-83, I-T3-84, I-T3-85, I-T3-86, I-T3-87, I-T3-88, I-T3-93, I-T3-94, I-T3-95, I-T3-99, I-T3-124, I-T3-125, I-T3-127, I-T3-129, I-T3-130, I-T3-131, I-T3-132, I-T3-133, I-T3-139, I-T3-145, I-T3-146, I-T3-155, I-T3-160, I-T3-161, I-T3-162, I-T3-163, I-T3-164, I-T3-165, I-T3-168, I-T3-169, I-T3-170, I-T3-174, I-T3-175, I-T3-176, I-T3-177, I-T3-178, I-T3-179, I-T3-180, I-T3-181, I-T3-182, I-T3-183, I-T3-189, I-T3-190, I-T3-192, I-T3-197, I-T3-221, I-T3-222, I-T3-223, I-T4-1, I-T4-2, I-T4-3, I-T4-4, I-T22-4, I-T22-5, I-T22-7, I-T46-4, I-T46-5, I-T46-6

In this test, for example, the following compounds from the preparation examples show an efficacy of 90% at an application rate of 100 g/ha: I-T3-50, I-T3-52, I-T3-71, I-T3-74, I-T3-111, I-T3-123, I-T3-137, I-T3-138, I-T3-147, I-T3-148, I-T3-151, I-T3-172, I-T3-195, I-T22-1, I-T22-2, I-T22-3

In this test, for example, the following compounds from the preparation examples show an efficacy of 100% at an application rate of 20 g/ha: I-T3-49

Anopheles test (ANPHGB surface treatment)

Solvent: acetone + 2000 ppm rapeseed oil methyl ester (RME)

To produce an appropriate active ingredient formulation, the active ingredient is dissolved in the solvent (2 mg/ml). The active ingredient formulation is pipetted onto a glazed tile and, after it has dried off, adult mosquitoes of the species Anopheles gambiae strain RSPH (homozygot kdr) are placed onto the treated tile. The exposure time is 30 minutes.

24 hours after contact with the treated surface, mortality in % is determined. 100% means that all mosquitoes have been killed; 0% means that none of the mosquitoes have been killed.

In this test, for example, the following compounds from the preparation examples show efficacy of 90-100% at an application rate of 100 mg/m^2: I-T3-20, I-T3-24, I-T3-27, I-T3-28, I-T3-43, I-T3-52, I-T3-53, I-T3-54, I-T3-56, I-T3-57, I-T3-61, I-T3-100, I-T3-102, I-T3-112, I-T3-123, I-T3-130, I-T3-133, I-T3-134, I-T3-136, I-T3-145, I-T3-148, I-T3-155, I-T3-160, I-T3-162, I-T3-173, I-T3-189, I-T22-1

In this test, for example, the following compounds from the preparation examples show efficacy of 90-100% at an application rate of 20 mg/m^2: I-T3-23, I-T3-24, I-T3-26, I-T3-27, I-T3-28, I-T3-43, I-T3-52, I-T3-53, I-T3-54, I-T3-57, I-T3-58, I-T3-61, I-T3-87, I-T3-91, I-T3-92, I-T3-100, I-T3-102, I-T3-106, I-T3-112, I-T3-116, I-T3-130; I-T3-133, I-T3-134, I-T3-136, I-T3-137, I-T3-145, I-T3-148, I-T3-155, I-T3-159, I-T3-160, I-T3-162, I-T3-189, I-T22-2

Anopheles test (ANPHFU surface treatment)

Solvent: acetone + 2000 ppm rapeseed oil methyl ester (RME)

To produce an appropriate active ingredient formulation, the active ingredient is dissolved in the solvent (2 mg/ml). The active ingredient formulation is pipetted onto a glazed tile and, after it has dried off, adult mosquitoes of the species Anopheles funestus strain FUMOZ-R (Hunt et al., Med Vet Entomol. 2005 Sep; 19(3):271-5) are placed onto the treated tile. The exposure time is 30 minutes.

24 hours after contact with the treated surface, mortality in % is determined. 100% means that all mosquitoes have been killed; 0% means that none of the mosquitoes have been killed.

In this test, for example, the following compounds from the preparation examples show efficacy of 90-100% at an application rate of 100 mg/m^2: I-T3-24, I-T3-25, I-T3-38, I-T3-43, I-T3-46, I-T3-54, I-T3-56, I-T3-58, I-T3-63, I-T3-86, I-T3-92, I-T3-99, I-T3-100, I-T3-102, I-T3-107, I-T3-112, I-T3-113, I-T3-115, I-T3-123, I-T3-133, I-T3-134, I-T3-136, I-T3-145, I-T3-148, I-T3-155, I-T3-159, I-T3-160, I-T3-162, I-T3-189, I-T22-1, I-T22-2

In this test, for example, the following compounds from the preparation examples show efficacy of 90-100% at an application rate of 20 mg/m^2: I-T3-3, I-T3-24, I-T3-25, I-3-26, I-T3-38, I-T3-42, I-T3-43, I-T3-46, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-57, I-T3-61, I-T3-63, I-T3-92, I-T3-93, I-T3-99, I-T3-100, I-T3-102, I-T3-107, I-T3-112, I-T3-113, I-T3-116, I-T3-123, I-T3-134, I-T3-136, I-T3-145, I-T3-148, I-T3-155, I-T3-159, I-T3-160, I-T3-162, I-T3-189, I-T22-1, I-T22-2, I-T23-1, I-T23-2

Aedes test (AEDSAE surface treatment)

Solvent: acetone + 2000 ppm rapeseed oil methyl ester (RME)

To produce an appropriate active ingredient formulation, the active ingredient is dissolved in the solvent (2 mg/ml). The active ingredient formulation is pipetted onto a glazed tile and, after it has dried off, adult mosquitoes of the species Aedes aegypti strain MONHEIM are placed onto the treated tile. The exposure time is 30 minutes.

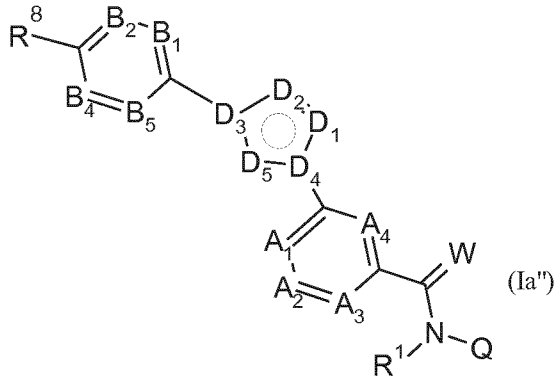
24 hours after contact with the treated surface, mortality in % is determined. 100% means that all mosquitoes have been killed; 0% means that none of the mosquitoes have been killed.

In this test, for example, the following compounds from the preparation examples show efficacy of 90-100% at an application rate of 100 mg/m^2: I-T3-1, I-T3-3, I-T3-8, I-T3-20, I-T3-21, I-T3-23, I-T3-24, I-T3-25, I-T3-27, I-T3-28, I-T3-38, I-T3-42, I-T3-43, I-T3-46, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-61, I-T3-63, I-T3-64, I-T3-86, I-T3-87, I-T3-91, I-T3-92, I-T3-93, I-T3-96, I-T3-98, I-T3-99, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-106, I-T3-107, I-T3-108, I-T3-112, I-T3-113, I-T3-115, I-T3-117, I-T3-118, I-T3-120, I-T3-123, I-T3-130, I-T3-133, I-T3-134, I-T3-136, I-T3-145, I-T3-148, I-T3-155, I-T3-160, I-T3-162, I-T3-163, I-T3-173, I-T3-189, I-T22-1, I-T22-2, I-T23-1, I-T23-2

In this test, for example, the following compounds from the preparation examples show efficacy of 90-100% at an application rate of 20 mg/m^2: I-T3-1, I-T3-3, I-T3-8, I-T3-20, I-T3-21, I-T3-23, I-T3-24, I-T3-25, I-T3-27, I-T3-28, I-T3-38, I-T3-42, I-T3-43, I-T3-46, I-T3-52, I-T3-53, I-T3-54, I-T3-55, I-T3-56, I-T3-57, I-T3-58, I-T3-61, I-T3-63, I-T3-64, I-T3-86, I-T3-87, I-T3-91, I-T3-92, I-T-93, I-T3-95, I-T3-96, I-T3-98, I-T3-99, I-T3-100, I-T3-101, I-T3-102, I-T3-103, I-T3-106, I-T3-107, I-T3-108, I-T3-112, I-T3-113, I-T3-115, I-T3-116, I-T3-117, I-T3-118, I-T3-123, I-T3-130, I-T3-133, I-T3-134, I-T3-136, I-T3-145, I-T3-148, I-T3-155, I-T3-159, I-T3-160, I-T3-162, I-T3-163, I-T3-173, I-T3-189, I-T22-1, I-T22-2, I-T23-1, I-T23-2

Claims:

1. Combination of Compounds of the formula (Ia")



(Ia")

where

D_1 is C-R^{11} or a heteroatom selected from N and O;

D_2 is C-R^{11} or a heteroatom selected from N and O;

D_3 is C or N;

D_4 is C or N;

D_5 is C-R^{11} or N;

where not more than one (1) or two moieties selected from D_1, D_2, D_3, D_4 and D_5 are a heteroatom;

 is an aromatic system; and

R^1 is H, in each case optionally substituted C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_7-cycloalkyl, C_1-C_6-alkylcarbonyl, C_1-C_6-alkoxycarbonyl, aryl(C_1-C_3)-alkyl, or heteroaryl(C_1-C_3)-alkyl;

the following moieties are as follows:

A_1 is CR^2 or N,

A_2 is CR^3 or N,

A_3 is CR^4 or N,

A_4 is CR^5 or N,

B_1 is CR^6 or N,

B_2 is CR^7 or N,

B_4 is CR^9 or N, and

B_5 is CR^{10} or N,

but not more than three of the A_1 to A_4 moieties are N and not more than three of the B_1 to B_5 moieties are simultaneously N;

R^2, R^3, R^4, R^5, R^6, R^7, R^9 and R^{10} are each independently H, halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino, *N,N*-di-C_1-C_6-alkylamino or *N*-C_1-C_3-alkoxy-C_1-C_4-alkylamino or 1-pyrrolidinyl;

if neither of the A_2 and A_3 moieties is N, R^3 and R^4 together with the carbon atom to which they are bonded may form a 5- or 6-membered ring containing 0, 1 or 2 nitrogen atoms and/or 0 or 1 oxygen atom and/or 0 or 1 sulphur atom, or

if neither of the A_1 and A_2 moieties is N, R^2 and R^3 together with the carbon atom to which they are bonded may form a 6-membered ring containing 0, 1 or 2 nitrogen atoms;

R^8 is halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, *N*-C_1-C_6-alkylamino or *N,N*-di-C_1-C_6-alkylamino;

R^{11} is independently H, halogen, cyano, nitro, amino or an optionally substituted C_1-C_6-alkyl, C_1-C_6-alkyloxy, C_1-C_6-alkylcarbonyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, preferably H;

W is O or S;

Q is H, formyl, hydroxyl, amino or in each case optionally substituted C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_6-cycloalkyl, C_1-C_5-heterocycloalkyl, C_1-C_4-alkoxy, C_1-C_6-alkyl-C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-C_1-C_6-alkyl, C_6-,C_{10}-C_{14}-aryl, C_1-C_5-heteroaryl, C_6-,C_{10}-,C_{14}-aryl-(C_1-C_3)-alkyl, C_1-C_5-heteroaryl-(C_1-C_3)-alkyl, *N*-C_1-C_4-alkylamino, *N*-C_1-C_4-alkylcarbonylamino, or *N,N*-di-C_1-C_4-alkylamino; or

is an optionally poly-V-substituted unsaturated 6-membered carbocycle; or

is an optionally poly-V-substituted unsaturated 4-, 5- or 6-membered heterocyclic ring, where

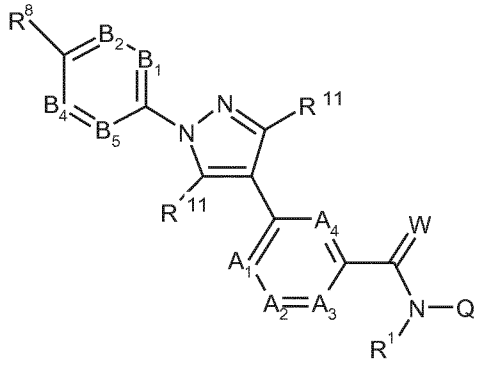
V is independently halogen, cyano, nitro, in each case optionally substituted C_1-C_6-alkyl, C_1-C_4-alkenyl, C_1-C_4-alkynyl, C_3-C_6-cycloalkyl, C_1-C_6-alkoxy, *N*-C_1-C_6-alkoxyimino-

C_1-C_3-alkyl, C_1-C_6-alkylsulphanyl, C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, or *N,N*-di-(C_1-C_6-alkyl)amino;

and salts, N-oxides and tautomeric forms of the compounds of the formula (Ia"),

with ectoparasiciticides, anthelmintics or anti-protozoal agents.

2. Combinations according to Claim 1, wherein the compounds of the formula (Ia") are compounds of the formula (I-T3)

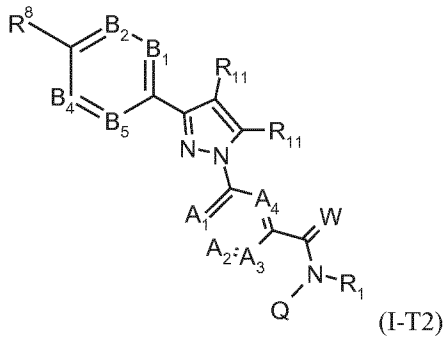


(I-T3)

where

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each as defined in Claim 1, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4, and B_5 is N.

3. Combinations according to Claim 1, wherein the compounds of the formula (Ia") are compounds of the formula (I-T2)

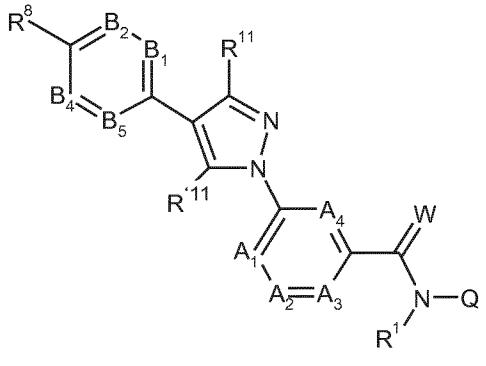


(I-T2)

where

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each as defined in Claim 1, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4, and B_5 is N.

4. Combinations according to Claim 1, wherein the compounds of the formula (Ia") are compounds of the formula (I-T4)

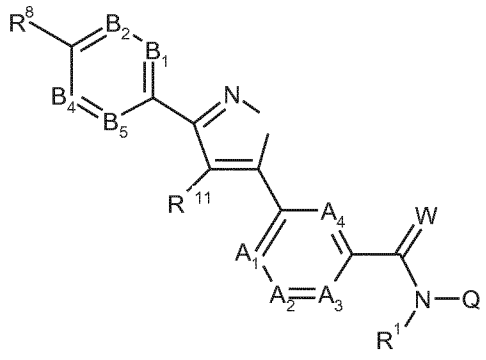


(I-T4)

where

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each as defined in Claim 1, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4, and B_5 is N.

5. Combinations according to Claim 1, wherein the compounds of the formula (Ia") are compounds of the formula (I-T22)

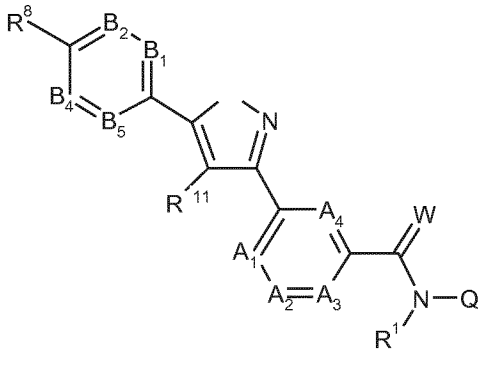


(T-22)

where

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each as defined in Claim 1, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4, and B_5 is N.

6. Combinations according to Claim 1, wherein the compounds of the formula (Ia") are compounds of the formula (I-T23)

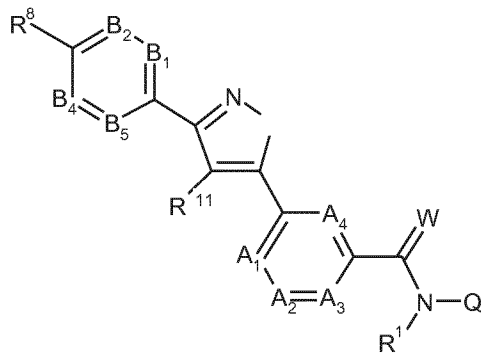


(I-T23)

where

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each as defined in Claim 1, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4, and B_5 is N.

7. Combinations according to Claim 1, wherein the compounds of the formula (Ia'') are compounds of the formula (I-T46)



(I-T46)

where

R^1, A_1, A_2, A_3, A_4, R^{11}, B_1, B_2, B_4, B_5, R^8, Q and W are each as defined in Claim 1, where not more than one moiety selected from A_1, A_2, A_3, A_4 is N and not more than one moiety selected from B_1, B_2, B_3, B_4, and B_5 is N.

8. Combinations according to any of Claims 1 to 7, wherein R^{11} is independently H and W is O.

9. Combinations according to any of Claims 1 to 8, wherein R^{11} is independently H and W is O and B_3 is C-R^8, R^8 is halogen-substituted C_1-C_3-alkyl or halogen-substituted C_1-C_3-alkoxy.

10. Combinations according to any of Claims 1 to 9, wherein the A_1 to A_4 and B_1 to B_5 moieties are as follows:

A_1	is C-H,
A_2	is CR^3 or N,
A_3	is CR^4,
A_4	is C-H,
B_1	is CR^6 or N,
B_2	is C-H,
B_3	is CR^8,
B_4	is C-H and
B_5	is CR^{10} or N.

11. Combinations according to any of Claims 1 to 10, wherein R^1 is H.

12. Combinations according to any of Claims 1 to 11, wherein Q is C_1-C_3-alkyl, cyclopropyl, 1-(cyano)cyclopropyl, 1-(perfluorinated C_1-C_3-alkyl)cyclopropyl, 1-(C_1-C_4-alkyl)cyclopropyl, 1-(thiocarbamoyl)cyclopropyl, halogen-substituted C_1-C_3-alkyl, thietan-3-yl, N-methylpyrazol-3-yl or 2-oxo-2(2,2,2-trifluoroethylamino)ethyl.

13. Combinations according to any of Claims 1 to 12, wherein R^8 is fluorine-substituted C_1-C_4-alkoxy or fluorine-substituted C_1-C_4-alkyl.

14. Use of combinations according to any of Claims 1 to 13 for preparing pharmaceutical compositions for controlling parasites on animals.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2016/059337

A. CLASSIFICATION OF SUBJECT MATTER
INV. A01N43/40 A01N43/56 A01N43/80 A01P7/00
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	CA 2 929 393 A1 (BAYER CROPSCIENCE AG) 14 May 2015 (2015-05-14) pages 205-232; claims 1-14 pages 101-105 -----	1-14

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 July 2016	02/08/2016

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2016/059337

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