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(54) Titre : INHIBITEURS D'HISTONE DEACETYLASE
(54) Title: INHIBITORS OF HISTONE DEACETYLASE

(57) Abrégé/Abstract:
The invention relates to the inhibition of histone deacetylase. The invention provides compounds and methods for inhibiting histone deacetylase enzymatic activity. The invention also provides compositions and methods for treating cell proliferative diseases and conditions.

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(54) Title: INHIBITORS OF HISTONE DEACETYLASE

(57) Abstract: The invention relates to the inhibition of histone deacetylase. The invention provides compounds and methods for inhibiting histone deacetylase enzymatic activity. The invention also provides compositions and methods for treating cell proliferative diseases and conditions.

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JUMBO APPLICATIONS / PATENTS

THIS SECTION OF THE APPLICATION / PATENT CONTAINS MORE THAN ONE VOLUME.

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INHIBITORS OF HISTONE DEACETYLASE

This application claims priority from U.S. Provisional Patent Application No. 60/505884, filed on September 24, 2003, U.S. Provisional Patent Application No. 60/532973, filed on December 29, 2003, and U.S. Provisional Patent Application No. 60/561082, filed on April 9, 2004

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] This invention relates to the inhibition of histone deacetylase. More particularly, the invention relates to compounds and methods for inhibiting histone deacetylase enzymatic activity.

Summary of the Related Art

[0002] In eukaryotic cells, nuclear DNA associates with histones to form a compact complex called chromatin. The histones constitute a family of basic proteins which are generally highly conserved across eukaryotic species. The core histones, termed H2A, H2B, H3, and H4, associate to form a protein core. DNA winds around this protein core, with the basic amino acids of the histones interacting with the negatively charged phosphate groups of the DNA. Approximately 146 base pairs of DNA wrap around a histone core to make up a nucleosome particle, the repeating structural motif of chromatin.

[0003] Csordas, *Biochem. J.*, **286**: 23-38 (1990) teaches that histones are subject to posttranslational acetylation of the α,ε-amino groups of *N*-terminal lysine residues, a reaction that is catalyzed by histone acetyl transferase (HAT1). Acetylation neutralizes the positive charge of the lysine side chain, and is thought to impact chromatin structure. Indeed, Taunton *et al.*, *Science*, **272**: 408-411 (1996), teaches that access of transcription factors to chromatin templates is enhanced by histone hyperacetylation. Taunton *et al.* further teaches that an enrichment in underacetylated histone H4 has been found in transcriptionally silent regions of the genome.

[0004] Histone acetylation is a reversible modification, with deacetylation being catalyzed by a family of enzymes termed histone deacetylases (HDACs). Grozinger *et al.*, *Proc. Natl. Acad. Sci. USA*, **96**: 4868-4873 (1999), teaches that HDACs are divided into two classes, the first represented by yeast Rpd3-like proteins, and the second represented by yeast Hda1-like proteins. Grozinger *et al.* also teaches that the human HDAC1, HDAC2, and HDAC3 proteins are members of the first class of HDACs, and discloses new proteins, named HDAC4, HDAC5, and HDAC6, which are members of the second class of HDACs. Kao *et al.*, *Genes & Dev.*, **14**: 55-66 (2000), discloses HDAC7, a new

member of the second class of HDACs. More recently, Hu *et al.* J. Bio. Chem. **275**:15254-13264 (2000) and Van den Wyngaert, *FEBS*, **478**: 77-83 (2000) disclose HDAC8, a new member of the first class of HDACs.

[0005] Richon *et al.*, *Proc. Natl. Acad. Sci. USA*, **95**: 3003-3007 (1998), discloses that HDAC activity is inhibited by trichostatin A (TSA), a natural product isolated from *Streptomyces hygroscopicus*, and by a synthetic compound, suberoylanilide hydroxamic acid (SAHA). Yoshida and Beppu, *Exper. Cell Res.*, **177**: 122-131 (1988), teaches that TSA causes arrest of rat fibroblasts at the G_1 and G_2 phases of the cell cycle, implicating HDAC in cell cycle regulation. Indeed, Finnin *et al.*, *Nature*, **401**: 188-193 (1999), teaches that TSA and SAHA inhibit cell growth, induce terminal differentiation, and prevent the formation of tumors in mice. Suzuki *et al.*, U.S. Pat. No. 6,174,905, EP 0847992, JP 258863/96, and Japanese Application No. 10138957, disclose benzamide derivatives that induce cell differentiation and inhibit HDAC. Delorme *et al.*, WO 01/38322 and PCT/IB01/00683, disclose additional compounds that serve as HDAC inhibitors.

[0006] The molecular cloning of gene sequences encoding proteins with HDAC activity has established the existence of a set of discrete HDAC enzyme isoforms. Some isoforms have been shown to possess specific functions, for example, it has been shown that HDAC-6 is involved in modulation of microtubule activity. However, the role of the other individual HDAC enzymes has remained unclear.

[0007] These findings suggest that inhibition of HDAC activity represents a novel approach for intervening in cell cycle regulation and that HDAC inhibitors have great therapeutic potential in the treatment of cell proliferative diseases or conditions. To date, few inhibitors of histone deacetylase are known in the art.

BRIEF SUMMARY OF THE INVENTION

[0008] Ortho-amino benzamides are known HDAC inhibitors. Substitutions at the ortho- and meta-positions relative to the amino group are detrimental to the potency of the inhibitors; however, some small substituents such as $-CH_3$, -F, or $-OCH_3$ can be tolerated to a certain extent. We have now found that *o*-amino benzamide HDAC inhibitors having a much bigger but flat aromatic and heteroaromatic substituents such as phenyl, furyl, thienyl and the like para to the amino moiety are not only well tolerated but cause significant increase in HDAC inhibition activity.

[0009] Accordingly, the present invention provides new compounds and methods for treating cell proliferative diseases. The invention provides new inhibitors of histone deacetylase enzymatic activity.

[0010] In a first aspect, the invention provides compounds that are useful as inhibitors of histone deacetylase.

[0011] In a second aspect, the invention provides a composition comprising an inhibitor of histone deacetylase according to the invention or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier, excipient, or diluent.

[0012] In a third aspect, the invention provides a method of inhibiting histone deacetylase in a cell, comprising contacting a cell in which inhibition of histone deacetylase is desired with an inhibitor of histone deacetylase of the invention.

[0013] The foregoing merely summarizes certain aspects of the invention and is not intended to be limiting in nature. These aspects and other aspects and embodiments are described more fully below. All publications (patent or other) are hereby incorporated by reference in their entirety; in the event of any conflict between these materials and the present specification, the present specification shall control.

BRIEF DESCRIPTION OF THE DRAWING

[0014] The figures displays antineoplastic effects of a histone deacetylase inhibitor according to the invention on human tumor xenografts *in vivo*, as described in Assay Example 2, *infra*.

Fig. 1 displays antineoplastic effects of a histone deacetylase inhibitor in hct116 human colorectal carcinoma cells using compound 6.

Fig. 2 displays antineoplastic effects of a histone deacetylase inhibitor in A549 human lung cancer using compound 29.

Fig. 3 displays antineoplastic effects of a histone deacetylase inhibitor in SW48 human colorectal cancer using compound 29.

Fig. 4 displays antineoplastic effects of a histone deacetylase inhibitor in W48 human colorectal cancer usingcompound 67.

Fig. 5 displays antineoplastic effects of a histone deacetylase inhibitor in A549 human lung cancer using compound 258aa.

Fig. 6 displays antineoplastic effects of a histone deacetylase inhibitor in A549 human lung cancer using compound 43.

Fig. 7 displays antineoplastic effects of a histone deacetylase inhibitor in A431 vulval carcinoma using compound 43.

Fig. 8 displays antineoplastic effects of a histone deacetylase inhibitor in A431 vulval carcinoma using compound 258aa.

Fig. 9 displays antineoplastic effects of a histone deacetylase inhibitor in hct116 human colorectal cancer using compound 258aa.

Fig. 10 displays antineoplastic effects of a histone deacetylase inhibitor in colo205 human colorectal cancer using compound 29.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0015] The invention provides compounds and methods for inhibiting histone deacetylase enzymatic activity. The invention also provides compositions and methods for treating cell proliferative diseases and conditions. The patent and scientific literature referred to herein establishes knowledge that is available to those with skill in the art. The issued patents, applications, and references that are cited herein are hereby incorporated by reference to the same extent as if each was specifically and individually indicated to be incorporated by reference. In the case of inconsistencies, the present disclosure will prevail.

[0016] For purposes of the present invention, the following definitions will be used (unless expressly stated otherwise):

[0017] As used herein, the terms "histone deacetylase" and "HDAC" are intended to refer to any one of a family of enzymes that remove acetyl groups from the ω-amino groups of lysine residues at the *N*-terminus of a histone. Unless otherwise indicated by context, the term "histone" is meant to refer to any histone protein, including H1, H2A, H2B, H3, H4, and H5, from any species. Preferred histone deacetylases include class I and class II enzymes. Preferably the histone deacetylase is a human HDAC, including, but not limited to, HDAC-1, HDAC-2, HDAC-3, HDAC-4, HDAC-5, HDAC-6, HDAC-7, HDAC-8, HDAC-9, HDAC-10, and HDAC-11. In some other preferred embodiments, the histone deacetylase is derived from a protozoal or fungal source.

[0018] The terms "histone deacetylase inhibitor" and "inhibitor of histone deacetylase" are used to identify a compound having a structure as defined herein, which is capable of interacting with a histone deacetylase and inhibiting its enzymatic activity. "Inhibiting histone deacetylase enzymatic activity" means reducing the ability of a histone deacetylase to remove an acetyl group from a histone. In some preferred embodiments, such reduction of histone deacetylase activity is at least

about 50%, more preferably at least about 75%, and still more preferably at least about 90%. In other preferred embodiments, histone deacetylase activity is reduced by at least 95% and more preferably by at least 99%.

[0019] Preferably, such inhibition is specific, i.e., the histone deacetylase inhibitor reduces the ability of a histone deacetylase to remove an acetyl group from a histone at a concentration that is lower than the concentration of the inhibitor that is required to produce another, unrelated biological effect. Preferably, the concentration of the inhibitor required for histone deacetylase inhibitory activity is at least 2-fold lower, more preferably at least 5-fold lower, even more preferably at least 10-fold lower, and most preferably at least 20-fold lower than the concentration required to produce an unrelated biological effect.

[0020] For simplicity, chemical moieties are defined and referred to throughout primarily as univalent chemical moieties (*e.g.*, alkyl, aryl, etc.). Nevertheless, such terms are also used to convey corresponding multivalent moieties under the appropriate structural circumstances clear to those skilled in the art. For example, while an "alkyl" moiety generally refers to a monovalent radical (*e.g.* CH_3-CH_2-), in certain circumstances a bivalent linking moiety can be "alkyl," in which case those skilled in the art will understand the alkyl to be a divalent radical (*e.g.*, -CH_2-CH_2-), which is equivalent to the term "alkylene." (Similarly, in circumstances in which a divalent moiety is required and is stated as being "aryl," those skilled in the art will understand that the term "aryl" refers to the corresponding divalent moiety, arylene.) All atoms are understood to have their normal number of valences for bond formation (*i.e.*, 4 for carbon, 3 for N, 2 for O, and 2, 4, or 6 for S, depending on the oxidation state of the S). On occasion a moiety may be defined, for example, as $(A)_a$-B-, wherein a is 0 or 1. In such instances, when a is 0 the moiety is B- and when a is 1 the moiety is A-B-.

[0021] For simplicity, reference to a "C_n-C_m" heterocyclyl or "C_n-C_m" heteroaryl means a heterocyclyl or heteroaryl having from "n" to "m" annular atoms, where "n" and "m" are integers. Thus, for example, a C_5-C_6-heterocyclyl is a 5- or 6- membered ring having at least one heteroatom, and includes pyrrolidinyl (C_5) and piperidinyl (C_6); C_6-hetoaryl includes, for example, pyridyl and pyrimidyl.

[0022] The term "hydrocarbyl" refers to a straight, branched, or cyclic alkyl, alkenyl, or alkynyl, each as defined herein. A "C_0" hydrocarbyl is used to refer to a covalent bond. Thus, "C_0-C_3-hydrocarbyl" includes a covalent bond, methyl, ethyl, ethenyl, ethynyl, propyl, propenyl, propynyl, and cyclopropyl.

[0023] The term "alkyl" as employed herein refers to straight and branched chain aliphatic groups having from 1 to 12 carbon atoms, preferably 1-8 carbon atoms, and more preferably 1-6 carbon atoms, which is optionally substituted with one, two or three substituents. Preferred alkyl groups include, without limitation, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, sec-butyl, tert-butyl, pentyl, and hexyl. A "C_0" alkyl (as in "C_0-C_3-alkyl") is a covalent bond (like "C_0" hydrocarbyl).

[0024] The term "alkenyl" as used herein means an unsaturated straight or branched chain aliphatic group with one or more carbon-carbon double bonds, having from 2 to 12 carbon atoms, preferably 2-8 carbon atoms, and more preferably 2-6 carbon atoms, which is optionally substituted with one, two or three substituents. Preferred alkenyl groups include, without limitation, ethenyl, propenyl, butenyl, pentenyl, and hexenyl.

[0025] The term "alkynyl" as used herein means an unsaturated straight or branched chain aliphatic group with one or more carbon-carbon triple bonds, having from 2 to 12 carbon atoms, preferably 2-8 carbon atoms, and more preferably 2-6 carbon atoms, which is optionally substituted with one, two or three substituents. Preferred alkynyl groups include, without limitation, ethynyl, propynyl, butynyl, pentynyl, and hexynyl.

[0026] An "alkylene," "alkenylene," or "alkynylene" group is an alkyl, alkenyl, or alkynyl group, as defined hereinabove, that is positioned between and serves to connect two other chemical groups. Preferred alkylene groups include, without limitation, methylene, ethylene, propylene, and butylene. Preferred alkenylene groups include, without limitation, ethenylene, propenylene, and butenylene. Preferred alkynylene groups include, without limitation, ethynylene, propynylene, and butynylene.

[0027] The term "cycloalkyl" as employed herein includes saturated and partially unsaturated cyclic hydrocarbon groups having 3 to 12 carbons, preferably 3 to 8 carbons, and more preferably 3 to 6 carbons, wherein the cycloalkyl group additionally is optionally substituted. Preferred cycloalkyl groups include, without limitation, cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, cycloheptyl, and cyclooctyl.

[0028] The term "heteroalkyl" refers to an alkyl group, as defined hereinabove, wherein one or more carbon atoms in the chain are replaced by a heteroatom selected from the group consisting of O, S, and N.

[0029] An "aryl" group is a C_6-C_{14} aromatic moiety comprising one to three aromatic rings, which is optionally substituted. Preferably, the aryl group is a C_6-C_{10} aryl group. Preferred aryl groups include, without limitation, phenyl, naphthyl, anthracenyl, and fluorenyl. An "aralkyl" or "arylalkyl" group

comprises an aryl group covalently linked to an alkyl group, either of which may independently be optionally substituted or unsubstituted. Preferably, the aralkyl group is $(C_1\text{-}C_6)$alk$(C_6\text{-}C_{10})$aryl, including, without limitation, benzyl, phenethyl, and naphthylmethyl.

[0030] A "heterocyclic" group (or "heterocyclyl) is an optionally substituted non-aromatic mono-, bi-, or tricyclic structure having from about 3 to about 14 atoms, wherein one or more atoms are selected from the group consisting of N, O, and S. One ring of a bicyclic heterocycle or two rings of a tricyclic heterocycle may be aromatic, as in indan and 9,10-dihydro anthracene. The heterocyclic group is optionally substituted on carbon with oxo or with one of the substituents listed above. The heterocyclic group may also independently be substituted on nitrogen with alkyl, aryl, aralkyl, alkylcarbonyl, alkylsulfonyl, arylcarbonyl, arylsulfonyl, alkoxycarbonyl, aralkoxycarbonyl, or on sulfur with oxo or lower alkyl. Preferred heterocyclic groups include, without limitation, epoxy, aziridinyl, tetrahydrofuranyl, pyrrolidinyl, piperidinyl, piperazinyl, thiazolidinyl, oxazolidinyl, oxazolidinonyl, and morpholino. In certain preferred embodiments, the heterocyclic group is fused to an aryl, heteroaryl, or cycloalkyl group. Examples of such fused heterocycles include, without limitation, tetrahydroquinoline and dihydrobenzofuran. Specifically excluded from the scope of this term are compounds where an annular O or S atom is adjacent to another O or S atom.

[0031] In certain preferred embodiments, the heterocyclic group is a heteroaryl group. As used herein, the term "heteroaryl" refers to optionally substituted groups having 5 to 14 ring atoms, preferably 5, 6, 9, or 10 ring atoms; having 6, 10, or 14 pi electrons shared in a cyclic array; and having, in addition to carbon atoms, between one or more heteroatoms selected from the group consisting of N, O, and S. For example, a heteroaryl group may be pyrimidinyl, pyridinyl, benzimidazolyl, thienyl, benzothiazolyl, benzofuranyl and indolinyl. Preferred heteroaryl groups include, without limitation, thienyl, benzothienyl, furyl, benzofuryl, dibenzofuryl, pyrrolyl, imidazolyl, pyrazolyl, pyridyl, pyrazinyl, pyrimidinyl, indolyl, quinolyl, isoquinolyl, quinoxalinyl, tetrazolyl, oxazolyl, thiazolyl, and isoxazolyl.

[0032] A "heteroaralkyl" or "heteroarylalkyl" group comprises a heteroaryl group covalently linked to an alkyl group, either of which is independently optionally substituted or unsubstituted. Preferred heteroalkyl groups comprise a $C_1\text{-}C_6$ alkyl group and a heteroaryl group having 5, 6, 9, or 10 ring atoms. Specifically excluded from the scope of this term are compounds having adjacent annular O and/or S atoms. Examples of preferred heteroaralkyl groups include pyridylmethyl, pyridylethyl, pyrrolylmethyl, pyrrolylethyl, imidazolylmethyl, imidazolylethyl, thiazolylmethyl, and thiazolylethyl.

[0033] An "arylene," "heteroarylene," or "heterocyclylene" group is an aryl, heteroaryl, or heterocyclyl group, as defined hereinabove, that is positioned between and serves to connect two other chemical groups.

[0034] Preferred heterocyclyls and heteroaryls include, but are not limited to, acridinyl, azocinyl, benzimidazolyl, benzofuranyl, benzothiofuranyl, benzothiophenyl, benzoxazolyl, benzthiazolyl, benztriazolyl, benztetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazolinyl, carbazolyl, 4aH-carbazolyl, carbolinyl, chromanyl, chromenyl, cinnolinyl, decahydroquinolinyl, 2H,6H-1,5,2-dithiazinyl, dihydrofuro[2,3-b]tetrahydrofuran, furanyl, furazanyl, imidazolidinyl, imidazolinyl, imidazolyl, 1H-indazolyl, indolenyl, indolinyl, indolizinyl, indolyl, 3H-indolyl, isobenzofuranyl, isochromanyl, isoindazolyl, isoindolinyl, isoindolyl, isoquinolinyl, isothiazolyl, isoxazolyl, methylenedioxyphenyl, morpholinyl, naphthyridinyl, octahydroisoquinolinyl, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidinyl, oxazolyl, oxazolidinyl, pyrimidinyl, phenanthridinyl, phenanthrolinyl, phenazinyl, phenothiazinyl, phenoxathiinyl, phenoxazinyl, phthalazinyl, piperazinyl, piperidinyl, piperidonyl, 4-piperidonyl, piperonyl, pteridinyl, purinyl, pyranyl, pyrazinyl, pyrazolidinyl, pyrazolinyl, pyrazolyl, pyridazinyl, pyridooxazole, pyridoimidazole, pyridothiazole, pyridinyl, pyridyl, pyrimidinyl, pyrrolidinyl, pyrrolinyl, 2H-pyrrolyl, pyrrolyl, quinazolinyl, quinolinyl, 4H-quinolizinyl, quinoxalinyl, quinuclidinyl, tetrahydrofuranyl, tetrahydroisoquinolinyl, tetrahydroquinolinyl, tetrazolyl, 6H-1,2,5-thiadiazinyl, 1,2,3-thiadiazolyl, 1,2,4-thiadiazolyl, 1,2,5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthrenyl, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiophenyl, triazinyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl, and xanthenyl.

[0035] As employed herein, when a moiety (*e.g.*, cycloalkyl, hydrocarbyl, aryl, heteroaryl, heterocyclic, urea, etc.) is described as "optionally substituted" it is meant that the group optionally has from one to four, preferably from one to three, more preferably one or two, non-hydrogen substituents. Suitable substituents include, without limitation, halo, hydroxy, oxo (*e.g.*, an annular -CH- substituted with oxo is -C(O)-) nitro, halohydrocarbyl, hydrocarbyl, aryl, aralkyl, alkoxy, aryloxy, amino, acylamino, alkylcarbamoyl, arylcarbamoyl, aminoalkyl, acyl, carboxy, hydroxyalkyl, alkanesulfonyl, arenesulfonyl, alkanesulfonamido, arenesulfonamido, aralkylsulfonamido, alkylcarbonyl, acyloxy, cyano, and ureido groups. Preferred substituents, which are themselves not further substituted (unless expressly stated otherwise) are:

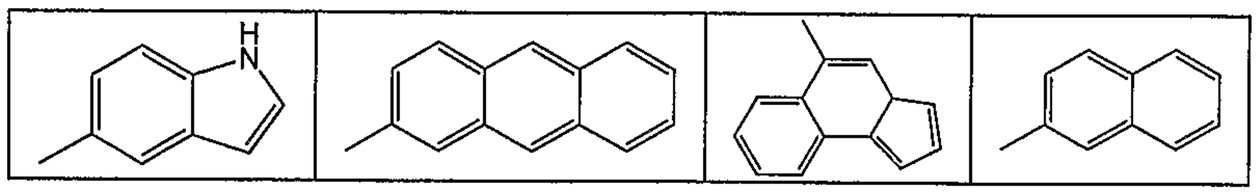
(a) halo, cyano, oxo, carboxy, formyl, nitro, amino, amidino, guanidino,

(b) C_1-C_5 alkyl or alkenyl or arylalkyl imino, carbamoyl, azido, carboxamido, mercapto, hydroxy, hydroxyalkyl, alkylaryl, arylalkyl, C_1-C_8 alkyl, C_1-C_8 alkenyl, C_1-C_8 alkoxy, C_1-C_8 alkoxycarbonyl, aryloxycarbonyl, C_2-C_8 acyl, C_2-C_8 acylamino, C_1-C_8 alkylthio, arylalkylthio, arylthio, C_1-C_8 alkylsulfinyl, arylalkylsulfinyl, arylsulfinyl, C_1-C_8 alkylsulfonyl, arylalkylsulfonyl, arylsulfonyl, C_0-C_6 *N*-alkyl carbamoyl, C_2-C_{15} *N*,*N*-dialkylcarbamoyl, C_3-C_7 cycloalkyl, aroyl, aryloxy, arylalkyl ether, aryl, aryl fused to a cycloalkyl or heterocycle or another aryl ring, C_3-C_7 heterocycle, C_5-C_{15} heteroaryl or any of these rings fused or spiro-fused to a cycloalkyl, heterocyclyl, or aryl, wherein each of the foregoing is further optionally substituted with one more moieties listed in (a), above; and

(c) $-(CH_2)_s-NR^{30}R^{31}$, wherein s is from 0 (in which case the nitrogen is directly bonded to the moiety that is substituted) to 6, and R^{30} and R^{31} are each independently hydrogen, cyano, oxo, carboxamido, amidino, C_1-C_8 hydroxyalkyl, C_1-C_3 alkylaryl, aryl-C_1-C_3 alkyl, C_1-C_8 alkyl, C_1-C_8 alkenyl, C_1-C_8 alkoxy, C_1-C_8 alkoxycarbonyl, aryloxycarbonyl, aryl-C_1-C_3 alkoxycarbonyl, C_2-C_8 acyl, C_1-C_8 alkylsulfonyl, arylalkylsulfonyl, arylsulfonyl, aroyl, aryl, cycloalkyl, heterocyclyl, or heteroaryl, wherein each of the foregoing is further optionally substituted with one more moieties listed in (a), above; or

R^{30} and R^{31} taken together with the N to which they are attached form a heterocyclyl or heteroaryl, each of which is optionally substituted with from 1 to 3 substituents from (a), above.

[0036] In addition, substituents on cyclic moieties (i.e., cycloalkyl, heterocyclyl, aryl, heteroaryl) include 5-6 membered mono- and 9-14 membered bi-cyclic moieties fused to the parent cyclic moiety to form a bi- or tri-cyclic fused ring system. For example, an optionally substituted phenyl includes, but not limited to, the following:



[0037] A "halohydrocarbyl" is a hydrocarbyl moiety in which from one to all hydrogens have been replaced with one or more halo.

[0038] The term "halogen" or "halo" as employed herein refers to chlorine, bromine, fluorine, or iodine. As herein employed, the term "acyl" refers to an alkylcarbonyl or arylcarbonyl substituent. The term "acylamino" refers to an amide group attached at the nitrogen atom (*i.e.*, R-CO-NH-). The term

"carbamoyl" refers to an amide group attached at the carbonyl carbon atom (*i.e.*, NH_2-CO-). The nitrogen atom of an acylamino or carbamoyl substituent is additionally substituted. The term "sulfonamido" refers to a sulfonamide substituent attached by either the sulfur or the nitrogen atom. The term "amino" is meant to include NH_2, alkylamino, arylamino, and cyclic amino groups. The term "ureido" as employed herein refers to a substituted or unsubstituted urea moiety.

[0039] The term "radical" as used herein means a chemical moiety comprising one or more unpaired electrons.

[0040] A moiety that is substituted is one in which one or more hydrogens have been independently replaced with another chemical substituent. As a non-limiting example, substituted phenyls include 2-flurophenyl, 3,4-dichlorophenyl, 3-chloro-4-fluoro-phenyl, 2-fluoro-3-propylphenyl. As another non-limiting example, substituted *N*-octyls include 2,4 dimethyl-5-ethyl-octyl and 3-cyclopentyl-octyl. Included within this definition are methylenes (-CH_2-) substituted with oxygen to form carbonyl -CO-).

[0041] An "unsubstituted" moiety as defined above (*e.g.*, unsubstituted cycloalkyl, unsubstituted heteroaryl, etc.) means that moiety as defined above that does not have any of the optional substituents for which the definition of the moiety (above) otherwise provides. Thus, for example, while an "aryl" includes phenyl and phenyl substituted with a halo, "unsubstituted aryl" does not include phenyl substituted with a halo.

[0042] Throughout the specification preferred embodiments of one or more chemical substituents are identified. Also preferred are combinations of preferred embodiments. For example, paragraph [0055] describes preferred embodiments of Cy^2 in the compound of formula (1) and paragraph [0071] describes preferred embodiments of R^2 to R^4 of the compound of formula (1). Thus, also contemplated as within the scope of the invention are compounds of formula (1) in which Cy^2 is as described in paragraph [0055] and Ay^2 and R^1 to R^4 are as described in paragraph [0071].

[0043] Some compounds of the invention may have chiral centers and/or geometric isomeric centers (E- and Z- isomers), and it is to be understood that the invention encompasses all such optical, diastereoisomers and geometric isomers. The invention also comprises all tautomeric forms of the compounds disclosed herein.

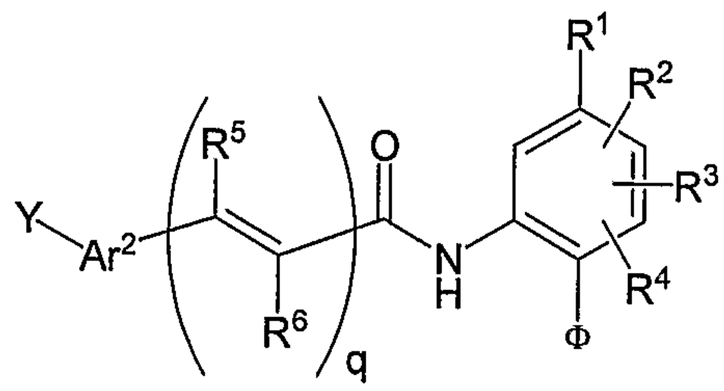
[0044] The compounds of the invention may be administered in the form of an *in vivo* hydrolyzable ester or *in vivo* hydrolyzable amide. An *in vivo* hydrolyzable ester of a compound of the invention containing carboxy or hydroxy group is, for example, a pharmaceutically acceptable ester

which is hydrolyzed in the human or animal body to produce the parent acid or alcohol. Suitable pharmaceutically acceptable esters for carboxy include C_{1-6}-alkoxymethyl esters (*e.g.*, methoxymethyl), C_{1-6}-alkanoyloxymethyl esters (*e.g.*, for example pivaloyloxymethyl), phthalidyl esters, C_{3-8}-cycloalkoxycarbonyloxyC_{1-6}-alkyl esters (*e.g.*, 1-cyclohexylcarbonyloxyethyl); 1,3-dioxolen-2-onylmethyl esters (*e.g.*, 5-methyl-1,3-dioxolen-2-onylmethyl; and C_{1-6}-alkoxycarbonyloxyethyl esters (*e.g.*, 1-methoxycarbonyloxyethyl) and may be formed at any carboxy group in the compounds of this invention.

[0045] An *in vivo* hydrolyzable ester of a compound of the invention containing a hydroxy group includes inorganic esters such as phosphate esters and a-acyloxyalkyl ethers and related compounds which as a result of the in vivo hydrolysis of the ester breakdown to give the parent hydroxy group. Examples of α-acyloxyalkyl ethers include acetoxymethoxy and 2,2-dimethylpropionyloxy-methoxy. A selection of in vivo hydrolyzable ester forming groups for hydroxy include alkanoyl, benzoyl, phenylacetyl and substituted benzoyl and phenylacetyl, alkoxycarbonyl (to give alkyl carbonate esters), dialkylcarbamoyl and *N*-(*N*,*N*-dialkylaminoethyl)-*N*-alkylcarbamoyl (to give carbamates), *N*,*N*-dialkylaminoacetyl and carboxyacetyl. Examples of substituents on benzoyl include morpholino and piperazino linked from a ring nitrogen atom via a methylene group to the 3- or 4- position of the benzoyl ring. A suitable value for an *in vivo* hydrolyzable amide of a compound of the invention containing a carboxy group is, for example, a *N*-C_{1-6}-alkyl or N,N-di-C_{1-6}-alkyl amide such as *N*-methyl, *N*-ethyl, *N*-propyl, *N*,*N*-dimethyl, *N*-ethyl-*N*-methyl or *N*,*N*-diethyl amide.

Compounds

[0046] In the first aspect, the invention comprises the histone deacetylase inhibitors of formula (1):



(1)

or a pharmaceutically acceptable salt thereof, wherein

Ar^2 is a saturated or mono- or poly- unsaturated C_5-C_{14}-mono- or fused poly- cyclic hydrocarbyl, optionally containing one, two, three, or four annular heteroatoms per ring optionally

substituted with one or more groups selected from C_1-C_7-alkyl, hydroxy, C_1-C_7-alkoxy, halo, and amino, provided that an annular O or S is not adjacent to another annular O or S;

R^5 and R^6 are independently selected from the group consisting of hydrogen, C_1-C_7-alkyl, aryl, and aralkyl;

R^2, R^3 and R^4 are independently selected from the group consisting of hydrogen, halogen, -NH_2, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

q is 0 or 1;

R^1 is a mono-, bi-, or tri-cyclic aryl or heteroaryl, each of which is optionally substituted;

Φ is -NH_2 or -OH and

Y is any pharmaceutically acceptable chemical moiety consisting of 1 to 50 atoms;

provided that

when R^1 is *N*-imidazolyl, R^2-R^4 are H, q is 0, and Ar^2 is pyridine, Y is not Cl; and

when R^1 is *p*-aminophenyl, R^2-R^4 are H, q is 0, and Ar^2 is phenyl, Y is not H.

[0047] The atoms that comprise the Y moiety are preferably those found in pharmaceuticals, including, but not limited to, H, C, N, O, S, F, Cl, Br, I, and P. Numerous representative examples of Y are displayed in paragraphs [0050] - [0088], [0098] – [0110], and [0115] - [0207]. Y moieties of the compounds of the present invention also can be found in the following publications (either *per se* or as part of a disclosed molecule): WO 03/024448, US 6,174,905, JP 11-269146 (1999), JP 11-302173 (1999), JP 2001131130, EP 0847992, JP 10152462, JP 2002332267, JP 11302173, and JP 2003137866. For example, in these publications many different Y moieties are readily identified in molecules of structure Y-Ar^2-$(CH=CH)_a$-C(O)-NH-Z, wherein Ar^2 is defined herein, a is 0 or 1, Z is –OH or aryl, and the Ar^2, –CH=CH-, and aryl moieties may be optionally substituted as suggested in the publication.

[0048] In a preferred embodiment of the compounds according to paragraph [0046], R^1 is an aryl selected from phenyl, naphthyl, anthracenyl, and fluorenyl. In another preferred embodiment, R^1 is a heteroaryl selected from those recited in paragraph [0034]. Other preferred R^1 moieties include

azolyls (e.g., thiazolyl, oxazolyl, oxadiazolyl, thiadiazolyl, etc.), pyridyl, and pyridinyl. More preferably, R^1 is furanyl or thienyl.

[0049] In a preferred embodiment of all the compounds of the invention, R^2, R^3, and R^4 are all hydrogen. Also preferred are compounds in which Φ is $-NH_2$ or -OH.

[0050] In a preferred embodiment of the compounds of paragraphs [0046], [0048], and [0049], Y is Cy^2-X^1-, wherein

Cy^2 is hydrogen, cycloalkyl, aryl, heteroaryl, or heterocyclyl, each of which is optionally substituted and each of which is optionally fused to one or two aryl or heteroaryl rings, or to one or two saturated or partially unsaturated cycloalkyl or heterocyclic rings, and wherein any of the aforementioned rings are optionally substituted; and

X^1 is selected from the group consisting of a covalent bond, M^1-L^2-M^1, and L^2-M^2-L^2 wherein

L^2, at each occurrence, is independently selected from the group consisting of a chemical bond, C_0-C_4-hydrocarbyl, C_0-C_4-hydrocarbyl-(NH)-C_0-C_4-hydrocarbyl, C_0-C_4-hydrocarbyl-(S)-C_0-C_4-hydrocarbyl, and C_0-C_4-hydrocarbyl-(O)-C_0-C_4-hydrocarbyl, provided that L^2 is not a chemical bond when X^1 is M^1-L^2-M^1;

M^1, at each occurrence, is independently selected from the group consisting of -O-, -N(R^7)-, -S-, -S(O)-, $S(O)_2$-, -$S(O)_2N(R^7)$-, -N(R^7)-$S(O)_2$-, -C(O)-, -C(O)-NH-, –NH-C(O)-, -NH-C(O)-O–and -O-C(O)-NH-, -NH-C(O)-NH-,

R^7 is selected from the group consisting of hydrogen, C_1-C_6-hydrocarbyl, aryl, aralkyl, acyl, C_0-C_6-hydrocarbyl-heterocyclyl, and C_0-C_6-hydrocarbyl-heteroaryl, wherein the hydrocarbyl moieties are optionally substituted with –OH, $-NH_2$, $-N(H)CH_3$, $–N(CH_3)_2$, or halo; and

M^2 is selected from the group consisting of M^1, heteroarylene, and heterocyclylene, either of which rings optionally is substituted.

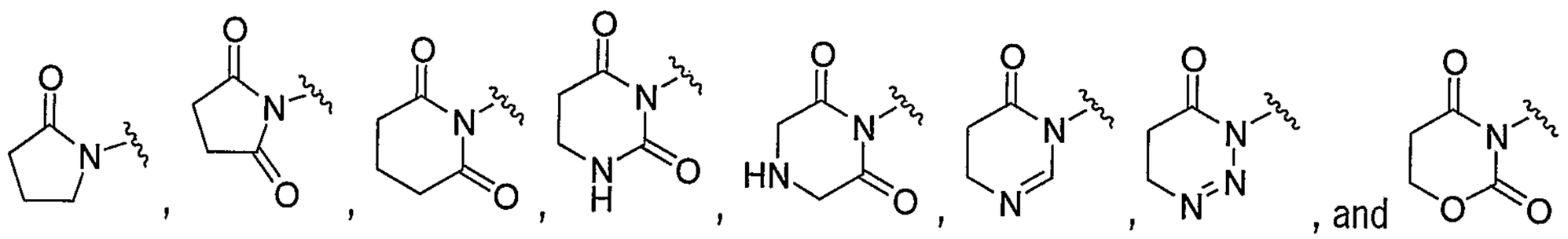
[0051] In some preferred embodiments according to paragraph [0050], the optional substituents of Cy^2 are selected from C_1-C_7-alkyl, C_1-C_7-alkoxy, halo, di-C_1-C_7-alkylamino-C_1-C_7-alkoxy and heteroaryl.

[0052] In some preferred embodiments according to paragraph [0050], X^1 is selected from the group consisting of a -N(Z)-C_0-C_7-alkyl-, -O-C_0-C_7-alkyl-, -C(H)=CH-C_0-C_7-alkyl-, -S-C_0-C_7-alkyl-, or -C_1-C_7-alkyl-, wherein Z is -H or -C_1-C_7-alkyl- optionally substituted with –OH, $-NH_2$, or halo.

[0053] In some embodiments of the compounds according to paragraph [0050], X^1 is a chemical bond. In some embodiments, X^1 is L^2-M^2-L^2, and M^2 is selected from the group consisting of

-NH-, -N(CH_3)-, -S-, -C(O)-N(H)-, and -O-C(O)-N(H)-. In some embodiments, X^1 is L^2-M^2-L^2, where at least one occurrence of L^2 is a chemical bond. In other embodiments, X^1 is L^2-M^2-L^2, where at least one occurrence of L^2 is alkylene, preferably methylene. In still other embodiments, X^1 is L^2-M^2-L^2, where at least one occurrence of L^2 is alkenylene. In some embodiments, X^1 is M^1-L^2-M^1 and M^1 is selected from the group consisting of -NH-, -N(CH_3)-, -S-, and -C(O)-N(H)-. Preferred X^1 are selected from methylene, aminomethyl, and thiomethyl.

[0054] In some embodiments of the compounds according to paragraph [0050], Cy^2 is aryl or heteroaryl, *e.g.*, phenyl, pyridyl, imidazolyl, or quinolyl, each of which optionally is substituted. In some embodiments, Cy^2 is heterocyclyl, *e.g.*,



each of which optionally is substituted and optionally is fused to one or more aryl rings. In some embodiments, Cy^2 has from one and three substituents independently selected from the group consisting of alkyl, alkoxy, amino, nitro, halo, haloalkyl, and haloalkoxy. Examples of preferred substituents include methyl, methoxy, fluoro, trifluoromethyl, trifluoromethoxy, nitro, amino, aminomethyl, and hydroxymethyl.

[0055] In some preferred embodiments of the compounds according to paragraph [0050], Cy^2 is phenyl, pyrimidinyl, benzimidazolyl or benzothiazolyl, each optionally substituted with one to three CH_3O-, dimethylamnio-ethoxy, chloro, fluoro and pyridinyl. In a more preferred embodiment, Cy^2 is phenyl substituted with one to three CH_3O-.

[0056] In some embodiments according to paragraph [0046], Y is $(V'\text{-}L^4)_t\text{-}V\text{-}L^3$-, wherein

L^3 is a direct bond, -C_1-C_6-hydrocarbyl, -$(C_1$-C_3-hydrocarbyl$)_{m1}$-X'-$(C_1$-C_3- hydrocarbyl$)_{m2}$, -NH-$(C_0$-C_3-hydrocarbyl), (C_1-C_3- hydrocarbyl)-NH-, or -NH-(C_1-C_3- hydrocarbyl)-NH-;

m1 and m2 are independently 0 or 1;

X' is -N(R^{21})-, -C(O)N(R^{21})-, N(R^{21})C(O)-, -O-, or -S-;

R^{21} is -H, V"-$(C_1$-C_6-hydrocarbyl$)_a$;

L^4 is $(C_1$-C_6-hydrocarbyl$)_a$-M-$(C_1$-C_6-hydrocarbyl$)_b$;

a and b are independently 0 or 1;

M is -NH-, -NHC(O)-, -C(O)NH-, -C(O)-, -SO_2-, -NHSO_2-, or -SO_2NH-

V, V', and V" are independently selected from cycloalkyl, heterocyclyl, aryl, and heteroaryl;

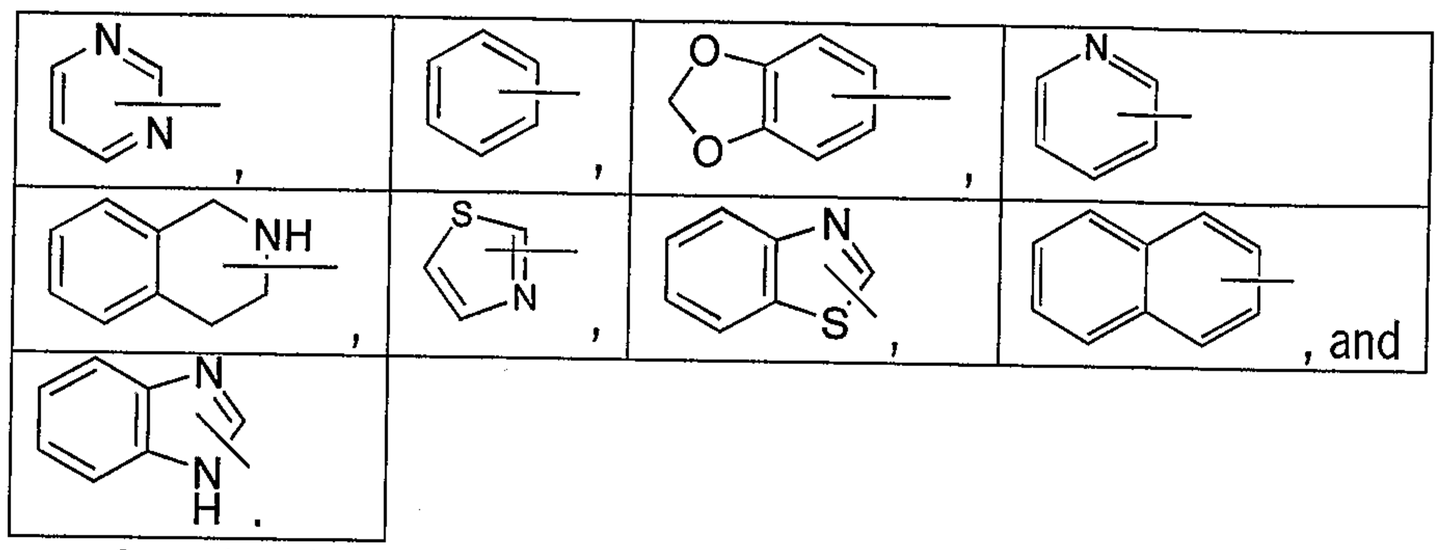
t is 0 or 1.

[0057] In some embodiments according to paragraph [0056], Y is V-L^3, wherein

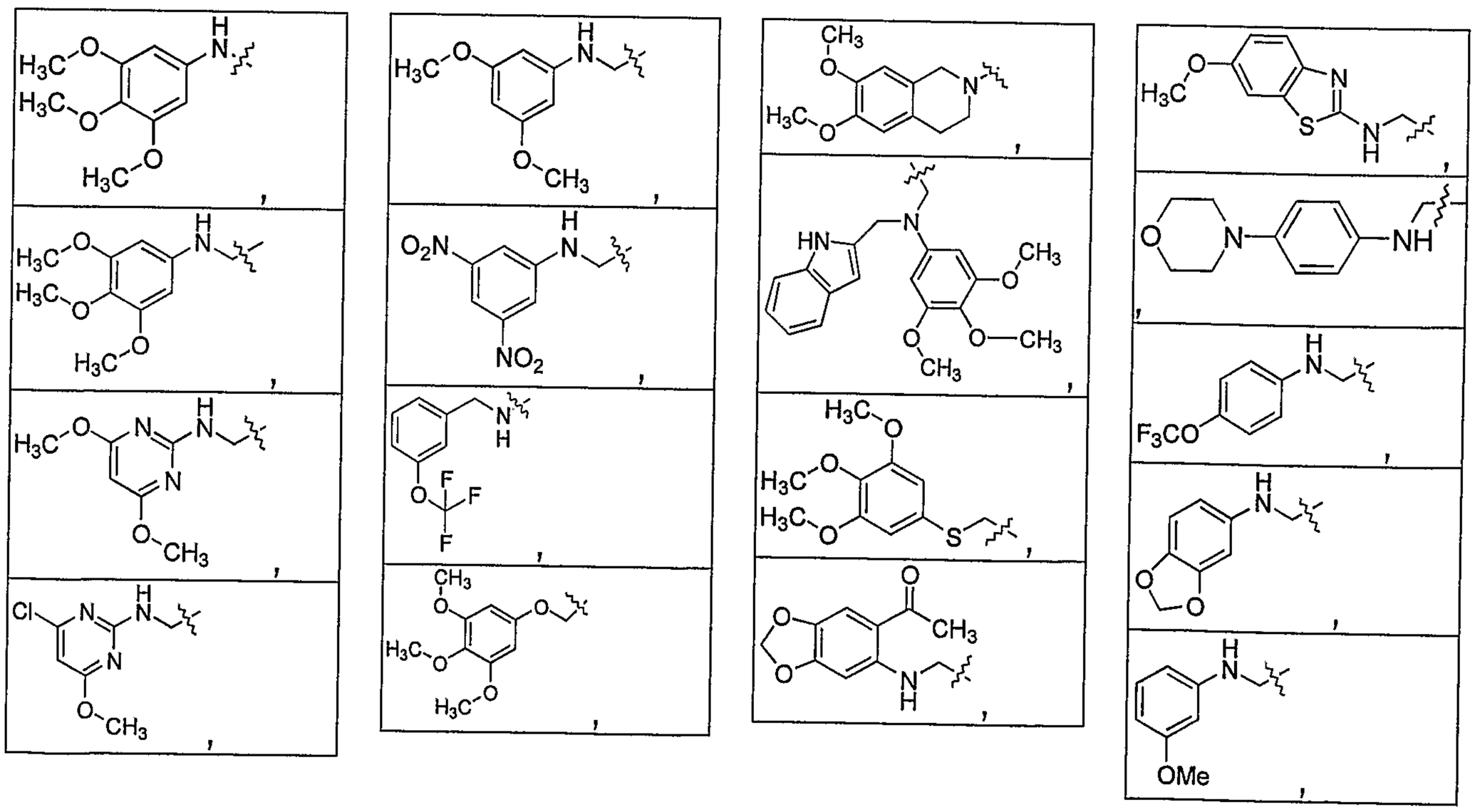
L^3 is -NH-CH- or –CH-NH-;

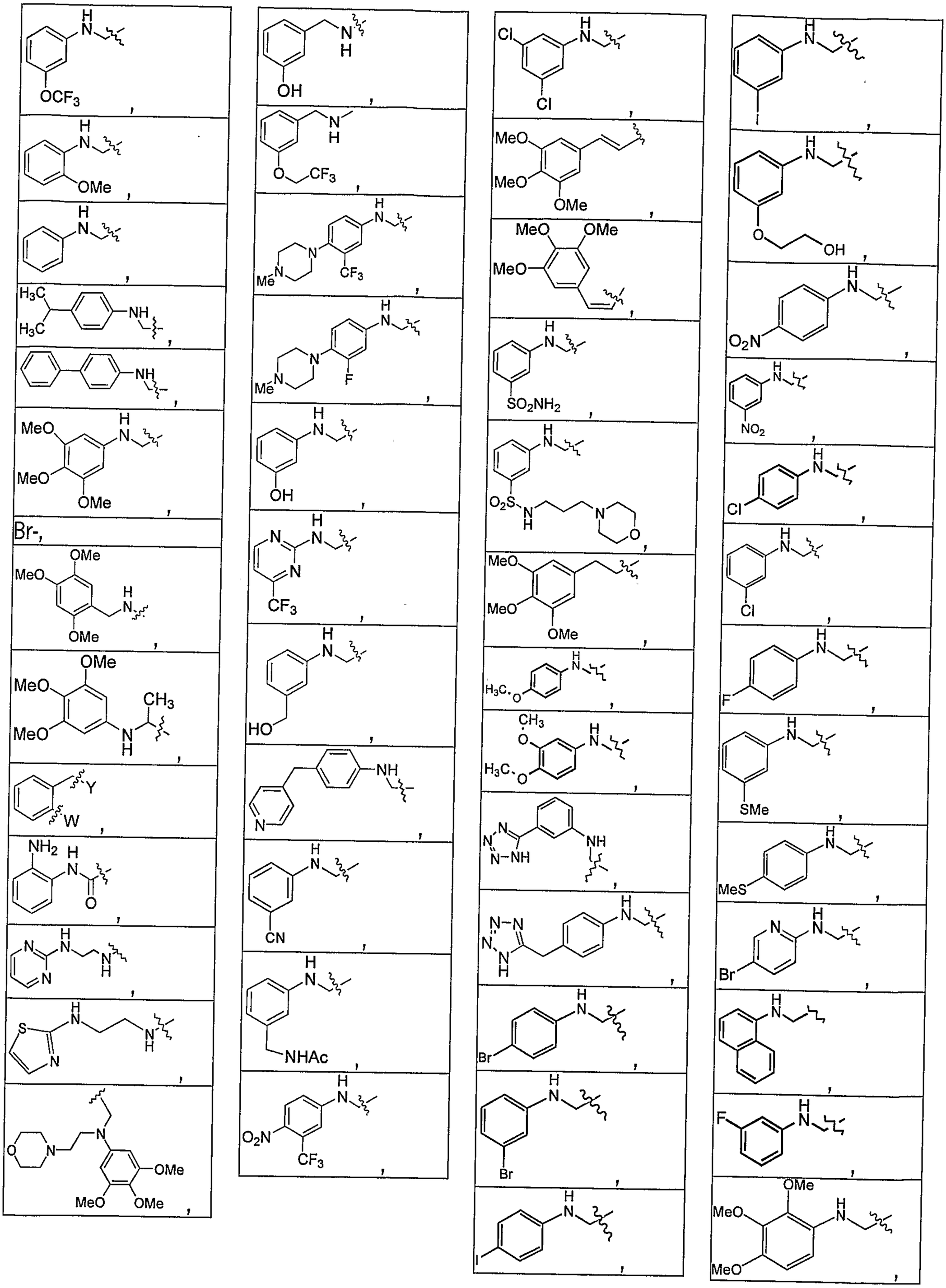
V is phenyl optionally substituted with from 1 to 3 moieties independently selected from halo, hydroxy, C_1-C_6-hydrocarbyl, C_1-C_6-hydrocarbyl-oxy or -thio (particularly methoxy or methylthio), wherein each of the hydrocarbyl moieties are optionally substituted with one or more moieties independently selected from halo, nitro, nitroso, formyl, acetyl, amino, sulfonamido, and cyano.

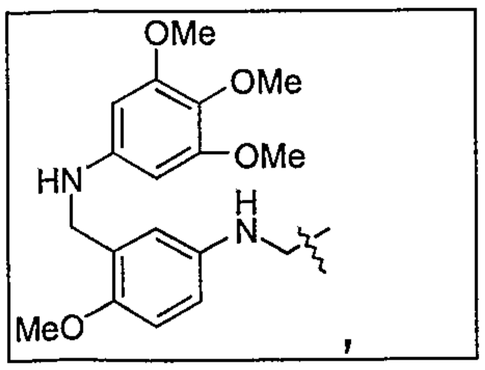
[0058] In some preferred embodiments of the compound according to paragraph [0056], V is an optionally substituted ring moiety selected from:

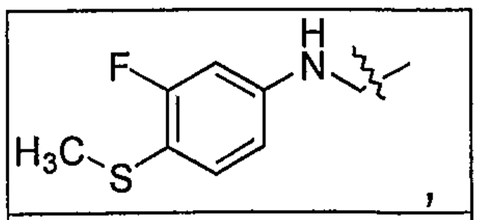


[0059] In another preferred embodiment of the compounds according to paragraph [0046], Y is selected from:,

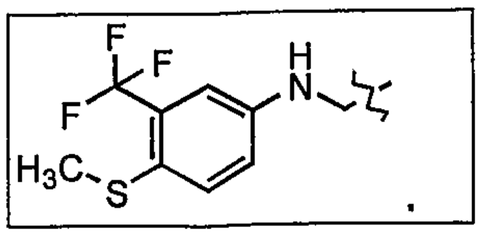








and



[0060] In other embodiments of the compounds according to paragraph [0046],

X^1 is selected from $-CH_2-$, $-NH-CH_2-$, and $-S-CH_2-$; and

Cy^2 is monocyclic or fused bicyclic aryl or heteroaryl optionally substituted with one to three substituents selected from CH_3-, CH_3O-, phenyl optionally substituted with one to three CH_3O-, morphylinyl, morphylinyl-C_1-C_3-alkoxy, cyano, and $CH_3C(O)NH-$.

[0061] In other embodiments of the compounds according to paragraph [0046],

X^1 is selected from $-OCH_2$, $-CH_2O-$, $-CH_2-NH_2-$, and $-CH_2S-$; and

Cy^2 is monocyclic or fused bicyclic aryl or heteroaryl optionally substituted with one to three substituents selected from CH_3-, CH_3O-, phenyl optionally substituted with one to three CH_3O-, morphylinyl, morphylinyl-C_1-C_3-alkoxy, cyano, and $CH_3C(O)NH-$.

[0062] In one embodiment according to paragraph [0060], Cy^2 is phenyl, pyridinyl, pyrimidinyl, benzimidazolyl, benzothiazolyl, thienyl, tetrahydroquinozolinyl, or 1,3-dihydroquinazoline-2,4-dione, each optionally substituted with one to three CH_3O-. More preferably, Cy^2 is phenyl substituted with one to three CH_3O-.

[0063] In yet other embodiments of the compound according to paragraph [0046],

Cy^2 is cycloalkyl, aryl, heteroaryl, or heterocyclyl, each of which optionally is substituted, and each of which optionally is fused to one or more aryl or heteroaryl rings, or to one or more saturated or partially unsaturated cycloalkyl or heterocyclic rings, each of which rings optionally is substituted, provided that when Cy^2 is a cyclic moiety having -C(O)-, -C(S)-, -S(O)-, or $-S(O)_2-$ in the ring, then Cy^2 is not additionally substituted with a group comprising an aryl or heteroaryl ring; and

X^1 is selected from the group consisting of a chemical bond, L^3, W^1-L^3, L^3-W^1, W^1-L^3-W^1, and L^3-W^1-L^3, wherein

W^1, at each occurrence, is S, O, or $N(R^9)$, where R^9 is selected from the group consisting of hydrogen, alkyl, aryl, and aralkyl; and

L^3 is C_1-C_4 alkylene, C_2-C_4 alkenylene, or C_2-C_4 alkynylene.

[0064] Preferably in the compounds according to paragraph [0063], X^2 is selected from the group consisting of L^3, W^1-L^3, L^3-W^1, W^1-L^3-W^1, and L^3-W^1-L^3.

[0065] In some embodiments of the compounds according to paragraph [0063], X^1 is a chemical bond. In other embodiments, X^1 is a non-cyclic hydrocarbyl. In some such embodiments, X^1 is alkylene, preferably methylene or ethylene. In other such embodiments, X^1 is alkenylene. In still other such embodiments, one carbon in the hydrocarbyl chain is replaced with -NH- or -S-, and in others with a –O-. In some preferred embodiments, X^1 is W^1-L^3-W^1 and W^1 is -NH- or -N(CH_3)-.

[0066] In some embodiments of the compounds according to paragraph [0063], Cy^2 is cycloalkyl, preferably cyclohexyl. In other embodiments, Cy^2 is aryl or heteroaryl, *e.g.*, phenyl, pyridyl, pyrimidyl, imidazolyl, thiazolyl, oxadiazolyl, quinolyl, or fluorenyl, each of which optionally is substituted and optionally is fused to one or more aryl rings. In some embodiments, the cyclic moiety of Cy^2 is fused to a benzene ring. In some embodiments, Cy^2 has from one to three substituents independently selected from the group consisting of alkyl, alkoxy, aryl, aralkyl, amino, halo, haloalkyl, and hydroxyalkyl. Examples of preferred substituents include methyl, methoxy, fluoro, trifluoromethyl, amino, nitro, aminomethyl, hydroxymethyl, and phenyl. Some other preferred substituents have the formula –K^1-N(H)(R^{10}), wherein

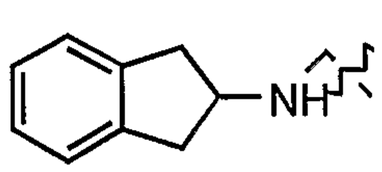
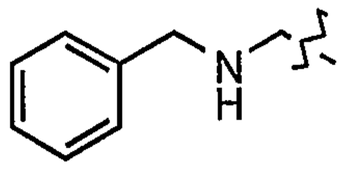
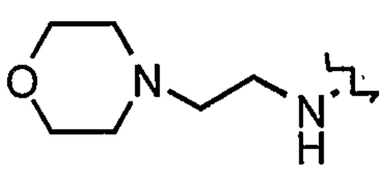
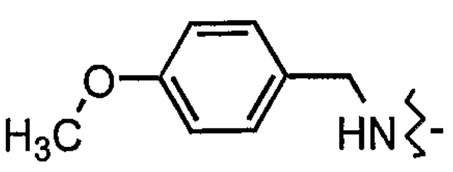
K^1 is a chemical bond or C_1-C_4 alkylene;

R^{10} is selected from the group consisting of Z' and -Ak^2-Z', wherein

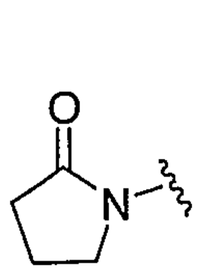
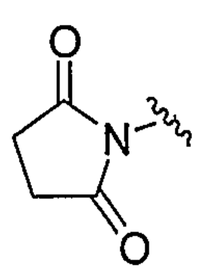
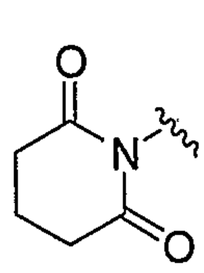
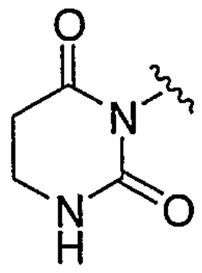
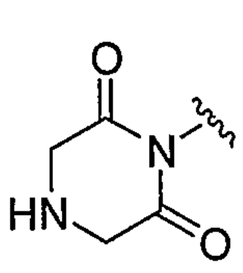
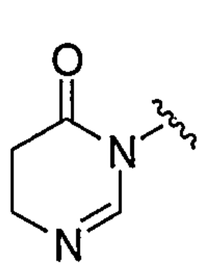
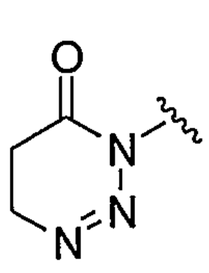
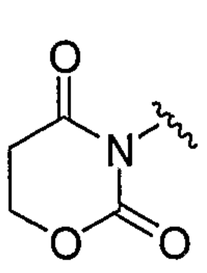
Ak^2 is C_1-C_4 alkylene; and

Z' is cycloalkyl, aryl, heteroaryl, or heterocyclyl, each of which optionally is substituted, and each of which optionally is fused to one or more aryl or heteroaryl rings, or to one or more saturated or partially unsaturated cycloalkyl or heterocyclic rings.

[0067] Examples of such preferred substituents according to paragraph [0066] include


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[0068] In some embodiments of the compounds according to paragraph [0063], Cy^2 is heterocyclyl, *e.g.*,


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each of which optionally is substituted and optionally is fused to one or more aryl rings. In some embodiments, the heterocycle of Cy^2 is fused to a benzene ring.

[0069] In certain preferred embodiments of the compound according to paragraph [0046], Cy^2-X^1- is collectively selected from the group consisting of

a) A_1-L_1-B_1-, wherein A_1 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_1 is $-(CH_2)_{0-1}NH(CH_2)_{0-1}$-, -NHC(O)-, or -$NHCH_2$-; and wherein B_1 is phenyl or a covalent bond;

b) A_2-L_2-B_2-, wherein A_2 is $CH_3(C{=}CH_2)$-, optionally substituted cycloalkyl, optionally substituted alkyl, or optionally substituted aryl; wherein L_2 is $-C{\equiv}C$-; and wherein B_2 is a covalent bond;

c) A_3-L_3-B_3-, wherein A_3 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_3 is a covalent bond; and wherein B_3 is $-CH_2NH$-;

d) A_4-L_4-B_4-, wherein A_4 is an optionally substituted aryl; wherein L_4 is $-NHCH_2$-; and wherein B_4 is a thienyl group;

e) A_5-L_5-B_5-, wherein A_5 is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_5 is a covalent bond; and wherein B_5 is -SCH_2-;

f) morpholinyl-CH_2-

g) optionally substituted aryl;

h) A_6-L_6-B_6-, wherein A_6 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_6 is a covalent bond; and wherein B_6 is $-NHCH_2$-;

i) A_7-L_7-B_7-, wherein A_7 is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_7 is a covalent bond; and wherein B_7 is $-CH_2$-;

j) optionally substituted heteroaryl or optionally substituted heterocyclyl;

k) A_8-L_8-B_8-, wherein A_8 is optionally substituted phenyl; wherein L_8 is a covalent bond; and wherein B_8 is -O-;

l) A_9-L_9-B_9-, wherein A_9 is an optionally substituted aryl; wherein L_9 is a covalent bond; and wherein B_9 is a furan group;

m) A_{10}-L_{10}-B_{10}-, wherein A_{10} is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{10} is $-CH(CH_2CH_3)$-; and wherein B_{10} is -$NHCH_2$-;

n) A_{11}-L_{11}-B_{11}-, wherein A_{11} is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{11} is a covalent bond; and wherein B_{11} is –OCH_2-;

o) A_{12}-L_{12}-B_{12}-, wherein A_{12} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{12} is-NHC(O)-; and wherein B_{12} is –N(optionally substituted aryl)CH_2-;

p) A_{13}-L_{13}-B_{13}-, wherein A_{13} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{13} is a covalent bond; and wherein B_{13} is -NHC(O)-;

q) A_{14}-L_{14}-B_{14}-, wherein A_{14} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{14} is-NHC(O)(optionally substituted heteroaryl); and wherein B_{14} is –S-S-;

r) $F_3CC(O)NH$-;

s) A_{15}-L_{15}-B_{15}-, wherein A_{15} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{15} is-$(CH_2)_0$-$_1$NH(optionally substituted heteroaryl)-; and wherein B_{15} is –$NHCH_2$-;

t) A_{16}-L_{16}-B_{16}-, wherein A_{16} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{16} is a covalent bond; and wherein B_{16} is –N(optionally substituted alkyl)CH_2-; and

u) A_{17}-L_{17}-B_{17}-, wherein A_{17} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{17} is a covalent bond; and wherein B_{17} is –(optionally substituted aryl-CH_2)$_2$-N-.

[0070] In another preferred embodiment of the compounds according to paragraph [0046], Cy^2-X^1- is collectively selected from the group consisting of

a) D_1-E_1-F_1-, wherein D_1 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_1 is –CH_2- or a covalent bond; and wherein F_1 is a covalent bond;

b) D_2-E_2-F_2-, wherein D_2 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_2 is –$NH(CH_2)_{0\text{-}2}$-; and wherein F_2 is a covalent bond;

c) D_3-E_3-F_3-, wherein D_3 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_3 is $-(CH_2)_{0-2}NH-$; and wherein F_3 is a covalent bond;

d) D_4-E_4-F_4-, wherein D_4 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_4 is $-S(CH_2)_{0-2}-$; and wherein F_4 is a covalent bond;

e) D_5-E_5-F_5-, wherein D_5 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_5 is $-(CH_2)_{0-2}S-$; and wherein F_5 is a covalent bond; and

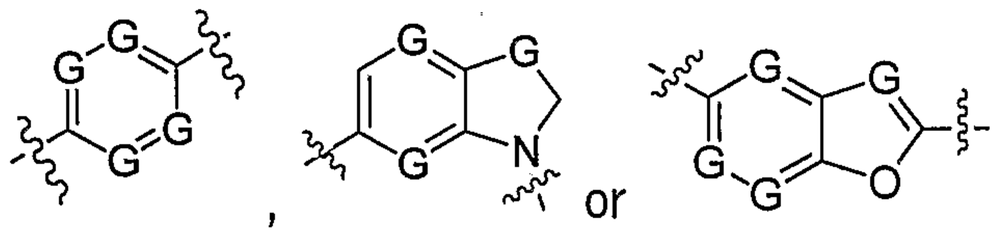
f) D_6-E_6-F_6-, wherein D_6 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_6 is $-NH(CH_2)_{0-2}NH-$; and wherein F_6 is a covalent bond.

[0071] In some embodiments according to paragraphs [0046] and [0048]-[0063], R^2 to R^4 are independently hydrogen, $-NH_2$, nitro, furanyl, chloro, fluoro, butyl, trifluoromethyl, bromo, thienyl, phenyl, -CHCHC(O)-NH_2, $-C{\equiv}CCH_2-R^9$ wherein R^9 is hydrogen, C_1-C_7-alkyl, hydroxy, amino, or C_1-C_7-alkoxy.

[0072] In some preferred embodiments of the compound according to paragraphs [0046] and [0048]-[0071], q is 0 and X^1 is independently selected from the group consisting of $-NH-CH_2-$, $-S-CH_2-$ and $-CH_2-$.

[0073] In some preferred embodiments of the compound according to paragraphs [0046] and [0048]-[0071], q is 0 and X^1 is independently selected from the group consisting of $-OCH_2$, $-CH_2O-$, $-CH_2-NH_2-$, and $-CH_2S-$.

[0074] In some embodiments of the compound according to paragraphs [0046] and [0048]-[0072], the compound has Ar^2 of formula



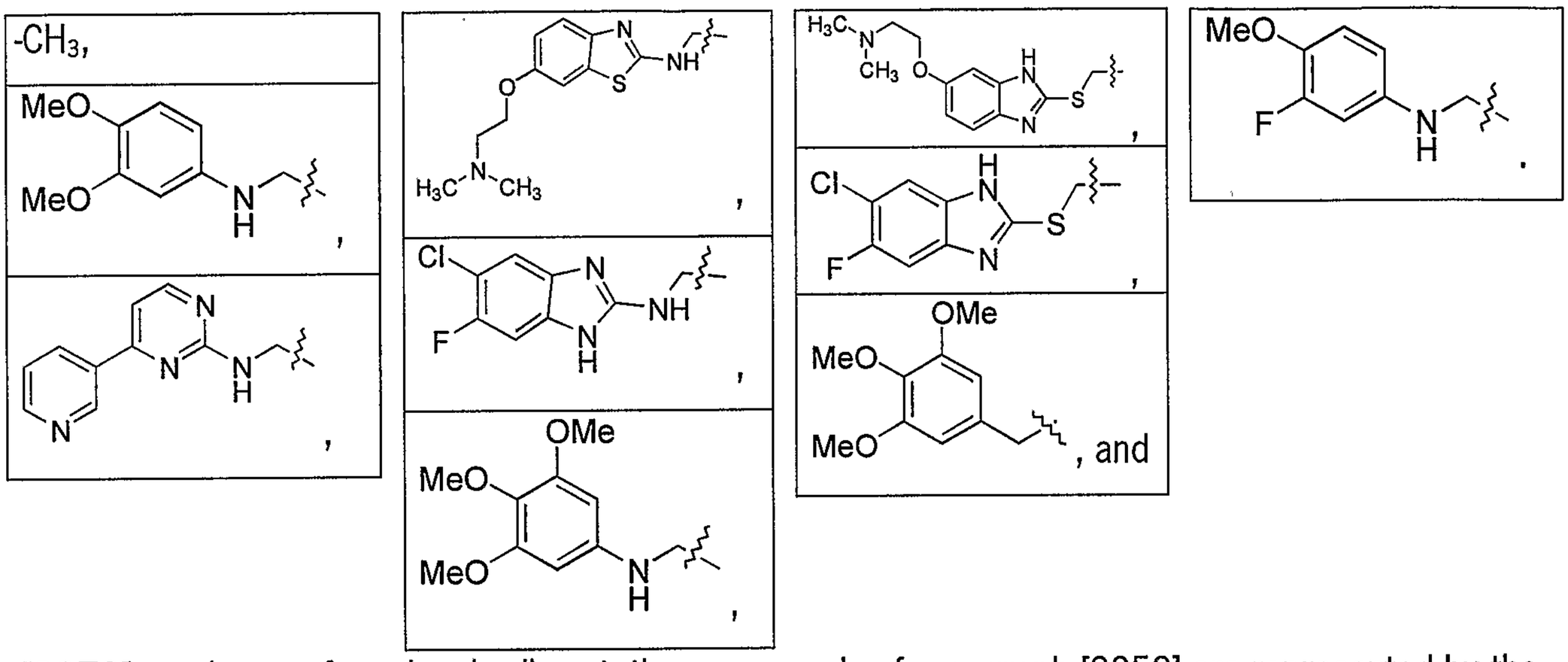
wherein G, at each occurrence, is independently N or C, and C is optionally substituted.

[0075] In some embodiments of the compounds according to paragraph [0074], G at each occurrence is $C(R^8)$, wherein R^8 is selected from the group consisting of hydrogen and C_1-C_7-alkyl. In some more preferred embodiments, G is -CH-.

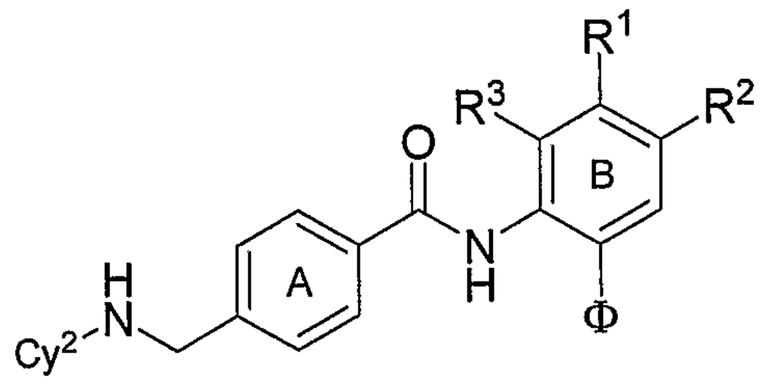
[0076] In some preferred embodiments, the compounds according to paragraph [0074] are those wherein Ar^2 is selected from the group consisting of phenylene, benzofuranylene and indolinylene.

[0077] In some preferred embodiments, Cy^2 is aryl or heteroaryl, each of which is optionally substituted. More preferably, Cy^2 is phenyl, pyrimidinyl, benzimidazolyl or benzothiazolyl, each of which is optionally substituted. Preferred substituents of Cy^2 are from one to three substituents independently selected from the group consisting of C_1-C_7-alkyl, C_1-C_7-alkoxy, halo, di-C_1-C_7-alkylamino-C_1-C_7-alkoxy and heteroaryl. More preferably, the substituents of Cy^2 are selected from methyl, methoxy, fluoro, chloro, pyridinyl and dimethylamino-ethoxy.

[0078] In some preferred embodiments, the moiety formed by Cy^2-X^1 is selected from the following:



[0079] In a preferred embodiment, the compounds of paragraph [0050] are represented by the general formula (2):



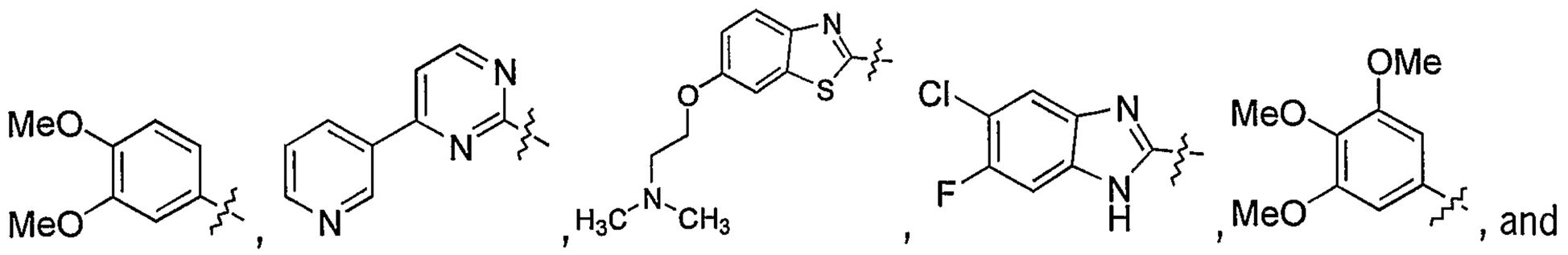
(2)

or a pharmaceutically acceptable salt thereof, wherein

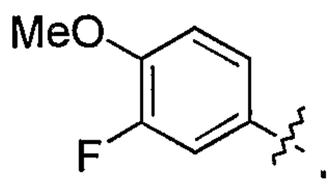
R^2 and R^3 are independently selected from the group consisting of hydrogen, trifluoromethyl, butyl, -$(CH_2)_3$-OH, chloro, fluoro, amino, phenyl, thienyl, furanyl, -CH=CHC(O)NH_2, -C≡CCH_2-OH, -C≡CCH_2-OCH_3; and

the A ring is optionally further substituted with from 1 to 3 substituents independently selected from methyl, hydroxy, methoxy, halo, and amino.

[0080] In some preferred embodiments, the compounds according to paragraph [0079] are those in which Cy^2 is selected from:



, and

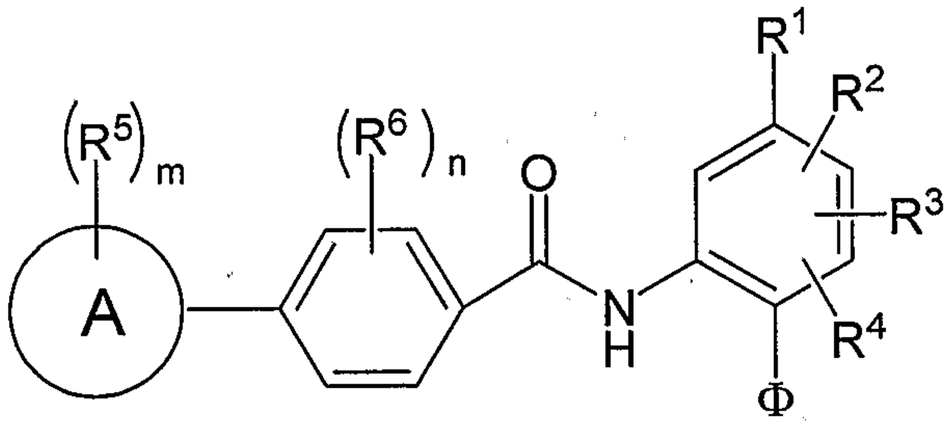


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[0081] In other preferred embodiments of the compounds according to paragraphs [0079] and [0080], the A ring is not further substituted.

[0082] In another preferred embodiment of the compounds according to paragraphs [0079] - [0081], R^2 and R^3 are both -H.

[0083] In another embodiment of this aspect, the invention comprises compounds of the general formula (3):



(3)

or a pharmaceutically acceptable salt or *in vivo* hydrolyzable ester or amide thereof; wherein:

Φ is $-NH_2$ or $-OH$;

Ring *A* is a heterocyclyl, wherein if said heterocyclyl contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N*,*N*-(C_{1-6}-alky1)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoy1, *N*,*N*-(C_{1-6}-alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-

alkyl, or a group (B-E-); wherein R^5, including group (B-E-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkyny1, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N,N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N,N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl, *N,N*-(C_{1-6}-alkyl)$_2$sulphamoyl, or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and *Z* are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkyny1, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N,N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N,N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl or *N,N*-(C_{1-6}-alky1)$_2$sulphamoyl;

G, J and K are independently selected from C_{1-8}-alkyl, C_{1-8}-alkenyl, C_{1-8}-alkanoyl, C_{1-8}-alkylsulphonyl, C_{1-8}-alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}-alky1)carbamoyl, *N,N*-(C_{1-8}-alkyl)carbamoyl, benzyloxycarbonyl, benzoyl, phenylsulphonyl, aryl, arylC_{1-6}-alkyl or (heterocyclic group)C_{1-6}-alkyl; wherein G, J, and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or C_{16}alkyl;

Q is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N,N*-(C_{1-6}-alkcyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N,N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, C_{1-6}-alkoxycarbonylamino, *N*-(C_{1-6}-alkyl)sulphamoyl, *N,N*-(C_{1-6}-alkyl)$_2$sulphamoyl, aryl, aryloxy, aryl C_{1-6}-alkyl, arylC_{1-6}-alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, (heterocyclic group)C_{1-6}-alkoxy, or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{3-8}-cycloalkyl, C_{3-8}-cycloalkylC_{1-6}-alkyl, aryl, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, phenyl or phenylC_{1-6}-alkyl; wherein B, B' and B" is optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, $S(O)_r$, -SO_2N(R^a)-, -N(R^a)SO_2- wherein R^a and R^b are independently selected from hydrogen or C_{1-6}-alkyl optionally substituted by one or more F and r is 0-2;

D and F are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alky1, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N,N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alky1)carbamoyl, *N,N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkyl$S(O)_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alky1)sulphamoyl or *N,N*-(C_{1-6}-alky1)$_2$sulphamoyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 may be the same or different;

R^6 is halo;

n is 0, 1 or 2; wherein the values of R^6 may be the same or different; and

R^1, R^2, R^3, and R^4 are as defined in paragraph [0046].

[0084] Particular values of Ring A, R^5, R^6, m, and n include the following:

Ring A:

(a) pyridyl, quinolyl, indolyl, pyrimidinyl, morpholinyl, piperidinyl, piperazinyl, pyradazinyl, pyrazinyl, thiazolyl, thienyl, thienopyrimidinyl, thienopyridinyl, purinyl, triazinyl, oxazolyl, pyrazolyl, or furanyl; wherein if Ring A contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

(b) pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, quinolin-8-yl, pyrimidin-6-yl, pyrimidin-5-yl, pyrimidin-4-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, pyridazin-5-yl, pyrazin-6-yl, thiazol-2-yl, thien-2-yl, thieno[3,2b]pyrimidinyl, thieno[3,2b]pyrimidinyl, thieno[3,2b]pyridinyl, purin-6-yl or triazin-6-yl; wherein if

Ring A contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

(c) pyridyl, quinolyl, pyrimidyl, morpholinyl, piperidinyl, piperazinyl, pyradazinyl, pyrazinyl, thiazyl or furanyl;

(d) pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, quinoline-8-yl, pyradizin-2-yl, furan-3-yl, morpholinyl, thiazol-2-yl, pyrimidin-6-yl, piperidin-4-yl or piperazin-4-yl; and

(e) pyridine-4-yl, pyridine-3-yl, quinoline-8-yl, piperidin-4-yl or piperazin-4-yl.

R^5:

(a) a substituent on carbon and is selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkoxy, *N*-(C_{1-6}-alkyl)amino, aryl, aryloxy, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, or a group (B-E-); wherein R^5, including group (B-E-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is hydroxy, mercapto, C_{1-6}-alkyl, C_{1-6}-alkoxy, *N*,*N*-(C_{1-6}-alkyl)$_2$amino or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from halo, nitro, cyano, hydroxy, C_{1-6}-alkoxy, *N*,*N*-(C_{1-6}-alkyl)$_2$amino or C_{1-6}-alkanoylamino;

G, J, and K are independently selected from C_{1-8}-alkyl, C_{2-8}-alkenyl, C_{1-8}-alkanoyl, aryl, arylC_{1-6}-alkyl or (heterocyclic group)C_{1-6}-alkyl; wherein G, J and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or C_{1-6}-alkyl;

Q is cyano, hydroxy, C_{1-6}-alkoxy, C_{1-6}-alkanoyloxy, C_{1-6}-alkoxycarbonyl, C_{1-6}-alkoxycarbonylamino, aryl, aryloxy or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{3-8}-cycloalkyl, C_{3-8}-cycloalkylC_{1-6}-alkyl, aryl, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, phenyl or phenylC_{1-6}-alkyl; wherein B, B' and B" are optionally substituted on carbon by one or more D; and wherein if said

heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2-, wherein R^a and R^b are independently selected from hydrogen or C_{1-6}-alkyl optionally substituted by one or more F and r is 0-2;

D and F are independently selected from halo, C_{1-6}-alkoxy or *N,N*-(C_{1-6}-alkyl)$_2$amino.

(b) a substituent on carbon and is selected from fluoro, chloro, amino, methyl, ethyl, propyl, methoxy, *N*-methylamino, *N*-ethylamino, *N*-propylamino, *N*-butylamino, phenyl, naphthylethyl, piperizin-4-yl, piperidin-1-yl, piperdin-4-yl, 2-(thiomethyl)-pyrimidin-4-yl, tetrahydrofuran-2-ylmethyl, tetrahydropyran-2-ylmethyl, 1,2,5-thiadiazol-3–ylethyl, piperidin-1-ylmethyl, pyridin-2-ylmethyl, or a group (B-B-); wherein R^5, including group (B-E-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is hydroxy, methyl, ethyl, ethoxy, *N,N*-(diethyl)amino, *N,N*-(dibutyl)amino, or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from fluoro, chloro, bromo, nitro, cyano hydroxy, methoxy, *N,N*-(dimethyl)amino or methylcarbonylamino;

G, J and K are independently selected from methyl, ethyl, propyl, pentyl, 2-methylbutyl, butyl, acetyl, benzyl, 3-(pyrrol-1-yl)propyl or pyrrolidin-2-one-(5S)-methyl; wherein G, J and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or methyl;

Q is cyano, hydroxy, methoxy, ethoxy, methylcarbonyloxy, methoxycarbonyl, t-butoxycarbonlyamino, phenyl or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from methyl, ethyl, propyl, cyclohexyl, phenyl, benzyl, 1,2,3,4-tetrahydroquinolinyl, 3-morpholinopropyl, 2-

morpholinoethyl, 2-pyrrolidin-1-ylethyl, 3-morpholinopropyl, 3-(4-methylpiperazin-1-yl)propyl, 2-piperidin-1-ylethyl, 3-piperidin-1-ylpropyl, pyridin-3-ylmethyl or imidazol-1-ylpropyl; wherein B, B' and B" are optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -O-, -C(O)-, -NHC(O)-, -N(R^a)C(O)O-; wherein R^a is hydrogen or methyl optionally substituted by one or more F;

D and F are independently selected from fluoro, methoxy or ethoxy;

(c) fluoro, chloro, amino, methyl, methoxy, 3-morpholin-4-ylpropylamino, (3-morpholin-4-yl)ethylamino, acetyl, benzyl, methoxycarbonylmethyl, 2-pyrrolidin-1-ylethoxy, 3-morpholinopropoxy, *N*-(2-fluorophenyl)propanamide, 4-(diethylamino)phenylcarbonylmethyl, 3-(4-methylpiperazin-1-yl)propylamino, 2-piperidin-1-ylethylamino, 2-[*N*,*N*-(diethyl)amino-ethylamino, pyridin-3-ylmethylamino, 3-piperidin-1-ylpropylamino, imidazol-1-ylpropylamino, 3-methoxypropylamino, 3-morpholinopropylamino, piperazin-1-yl, *N*-ethylamino, 4-methylpiperazin-1-yl, 1-(3-phenoxy)propyl, 1-(3-cyanophenyl)methyl, 1-(4-cyanophenyl)methyl, tetrahydrofuran-2-ylmethyl, 1-(3-benzyloxy)propyl, 3-methoxybenzyl, 2,3-dihydroxypropyl, 2-(methylcarbonyloxy)ethyl, 3-(pyrrol-1-yl)propyl, 1-[3-(2-methoxyethoxy)]propyl, 2-(4-acetamidophenyoxy)ethyl, 2-(t-butoxycarbonylamino)ethyl, 2-(t-butoxycarbonylamino)propyl, 2-[(2-methoxyphenyl)oxy)ethyl, (1,2,3,4-tetrahydroquinolin-1-yl)acetyl, 2-[N-(2-fluorophenyl)ylacetamide]ethyl, methoxycarbonylmethyl, 2-(ethoxy)ethyl, 4-methylpent-3-enyl, tetrahydropyran-2-ylmethyl, 1-(2S)-2-methylbutyl, 4-(benzyloxy)butyl, 2-[4-(nitro)phenoxy)}ethyl, 2-[*N*,*N*-(dibutyl)amino]ethylamino, 3-[(N-methyl-N-phenyl)amino]propylamino, *N*-3-[2-(dimethylamino)ethoxy]propylamino, 2-[4-(acetamido)phenoxy]ethyl, 2-[4-(hydroxyphenoxy)]ethyl, 1,2,5-thiadiazol-3-ylethyl, piperdin-1-ylmethyl, 2-[4-(chloro)phenoxy]ethyl, pyrrolidin-2-one-(5S)-methyl, phenylaminocarbonyloxymethyl, cyclohexylaminocarbonyloxymethyl, 2-(thiomethyl)-pyrimidin-4-yl or pyridin-2-ylmethyl;

(d) halo, amino, C_{1-6}-alkyl, C_{1-6}-alkoxy, C_{1-3}-alkanoyloxy, *N*-(C_{1-3}-alkyl)amino, *N*,*N*-(C_{1-3}-alkyl)$_2$axnino, C_{1-3}-alkanoylamino, *N*-(C_{1-3}-alkyl)carbamoyl, *N*,*N*-(C_{1-3}-alkyl)$_2$carbamoyl;

(e) halo, amino, C_{1-6}-alkyl or C_{1-6}-alkoxy; and

(f) halo, amino, methyl or methoxy.

m:

(a) 0, 1, 2, 3 or 4; wherein the values of R^5 may be the same or different;

(b) 0, 1, or 2; wherein the values of R^5 may be the same or different;

(c) 0 or 1;

(d) 0; and

(e) 1.

R^6:

(a) halo;

(b) fluoro or chloro; and

(c) fluoro.

n:

(a) 0, 1 or 2, wherein the values of R^6 may be the same or different;

(b) 0 or 1;

(c) 0; and

(d) 1.

[0085] Other embodiments of the compound according to paragraph [0083], include those in which:

Ring A is a heterocyclyl;

R^5 is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N*,*N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$sulphamoyl or a group (B-E-); wherein, B is selected from C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{3-8}-cycloalkyl, C_{3-8}-cycloalkylC_{1-6}-alkyl, phenyl, heterocyclyl, phenyl$_{1-6}$-alkyl or heterocyclylC_{1-6}-alkyl; wherein B is optionally substituted on carbon by one or more D; and wherein if said heterocyclyl

contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E is -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2- wherein R^a is hydrogen or C_{1-6}-alkyl optionally substituted by one or more D and r is 0-2;

D is independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N*,*N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl and *N*,*N*-(C_{1-6}-alkyl)$_2$sulphamoyl;

G is selected from C_{1-4}-alkyl, C_{1-4}-alkanoyl, C_{1-4}-alkylsulphonyl, C_{1-4}-alkoxycarbonyl, carbamoyl, *N*-(C_{1-4}-alkyl)carbamoyl, *N*,*N*-(C_{1-4}-alkyl)carbamoyl, benzyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 are the same or different;

R^6 is halo; and

n is 0, 1 or 2; wherein the values of R^6 can be the same or different.

[0086] In another embodiment of the compound according to paragraph [0083],

Ring A is a pyridyl, quinolyl, indolyl, pyrimidinyl, morpholinyl, piperidinyl, piperazinyl, pyradazinyl, pyrazinyl, thiazolyl, thienyl, thienopyrimidinyl, thienopyridinyl, purinyl, triazinyl, oxazolyl, pyrazolyl, or furanyl; wherein if Ring A contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkoxy, *N*-(C_{1-6}-alkyl)amino, aryl, aryloxy, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, or a group (B-E-); wherein R^5, including group (B-E-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is hydroxy, mercapto, C_{1-6}-alkyl, C_{1-6}-alkoxy, *N*,*N*-(C_{1-6}-alkyl)$_2$amino or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from halo, nitro, cyano, hydroxy, C_{1-6}-alkoxy, *N,N*-(C_{1-6}-alkyl)$_2$amino or C_{1-6}-alkanoylamino;

G, J and K are independently selected from C_{1-8}-alkyl, C_{2-8}-alkenyl, C_{1-8}-alkanoyl, aryl, arylC_{1-6}-alkyl or (heterocyclic group)C_{1-6}-alkyl; wherein G, J and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen is optionally substituted by hydrogen or C_{1-6}-alkyl;

Q is cyano, hydroxy, C_{1-6}-alkoxy, C_{1-6}-alkanoyloxy, C_{1-6}-alkoxycarbonyl, C_{1-6}-alkoxycarbonylamino, aryl, aryloxy or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{3-8}-cycloalkyl, C_{3-8}-cycloalkylC_{1-6}-alkyl, aryl, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, phenyl or phenylC_{1-6}-alkyl; wherein B, B' and B" are optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^a)-, .N(R^a)C(O)O -, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2- wherein R^a and R^b are independently selected from hydrogen or C_{1-6}-alkyl optionally substituted by one or more F and r is 0-2;

D and F are independently selected from halo, C_{1-6}-alkoxy or *N,N*-(C_{1-6}-alkyl)$_2$amino;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 are the same or different;

R^6 is fluoro or chloro; and

n is 0, 1 or 2, wherein the values of R^6 are the same or different;

[0087] In another embodiment of the compound according to paragraph [0083],

Ring A is pyridin-4-yl, pyridin-3-yl, pyriclin-2-yl, quinolin-8-yl, pyrimidin-6-yl, pyrimidin-5-yl, pyrimidin-4-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, pyridazin-5-yl, pyrazin-6-yl, thiazol-2-yl, thien-2-yl, thieno[3,2d]pyrimidinyl, thieno[3,2b]pyrimidinyl, thieno[3,2b]pyridinyl, purin-6-yl or triazin-6-yl; wherein if Ring A contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from fluoro, chloro, amino, methyl, ethyl, propyl, methoxy, *N*-methylamino, *N*-ethylamino, *N*-propylamino, *N*-butylamino, phenyl, naphthylethyl, piperazin-1-yl, piperidin-1-yl, piperidin-4-yl, 2-(thiomethyl)-pyrimidin-4-yl, tetrahydrofuran-2-ylmethyl, tetrahydropyran-2-ylmethyl, 1,2,5-thiadiazol-3-ylethyl, piperidin-1-ylmethyl, pyridin-2-ylmethyl, or a group (B-B-); wherein R^5, including group (B-B-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is hydroxy, methyl, ethyl, ethoxy, *N,N*-(diethyl)amino, *N,N*-(dibutyl)amino, or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from fluoro, chloro, bromo, nitro, cyano, hydroxy, methoxy, *N,N*-(dimethyl)amino or methylcarbonylamino;

G, J and K are independently selected from methyl, ethyl, propyl, pentyl, 2-methylbutyl, butyl, acetyl, benzyl, 3-(pyrrol-1-yl)propyl or pyrrolidin-2-one-(5S)-methyl; wherein G, J and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or methyl;

Q is cyano, hydroxy, methoxy, ethoxy, methylcarbonyloxy, methoxycarbonyl, *t*-butoxycarbonylamino, phenyl or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from methyl, ethyl, propyl, cyclohexyl, phenyl, benzyl, 1,2,3,4-tetrahydroquinolinyl, 3-morpholinopropyl, 2-morpholinoethyl, 2-pyrrolidin-1-ylethyl, 3-morpholinopropyl, 3-(4-methylpiperazin-1-yl)propyl, 2-piperidin-1-ylethyl, 3-piperidin-1-ylpropyl, pyridin-3-ylmethyl or imidazol-1-ylpropyl; wherein B, B' and B" are optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -O-, -C(O)-, -NHC(O)-, -N(R^a)C(O)O-;

wherein R^a is hydrogen or methyl optionally substituted by one or more F;

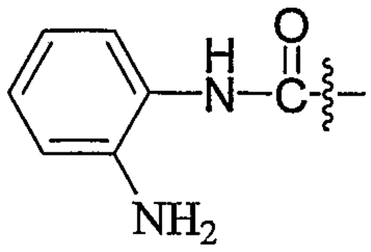
D and F are independently selected from fluoro, methoxy or ethoxy;

m is 0, 1, or 2; wherein the values of R^5 are the same or different;

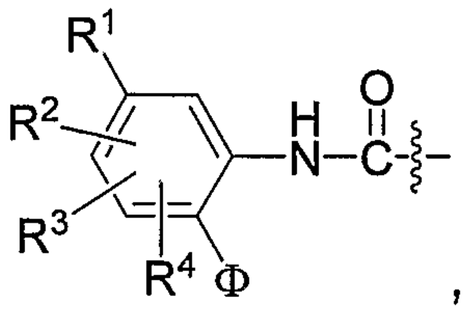
R^6 is fluoro; and

n is 0 or 1.

[0088] In the embodiments of the compounds according to paragraphs [0083] and [0085] – [0087], R^1, R^2, R^3, and R^4 are as defined in paragraphs [0048] and [0049]. In other preferred embodiments, the compounds according to paragraph [0083] are the compounds of Tables 1-8 and 13 of WO 03/087057 modified by replacing the terminal moiety:



with



,

wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraphs [0046], and preferably [0048] and [0049].

[0089] The definitions in paragraphs [0090] – [0097] apply to R^5 and R^6 in paragraphs [0083] – [0088] and supplement the definitions in paragraphs [0020] – [0042]. To the extent there are any inconsistencies between the definitions in paragraphs [0020] – [0042] and in paragraphs [0090] – [0097], the definitions in paragraphs [0090] – [0097] shall take precedence for the compounds of paragraphs [0083] – [0088] only.

[0090] "Alkyl" includes both straight and branched chain alkyl groups. For example, "C_{1-8}-alkyl" and "C_{1-6}-alkyl" includes methyl, ethyl, propyl, isopropyl, pentyl, hexyl, heptyl, and t-butyl. However, references to individual alkyl groups such as 'propyl' are specific for the straight-chained version only and references to individual branched chain alkyl groups such as 'isopropyl' are specific for the branched chain version only.

[0091] The term "halo" refers to fluoro, chloro, bromo and iodo.

[0092] Where optional substituents are chosen from "one or more" groups it is to be understood that this definition includes all substituents being chosen from one of the specified groups or the substituents being chosen from two or more of the specified groups.

[0093] A "heterocyclyl" is a saturated, partially saturated or unsaturated, mono or bicyclic ring containing 3-12 atoms of which at least one atom is chosen from nitrogen, sulphur or oxygen, which may, unless otherwise specified, be carbon or nitrogen linked, wherein a ring sulphur atom is optionally oxidized to form the S-oxide(s). Preferably a "heterocyclyl" is a saturated, partially saturated or unsaturated, monocyclic ring containing 5 or 6 atoms of which at least one atom is chosen from nitrogen, sulphur or oxygen or a 8-10 membered bicyclic ring which may, unless otherwise specified, be carbon or nitrogen linked, wherein a ring sulphur atom is optionally oxidized to form S-oxide(s). Examples and suitable values of the term "heterocyclyl" are thiazolidinyl, pyrrolidinyl, 1,3-benzodioxolyl, 1,2,4-oxadiazolyl, 2-azabicyclo[2.2.1]heptyl, morpholinyl, tetrahydrofuranyl, furanyl, tetrahydropyranyl, piperidinyl, piperazinyl, thiomorpholinyl, 1,3-dioxolanyl, homopiperazinyl, thienyl, pyrrolyl, pyrazolyl, oxadiazolyl, tetrazolyl, oxazolyl, thienopyrimidinyl, thienopyridinyl, thieno{3,2d]pyrimidinyl, 1,3,5-triazinyl, purinyl, 1,2,3,4-tetrahydroquinolinyl, benzimidazolyl, benzthiazolyl, benzoxazolyl, benzothienyl, benzofuranyl, indazolyl, quinazolinyl, cinnolinyl, phthalazinyl, quinoxalinyl, napthyridinyl, benzotriazolyl, pyrrolothienyl, imidazothienyl, isoxazolyl, imidazolyl, thiadiazolyl, isothiazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, pyranyl, indolyl, pyrimidyl, thiazolyl, pyrazinyl, pyridazinyl, pyridyl, quinolyl, quinazolinyl, and 1-isoquinolinyl.

[0094] A "heterocyclic group" is a saturated, partially saturated or unsaturated, mono or bicyclic ring containing 3-12 atoms of which at least one atom is chosen from nitrogen, sulphur or oxygen, which may, unless otherwise specified, be carbon or nitrogen linked, wherein a CH_2 group is optionally replaced by a C(O), and wherein a ring sulphur atom is optionally oxidized to form the S-oxide(s). Preferably a "heterocyclic group" is a saturated, partially saturated or unsaturated, monocyclic ring containing 5 or 6 atoms of which at least one atom is chosen from nitrogen, sulphur or oxygen or a 9 or 10 membered bicyclic ring which may, unless otherwise specified, be carbon or nitrogen linked, wherein a CH_2 group is optionally replaced by a C(O), and wherein a ring sulphur atom is optionally oxidized to form S-oxide(s). Examples and suitable values of the term "heterocyclic group" are pyrrolidinyl, 2-pyrrolidonyl 2,5-dioxopyrrolidinyl, 2,4-dioxoimidazolidinyl, 2-oxo-1,3,4-triazolinyl, oxazolidinyl, 2-oxazolidonyl, 5,6-dihydro-uracilyl, 1,3-benzodioxolyl, 1,2,4-oxadiazolyl, 2-azabicyclo[2.2.1]heptyl, morpholinyl, 2-oxotetrahydrofuranyl, tetrahydrofuranyl, furanyl, tetrahydropyranyl, piperidinyl, piperazinyl, thiomorpholinyl, 1,1-dioxothiomorpholinyl, 1,3-dioxolanyl, homopiperazinyl, thiophenyl, thienopyridinyl, thienopyrimidinyl, thieno[3,2d]pyrimidinyl, 1,3,5-triazinyl, purinyl, quinolinyl, isoquinolinyl, 1,2,3,4-tetrahydroquinolinyl, tetrahydroisoquinolinyl, imidazolyl,

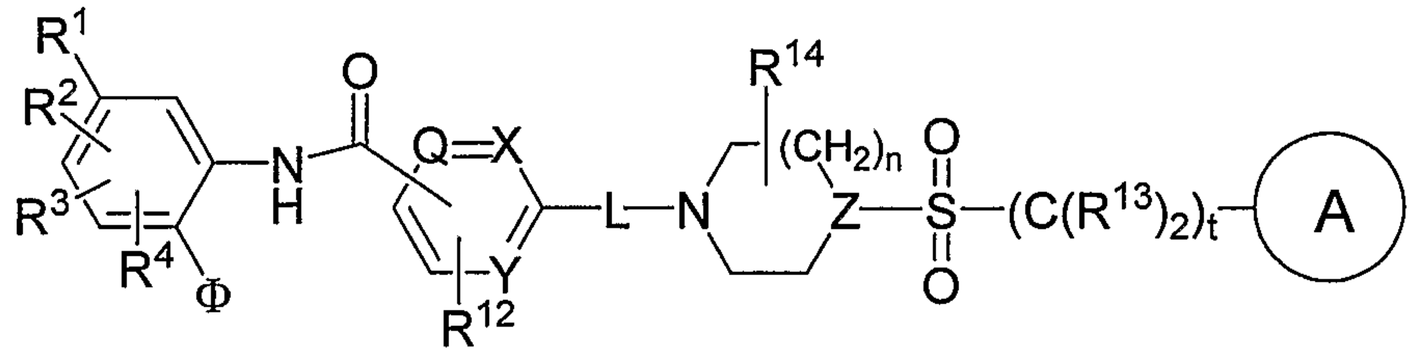
benzimidazolyl, benzothiazolyl, benzoxazolyl, benzothiophenyl, benzofuranyl, indazolyl, quinazolinyl, cinnolinyl, phthalazinyl, quinoxalinyl, napthyridinyl, oxazolyl, isoxazolyl, pyrrolyl, tetrazolyl, thiadiazolyl, isothiazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, pyranyl, indolyl, isoindolyl, pyrimidinyl, thiazolyl, pyrazolyl, 3-pyrrolinyl, pyrazinyl, pyridazinyl, pyridinyl, pyridonyl, pyrimidonyl and 1-isoquinolinyl.

[0095] An "aryl" group is, for example, phenyl, indenyl, indanyl, naphthyl, tetrahydronaphthyl or fluorenyl, preferably phenyl.

[0096] An example of "C_{1-6}-alkanoyloxy" is acetoxy. Examples of "C_{1-8}-alkoxycarbonyl", "C_{1-6}-alkoxycarbonyl" and C_{1-4}-alkoxycarbonyl include methoxycarbonyl, ethoxycarbonyl, *N*- and *t*-butoxycarbonyl. Examples of C_{2-6}-alkynyl are ethynyl and 2-propynyl. Examples of "C_{1-6}-alkoxy" include methoxy, ethoxy and propoxy. Examples of "C_{1-6}-alkanoylamino" and C_{1-3}-alkanoylamino include formamido, acetamido and propionylamino. Examples of "C_{1-6}-alkyl$S(O)_a$ wherein a is 0 to 2" include C_{1-6}-alky1sulphonyl, C_{1-3}-alkyl$S(O)_a$, methylthio, ethylthio, methylsulphinyl, ethylsulphinyl, mesyl and ethylsuiphonyl. Examples of "C_{1-8}-alkanoyl", "C_{1-6}-alkanoyl" and C_{1-4}-alkanoyl include C_{1-3}-alkanoyl, propionyl and acetyl. Examples of "*N*-C_{1-6}-alkylamino" and *N*-(C_{1-3}-alkyl)amino include methylamino and ethylamino. Examples of "*N*,*N*-(C_{1-6}-alkyl)$_2$amino" and *N*,*N*-(C_{1-2}-alkyl)$_2$amino include di-*N*-methylamino, di-(*N*-ethyl)amino, di-(*N*-butyl)amino and *N*-ethyl-*N*-methylamino. Examples of "C_{2-8}-alkenyl" are C_{1-6}-alkenyl and C_{2-3}-alkenyl, and include vinyl, allyl, and 1-propenyl. Examples of "*N*-(C_{1-3}-alkyl)sulphamoyl" and "*N*-(Ci_5alkyl)sulphamoyl" are *N*-(C_{1-3}-alkyl)sulphamoyl, *N*-(methyl)sulphamoyl and *N*-(ethyl)sulphamoyl. Examples of "*N*-(C_{1-6}-alkyl)$_2$sulphamoyl" are *N*,*N*-(C_{1-3}-alkyl)$_2$sulphamoyl, *N*,*N*-(dimethyl)sulphamoyl and *N*-(methyl)-N-(ethyl)sulphamoyl. Examples of "N-(C_{1-8}-alkyl)carbamoyl" and "*N*-(C_{1-6}-alkyl)carbamoyl" are *N*-(C_{1-4}-alkyl)carbamoyl, *N*-(C_{1-3}-alkyl)carbamoyl, methylaminocarbonyl, and ethylaminocarbonyl. Examples of "*N*,*N*-(C_{1-8}-alkyl)$_2$carbamoyl" and "*N*,*N*-(C_{1-6}-alky1)$_2$carbamoyl" are *N*,*N*-(C_{1-4}-alkyl)$_2$carbamoyl, *N*,*N*-(C_{1-2}-alkyl)$_2$carbamoyl, dimethylaminocarbonyl and methylethylaminocarbonyl. Examples of "(heterocyclic group)C_{1-6}-alkyl" include piperidin-1-ylmethyl, piperidin-1-ylethyl, piperdin-1-ylpropyl, pyridylmethyl, 3-morpholinopropyl, 2-morpholinoethyl and 2-pyrimid-2-ylethyl. Examples of "(heterocyclic group)C_{1-6}-alkoxy" include (heterocyclic group)methoxy, (heterocyclic group)ethoxy and (heterocyclic group)propoxy. Examples of "arylC_{1-6}-alkyl" include benzyl, 2-phenylethyl, 2-phenylpropyl and 3-phenylpropyl. Examples of "aryloxy" include phenoxy and naphthyloxy. Examples of "C_{3-8}-cycloalkyl" include cyclopropyl and cyclohexyl. Examples of "C_{3-8}-cycloalkylC_{1-6}-alkyl" include cyclopropylmethyl and 2-cyclohexylpropyl. Examples of "C_{1-6}-alkoxycarbonylamino" include methoxycarbonylamino and t-butoxycarbonylamino.

[0097] Composite terms are used to describe groups comprising more than one functionality such as arylC$_{1-4}$-alkyl. Such terms are to be interpreted as is understood by a person skilled in the art. For example arylC$_{1-6}$-alkyl comprises C$_{1-6}$-alkyl substituted by aryl and such a group includes benzyl, 2-phenylethyl, 2-phenylpropyl and 3-phenylpropyl.

[0098] In another embodiment of this aspect, the invention comprises compounds of the following general formula (4):



(4)

the N-oxide forms, the pharmaceutically acceptable addition salts and the stereo-chemically isomeric forms thereof, wherein

Φ is $-NH_2$ or $-OH$;

n is 0,1, 2 or 3, wherein when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4, wherein when t is 0 then a direct bond is intended;

Q, X, Y, and Z are independently N or CH;

R^1 is H or as defined in paragraph [0046],

R^2, R^3, and R^4 are as defined in paragraph [0046];

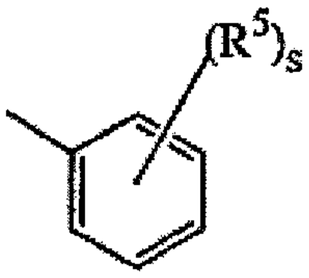
R^{12} is hydrogen, halo, hydroxy, amino, nitro, C$_{1-6}$-alkyl, C$_{1-6}$-alkyloxy, trifluoromethyl, di(C$_{1-6}$-alkyl)amino, hydroxyamino and naphthalenylsulfonylpyrazinyl;

-L- is a direct bond or a bivalent radical selected from C$_{1-6}$-alkanediyl, amino, carbonyl and aminocarbonyl;

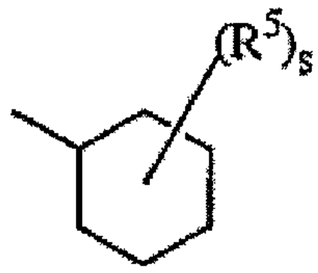
each R^{13} is a hydrogen atom, wherein when t is 2, 3, or 4 one of the R^{13} is optionally aryl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC$_{1-6}$-alkyl, C$_{1-6}$-alkyl, C$_{1-6}$-alkyloxy,arylC$_{1-6}$-alkyl, aminocarbonyl, hydroxycarbonyl, aminoC$_{1-6}$-alkyl, aminocarbonylC$_{1-6}$-alkyl, hydroxycarbonylC$_{1-6}$-alkyl, hydroxyaminocarbonyl, C$_{1-6}$-alkyloxycarbonyl, C$_{1-6}$-alkylaminoC$_{1-6}$-alkyl or di(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl;

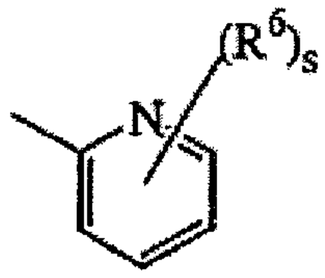
Ring A is selected from



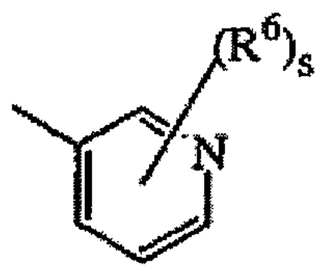
(a-1)



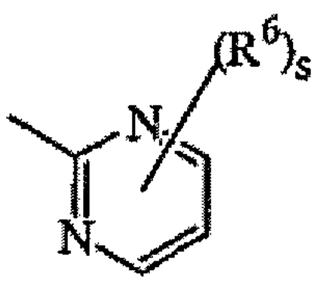
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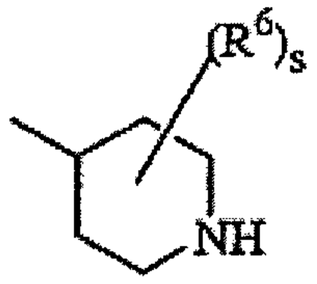
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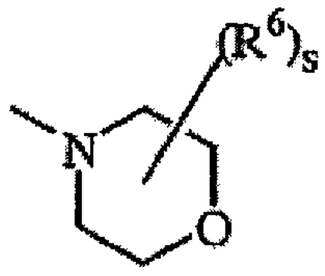
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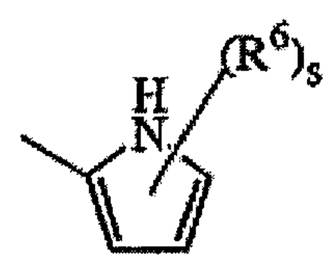
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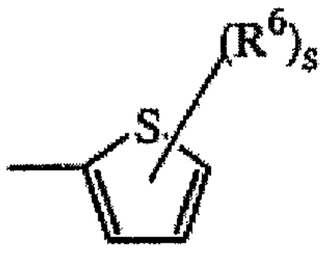
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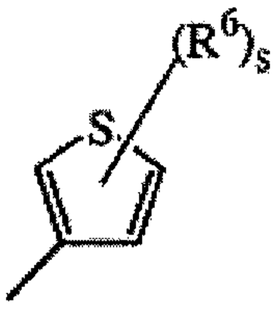
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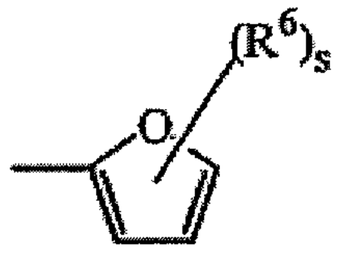
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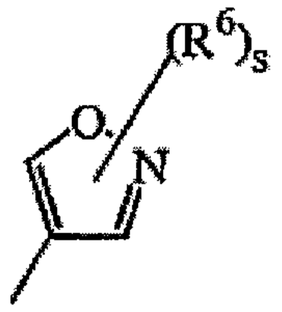
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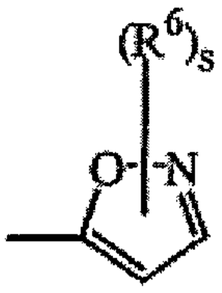
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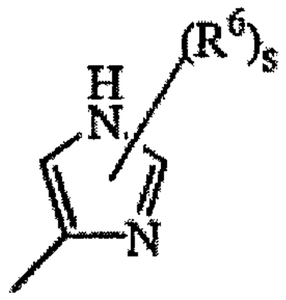
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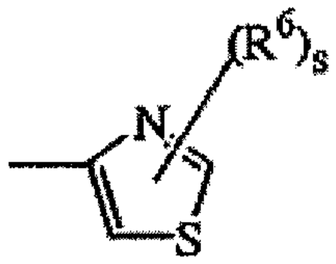
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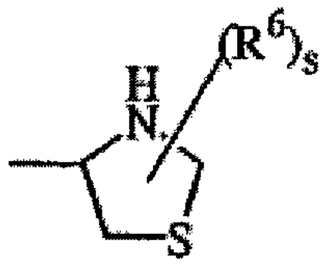
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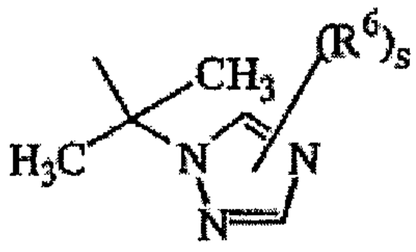
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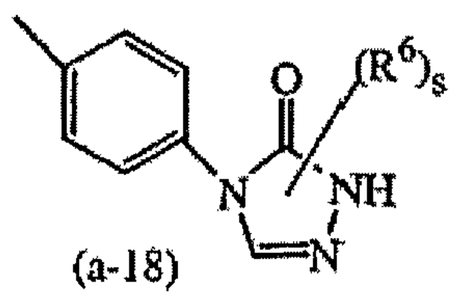
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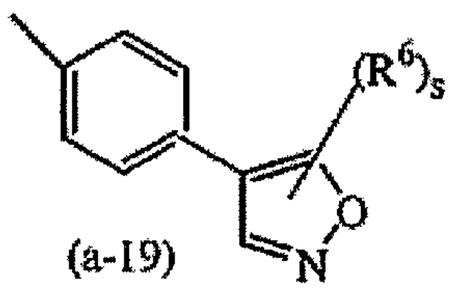
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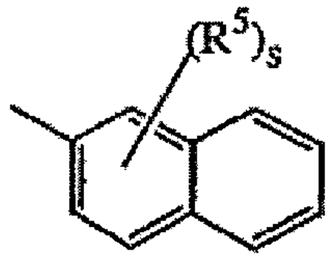
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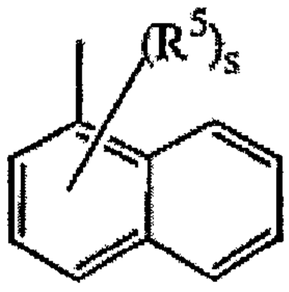
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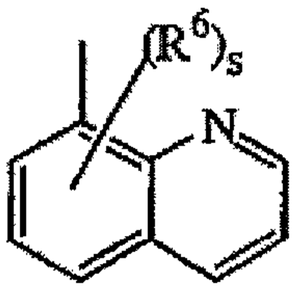
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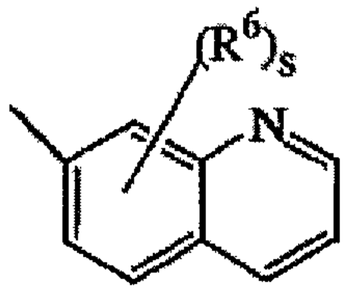
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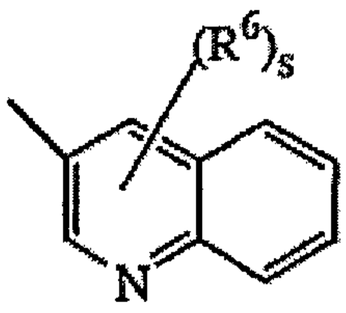
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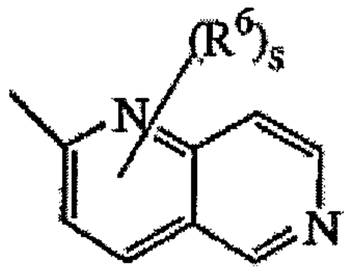
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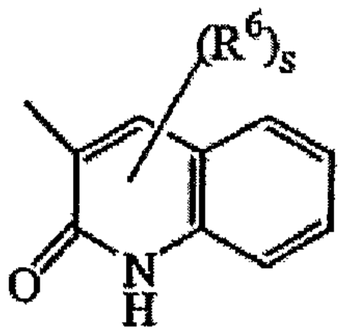
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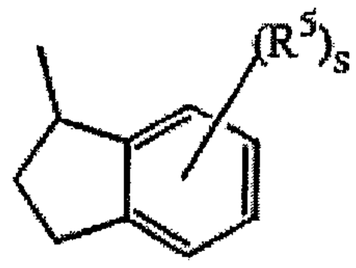
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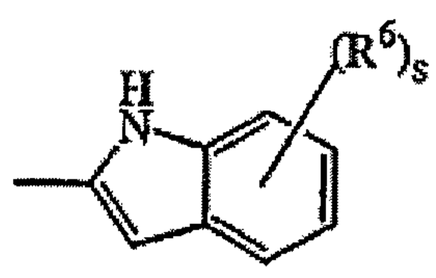
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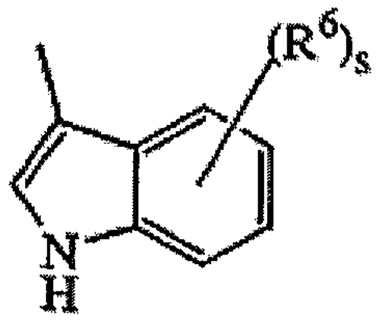
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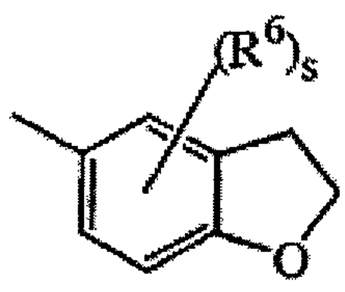
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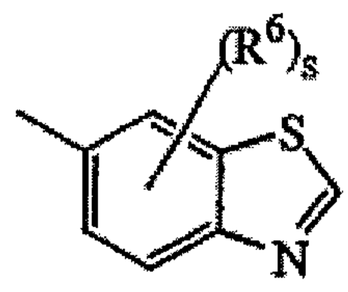
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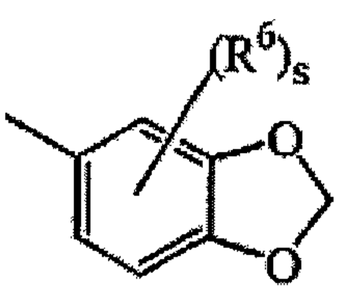
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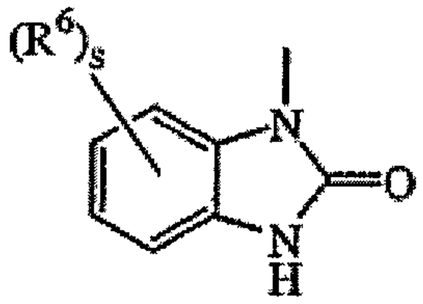
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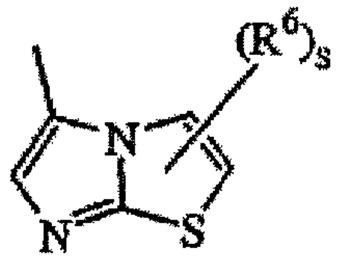
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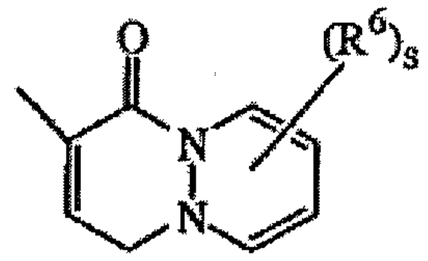
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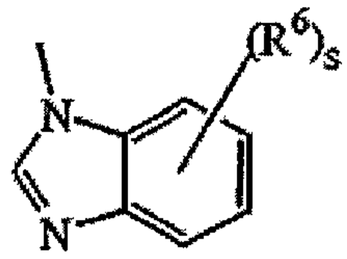
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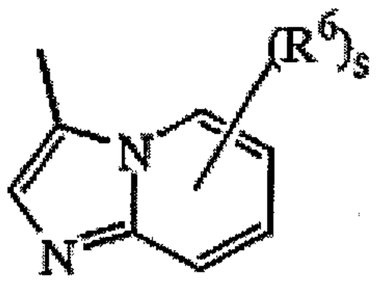
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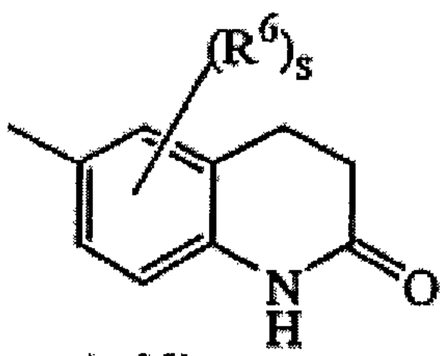
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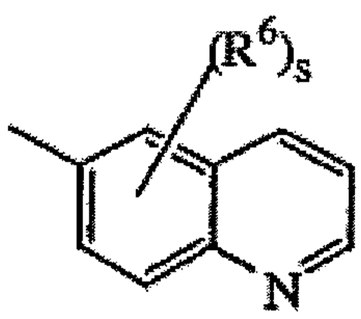
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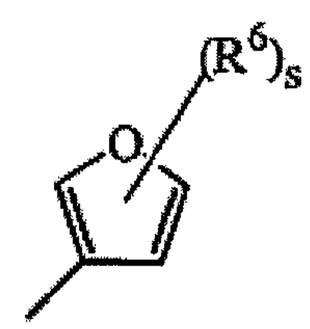
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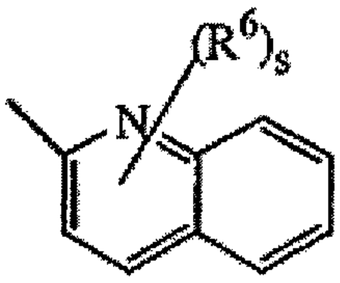
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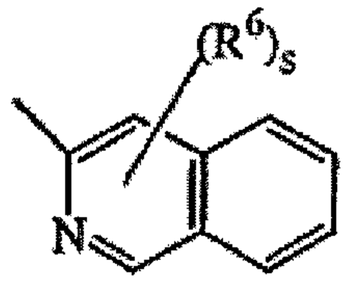
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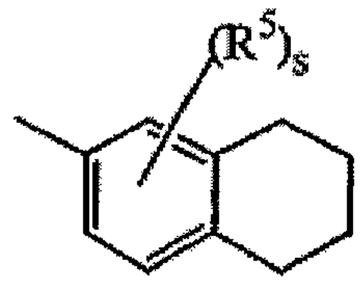
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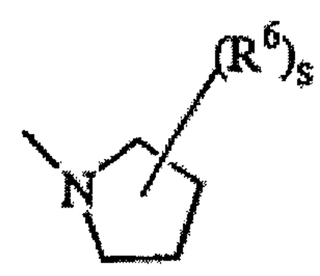
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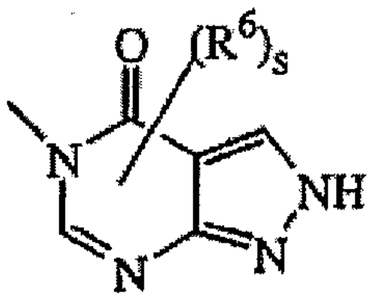
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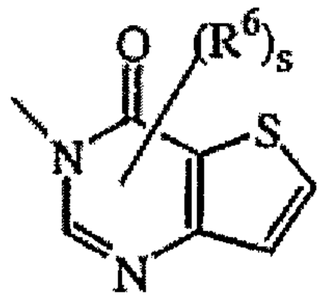
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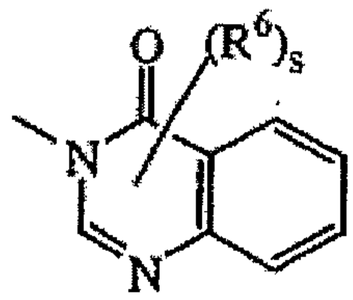
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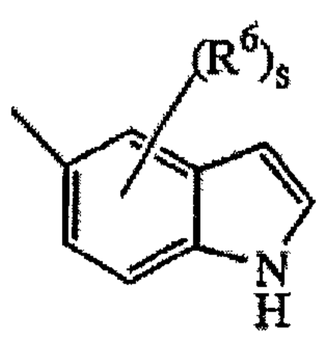
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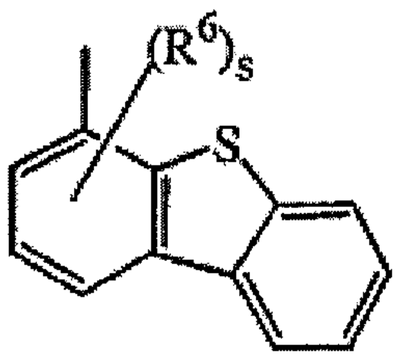
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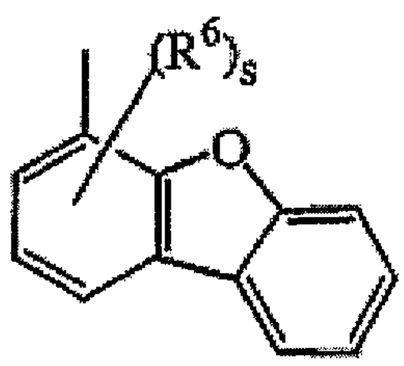
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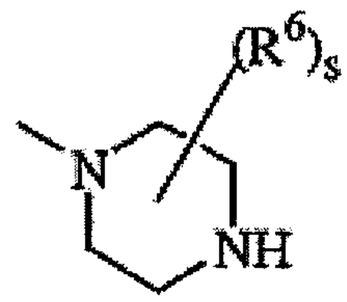
(a-48)



(a-49)



(a-50)



(a-51)

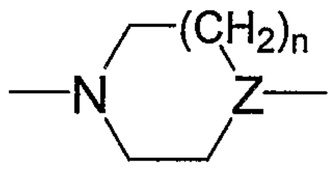
wherein each s is independently 0, 1, 2, 3, 4 or 5;

R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyl substituted with aryl and C_{3-10}-cycloalkyl; C_{1-6}-alkyloxy; C_{1-6}-alkyloxyC_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; cyanoC_{1-6}-alkyl; hydroxyC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxy; hydroxyC_{1-6}-alkylamino; aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminocarbonyl; di(hydroxyC_{1-6}-alkyl)amino; (aryl)(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylamino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylaminoC_{1-6}-alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}-alkyl; arylC_{2-6}-alkenediyl; di(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; di(C_{1-6}-alkyl)amino(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)amino(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; aminosulfonylamino(C_{1-6}-alkyl)amino; aminosulfonylamino(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; di(C_{1-6}-alkyl)aminosulfonylamino(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminosulfonylamino(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, C_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminosulfonylpiperazinylC_{1-6}-alkyl, C_{1-6}-alkyloxypiperidinyl, C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl, morpholinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}-alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}-alkyl; C_{1-6}-alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}-alkyloxy; morpholinyl; C_{1-6}-alkylmorpholinyl; morpholinylC_{1-6}-alkyloxy; morpholinylC_{1-6}-alkyl; morpholinylC_{1-6}-alkylamino; morpholinylC_{1-6}-alkylaminoC_{1-6}-alkyl; piperazinyl; C_{1-6}-alkylpiperazinyl; C_{1-6}-alkylpiperazinylC_{1-6}-alkyloxy; piperazinylC_{1-6}-alkyl; naphthalenylsulfonylpiperazinyl; naphthalenylsulfonylpiperidinyl; naphthalenylsulfonyl; C_{1-6}-alkylpiperazinylC_{1-6}-alkyl; C_{1-6}-

alkylpiperazinylC_{1-6}-alkylamino; C_{1-6}-alkylpiperazinylC_{1-6}-alkylaminoC_{1-6}-alkyl; C_{1-6}-alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}-alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}-alkyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinylC_{1-6}-alkyl; hydroxyC_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl; C_{1-6}-alkyloxyperidinyl; C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl; piperidinylaminoC_{1-6}-alkylamino; piperidinylaminoC_{1-6}-alkylaminoC_{1-6}-alkyl; (C_{1-6}-alkylpiperidinyl)(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkylamino; (C_{1-6}-alkylpiperidinyl)(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkylaminoC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl; (hydroxyC_{1-6}-alkyl)(C_{1-6}-alkyl)amino; (hydroxyC_{1-6}-alkyl)(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; hydroxyC_{1-6}-alkylaminoC_{1-6}-alkyl; di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; pyrrolidinylC_{1-6}-alkyl; pyrrolidinylC_{1-6}-alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}-alkyl and trihaloC_{1-6}-alkyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}-alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro,C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}-alkyloxy, C_{1-4}-alkylsulfonyl, C_{1-4}-alkyloxyC_{1-4}-alkyloxy, C_{1-4}-alkyloxycarbonyl,aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminocarbonyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkylaminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)amino(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)amino(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, aminosulfonylamino(C_{1-4}-alkyl)amino, aminosulfonylamino(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminosulfonylamino(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminosulfonylamino(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, cyano, piperidinylC_{1-4}-alkyloxy, pyrrolidinylC_{1-4}-alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, C_{1-4}-alkyloxypiperidinyl, C_{1-4}-alkyloxypiperdinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinyl,hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, (hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)amino, (hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(hydroxyC_{1-4}-alkyl)amino, di(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkyl, furanyl, furanyl substituted with-CH=CH-CH=CH-, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-}

$_4$-alkyloxy, morpholinyl, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl,morpholinylC_{1-4}-alkylamino, morpholinylC_{1-4}-alkylaminoC_{1-4}-alkyl, piperazinyl, C_{1-4}-alkylpiperazinyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkyloxy, piperazinylC_{1-4}-alkyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkylamino, C_{1-4}-alkylpiperazinylC_{1-4}-alkylaminoC_{1-6}-alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}-alkyl, piperidinylaminoC_{1-4}-alkylamino, piperidinylaminoC_{1-4}-alkylaminoC_{1-4}-alkyl, (C_{1-4}-alkylpiperidinyl)(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkylamino, (C_{1-4}-alkylpiperidinyl)(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkylaminoC_{1-4}-alkyl, pyridinylC_{1-4}-alkyloxy, hydroxyC_{1-4}-alkylamino, hydroxyC_{1-4}-alkylaminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkylamino, aminothiadiazolyl,aminosulfonylpiperazinylC_{1-4}-alkyloxy, and thiophenylC_{1-4}-alkylamino;

the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with a methylene, ethylene or propylene bridge;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy, trifluoromethyl, cyano, and hydroxycarbonyl.

[0099] In one embodiment of the compound according to paragraph [0098], one or more of the following apply:

a) n is 1 or 2;

b) t is 0, 1 or 2;

c) Z is nitrogen;

d) R^{12} is hydrogen, nitro, C_{1-6}-alkyloxy, trifluoromethyl, di(C_{1-6}-alkyl) amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

e) -L-is a direct bond or a bivalent radical selected from C_{1-6}-alkanediyl, carbonyl and aminocarbonyl;

f) each R^{13} is hydrogen;

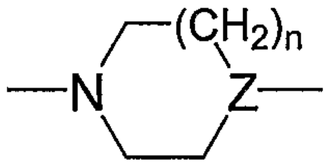
g) R^{14} is hydrogen, hydroxyC_{1-6}-alkyl, aminocarbonyl, hydroxyaminocarbonyl or di(C_{1-6}-alkyl) aminoC_{1-6}-alkyl;

h) the A ring is a radical selected from (a-1), (a-7), (a-9),(a-10), (a-12), (a-14), (a-19), (a-20), (a-21), (a-22), (a-23), (a-30), (a-34), (a-49) and (a-50);

i) each s is independently 0,1, 2 or 5;

j) each R^5 and R^6 are independently selected from hydrogen; halo; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylsulfonyl; (aryl)(C_{1-6}-alkyl)amino; arylsulfonyl; aryloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-alkyl)amino; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl,C_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminosulfonylpiperazinylC_{1-6}-alkyl, C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl, morpholinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; oxazolyl; pyrrolyl; pyrazolyl; pyridinyl; pyridinyl substituted withC_{1-6}-alkyloxy; quinolinyl; indolyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, di (hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl, and C_{1-4}-alkylpiperazinylC_{1-4}-alkyl, and

k) the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with a methylene bridge.

[0100] In another embodiment of the compound according to paragraph [0098], one or more of the following apply:

l) n is 1 or 2;

m) t is 0 or 2;

n) Z is nitrogen;

o) R^{12} is hydrogen;

p) -L-is a direct bond;

q) each R^{13} is hydrogen;

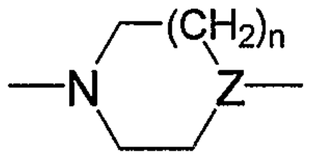
r) R^{14} is hydrogen;

s) the A ring is a radical selected from (a-1), (a-9), (a-19), (a-20), (a-21), (a-22), (a-23), (a-49) and (a-50);

t) each s is independently 0, 1, 2 or 5;

u) each R^5 and R^6 is independently selected from hydrogen; halo; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-alky)amino; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, C_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl, morpholinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; oxazolyl; pyrazolyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy; quinolinyl; indolyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, di(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl pyrrolidinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl, C_{1and} $_{-4}$-alkylpiperazinylC_{1-4}-alkyl, and

v) the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with a methylene bridge.

[0101] In another embodiment of the compound according to paragraph [0098], one or more of the following apply:

w) n is 1;

x) t is 0;

y) Z is nitrogen;

z) R^{12} is hydrogen;

aa) -L-is a direct bond;

bb) each R^{13} is hydrogen;

cc) R^{14} is hydrogen;

dd) the A ring is a radical selected from (a-1) and (a-20);

ee) each s is independently 0 or 1;

ff) each R^5 and R^6 is independently selected from hydrogen; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl or C_{1-6}-alkylpiperazinylC_{1-6}-alkyl; furanyl; phenyl; and phenyl substituted with one substituents independently selected from di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyloxy and C_{1-4}-alkylpiperazinylC_{1-4}-alkyl.

[0102] In another embodiment of the compound according to paragraph [0098], L is a direct bond and/or R^{12} is H.

[0103] In another embodiment of the compound according to paragraph [0098], one or more of the following apply:

a) t is 0;

b) R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}-alkyl, C_{1-6}-alkyloxy, trifluoromethyl or di(C_{1-6}-alkyl)amino;

c) -L-is a direct bond or a bivalent radical selected from C_{1-6}-alkanediyl, amino, and carbonyl;

d) R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl, C_{1-6}-alkyloxy, arylC_{1-6}-alkyl, aminocarbonyl, aminoC_{1-6}-alkyl, C_{1-6}-alkylaminoC_{1-6}-alkyl or di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl;

e) the A ring is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) and (a-51);

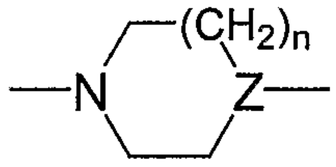
f) each s is independently 0, 1, 2, 3 or 4;

g) R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; hydroxyC_{1-6}-alkyl; aryloxy; di(C_{1-6}-alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}-alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}-alkyl; C_{1-6}-alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}-alkylmorpholinyl; piperazinyl; C_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkylpiperazinyl; C_{1-6}-alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents

selected from C_{1-6}-alky and trihaloC_{1-6}-alkyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy, or trifluoromethyl;

h) R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; hydroxyC_{1-6}-alkyl; aryloxy; di(C_{1-6}-alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy, and trifluoromethyl, and

i) the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with an ethylene bridge.

[0104] In another embodiment of the compound according to paragraph [0098], one or more of the following apply:

a) R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}-alkyl, C_{1-6}-alkyloxy, trifluoromethyl, hydroxyamino or naphthalenylsulfonylpyrazinyl;

b) R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyloxy, arylC_{1-6}-alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}-alkyl, aminocrbonylC_{1-6}-alkyl, hydroxycarbonylC_{1-6}-alkyl, hydroxyaminocarbonyl, C_{1-6}-alkyloxycarbonyl, C_{1-6}-alkylaminoC_{1-6}-alkyl or di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl;

c) the A ring is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-43) and (a-44);

d) each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkyloxyC_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkylsulfonyl; cyanoC_{1-6}-alkyl; hydroxyC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxy; hydroxyC_{1-6}-alkylamino; aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminocarbonyl; di(hydroxyC_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-

alkyl)amino; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, C_{1-6}-alkylpiperazinylC_{1-6}-alkyl or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; imidazolyl; C_{1-6}-alkyltriazolyl; tetrazolyl; piperidinylC_{1-6}-alkyloxy; morpholinyl; C_{1-6}-alkylmorpholinyl; morpholinylC_{1-6}-alkyloxy; morpholinylC_{1-6}-alkyl; C_{1-6}-alkylpiperazinylC_{1-6}-alkyloxy; C_{1-6}-alkylpiperazinylC_{1-6}-alkyl; C_{1-6}-alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}-alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}-alkyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinylC_{1-6}-alkyl; hydroxyC_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl; C_{1-6}-alkyloxypiperidinyl; C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl; (hydroxyC_{1-6}-alkyl)(C_{1-6}-alkyl)amino; (hydroxyC_{1-6}-alkyl)(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; pyrrolidinylC_{1-6}-alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}-alky) or trihaloC_{1-6}-alkyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy or aryl; pyrimidinyl; quinolinyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}-alkoxy, C_{1-4}-alkyloxyC_{1-4}-alkoxy, aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, piperidinylC_{1-4}-alkyloxy, pyrrolidinylC_{1-4}-alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, C_{1-4}-alkyloxypiperidinyl, C_{1-4}-alkoxypiperidinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinyl, hyroxyC_{1-4}-alkoxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)amino, (hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkoxy, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkoxy, C_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkylamino, di(hydroxyC_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}-alkyloxy, and thiophenylC_{1-4}-alkylamino.

[0105] In another embodiment of the compound according to paragraph [0098], R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}-alkyl, C_{1-6}-alkoxy, trifluoromethyl, hydroxyamino or naphtalenylsulfonylpyrazinyl;

R^{14} is hydrogen, hydroxy, amino, hyroxyC_{1-6}-alkyl, C_{1-6}-alkyloxy, arylC_{1-6}-alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}-alkyl, aminocarbonylC_{1-6}-alkyl, hydroxycarbonylC_{1-6}-alkyl, hydroxyaminocarbonyl, C_{1-6}-alkyloxycarbonyl, C_{1-6}-alkylaminoC_{1-6}-alkyl or di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl;

the A ring is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42)(a-43) and (a-44); and

each R^5 and R^6 is independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkoxy; C_{1-6}-alkyloxyC_{1-6}-alkoxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkylsulfonyl; cyanoC_{1-6}-alkyl; hydroxyC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxy; hydroxyC_{1-6}-alkylamino; aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminocarbonyl; di(hydroxyC_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-alkyl)amino; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, C_{1-6}-alkylpiperazinylC_{1-6}-alkyl or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; imidazolyl; C_{1-6}-alkyltriazolyl; tetrazolyl; piperidinylC_{1-6}-alkyloxy; morpholinyl; C_{1-6}-alkylmorpholinyl; morpholinylC_{1-6}-alkyloxy; morpholinylC_{1-6}-alkyl; C_{1-6}-alkylpiperazinylC_{1-6}-alkyloxy; C_{1-6}-alkylpiperazinylC_{1-6}-alkyl; C_{1-6}-alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}-alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}-alkyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinylC_{1-6}-alkyl; hydroxyC_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl; C_{1-6}-alkoxypiperidinyl; C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl; hydroxyC_{1-6}-alkoxyC_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl; (hydroxyC_{1-6}-alkyl)(C_{1-6}-alkyl)amino; (hydroxyC_{1-6}-alkyl)(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; pyrrolidinylC_{1-6}-alkoxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}-alkyl and trihaloC_{1-6}-alkyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkoxy or aryl; pyrimidinyl; quinolinyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkoxy, hydroxyC_{1-6}-alkyl, trifluoromethyl, trifluoromethyloxy, hydroxylC_{1-6}-alkoxyC_{1-6}-alkyloxy, aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkoxy, di(C_{1-4}-alkyl)amino, piperidinylC_{1-4}-alkoxy, pyrrolidinylC_{1-4}-

alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, C_{1-4}-alkyloxypiperidinyl, C_{1-4}-alkyloxypiperidinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinyl, hydroxyC_{1-4}-alkoxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, (hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)amino, (hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkoxy, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkoxy, C_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkylamino, di(hydroxyC_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}-alkyloxy, and thiophenylC_{1-4}-alkylamino.

[0106] In another embodiment of the compound according to paragraph [0098],

t is 0;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}-alkyl, C_{1-6}-alkoxy, trifluoromethyl or di(C_{1-6}-alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}-alkanediyl, amino and carbonyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl, C_{1-6}-alkoxy, arylC_{1-6}-alkyl, aminocarbonyl, aminoC_{1-6}-alkyl, C_{1-6}-alkylaminoC_{1-6}-alkyl or di(Cl-6alkyl)aminoC_{1-6}-alkyl;

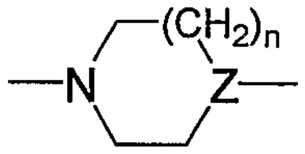
the A ring is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) and (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; hydroxyC_{1-6}-alkyl; aryloxy; di(C_{1-6}-alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}-alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}-alkyl; C_{1-6}-alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}-alkylmorpholinyl; piperazinyl; C_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkylpiperazinyl; C_{1-6}-alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}-alkyl and trihaloC_{1-6}-alkyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; and phenyl substituted with one or two substituents independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy and trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; hydroxyC_{1-6}-alkyl; aryloxy; di(C_{1-6}-alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy and tirfluoromethyl; and

the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with an ethylene bridge.

[0107] In another embodiment of the compound according to paragraph [0098],

n is 1 or 2;

t is 0, 1 or 2;

Z is nitrogen;

R^{12} is hydrogen, nitro, C_{1-6}-alkyloxy, trifluoromethyl, di(C_{1-6}-alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

-L-is a direct bond or a bivalent radical selected from C_{1-6}-alkanediyl, carbonyl and aminocarbonyl;

each R^{13} represents a hydrogen atom;

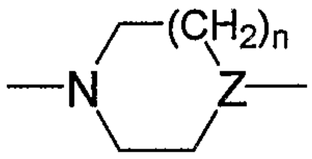
R^{14} is hydrogen, hydroxyC_{1-6}-alkyl, aminocarbonyl, hydroxyaminocarbonyl or di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl;

the A ring is a radical selected from (a-1), (a-7), (a-9), (a-10), (a-12), (a-14), (a-19), (a-20), (a-21), (a-22), (a-23), (a-30), (a-34), (a-49) and (a-50);

each s is independently 0, 1, 2 or 5;

each R^5 and R^6 is independently selected from hydrogen; halo; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylsulfonyl; (aryl)(C_{1-6}-alkyl)amino; arylsulfonyl; aryloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-alky)amino; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, C_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxylC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminosulfonylpiperazinylC_{1-6}-alkyl, C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl, morpholinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; oxazolyl; pyrrolyl; pyrazolyl; pyridinyl;

pyridinyl substituted withC_{1-6}-alkyloxy; quinolinyl; indolyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkoxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C1 4alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, hydroxyl4alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, di(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkoxy, morpholinylC_{1-4}-alkyloxy, and morpholinylC_{1-4}-alkyl, and C_{1-4}-alylpiperazinylC_{1-4}-alkyl, and the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with a methylene bridge.

[0108] In another embodiment of the compound according to paragraph [0098],

n is 1 or 2;

t is 0 or 2;

Z is nitrogen;

R^{12} is hydrogen;

-L-is a direct bond;

each R^{13} is hydrogen;

R^{14} is hydrogen;

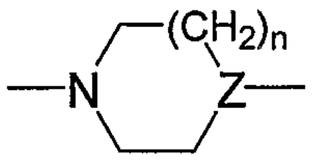
the A ring is a radical selected from (a-1), (a-9), (a-19), (a-20), (a-21), (a-22), (a-23), (a-49) and (a-50);

each s is independently 0, 1, 2 or 5;

each R^5 and R^6 is independently selected from hydrogen; halo; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-alky)amino; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, C_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl, morpholinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; oxazolyl; pyrazolyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy; quinolinyl; indolyl; phenyl; and phenyl substituted with one, two or three

substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hyroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, di(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl, and C_{1-4}-alkylpiperazinylC_{1-4}-alkyl, and

the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with a methylene bridge.

[0109] In another embodiment of the compound according to paragraph [0098],

n is 1;

t is 0;

Z is nitrogen;

R^{12} is hydrogen;

-L-is a direct bond;

each R^{13} is hydrogen;

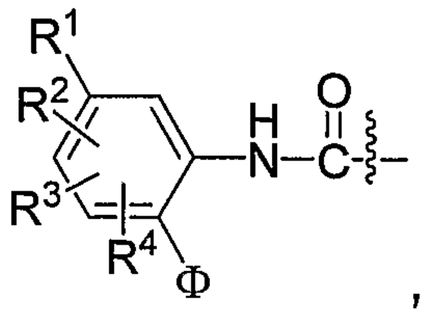
R^{14} is hydrogen;

the A ring is radical selected from (a-1) and (a-20);

each s is independently 0 or 1;

each R^5 and R^6 is independently selected from hydrogen; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, or C_{1-6}-alkylpiperazinylC_{1-6}-alkyl; furanyl; phenyl; and phenyl substituted with one substituents independently selected from di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyloxy and C_{1-4}-alkylpiperazinylC_{1-4}-alkyl.

[0110] In the compounds of paragraphs [0098] – [0109], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraphs [0098] – [0109], R^1, R^2, R^3, and R^4 are all H. Other preferred embodiments of the compounds of paragraph [0098] – [0109] include the compounds of pages 21 and 22 and Table F-1 of WO 03/076422 in which the terminal hydroxamic acid moiety (HO-NH-C(O)-) is replaced with



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wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

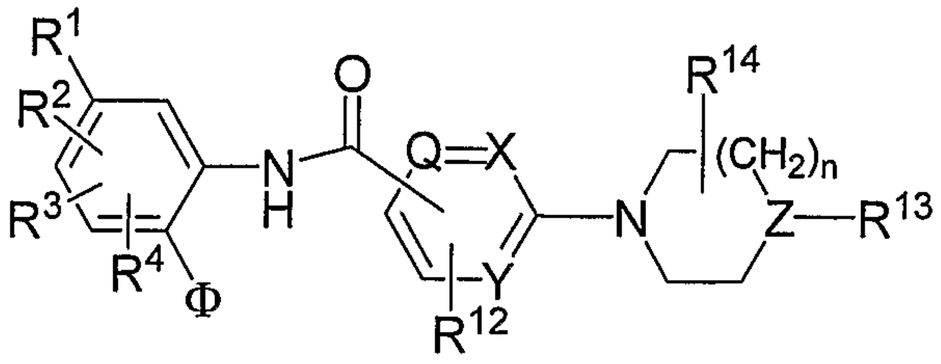
[0111] In paragraphs [0098] – [0110] the definitions in paragraphs [0112] – [0114] supplement the definitions in paragraphs [0020] – [0042]. To the extent there are any inconsistencies between the definitions in paragraphs [0020] – [0042] and in paragraphs [0112] – [0114], the definitions in paragraphs [0112] – [0114] take precedence for the compounds of paragraphs [0098] – [0110] only.

[0112] Halo is generic to fluoro, chloro, bromo and iodo; C_{1-4}-alkyl defines straight and branched chain saturated hydrocarbon radicals having from 1 to 4 carbon atoms such as, *e.g.*, methyl, ethyl, propyl, butyl, 1-methylethyl, 2-methylpropyl and the like; C_{1-6}-alky includes C_{1-4}-alkyl and the higher homologues thereof having 5 to 6 carbon atoms such as, for example, pentyl, 2-methylbutyl, hexyl, 2-methylpentyl and the like; C_{1-6}-alkanediyl defines bivalent straight and branched chained saturated hydrocarbon radicals having from 1 to 6 carbon atoms such as, for example, methylene, 1,2-ethanediyl, 1,3-propanediyl 1,4-butanediyl, 1,5-pentanediyl, 1,6-hexanediyl and the branched isomers thereof such as, 2- methylpentanediyl, 3-methylpentanediyl, 2,2-dimethylbutanediyl, 2,3-dimethylbutanediyl and the like; trihaloC_{1-6}-alkyl defines C_{1-6}-alkyl containing three identical or different halo substituents for example trifluoromethyl; C_{2-6}-alkenediyl defines bivalent straight and branched chain hydrocarbon radicals containing one double bond and having from 2 to 6 carbon atoms such as, for example, ethenediyl, 2-propenediyl, 3-butenediyl, 2-pentenediyl, 3-pentenediyl, 3-methyl-2-butenediyl, and the like; aryl defines phenyl, and phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy or trifluoromethyl, cyano, hydroxycarbonyl; aminoaryl defines aryl substituted with amino; C_{3-10}-cycloalkyl includes cyclic hydrocarbon groups having from 3 to 10 carbons, such as cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexenyl, cycloheptyl, cyclooctyl and the like.

[0113] The term "another Zn-chelating group" refers to a group which is capable of interacting with a Zn^{2+}-ion, which can be present at an enzymatic binding site.

[0114] The N-oxide forms of the compounds of paragraph [0098] comprise those compounds wherein one or several nitrogen atoms are oxidized to the so-called N-oxide, particularly those N-oxides wherein one or more of the piperidine-, piperazine or pyridazinyl-nitrogens are N-oxidized.

[0115] In another embodiment, the invention comprises compounds of the following structural formula (5):



(5)

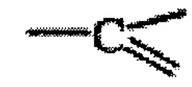
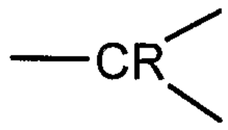
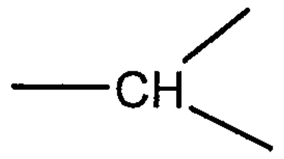
or a pharmaceutically acceptable salt thereof, wherein

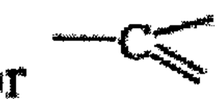
Φ is $-NH_2$ or $-OH$;

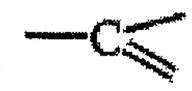
R^1 is H or as defined in paragraph [0046];

R^2, R^3, and R^4 are as defined in paragraph [0046];

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, arylaminosulfonylamino, aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, arylaminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl

wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, hydroxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, or morpholinylC_{1-4}alkyl; thiophenyl; or thiophenyl substituted with di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, pyrrolidinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl or morpholinylC_{1-4}alkyloxy.

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

when R^{13} & R^{14} are present on the same carbon atom, R^{13} & R^{14} together may form a bivalent radical of formula

-C(O)-NH-CH_2-NR^{10}- (a-1)

wherein R^{10} is hydrogen or aryl;

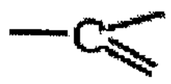
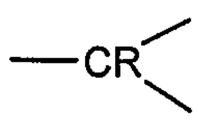
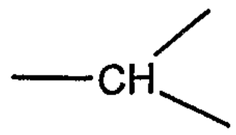
when R^{13} & R^{14} are present on adjacent carbon atoms, R^{13} & R^{14} together may form a bivalent radical of formula

=CH-CH=CH-CH= (b-1);

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

[0116] In some embodiments of the compound according to paragraph [0115], one or more of the following restrictions apply:

n is 0 or1;

Q is  ,  , or  ;

R^{12} is hydrogen or nitro;

R^{13} is C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, C_{1-6}alkylaminocarbonyl, aminosulfonyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl;

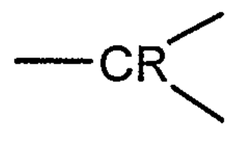
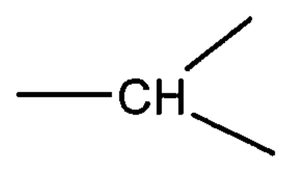
R^{14} is hydrogen;

when R^{13} & R^{14} are present on the same carbon atom R^{13} & R^{14} together may form a bivalent radical of formula (a-1) wherein R^{10} is aryl;

when R^{13} & R^{14} are present on adjacent carbon atoms R^{13} & R^{14} together may form a bivalent radical of formula (b-1).

[0117] In another embodiment of the compound according to paragraph [0115], , one or more of the following restrictions apply::

n is 1;

Q is ,  , or  ;

Z is nitrogen;

R^{12} is hydrogen;

R^{13} is naphtalenylcarbonyl, C_{1-12}alkylsulfonyl or di(aryl)C_{1-6}alkylcarbonyl;

R^{14} is hydrogen.

[0118] In another embodiment of the compound according to paragraph [0115], R^{12} is H.

[0119] In another embodiment of the compound according to paragraph [0115]:

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl or pyridinylcarbonyl wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy; or thiophenyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl.

[0120] In some embodiments of the compound according to paragraph [0115],

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

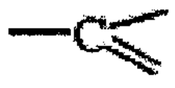
R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl or pyridinylcarbonyl wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy; or thiophenyl; and

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl.

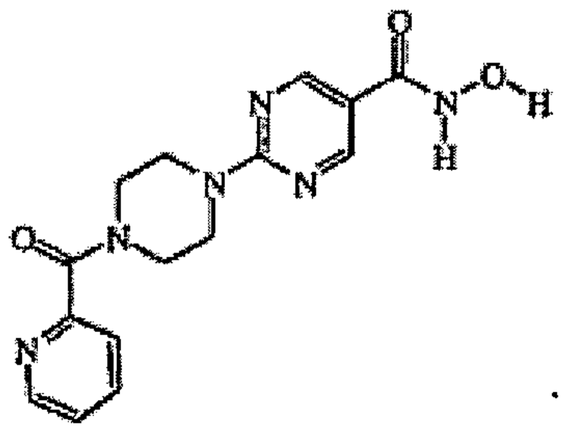
[0121] In some embodiments of the compound according to paragraph [0115],

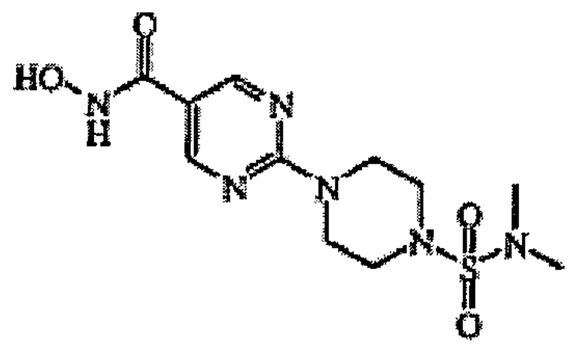
n is 0 or 1; Q is  ; or -NHC(O)C_{1-6}alkanediylSH; R^{12} is hydrogen or nitro; R^{13} is C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, C_{1-6}alkylaminocarbonyl aminosulfonyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl; R^{14} is hydrogen; when R^{13} and R^{14} are present on the same carbon atom R^{13} & R^{14} together may form a bivalent radical of formula (a-1) wherein R^{10} is aryl; or when R^{13} & R^{14} are present on adjacent carbor atoms R^{13} & R^{14} together may form a bivalent radical of formula (b-1).

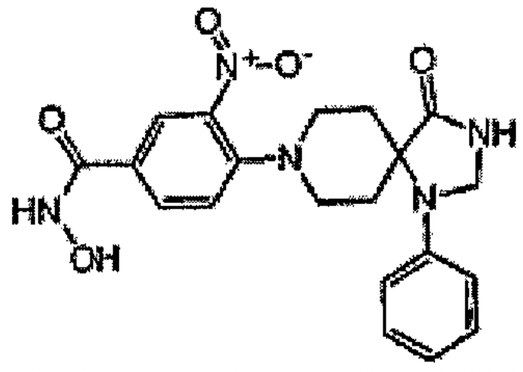
[0122] In some embodiments of the compound according to paragraph [0115],

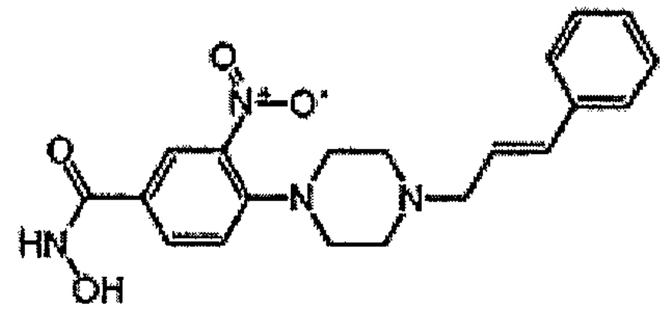
n is 1; Q is  ; Z is nitrogen; R^{12} is hydrogen; R^{13} is naphthalenylcarbonyl, C_{1-12}alkylsulfonyl or di(aryl)C_{1-6}alkylcarbonyl; and R^{14} is hydrogen.

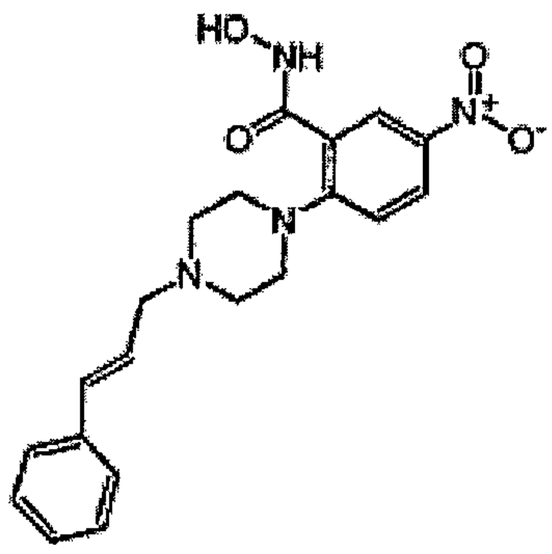
[0123] Particular embodiments of the compound according to paragraph [0115] include the following

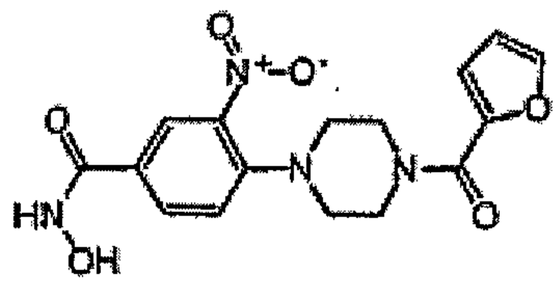


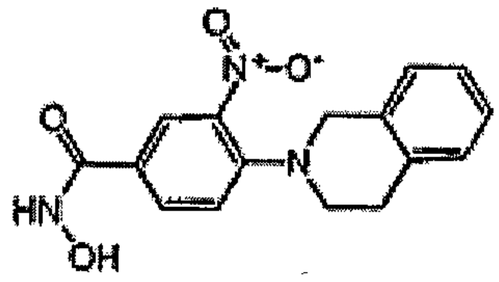


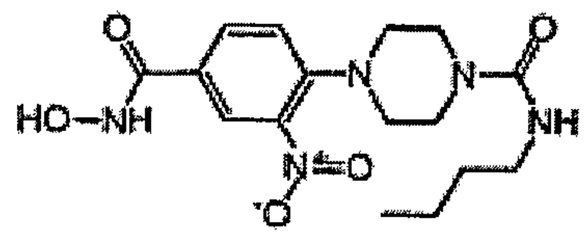


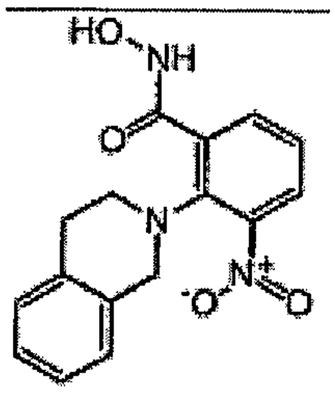


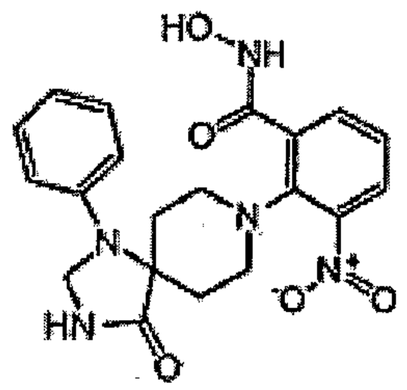


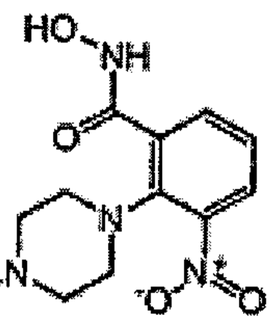


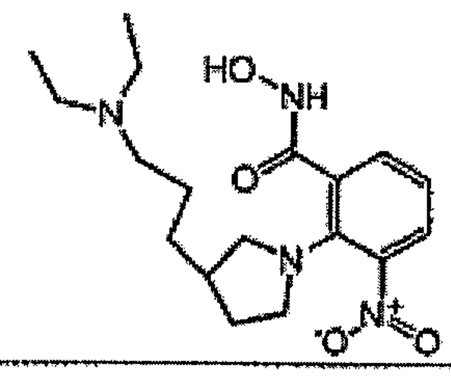


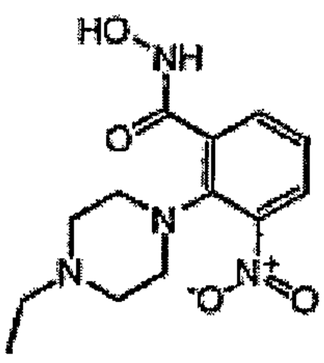


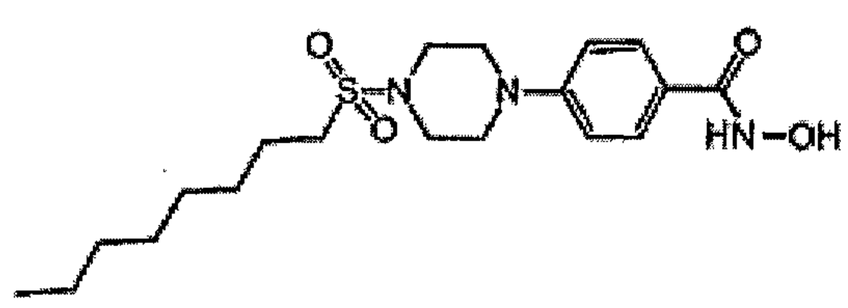


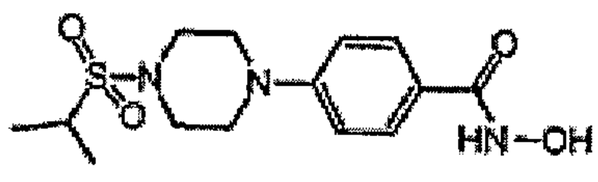


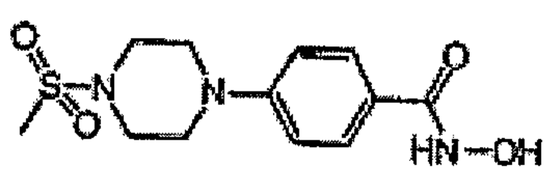


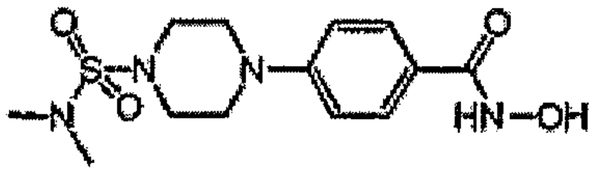


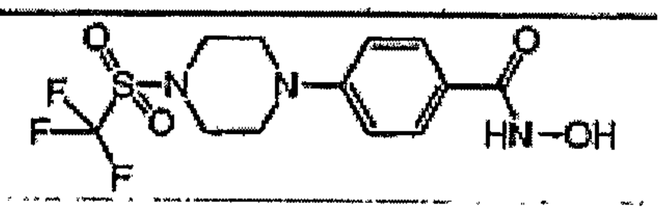


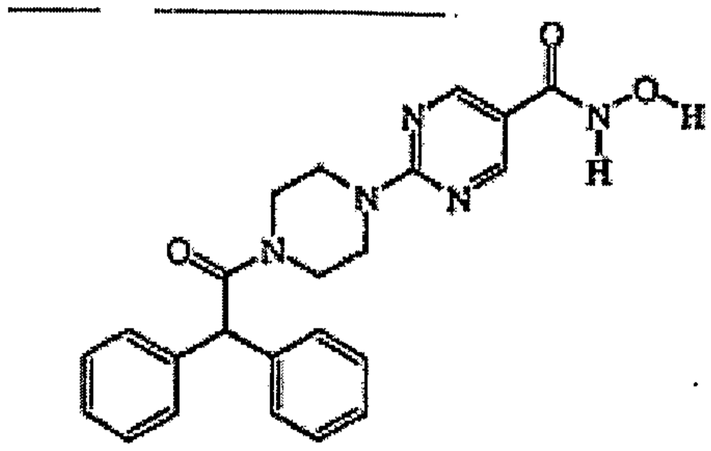


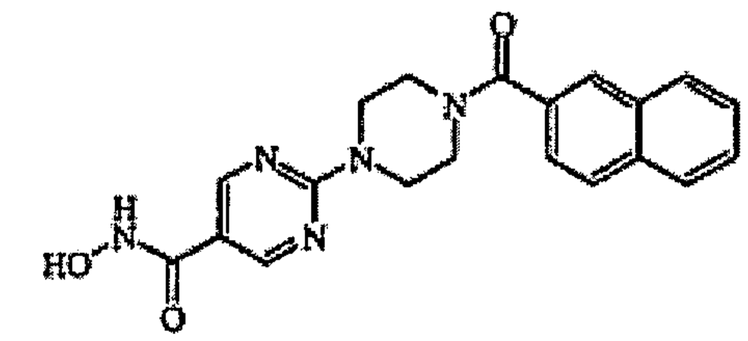


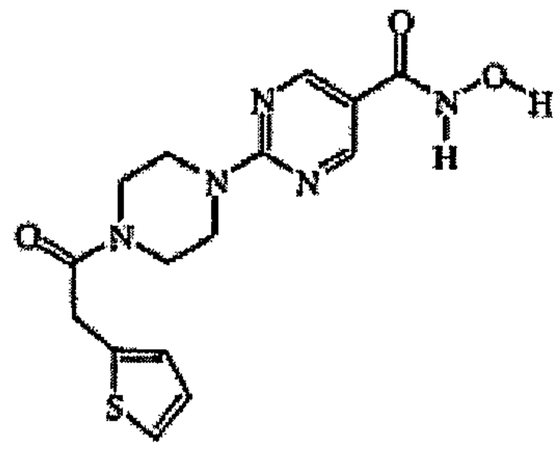


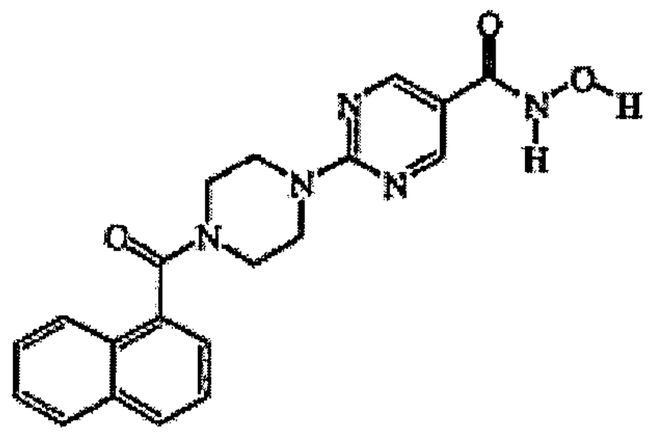


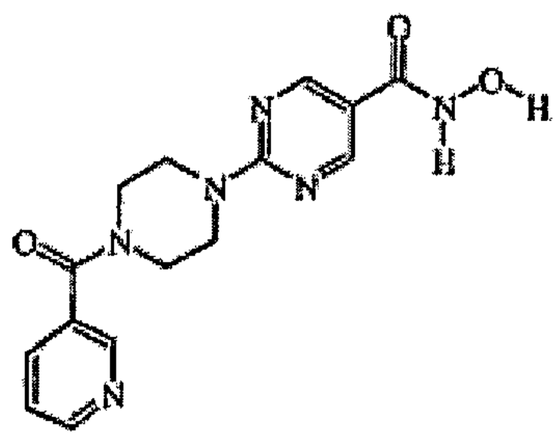


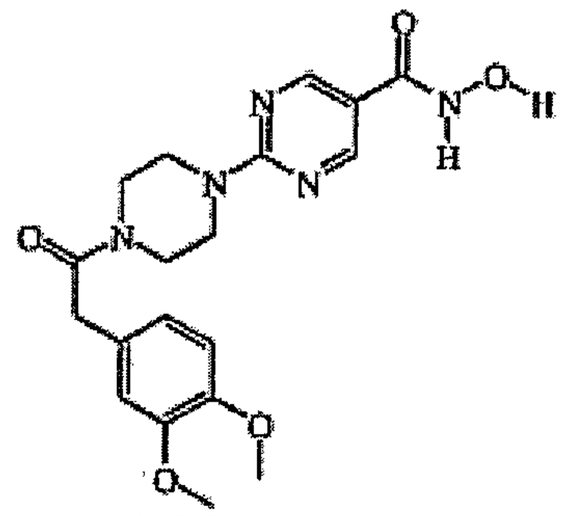




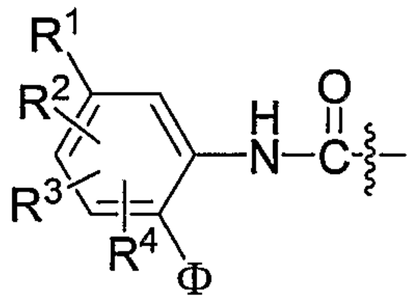








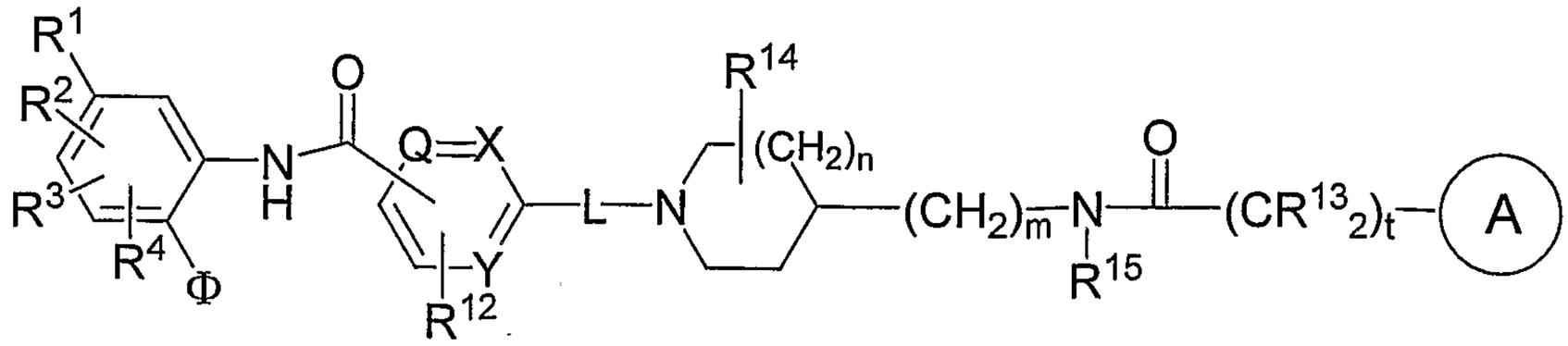
in which the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0124] In the compounds of paragraphs [0115] -[0123], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049], while in other embodiments of the compounds of paragraphs [0115] -[0123], R^1, R^2, R^3, and R^4 are all H.

[0125] In another embodiment, the invention comprises compounds of the following structural formula (6):



(6)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

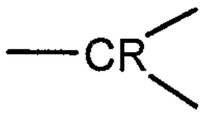
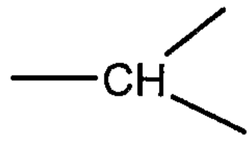
R^1 is H or as defined in paragraph [0046];

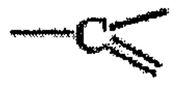
R^2, R^3, and R^4 are as defined in paragraph [0046];

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

m is 0 or 1 and when m is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

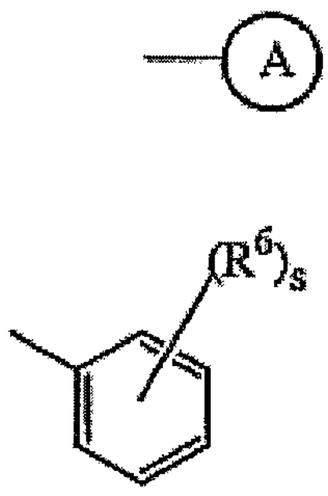
-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino, carbonyl or aminocarbonyl;

each R^{13} is independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

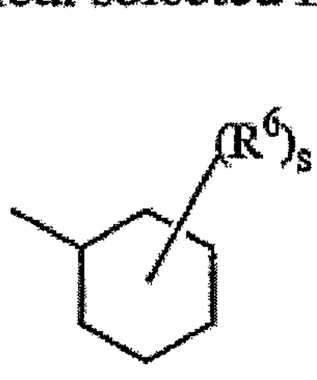
R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^{15} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;

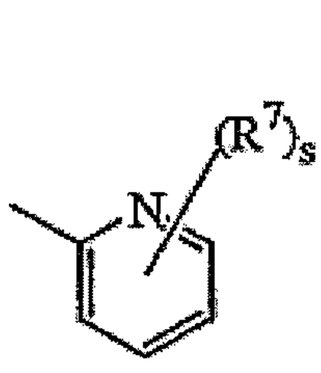
—(A) is a radical selected from



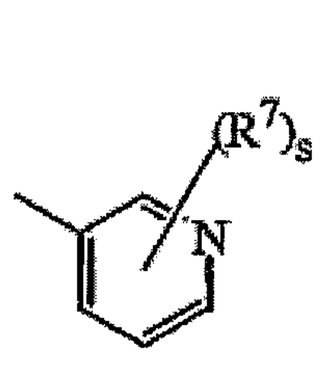
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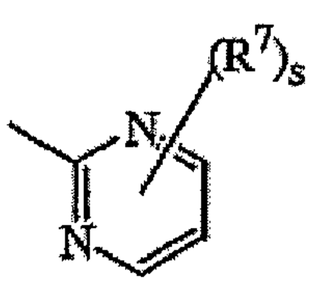
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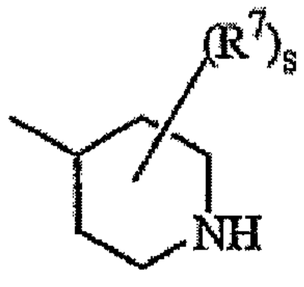
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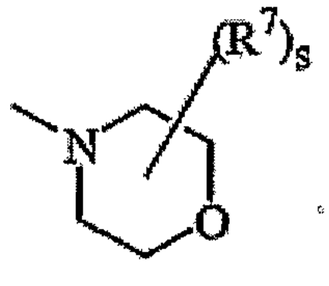
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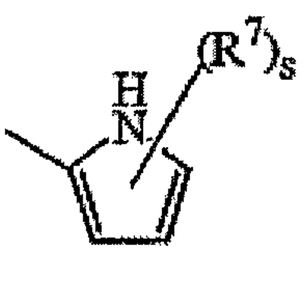
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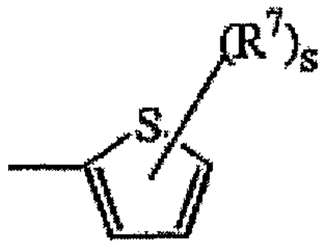
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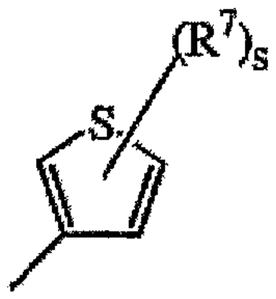
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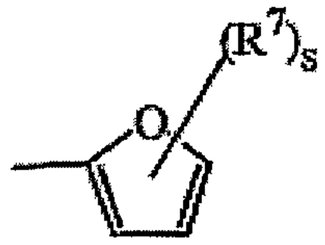
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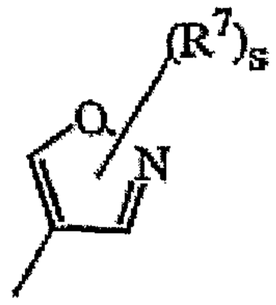
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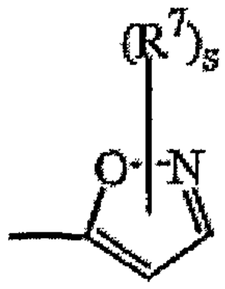
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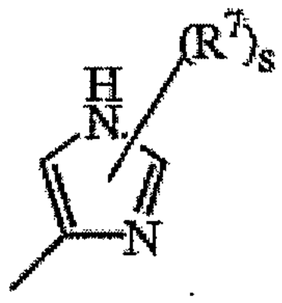
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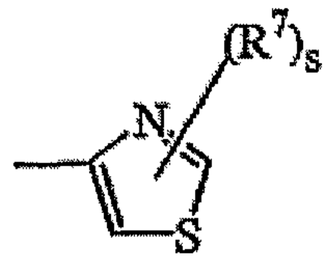
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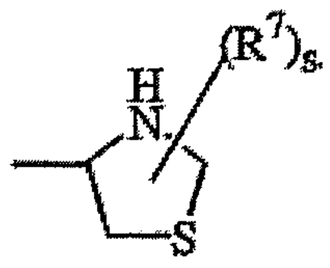
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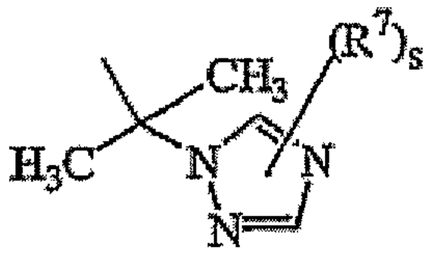
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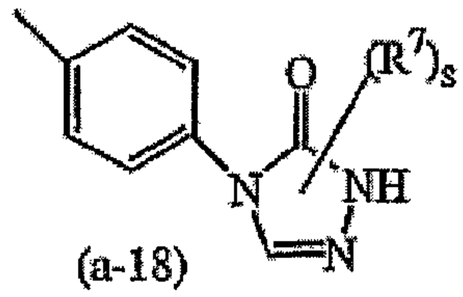
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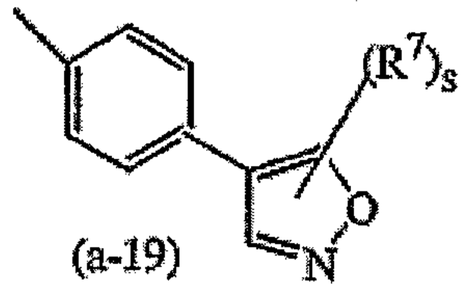
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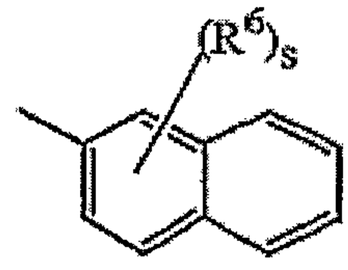
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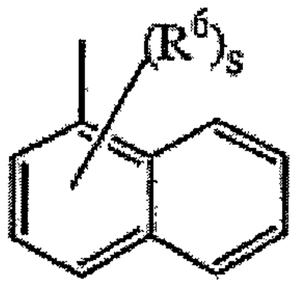
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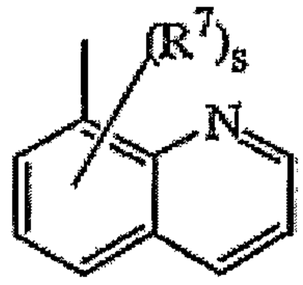
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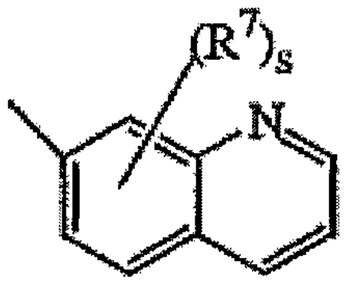
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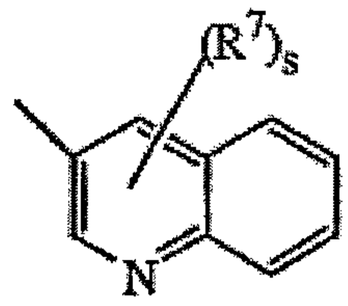
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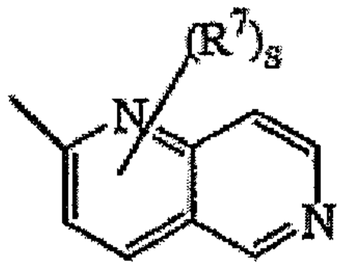
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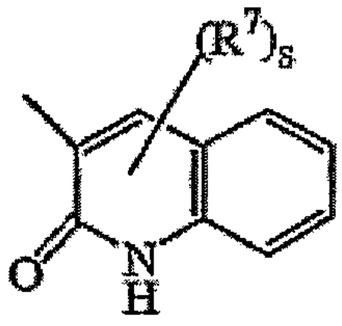
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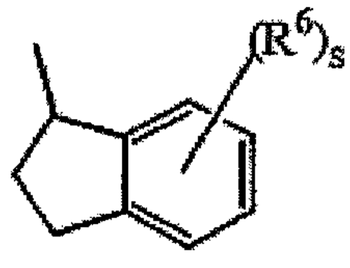
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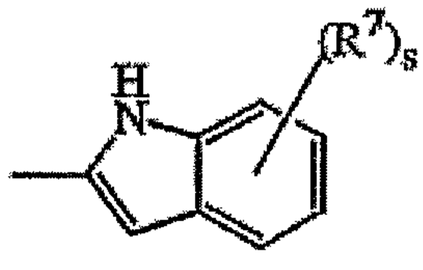
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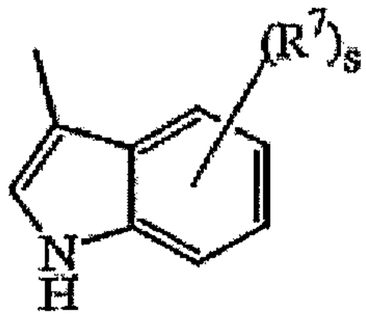
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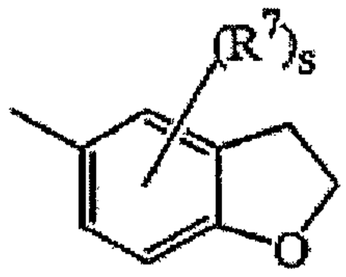
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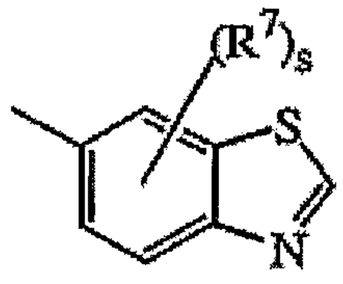
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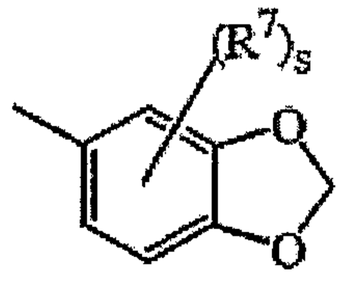
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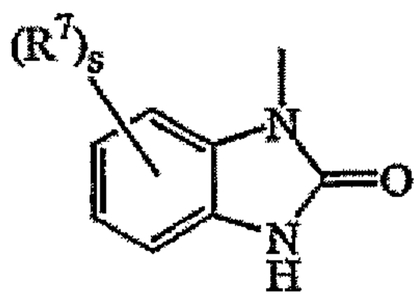
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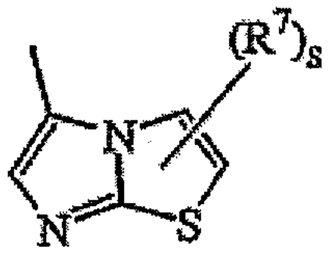
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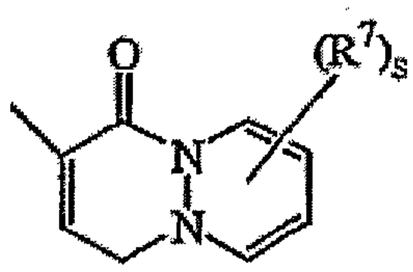
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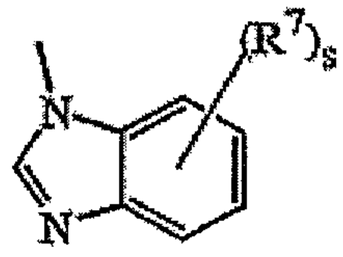
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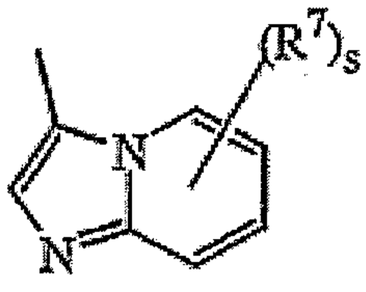
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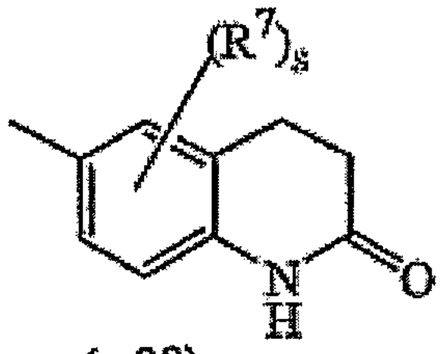
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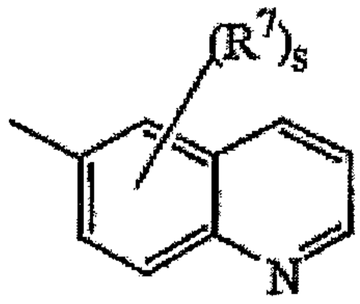
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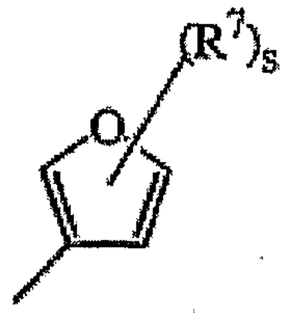
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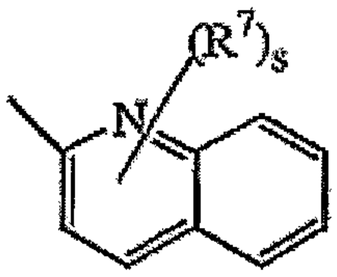
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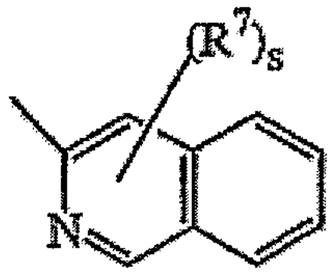
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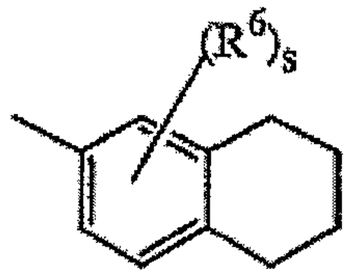
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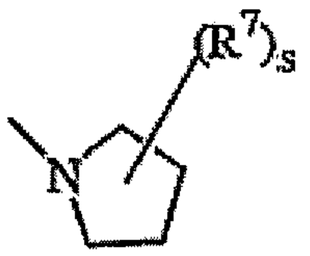
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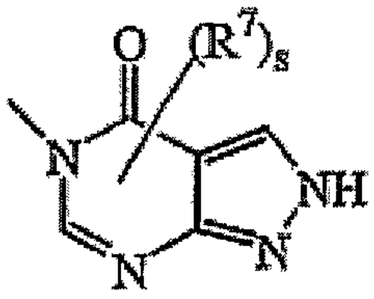
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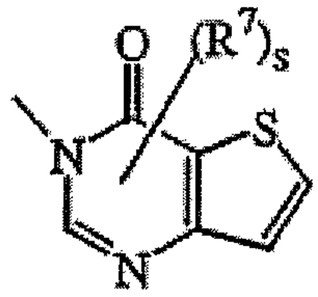
(a-43)



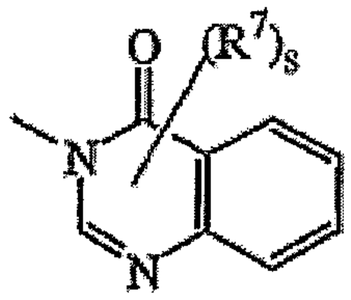
(a-44)



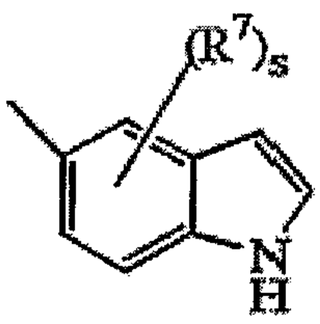
(a-45)



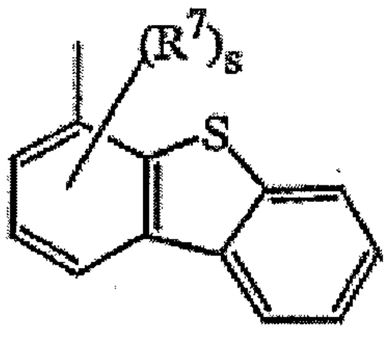
(a-46)



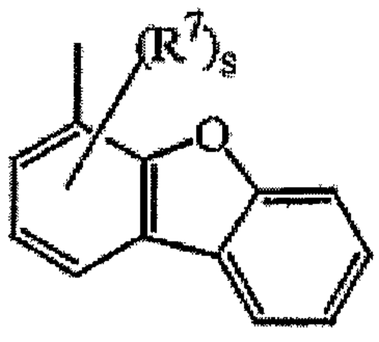
(a-47)



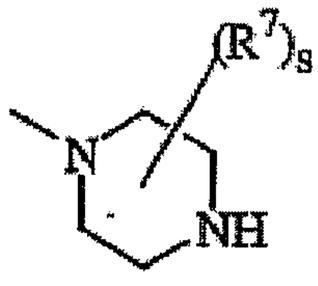
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl,

di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents

independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino,

di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy; aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^6 and R^7 can be placed on the nitrogen in replacement of the hydrogen;

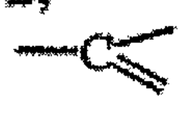
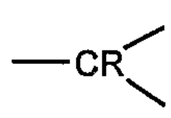
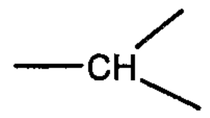
aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

[0126] In some embodiments of the compound according to paragraph [0125], one or more of the following restrictions apply:

n is 1;

m is 0 or 1;

t is 0,1 or 2;

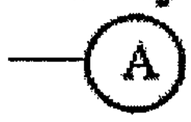
Q is  ,  , or  ;

R^{12} is hydrogen or C_{1-6}alkyl;

-L- is a direct bond;

R^{14} is hydrogen;

R^{15} is hydrogen;

 is a radical selected from (a-1), (a-20), (a-25), (a-27), (a-28), (a-29), (a-41) or (a-42);

each s is independently 0, 1, 2 or 3;

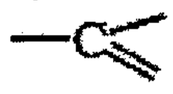
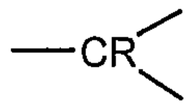
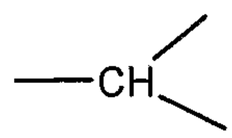
each R^6 is independently selected from hydrogen, halo, C_{1-6}alkyl or C_{1-6}alkyloxy.

[0127] In other embodiments of the compound according to paragraph [0125], one or more of the following restrictions apply:

n is 1;

m is 0 or 1;

t is 0,1 or 2;

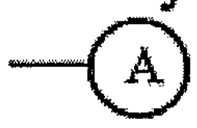
Q is  ,  , or  ;

R^{12} is hydrogen;

-L- is a direct bond;

R^{14} is hydrogen;

R^{15} is hydrogen;

 is a radical selected from (a-1), (a-20),(a-25), (a-27), (a-28), (a-29), (a-41 or (a-42);

each s is independently 0, 1, 2 or 3;

each R^6 is independently selected from hydrogen, halo, C_{1-6}alkyl or C_{1-6}alkyloxy.

[0128] In other embodiments of the compound according to paragraph [0125], one or more of the following restrictions apply:

R^{15} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

 is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl;

pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

[0129] In some embodiments of the compound according to paragraph [0125], one or more of the following restrictions apply:

t = 0;

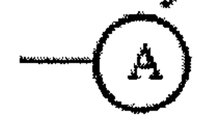
m = 0;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino or carbonyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^{15} is hydrogen;



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^7 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

[0130] In some embodiments of the compound according to paragraph [0125]:

R^{15} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

—(A) is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44); and

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl;

C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alky pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl;

phenyl substituted with one, two or three substituents independently selected fron halo, amino,
C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alky pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

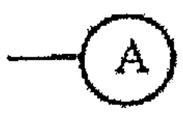
[0131] In some embodiments of the compound according to paragraph [0125], t is 0, m is 0 and:

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino or carbonyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^{15} is H;



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9),

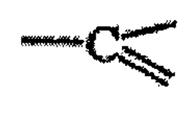
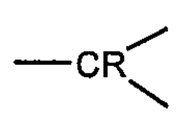
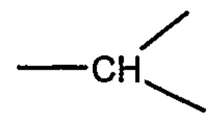
(a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

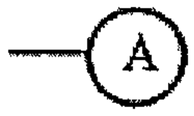
and R^7 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridiny phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

[0132] In some embodiments of the compound according to paragraph [0125],

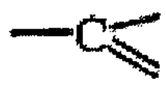
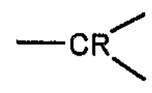
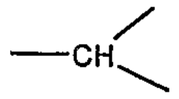
n is 1; m is 0 or 1; t is 0,1 or 2; Q is  ,  , or  ;

R^{12} is hydrogen or C_{1-6}alkyl; -L- is a direct bond;

R^{14} and R^{15} are H;

 is a radical selected from (a-1), (a-20), (a-25), (a-27), (a-28), (a-29), (a-41) or (a-42); each s is independently 0, 1 or 2; and each R^6 is independently selected from hydrogen, halo, C_{1-6}alkyl or C_{1-6}alkyloxy.

[0133] In some embodiments of the compound according to paragraph [0125],

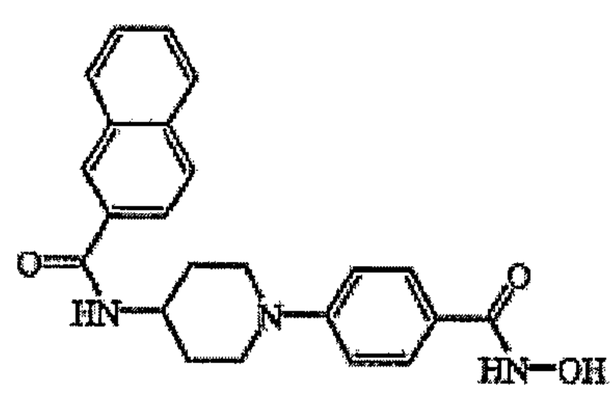
n is 1; m is 0 or 1; t is 0, 1 or 2; **Q is**  ,  , or  ;

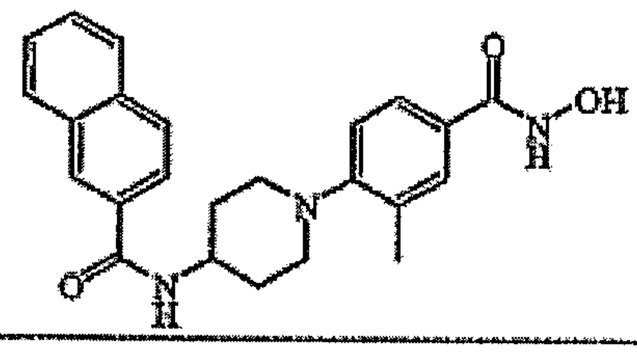
R^{12} **is hydrogen; -L- is a direct bond;**

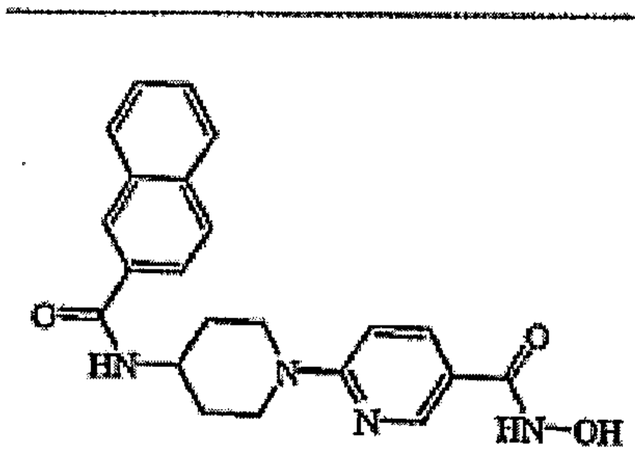
R^{14} and R^{15} are H;

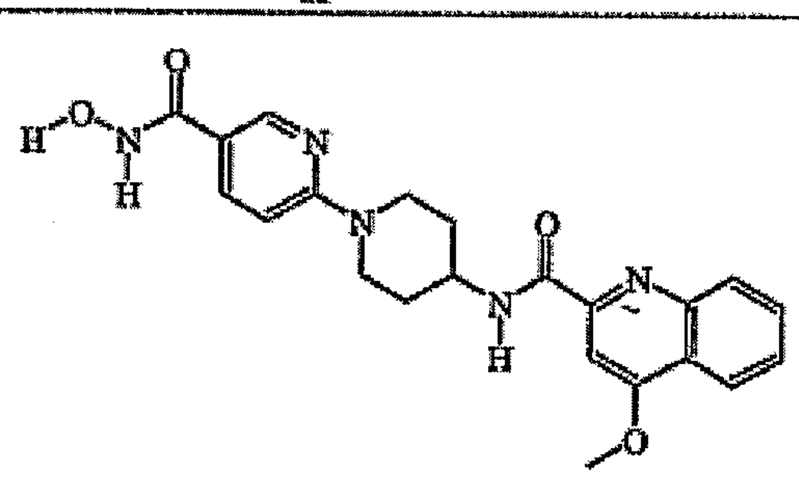
 **is a radical selected from (a-1), (a-20), (a-27), (a-28), (a-29), (a-41) or (a-42); each s is independently 0, 1 or 2; and each R^6 is independently selected from hydrogen, halo, C_{1-6}alkyl or C_{1-6}alkyloxy.**

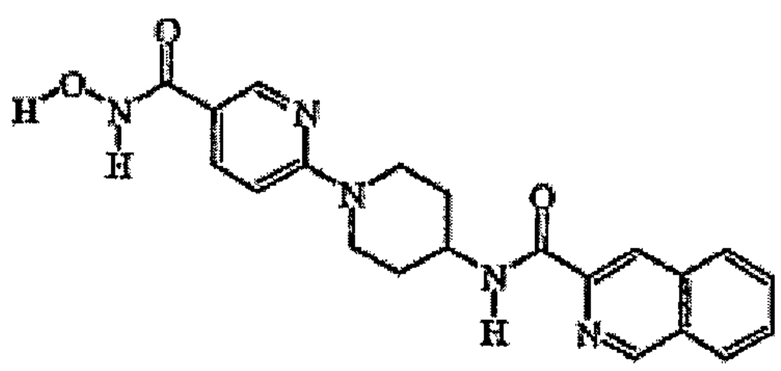
[0134] Particular embodiments of the compound according to paragraph [0125] include the following

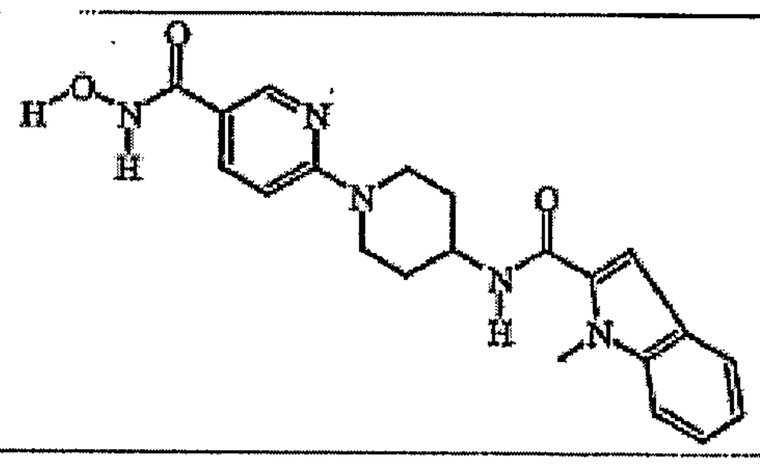


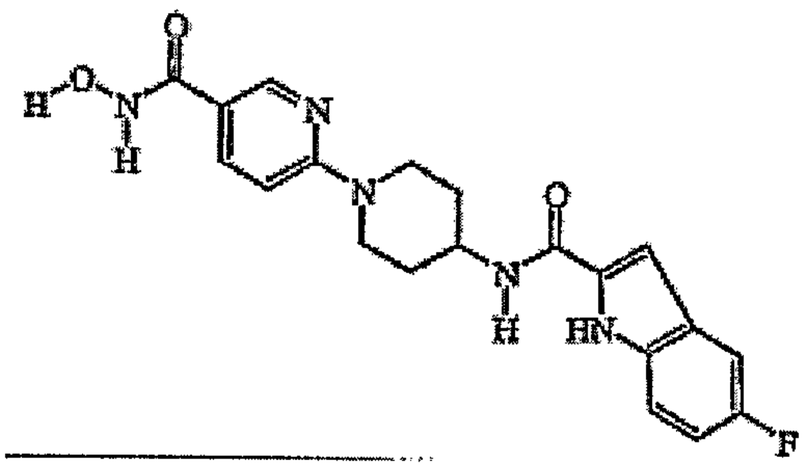


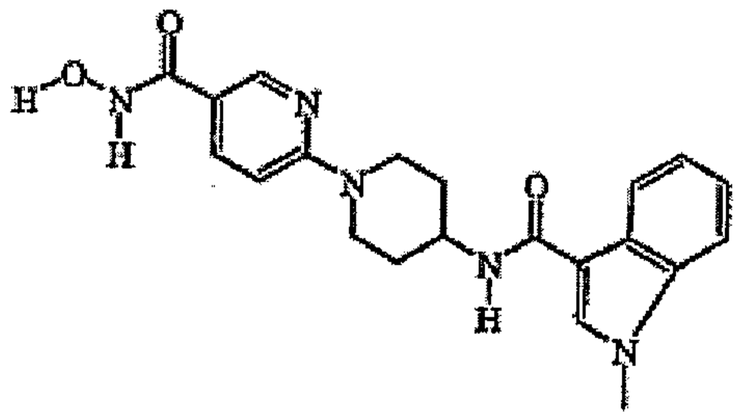


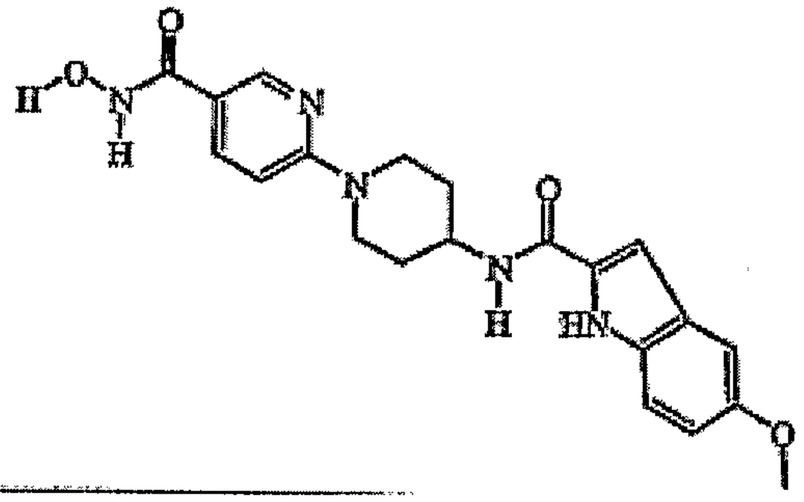


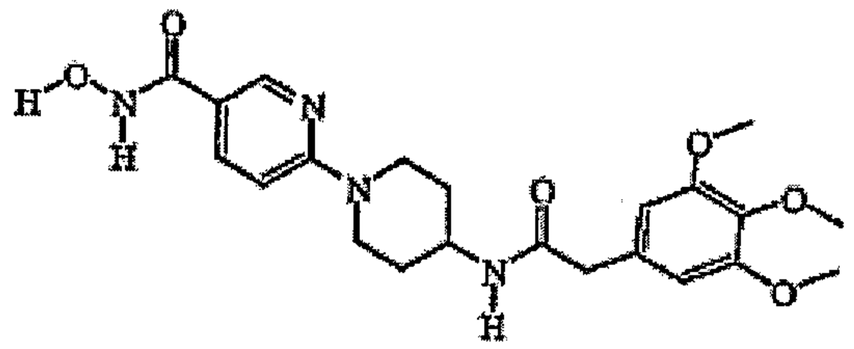


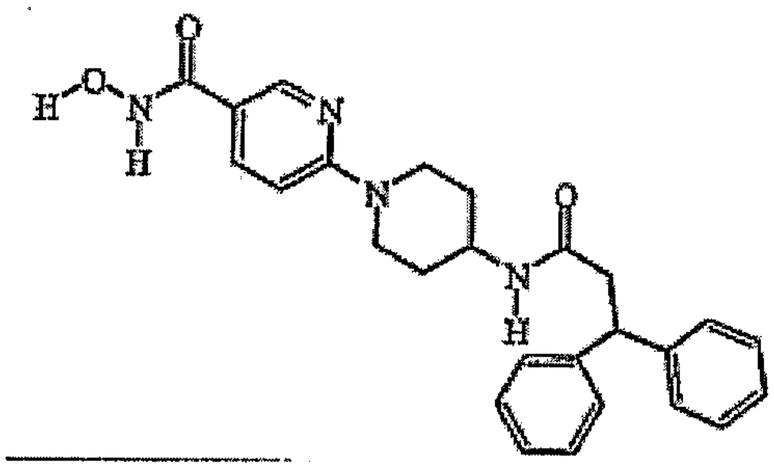


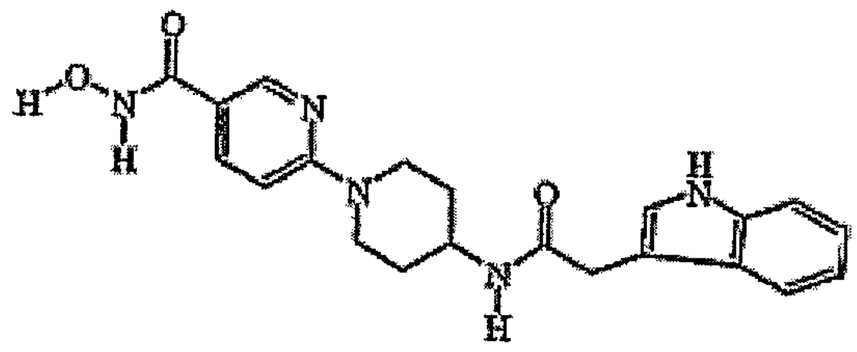


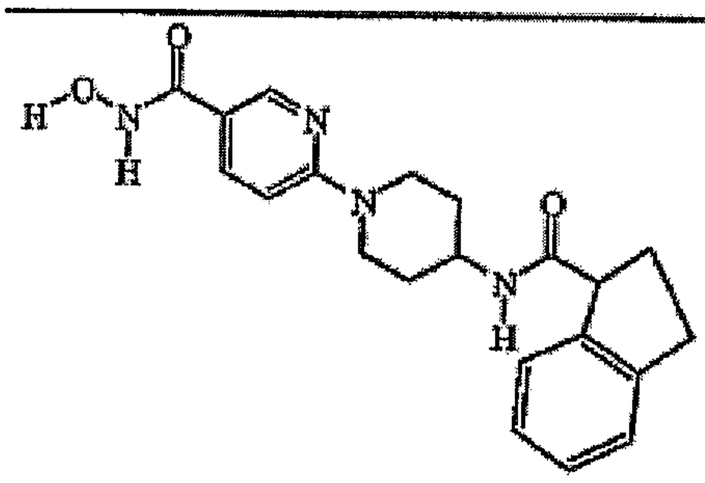


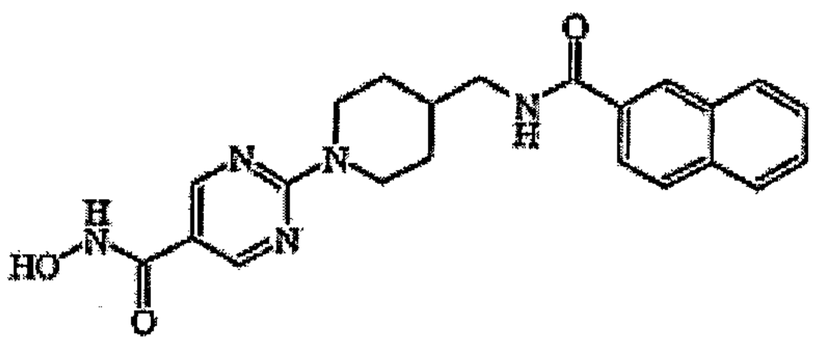




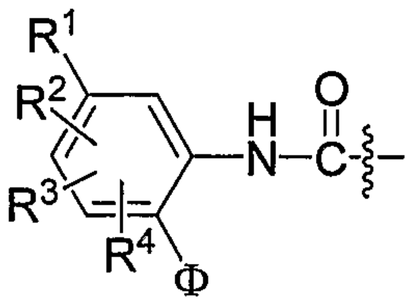








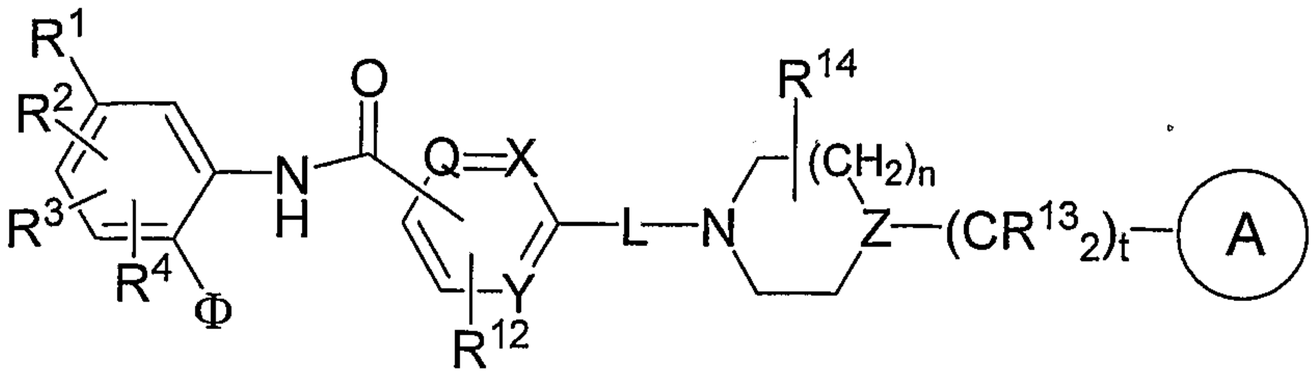
in which the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049]:

[0135] In the compounds of paragraph [0125] - [0134], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraphs [0125] - [0134], R^1, R^2, R^3, and R^4 are all H.

[0136] In another embodiment, the invention comprises compounds of the following structural formula (7):



(7)

or a pharmaceutically acceptable salt thereof, wherein

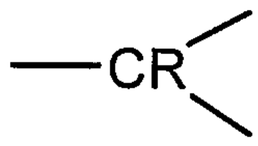
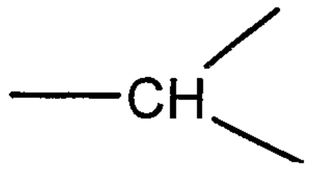
Φ is $-NH_2$ or $-OH$;

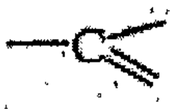
R^1 is H or as defined in paragraph [0046];

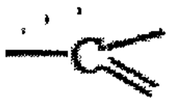
R^2, R^3, and R^4 are as defined in paragraph [0046];

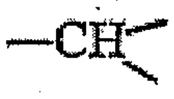
n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or   . or 

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

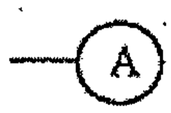
R is selected from the group consisting of hydrogen, halogen, -NH_2, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

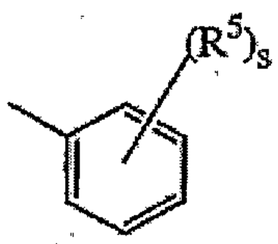
-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkyloxy, amino, carbonyl or aminocarbonyl;

each R^{13} independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

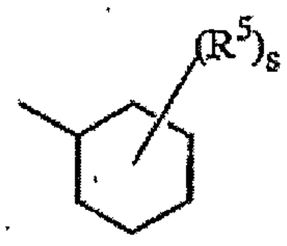
R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;



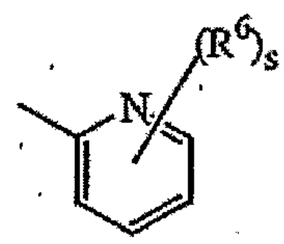
is a radical selected from



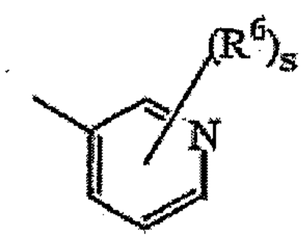
(a-1)



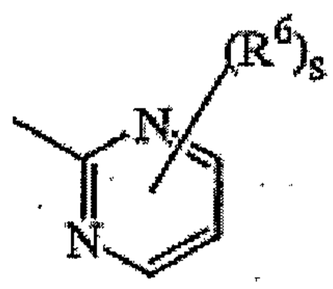
(a-2)



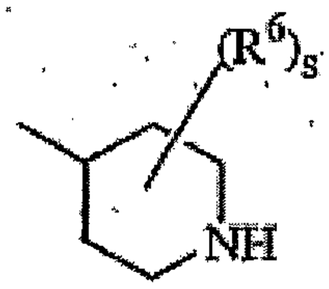
(a-3)



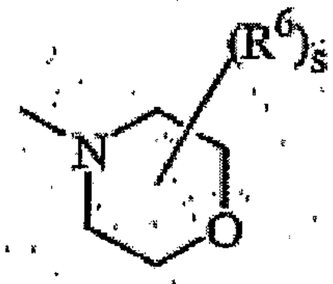
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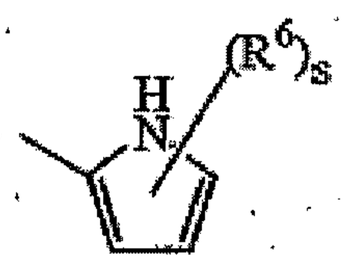
(a-5)



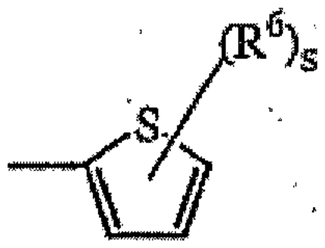
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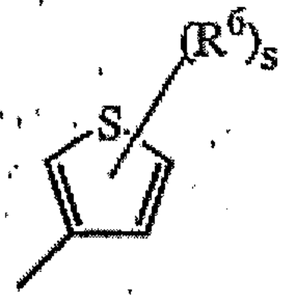
(a-7)



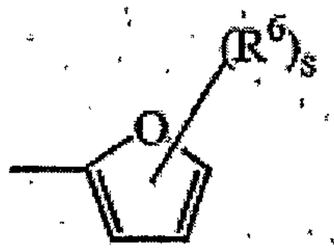
(a-8)



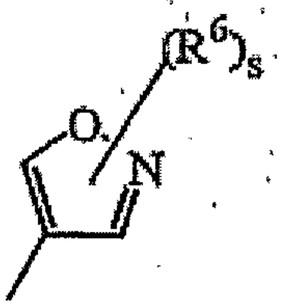
(a-9)



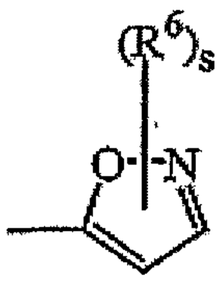
(a-10)



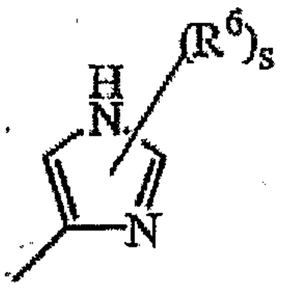
(a-11)



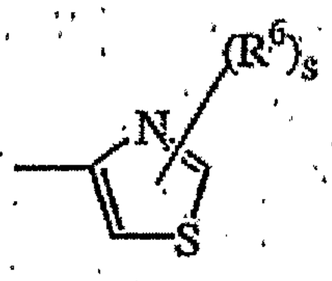
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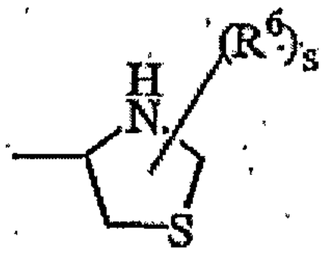
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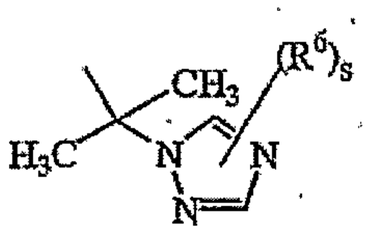
(a-14)



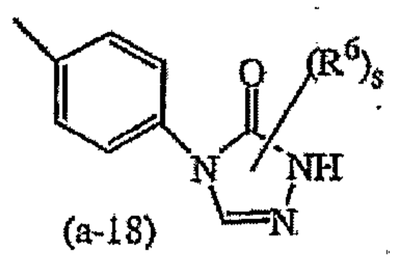
(a-15)



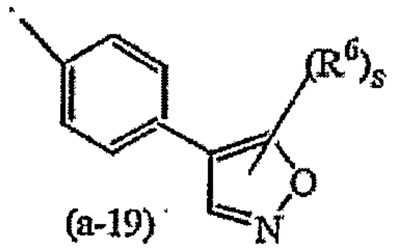
(a-16)



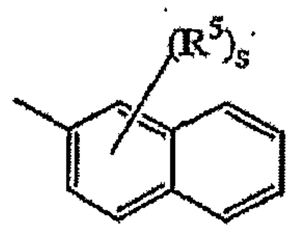
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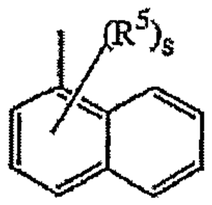
(a-18)



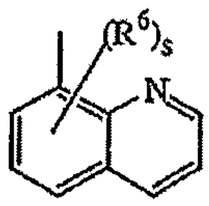
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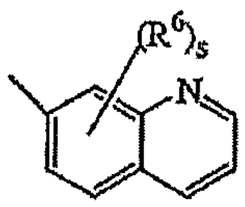
(a-20)



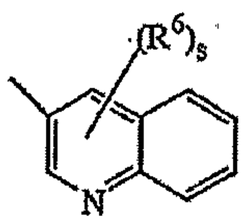
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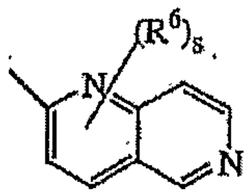
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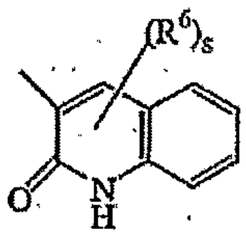
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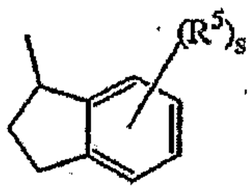
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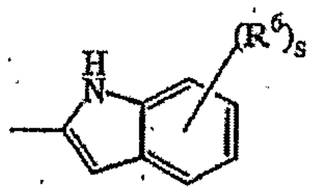
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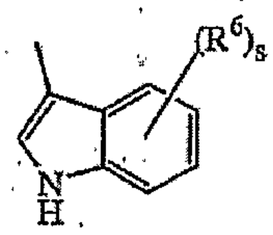
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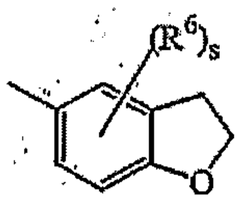
(a-27)



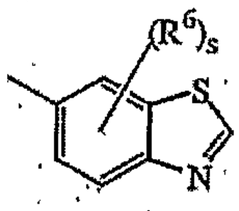
(a-28)



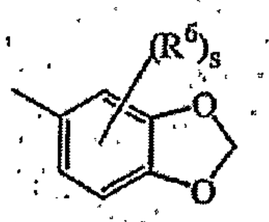
(a-29)



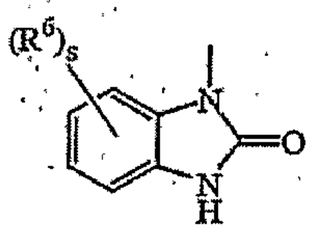
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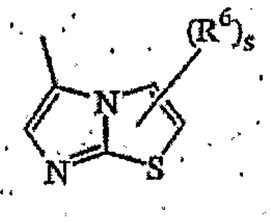
(a-31)



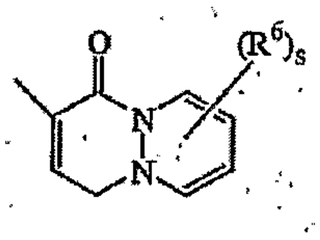
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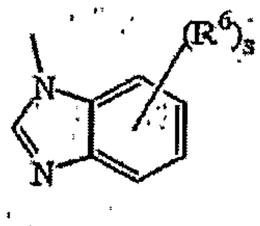
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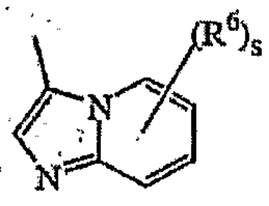
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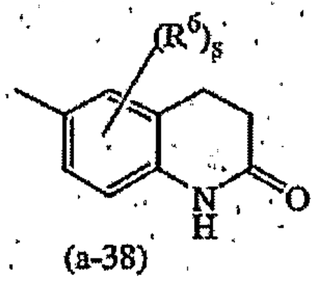
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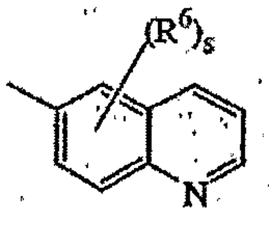
(a-36)



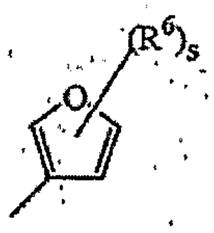
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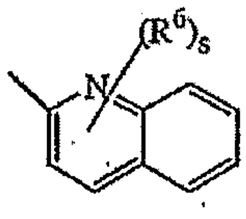
(a-38)



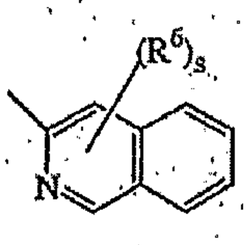
(a-39)



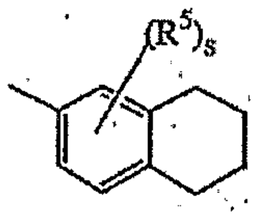
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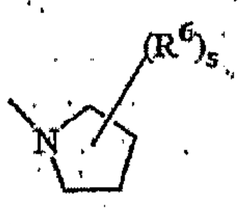
(a-41)



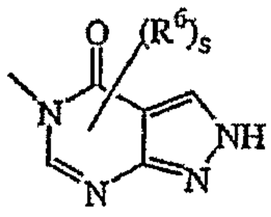
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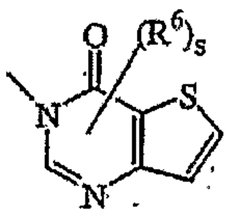
(a-43)



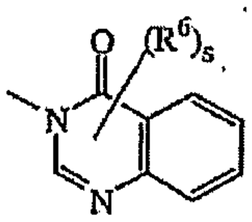
(a-44)



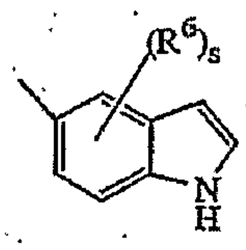
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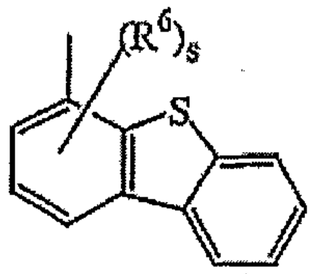
(a-46)



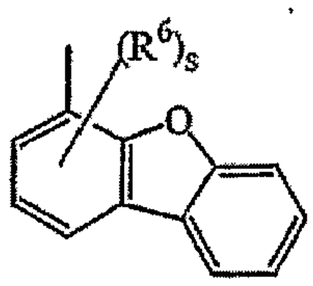
(a-47)



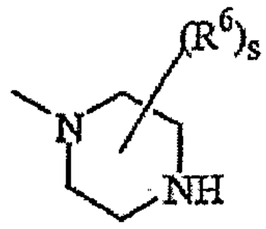
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino;

di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl;

hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl,

C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy,

hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

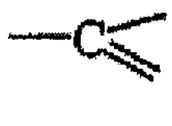
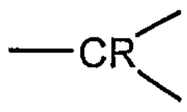
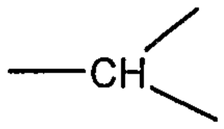
each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl; C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

[0137] Other embodiments of the compound according to paragraph [0136] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0136]):

n is 1 or 2;

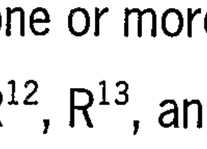
t is 0, 1, 2 or 4;

Q is  ,  , or  ;

R^2 is hydrogen or nitro;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl;

R^4 is hydrogen;


is a radical selected from (a-1),(a-2), (a-3), (a-5), (a-6), (a-11), (a-18), (a-20), (a-21), (a-32), (a-33), (a-47) or (a-51);

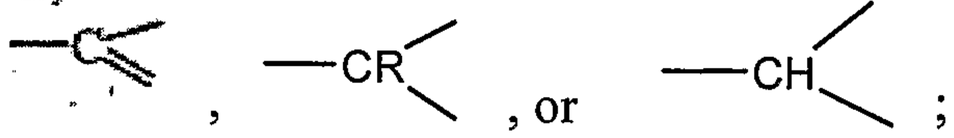
each s is independently 0, 1, 2, or 4;

each R^5 and R^6 are independently selected from hydrogen; halo; trihaloC_{1-6}alkyl; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; benzofuranyl; naphtalenylsulfonyl; pyridinyl substituted with aryloxy; phenyl; or phenyl substituted with one substituent independently selected from hydroxyC_{1-4}alkyl or morpholinylC_{1-4}alkyl.

[0138] Other embodiments of the compound according to paragraph [0136] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0136]):

n is 1;

t is 0, 1 or 2;

Q is 
;

X is nitrogen;

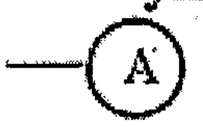
Y is nitrogen;

R^2 is hydrogen;

-L- is a direct bond;

each R^3 independently represents a hydrogen atom;

R^4 is hydrogen;


is a radical selected from (a-6), (a-11), (a-20), (a-47) or (a-51);

each s is independently 0, 1, or 4;

each R^5 and R^6 are independently selected from hydrogen; C_{1-6}alkyl; C_{1-6}alkyloxy; naphtalenylsulfonyl; or phenyl substituted with hydroxyC_{1-4}alkyl or morpholinylC_{1-4}alkyl.

[0139] Other embodiments of the compound according to paragraph [0136] L is a direct bond.

[0140] Other embodiments of the compound according to paragraph [0136] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0136]):

t is 1, 2, 3, or 4;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino or carbonyl;

R^4 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) and (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl;

C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

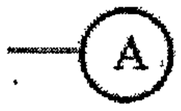
[0141] Other embodiments of the compound according to paragraph [0136] include those in which the following are true (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0136]):

t is 1, 2, 3, or 4;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino or carbonyl;

R^4 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) and (a-51);

each s is independently 0, 1, 2, 3 or 4;

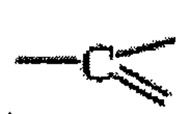
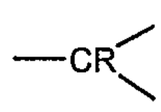
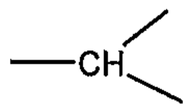
R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazolyl; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

[0142] Other embodiments of the compound according to paragraph [0136] are the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0136]):

n is 1 or 2;

t is 1, 2, 3, or 4;

Q is  ,  , or  ;

R^2 is H or nitro:

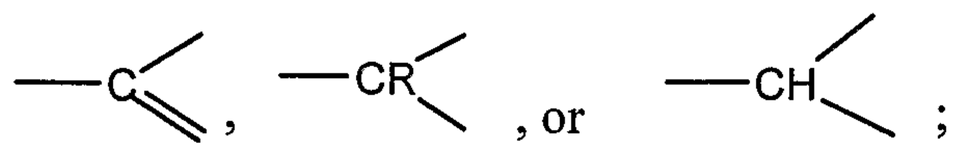
-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl; R^4 is

hydrogen; —(A) is a radical selected from (a-1),(a-2), (a-3), (a-5), (a-6), (a-11), (a-18), (a-20), (a-21), (a-32), (a-33), (a-47) or (a-51); each s is independently 0, 1, 2, or 4; each R^5 and R^6 are independently selected from hydrogen; halo; trihaloC_{1-6}alkyl; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; benzofuranyl; naphtalenylsulfonyl; pyridinyl substituted with aryloxy; phenyl; or phenyl substituted with one substituent independently selected from hydroxyC_{1-4}alkyl or morpholinylC_{1-4}alkyl.

[0143] Other embodiments of the compound according to paragraph [0136] are the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0136]):

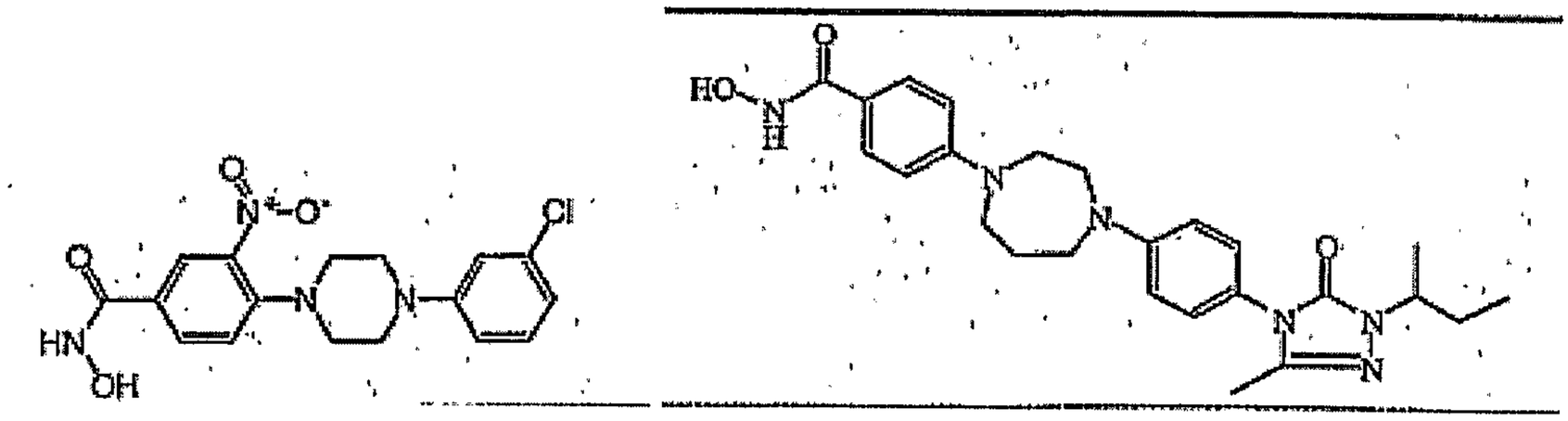
n is 1;

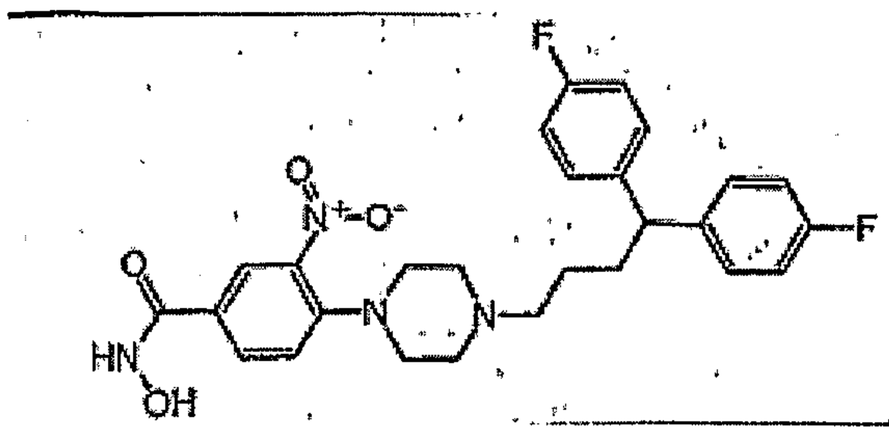
t is 0 or 1; X is nitrogen; Y is nitrogen;

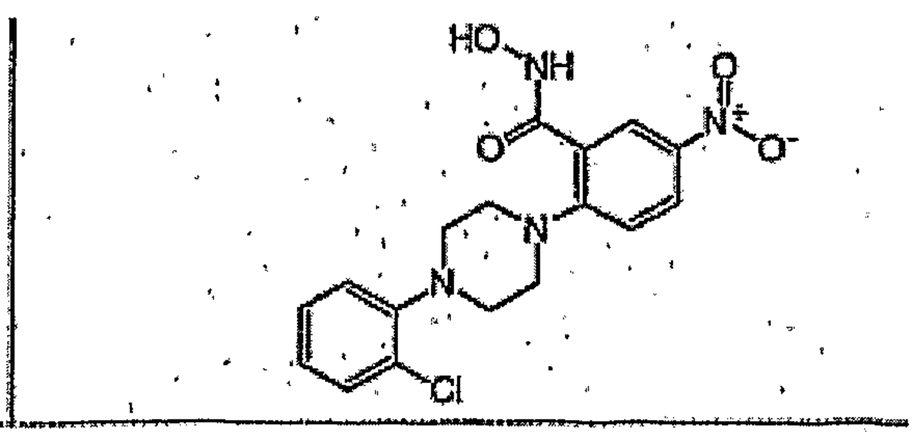
Q is  ;

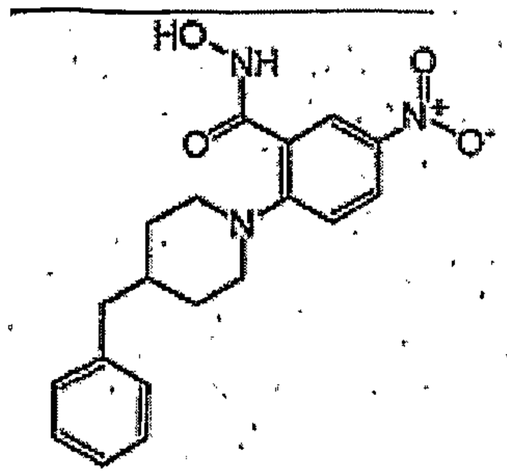
R^2 is hydrogen; -L- is a direct bond; each R^3 independently represents a hydrogen atom; R^4 is hydrogen; —(A) is a radical selected from (a-6), (a-11), (a-20), (a-47) or (a-51); each s is independently 0, 1, or 4; and each R^5 and R^6 are independently selected from hydrogen; C_{1-6}alkyl; C_{1-6}alkyloxy; naphtalenylsulfonyl; or aryl substituted with hydroxyC_{1-4}alkyl or morpholinylC_{1-4}alkyl.

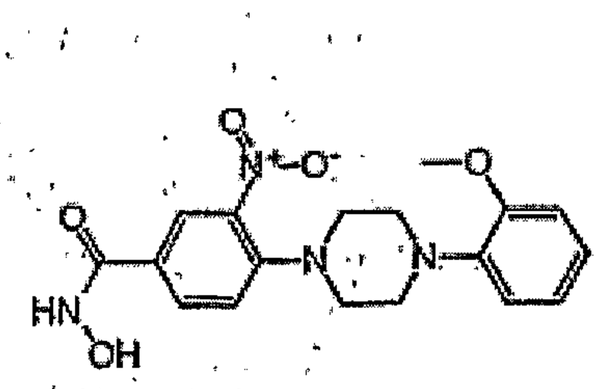
[0144] Particular embodiments of the compound according to paragraph [0136] include the following

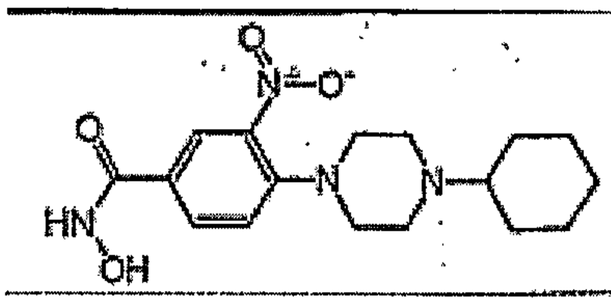


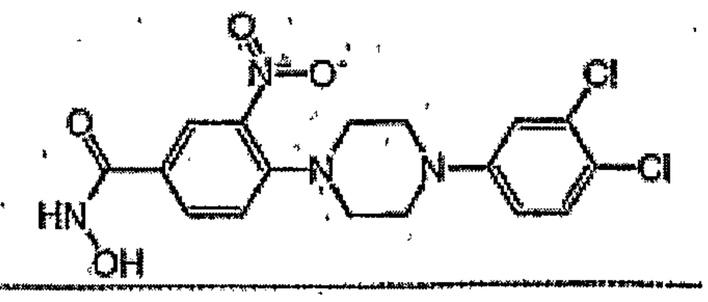


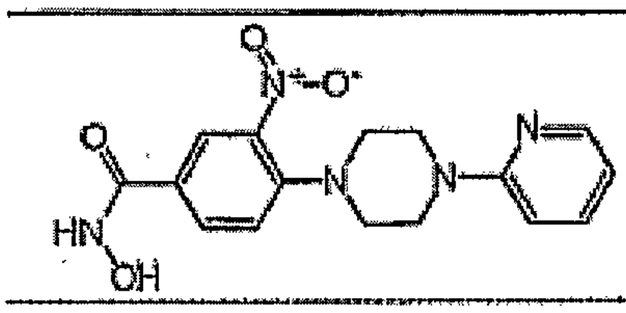


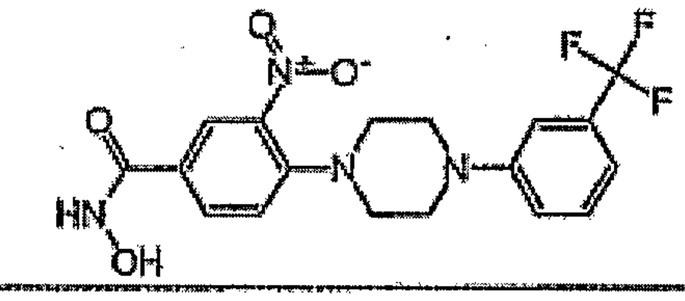


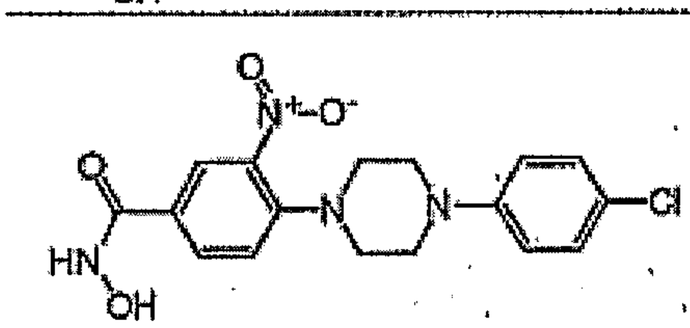


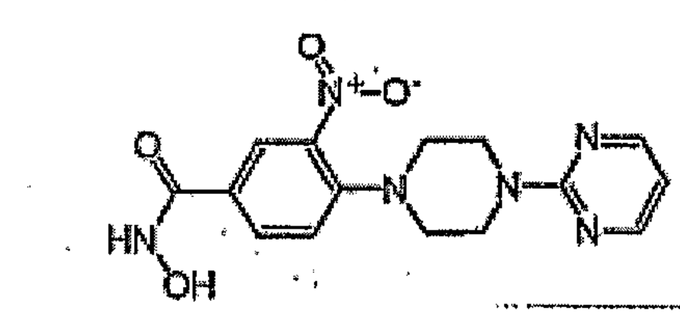


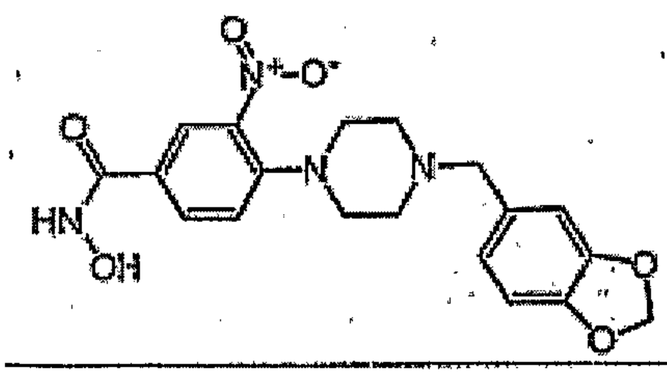


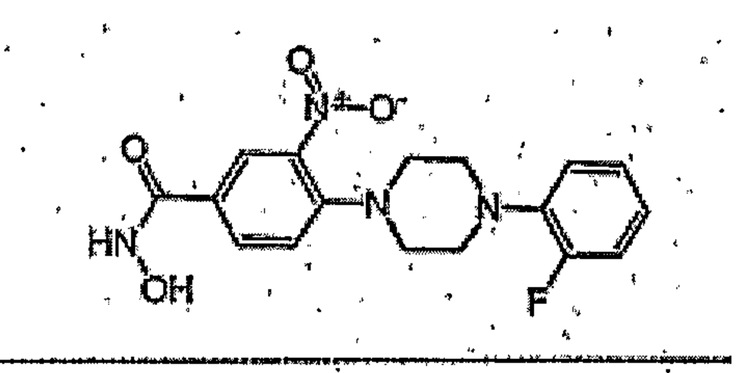


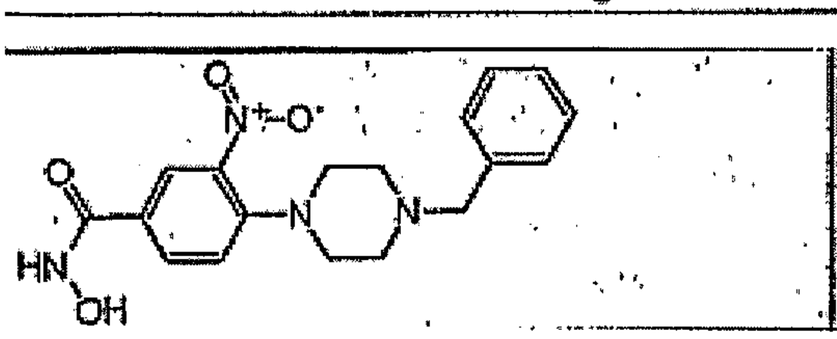


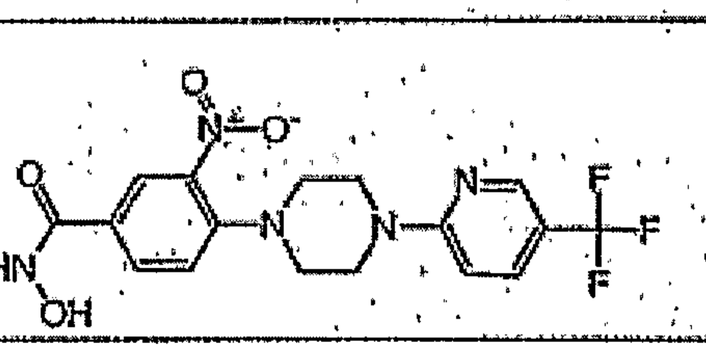


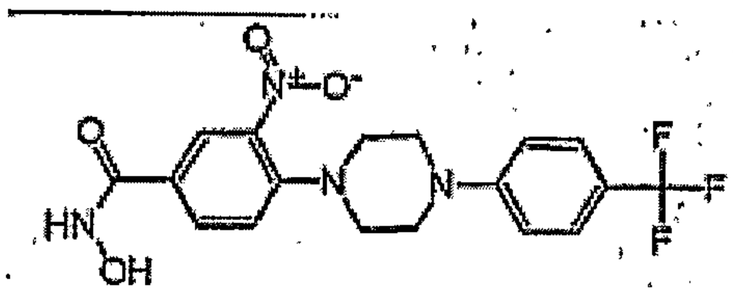


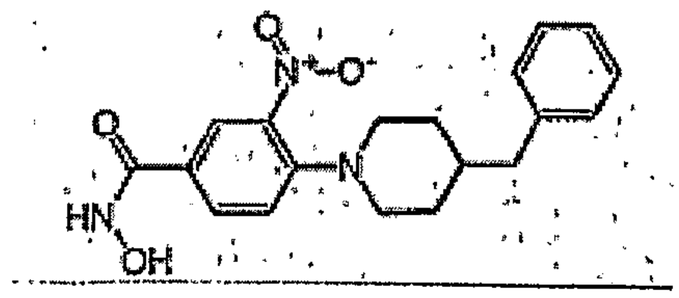


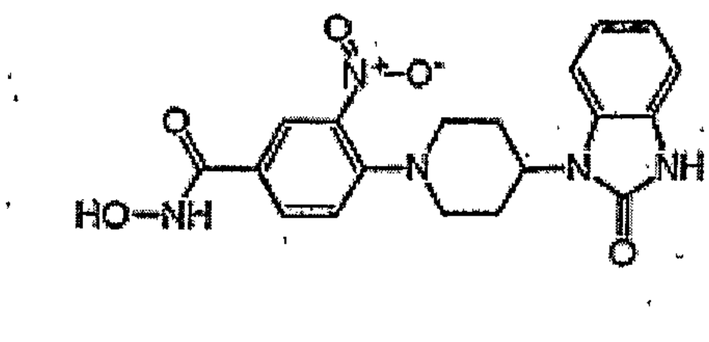


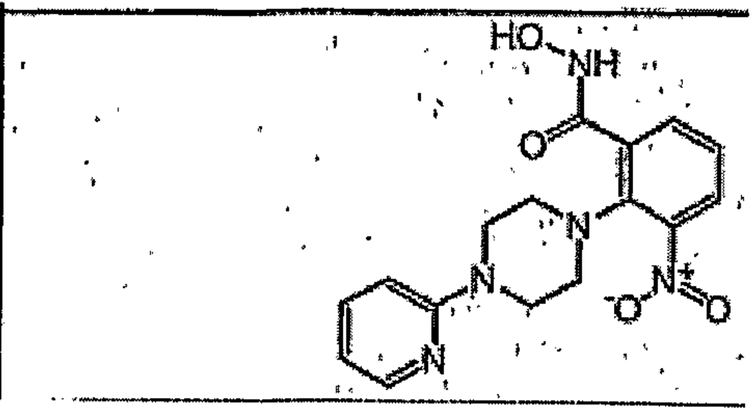


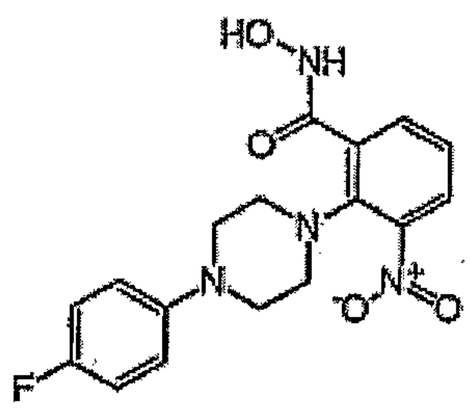


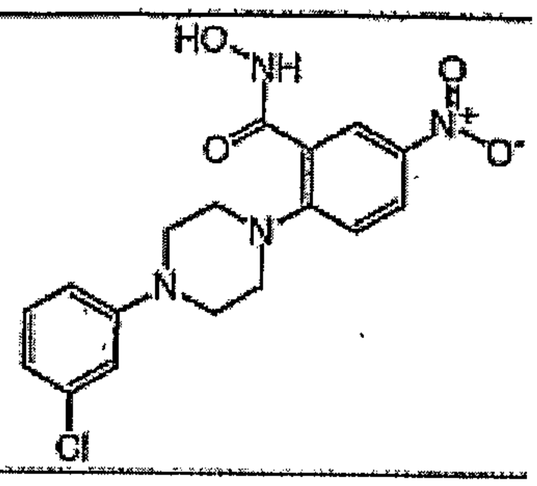


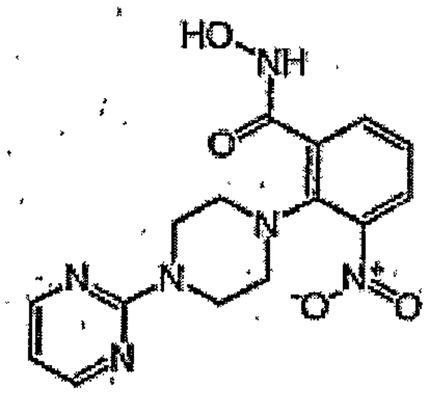


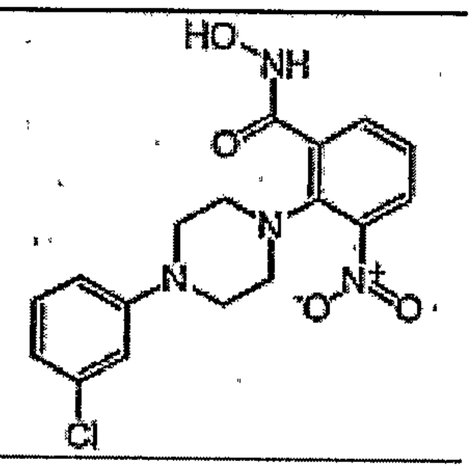


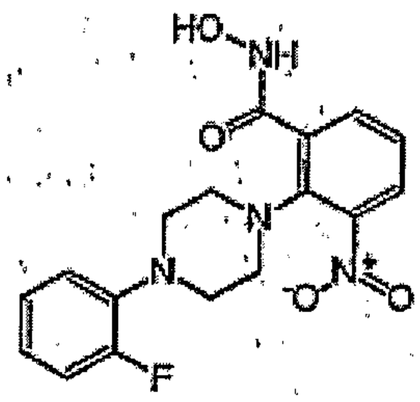


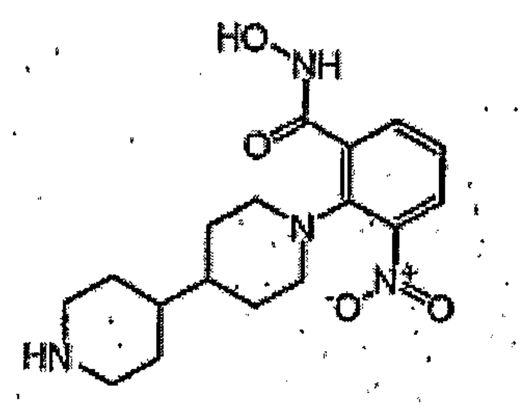


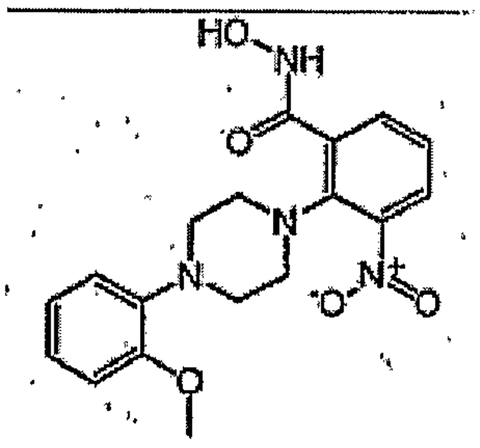


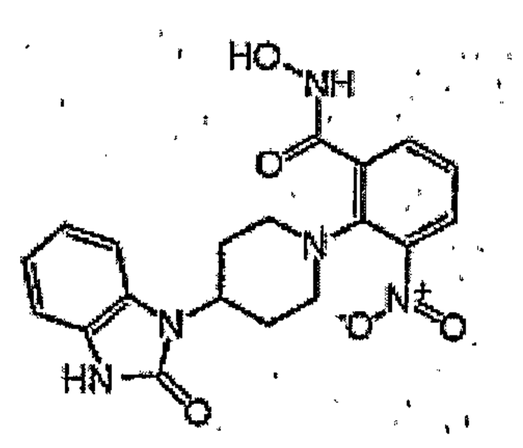


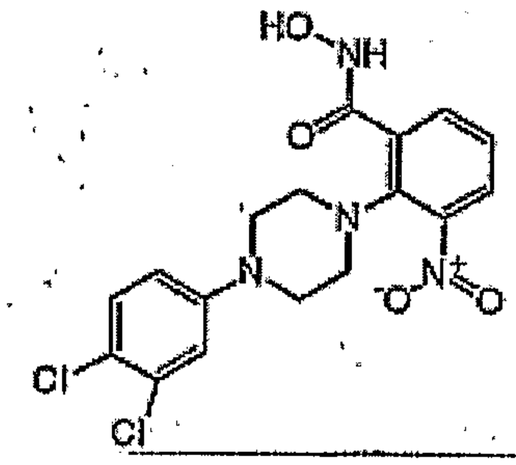


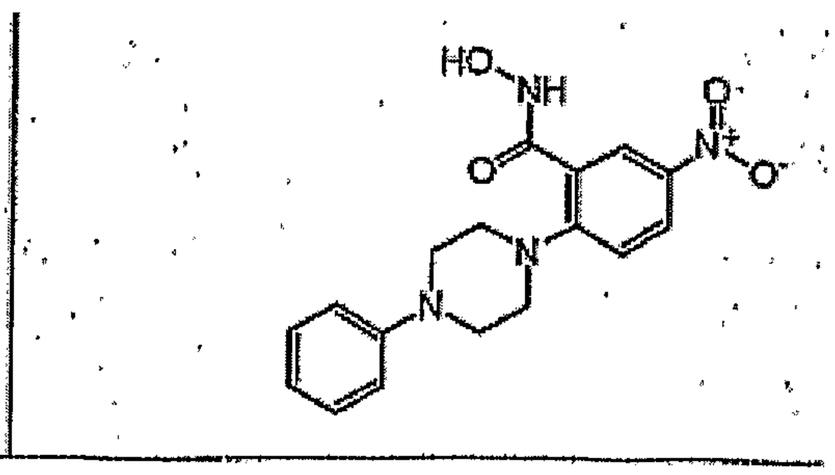


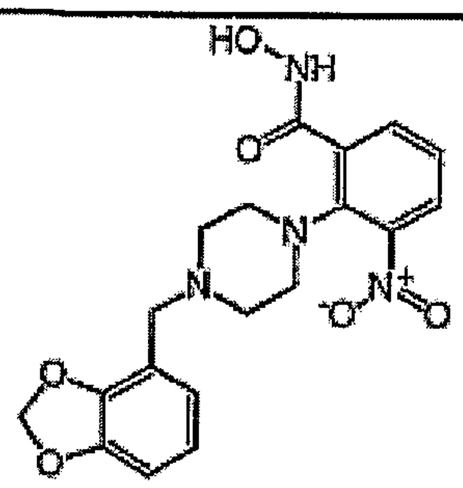


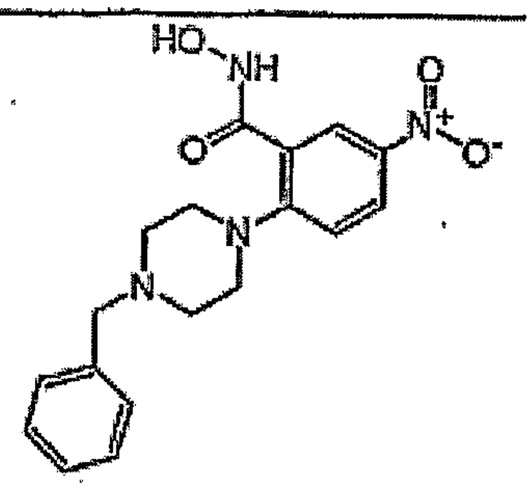


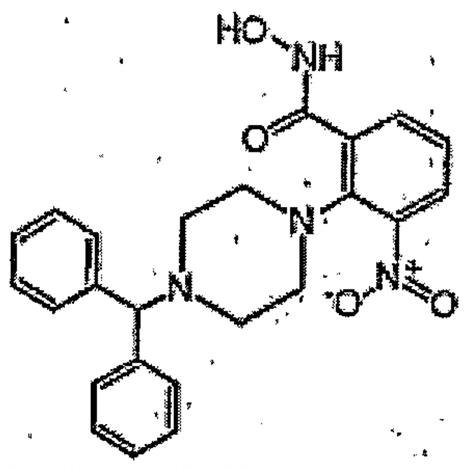


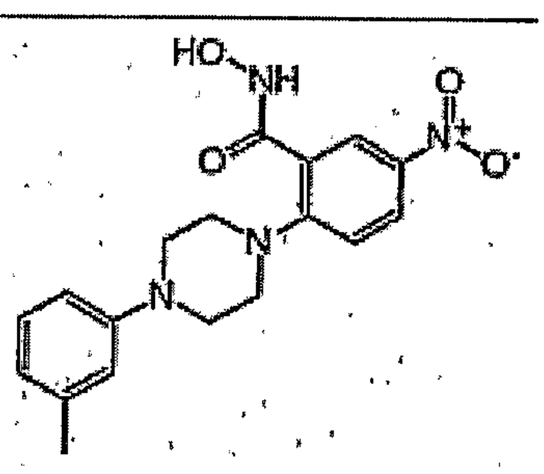


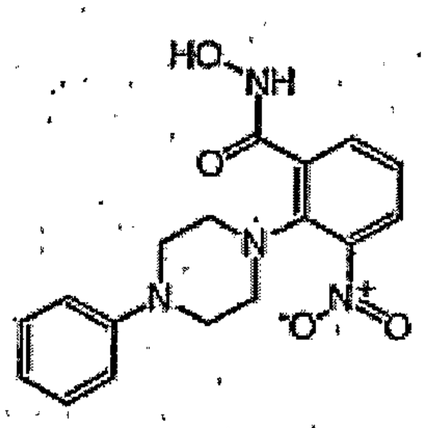


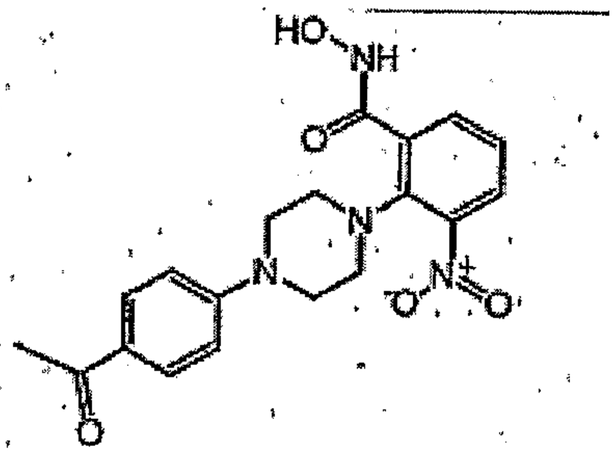


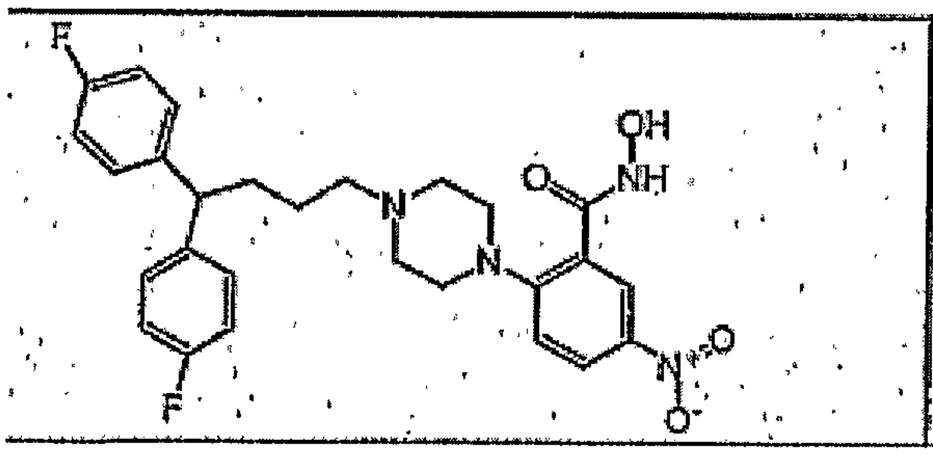


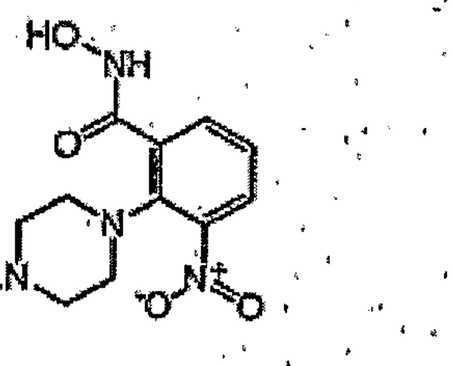


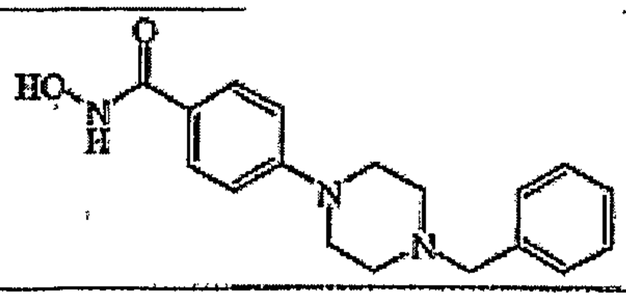


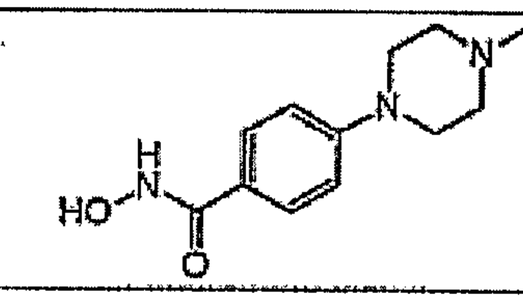




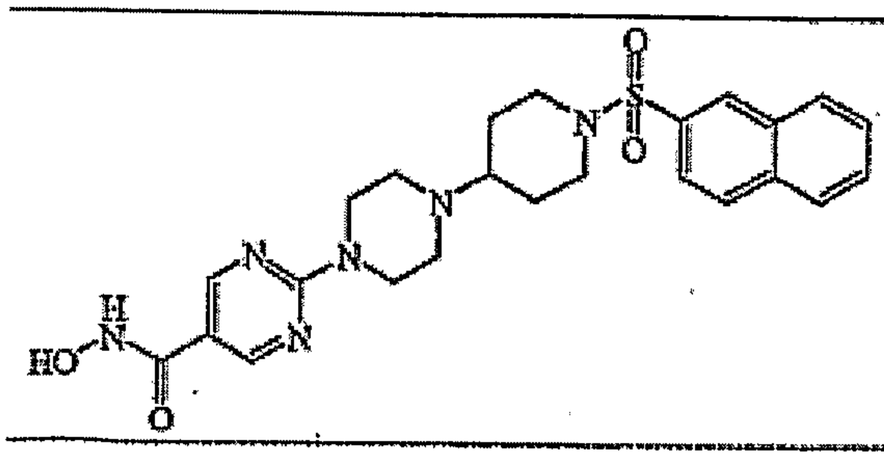


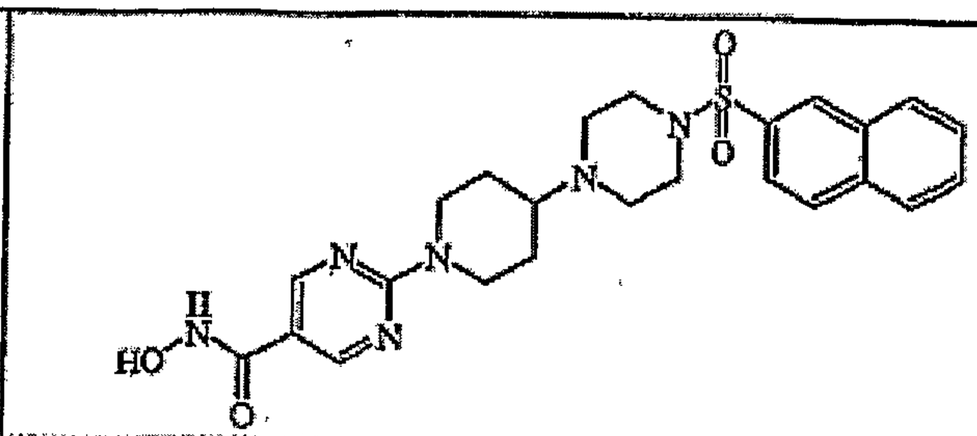


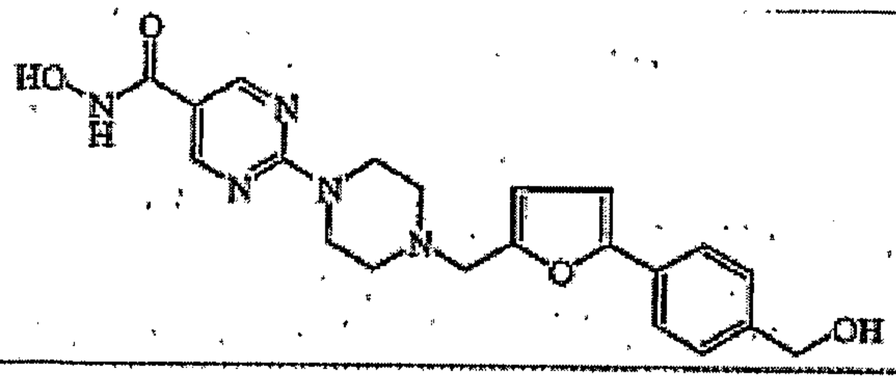


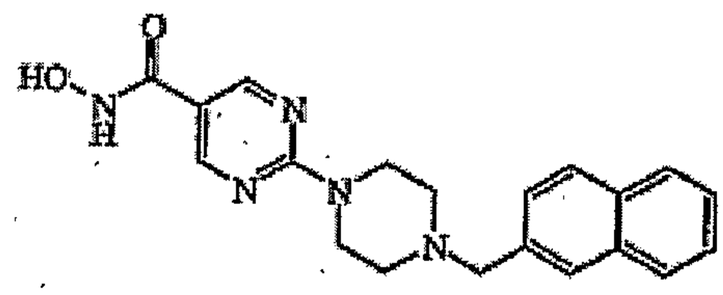


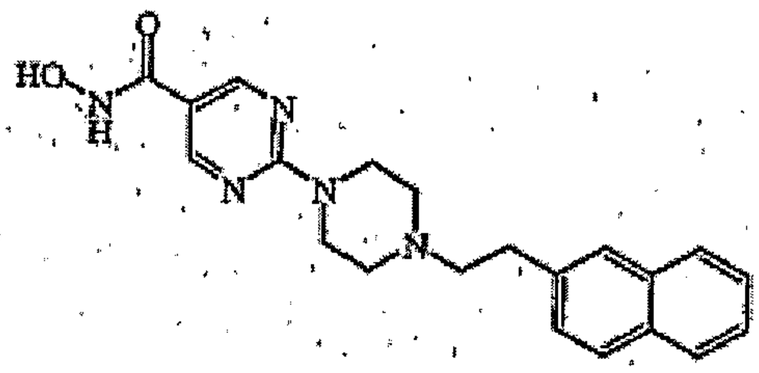
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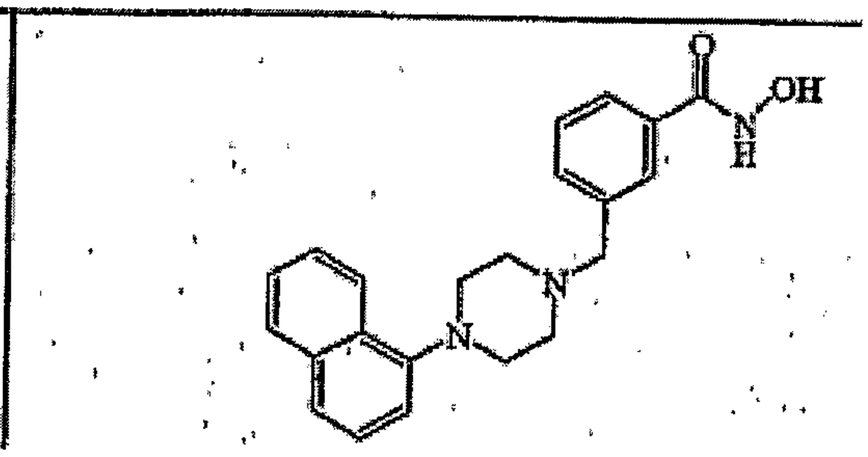


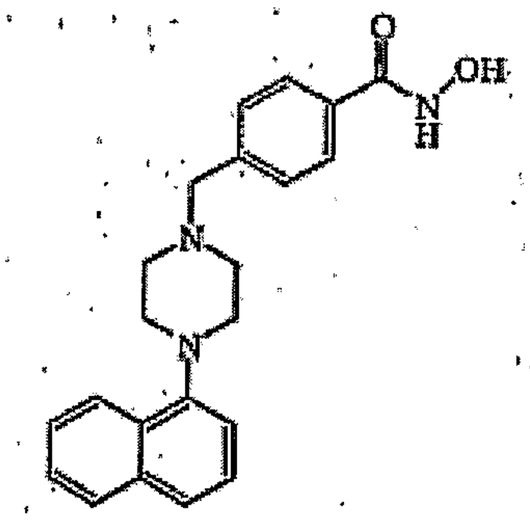


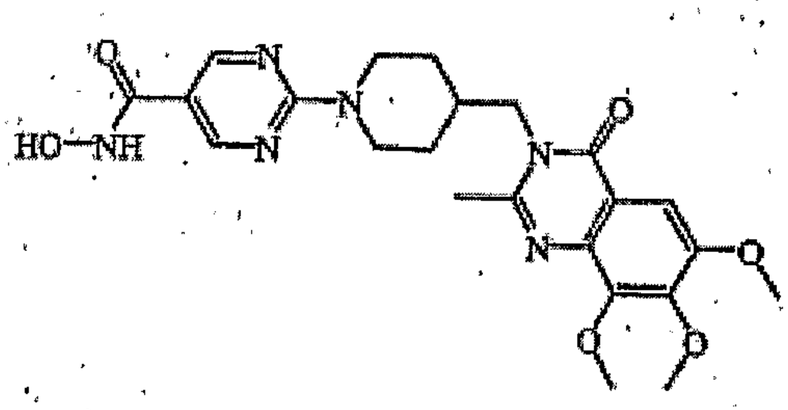


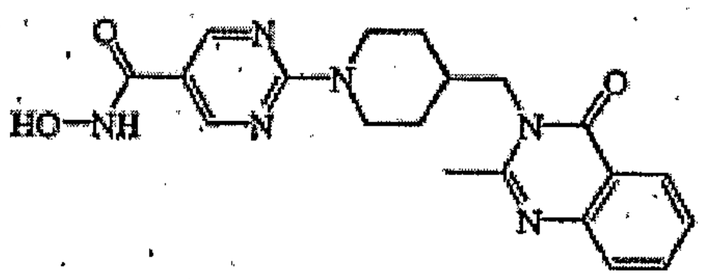


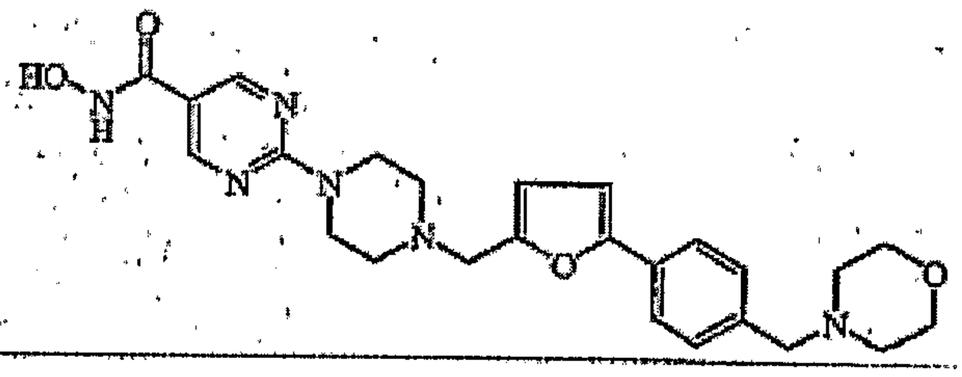


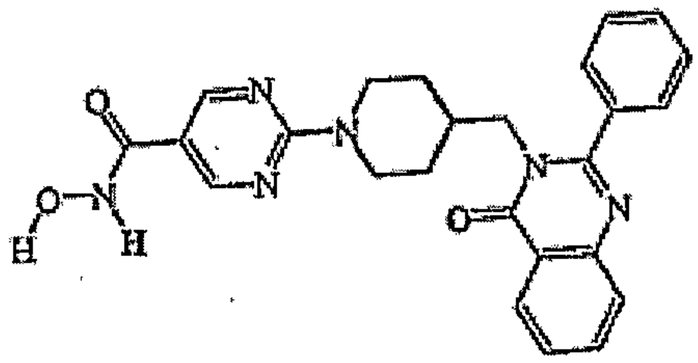


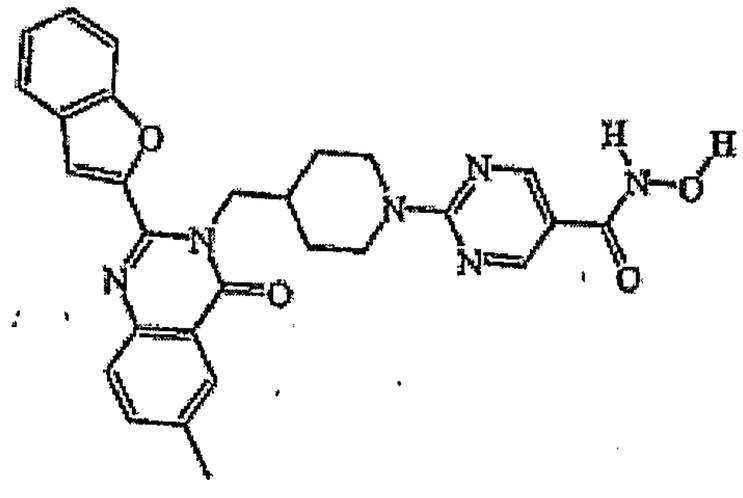


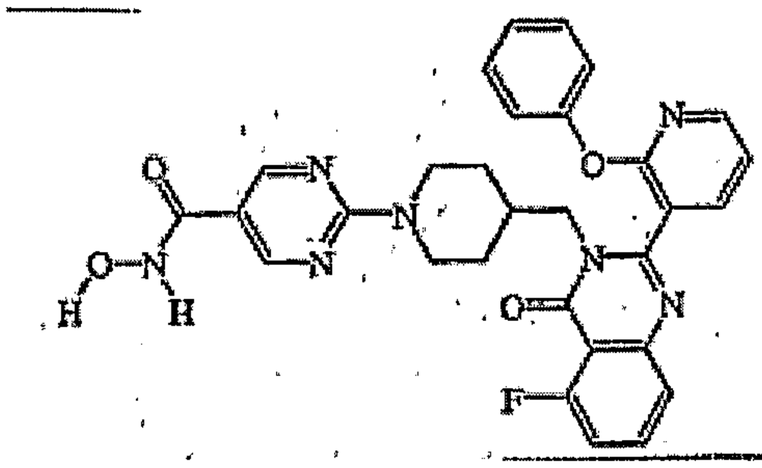


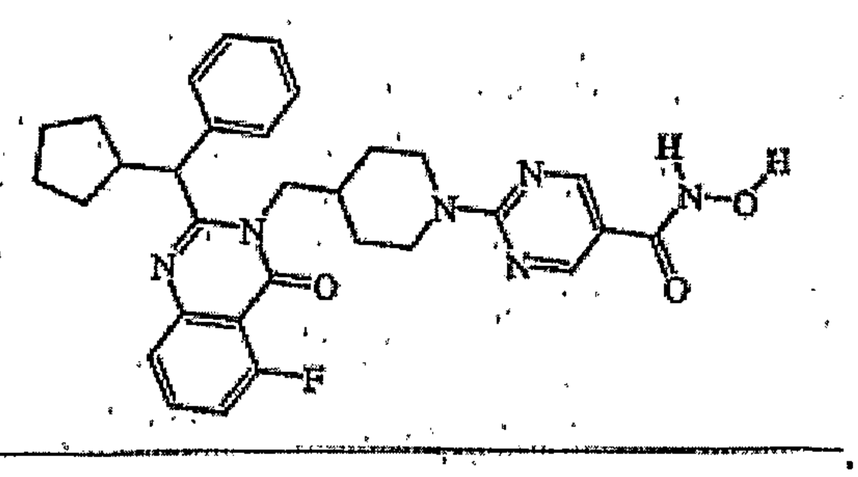




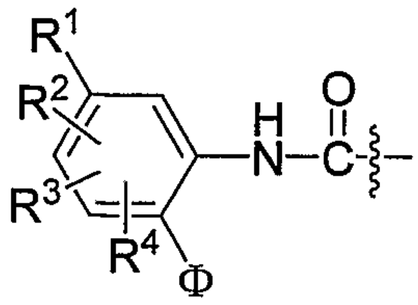








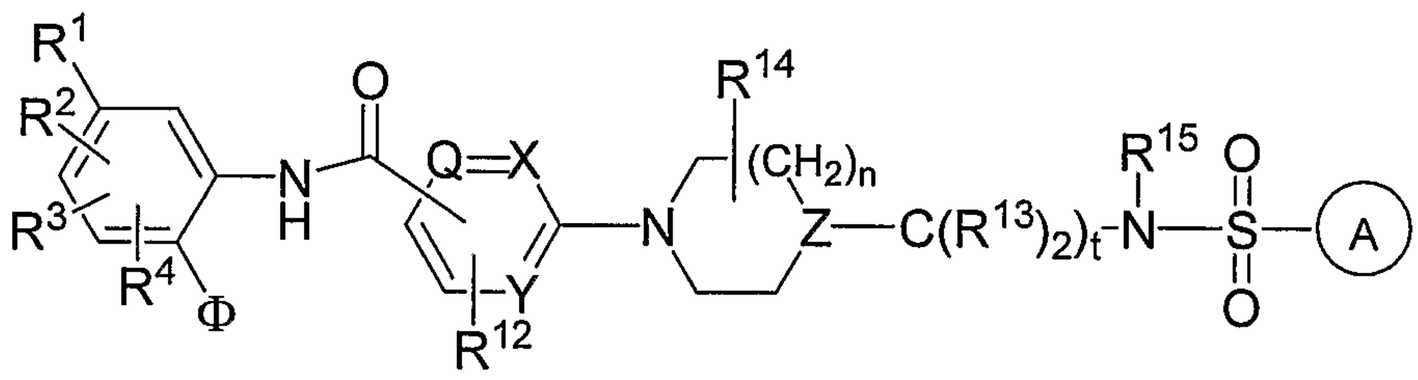
in which the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049]:

[0145] In the compounds of paragraphs [0136] - [0144], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraphs [0136] - [0144], R^1, R^2, R^3, and R^4 are all H.

[0146] In another embodiment, the invention comprises compounds of the following structural formula (8):



(8)

or a pharmaceutically acceptable salt thereof, wherein

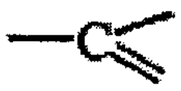
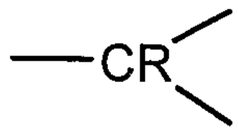
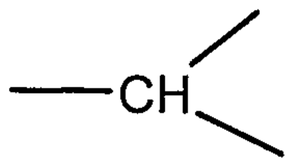
Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in paragraph [0046];

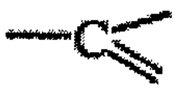
R^2, R^3, and R^4 are as defined in paragraph [0046];

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or ;

Y is nitrogen or  ;

Z is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, -NH_2, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

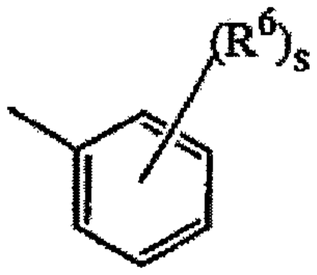
each R^{13} independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

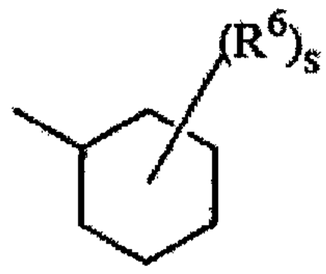
R^{15} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;



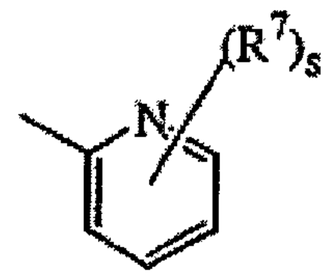
is a radical selected from



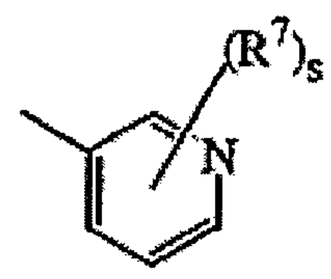
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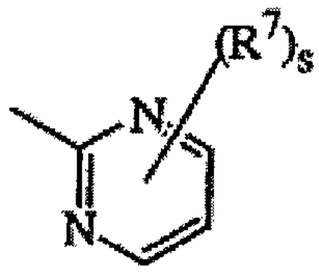
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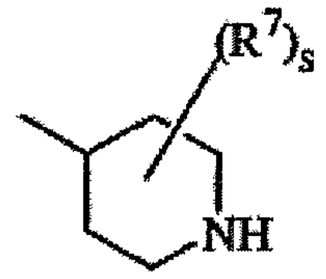
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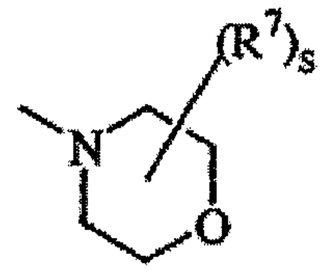
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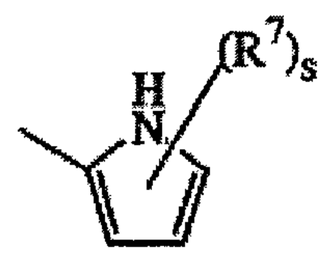
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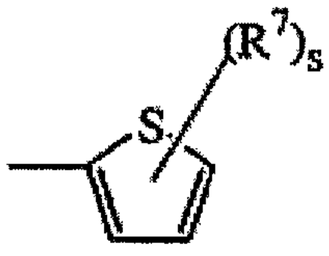
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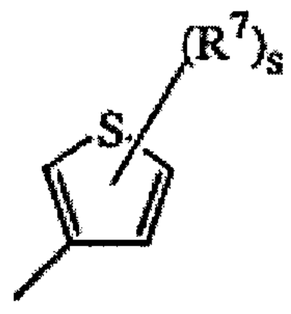
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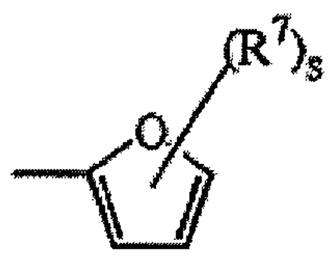
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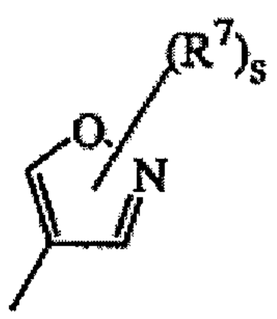
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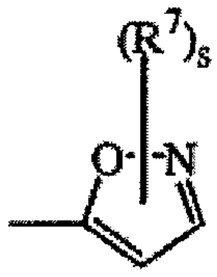
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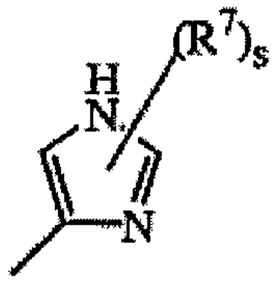
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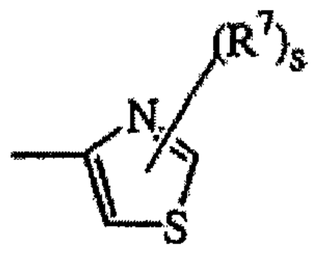
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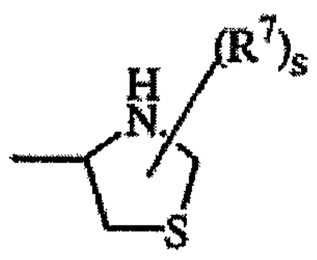
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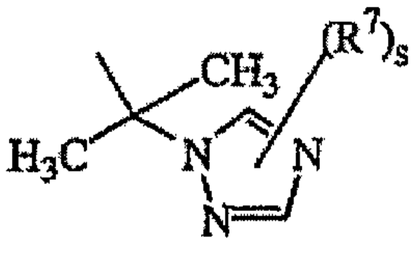
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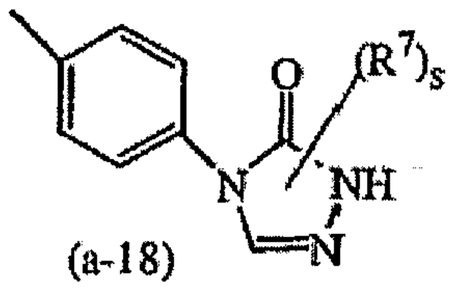
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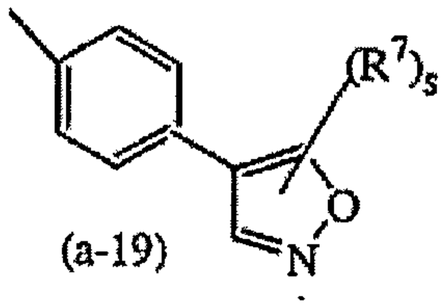
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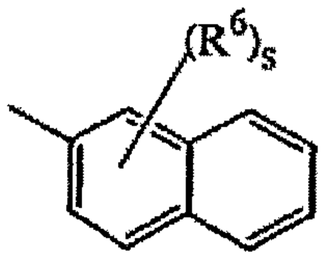
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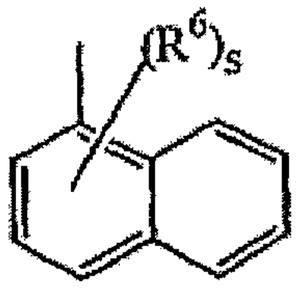
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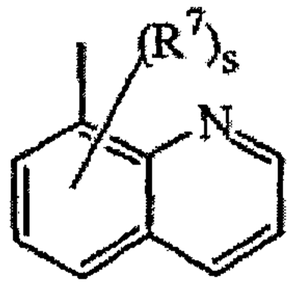
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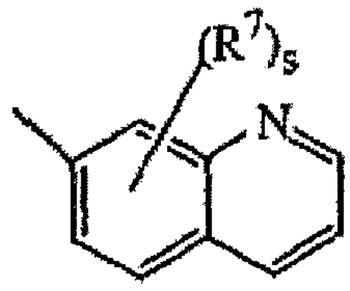
(a-20)



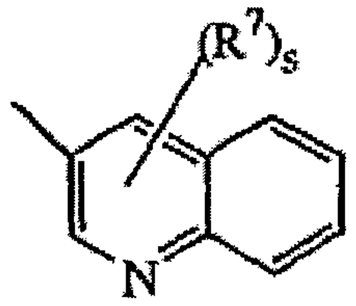
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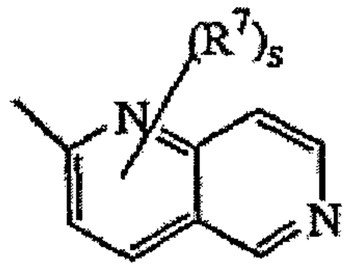
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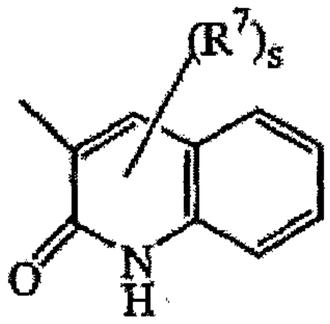
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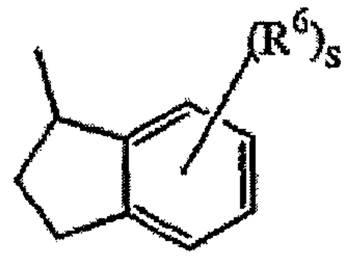
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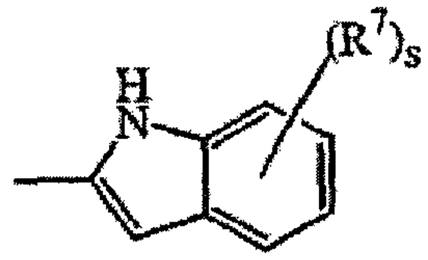
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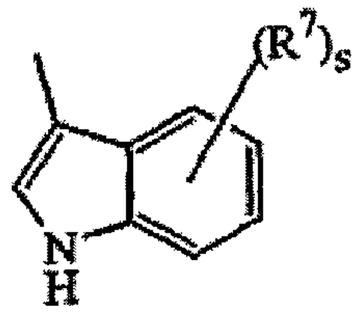
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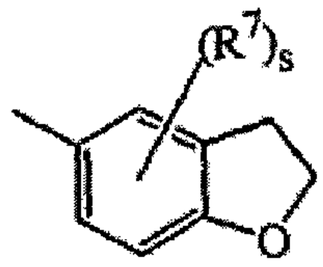
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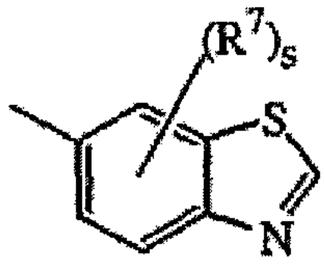
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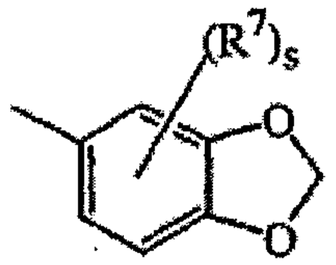
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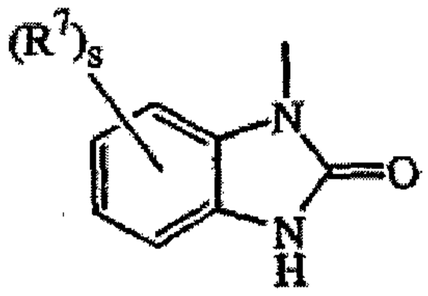
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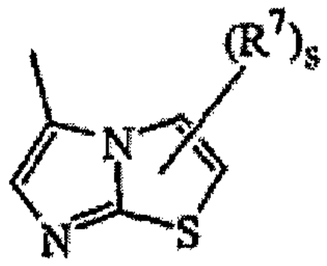
(a-31)



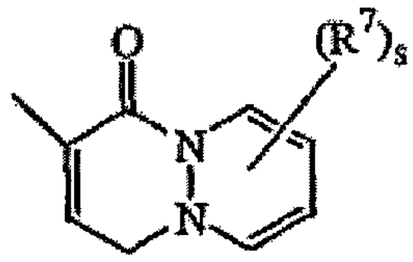
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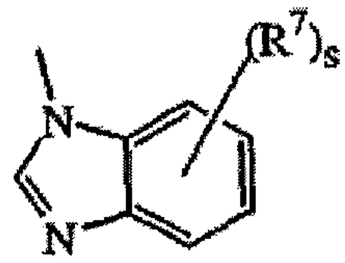
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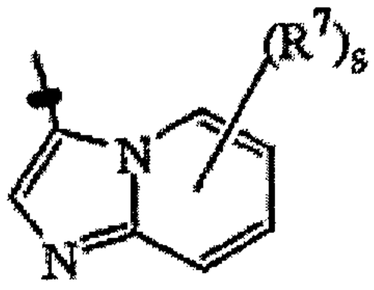
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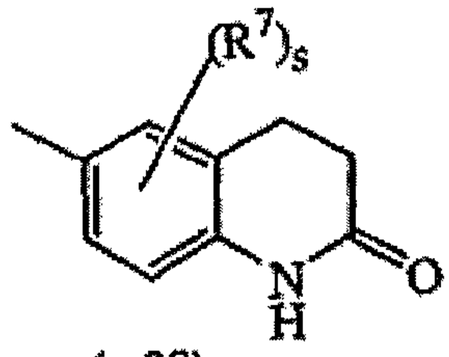
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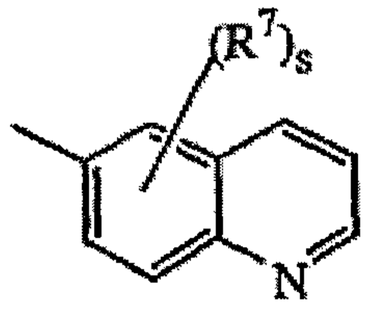
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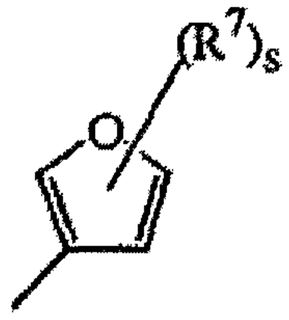
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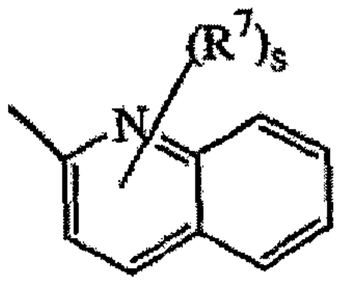
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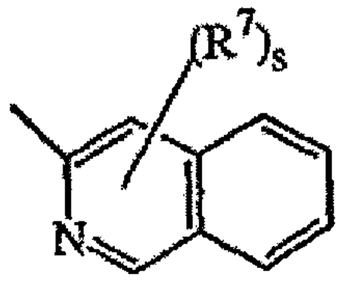
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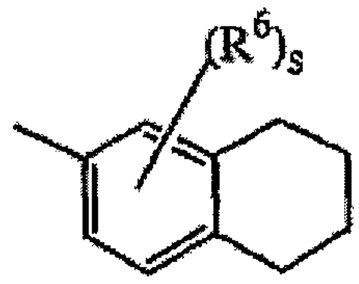
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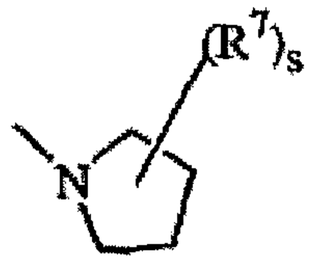
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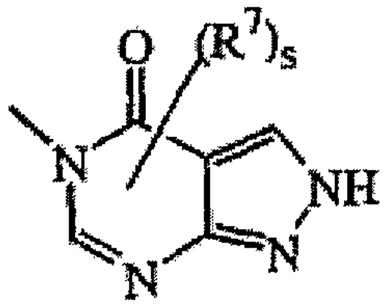
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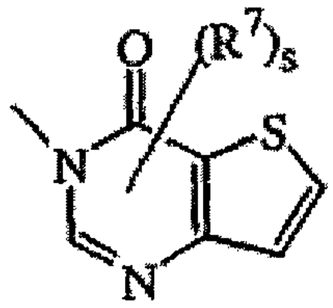
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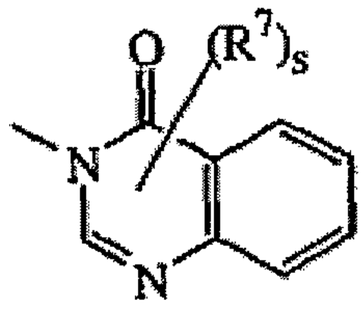
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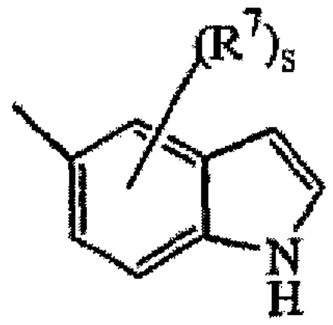
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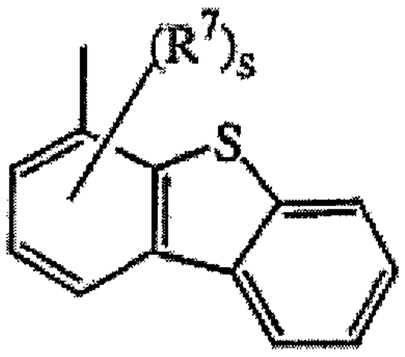
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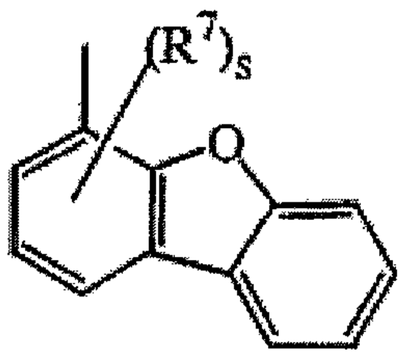
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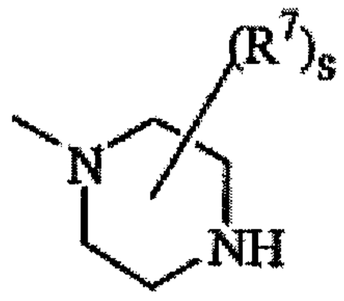
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl;

thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl,

hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl;

C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy,

hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl,

di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl,

di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl,

(hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

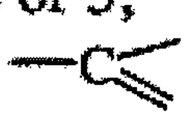
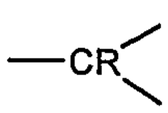
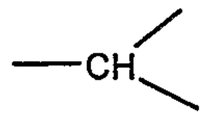
each R^6 and R^7 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

[0147] Other embodiments of the compound according to paragraph [0146] are those in which one or more of the following apply (wherein each of R^2, R^3, R^4 and R^5 in this paragraph corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in paragraph [0146]):

n is 0, 1 or 2;

t is 0, 1, 2 or 3;

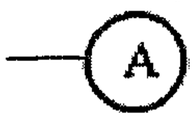
Q is  ,  , or  ;

R^2 is hydrogen, C_{1-6}alkyl or napntalenylsulfonylpyrazinyl;

each R^3 independently represents a hydrogen atom;

R^4 is hydrogen, hydroxy, hydroxyC_{1-6}alkyl or C_{1-6}alkyloxy;

R^5 is hydrogen, C_{1-6}alkyl, hydroxyC_{1-6}alkyl or C_{1-6}alkyloxyC_{1-6}alkyl;

 is a radical selected from (a-1), (a-7) or (a-20);

each s is independently 0 or 1;

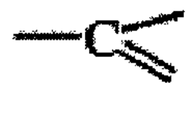
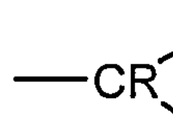
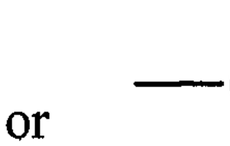
each R^6 is independently selected from hydrogen; thiophenyl; furanyl; benzofuranyl; phenyl; or phenyl substituted with one substituents independently selected from C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, C_{1-4}alkylsulfonyl or di(C_{1-4}alkyl)amino;

each R^7 is independently selected from hydrogen.

[0148] Other embodiments of the compound according to paragraph [0146] are those in which one or more of the following apply (wherein each of R^2, R^3, R^4 and R^5 in this paragraph corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in paragraph [0146]):

n is 1 or 2;

t is 0, 1, 2 or 3;

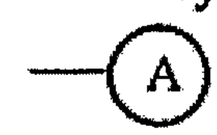
Q is  ,  , or  ;

R^2 is hydrogen or C_{1-6}alkyl;

each R^3 independently represents a hydrogen atom;

R^4 is hydrogen;

R^5 is hydrogen or C_{1-6}alkyloxyC_{1-6}alkyl;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

each R^6 is independently selected from hydrogen; thiophenyl; furanyl; benzofuranyl; phenyl; or phenyl substituted with one substituents independently selected from C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl or di(C_{1-4}alkyl)amino.

[0149] Other embodiments of the compound according to paragraph [0146] are those in which R^{12} is H.

[0150] Other embodiments of the compound according to paragraph [0146] are those in which one or more of the following apply (wherein each of R^2, R^3, R^4 and R^5 in this paragraph corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in paragraph [0146]):

t is 0;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^4 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^5 is hydrogen



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^7 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

[0151] Other embodiments of the compound according to paragraph [0146] are those in which one or more of the following apply (wherein each of R^2, R^3, R^4 and R^5 in this paragraph corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in paragraph [0146]):

R^5 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alky or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

(A) is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8) (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

l) each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl;

imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl;

(hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl,

hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy,

C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

[0152] Other embodiments of the compound according to paragraph [0146] include those in which the following are true (wherein each of R^2, R^3, R^4 and R^5 in this paragraph corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in paragraph [0146]):

R^5 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;



is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy;

morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl;

pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl; trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy; aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl,

di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino,

di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

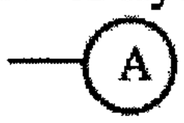
[0153] Other embodiments of the compound according to paragraph [0146] include those in which the following are true (wherein each of R^2, R^3, R^4 and R^5 in this paragraph corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in paragraph [0146]):

t is 0;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^4 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^5 is hydrogen;



is a radical selected from

(a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

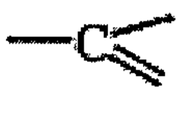
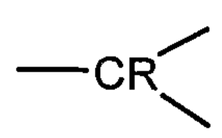
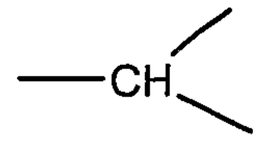
each s is independently 0, 1, 2, 3 or 4;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl; and

R^7 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl

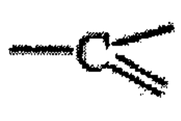
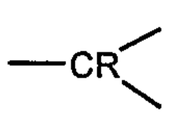
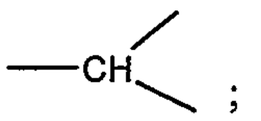
substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

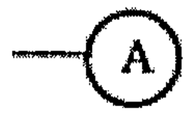
[0154] Other embodiments of the compound according to paragraph [0146] include those in which the following are true (wherein each of R^2, R^3, R^4 and R^5 in this paragraph corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in paragraph [0146]):

n is 0, 1 or 2; t is 0, 1, 2 or 3; Q is  ,  , or  ;

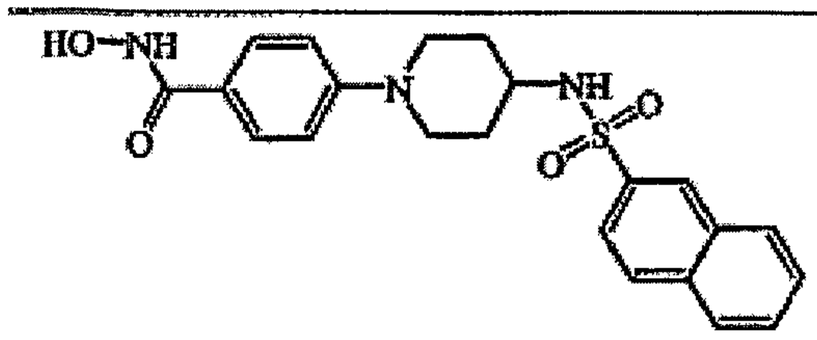
R^2 is hydrogen, C_{1-6}alkyl or naphtalenylsulfonylpyrazinyl; each R^3 independently represents a hydrogen atom; R^4 is hydrogen, hydroxy, hydroxyC_{1-6}alkyl or C_{1-6}alkyloxy; R^5 is hydrogen, C_{1-6}alkyl, hydroxyC_{1-6}alkyl or C_{1-6}alkyloxyC_{1-6}alkyl;  is a radical selected from (a-1), (a-7) or (a-20); each s is independently 0 or 1; each R^6 is independently selected from hydrogen; thiophenyl; furanyl; benzofuranyl; phenyl; or phenyl substituted with one substituents independently selected from C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, C_{1-4}alkylsulfonyl or di(C_{1-4}alkyl)amino and each R^7 is independently selected from hydrogen.

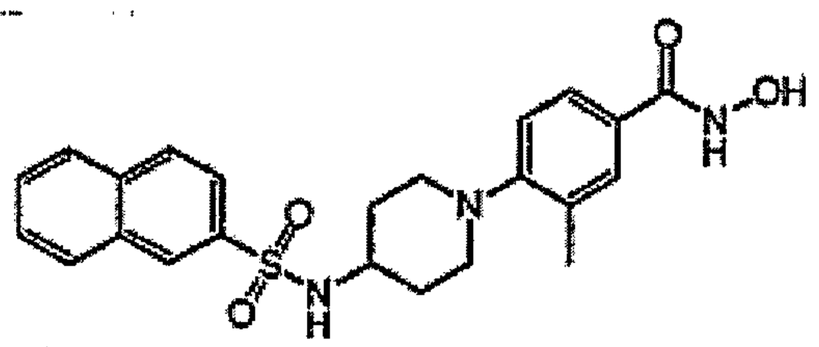
[0155] Other embodiments of the compound according to paragraph [0146] include those in which the following are true (wherein each of R^2, R^3, R^4 and R^5 in this paragraph corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in paragraph [0146]):

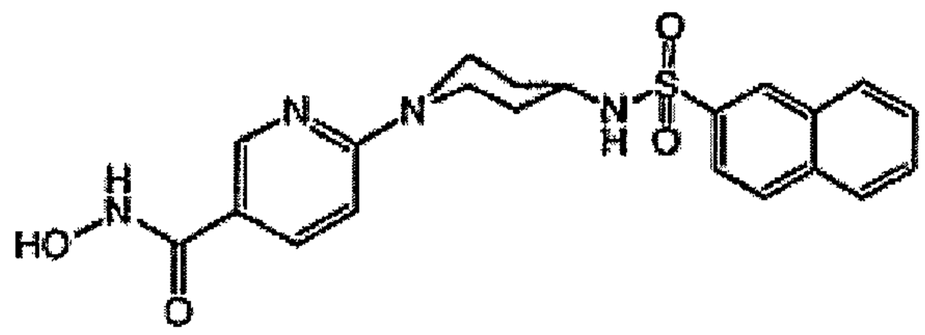
n is 1 or 2; t is 0, 1, 2 or 3; Q is  ,  , or  ;

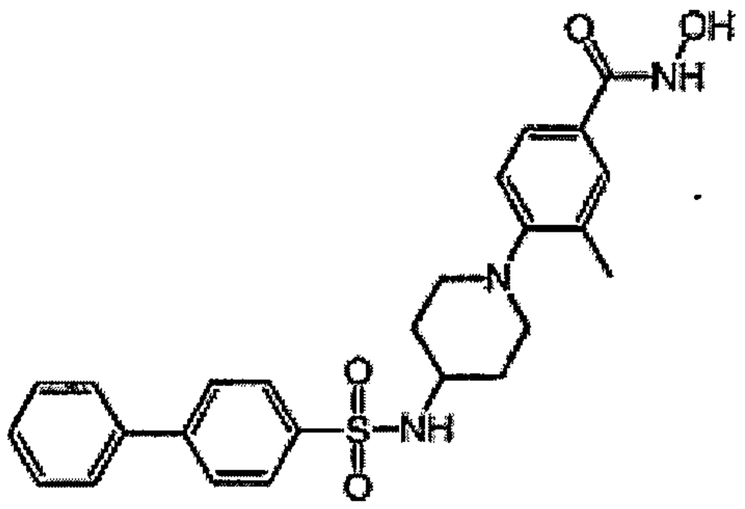
R^2 is hydrogen or C_{1-6}alkyl; each R^3 independently represents a hydrogen atom; R^4 is hydrogen; R^5 is hydrogen or C_{1-6}alkyloxyC_{1-6}alkyl;  is a radical selected from (a-1) or (a-20); each s is independently 0 or 1; and each R^6 is independently selected from hydrogen; thiophenyl; furanyl; benzofuranyl; phenyl; or phenyl substituted with one substituents independently selected from C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl or di(C_{1-4}alkyl)amino.

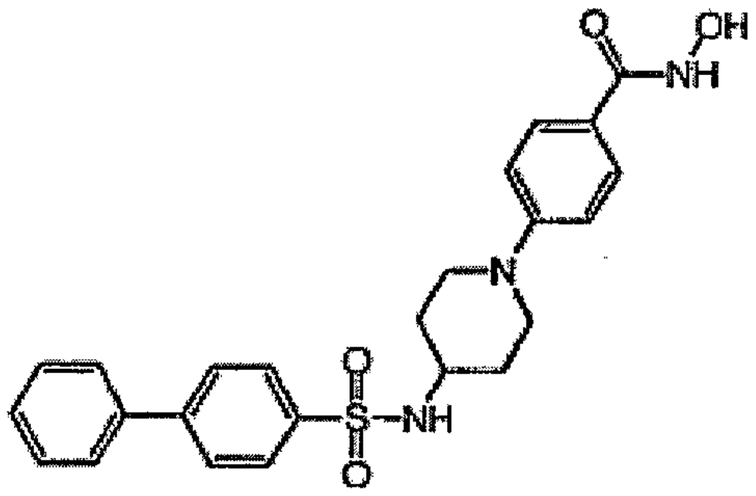
[0156] Particular embodiments of the compound according to paragraph [0136] include the following

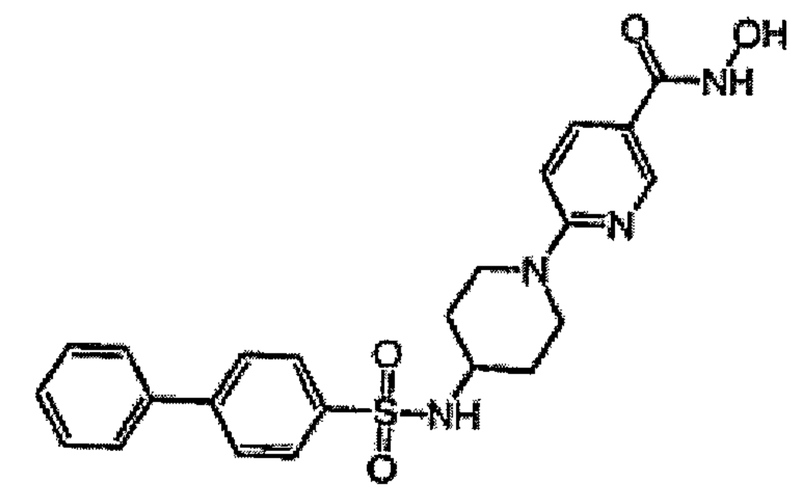


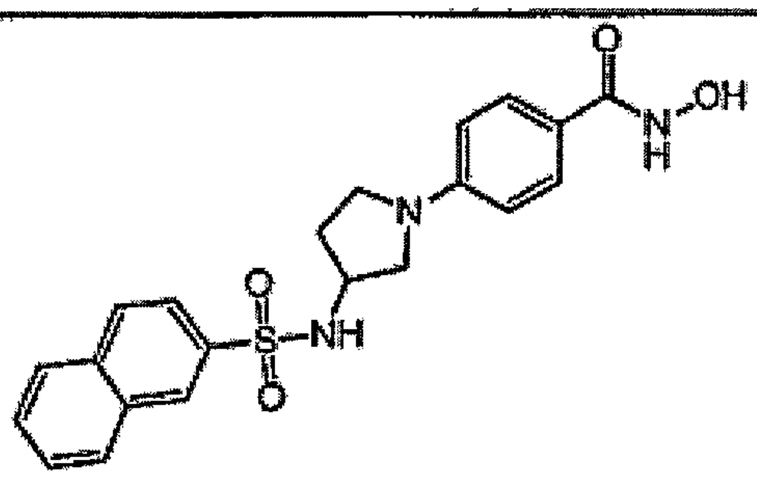


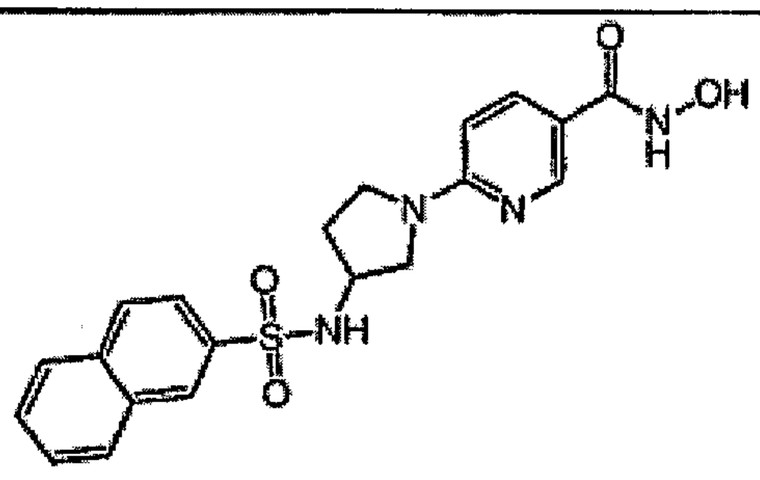


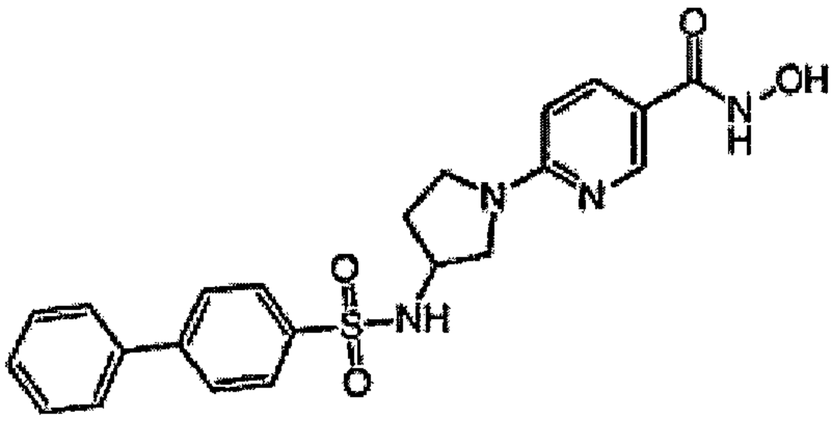


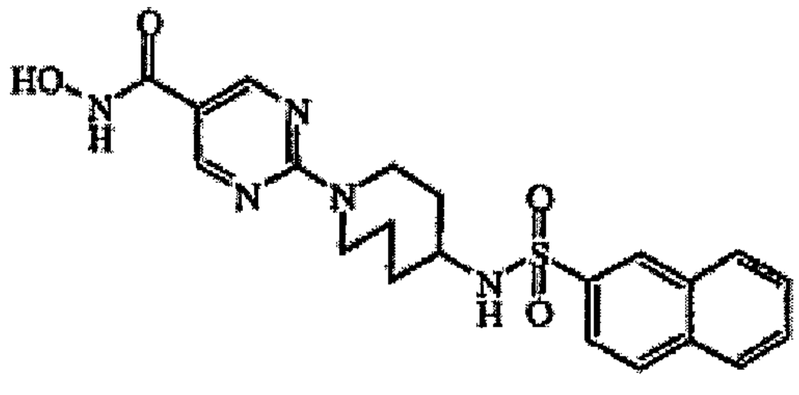


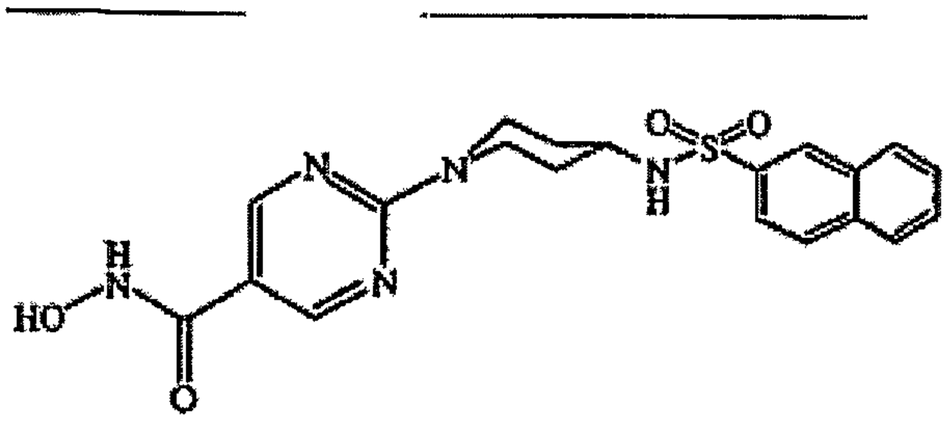


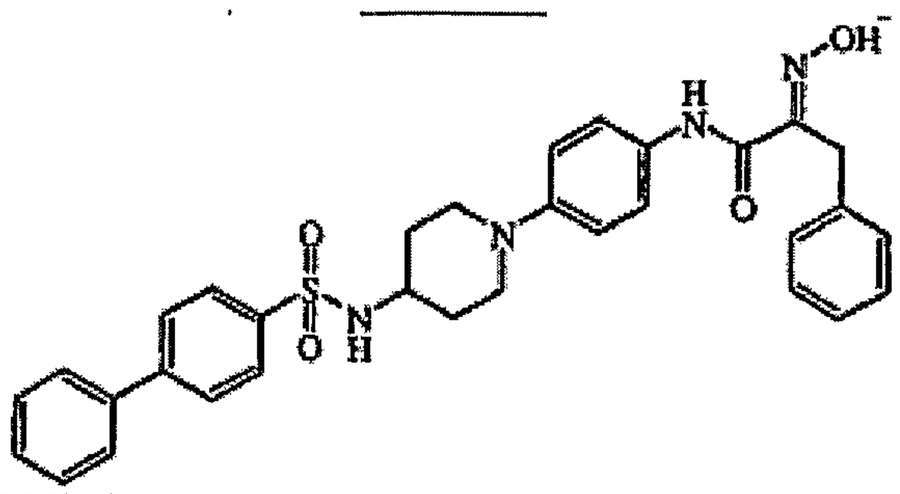


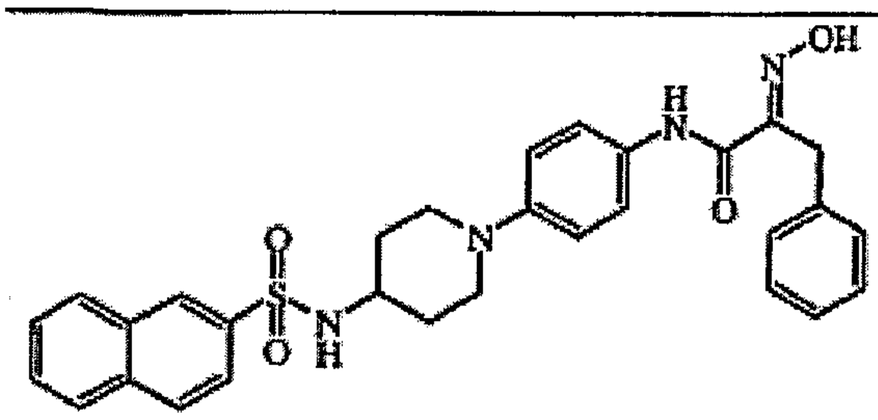


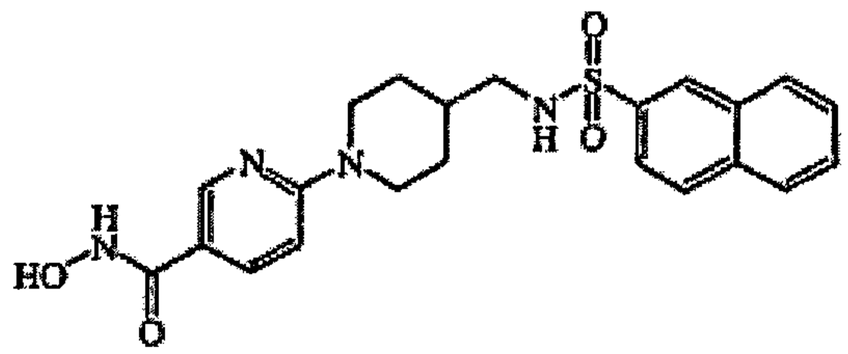


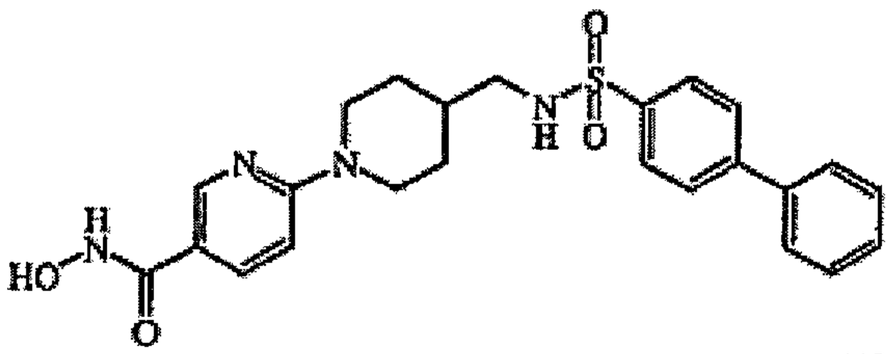


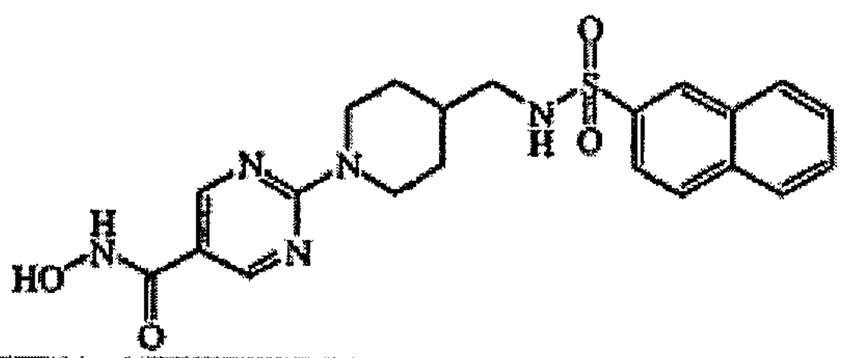


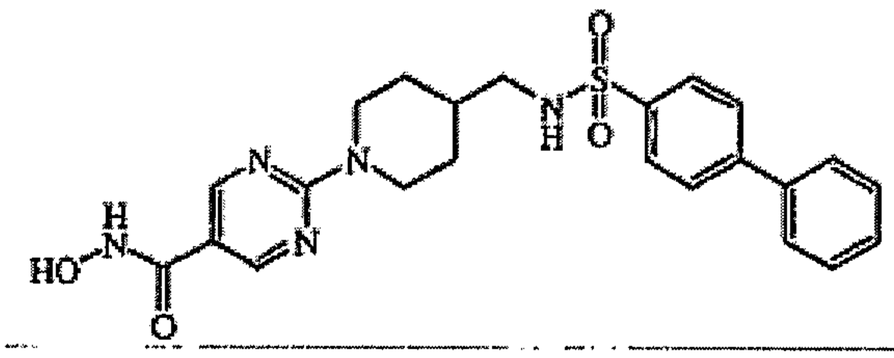


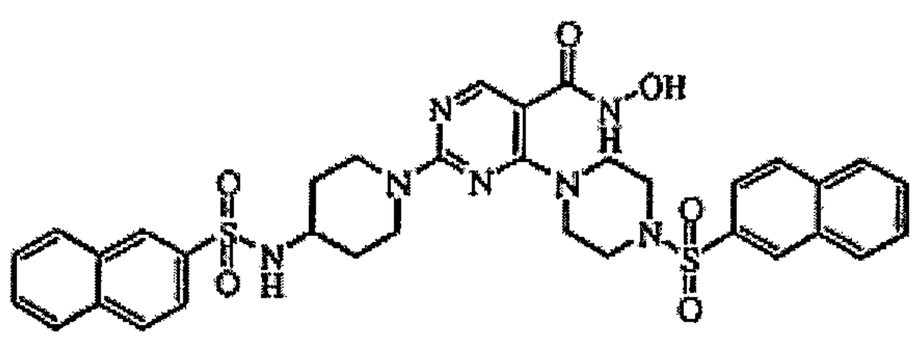


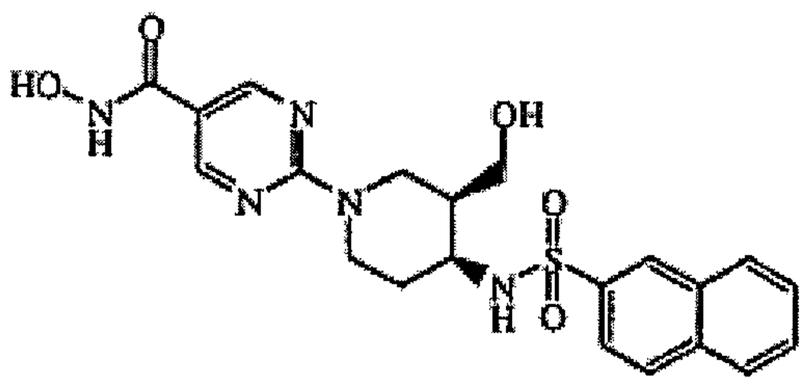


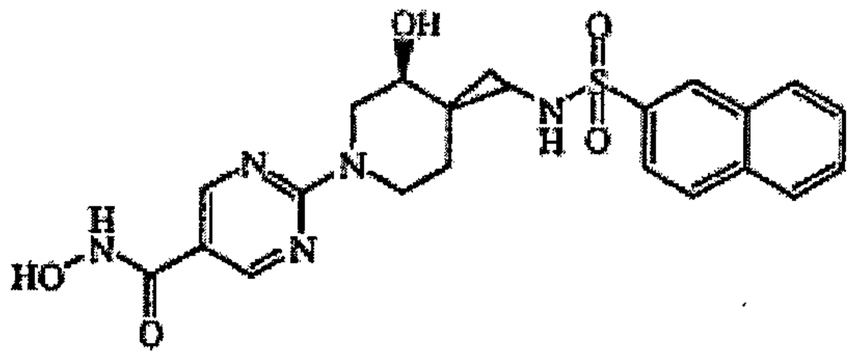


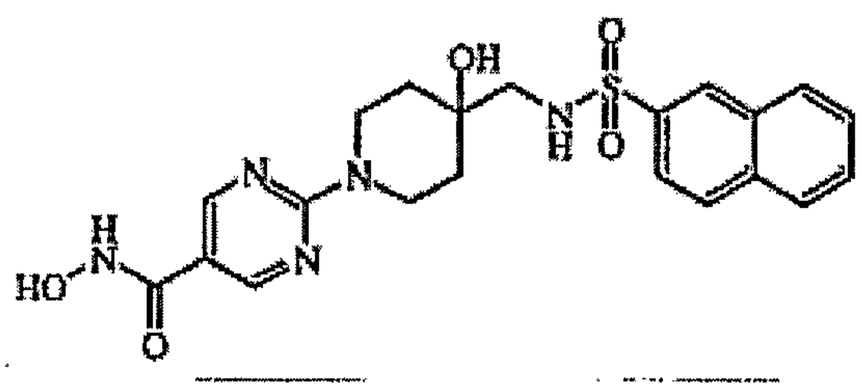


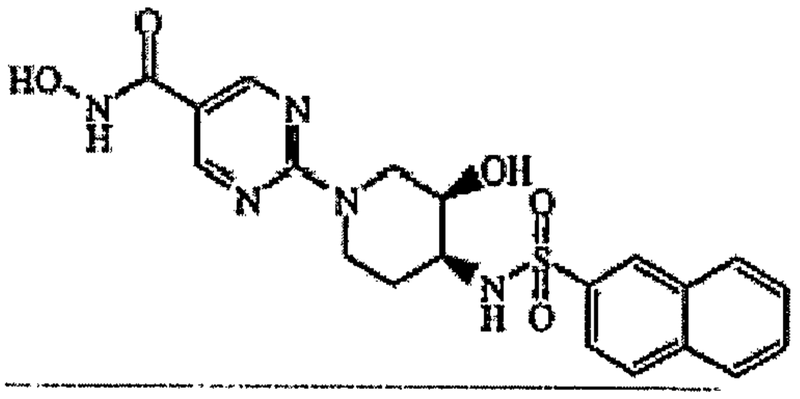


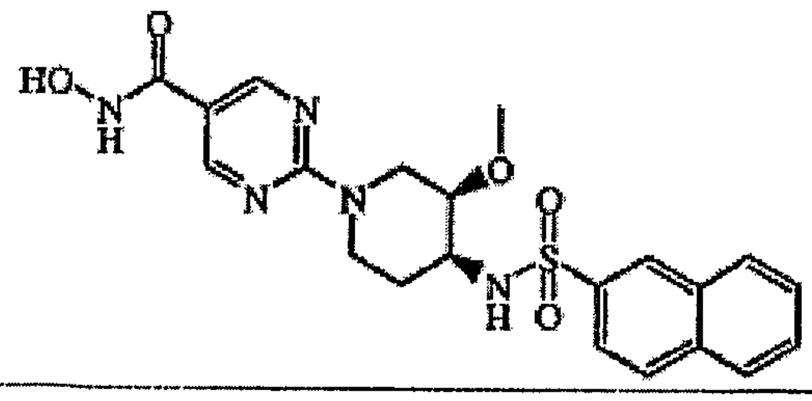


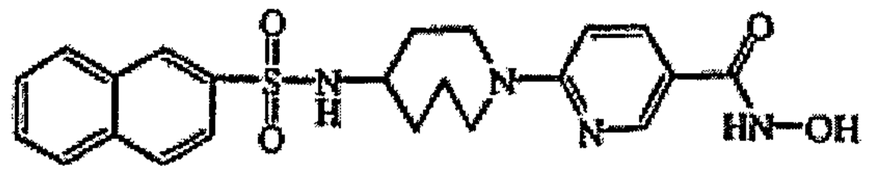


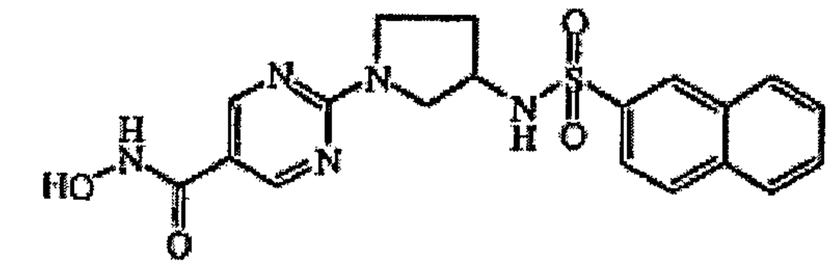


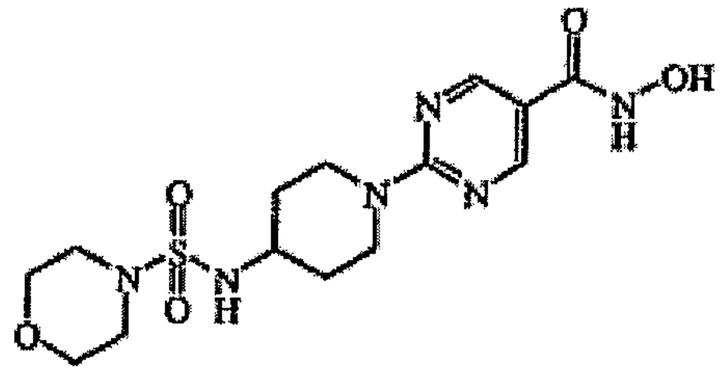


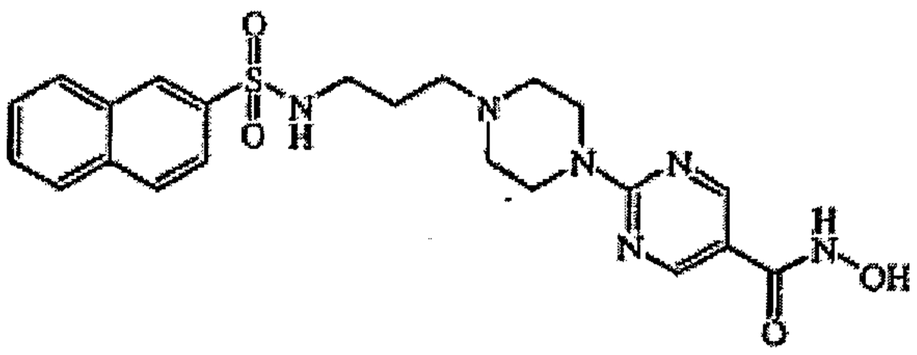


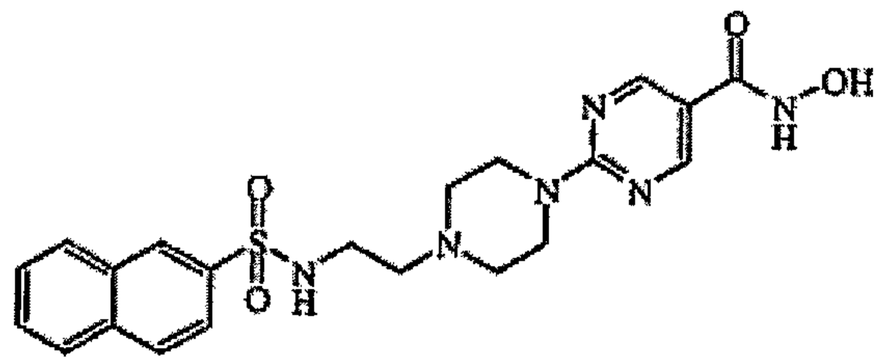


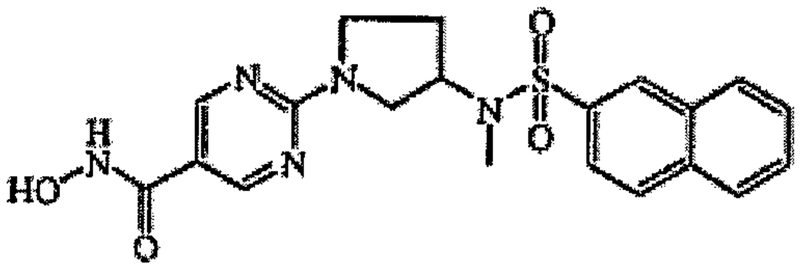


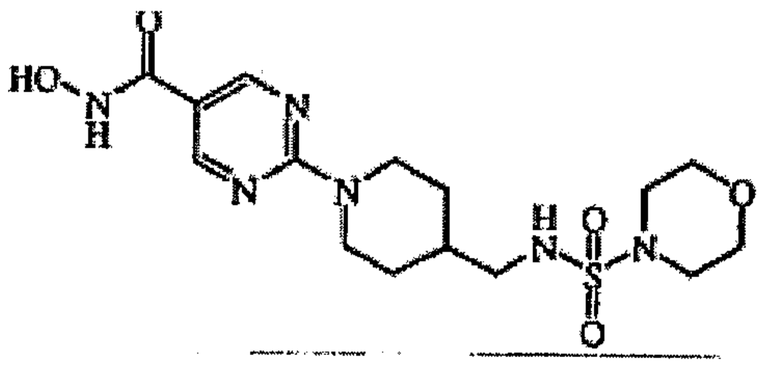


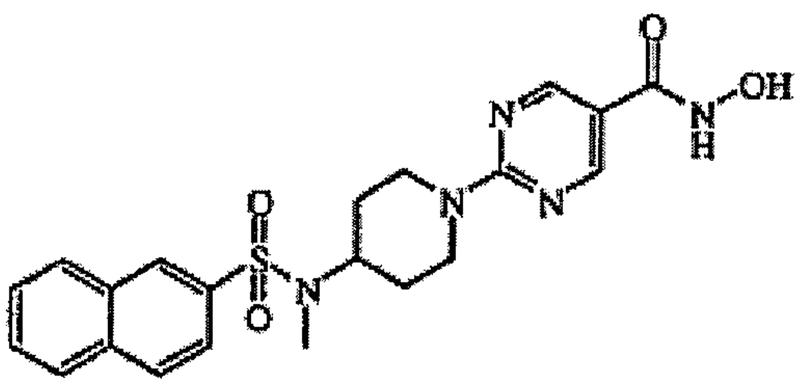


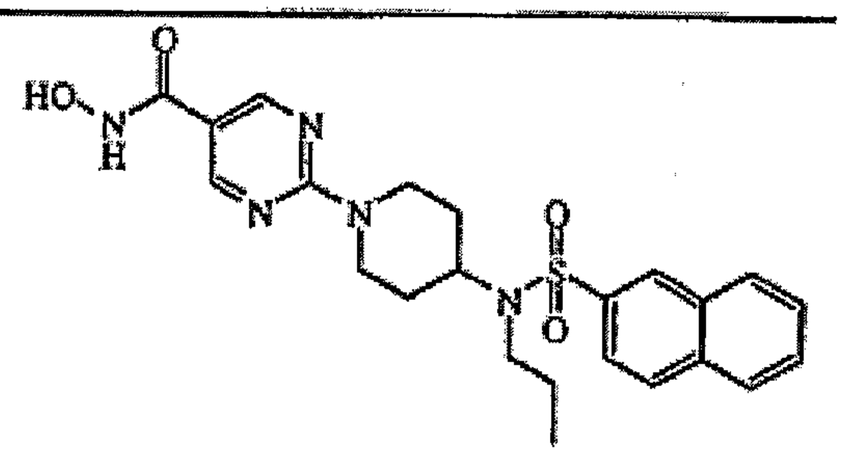


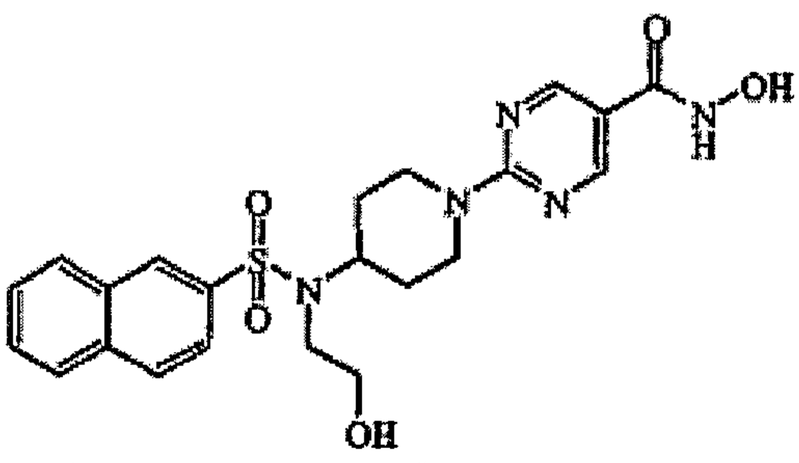


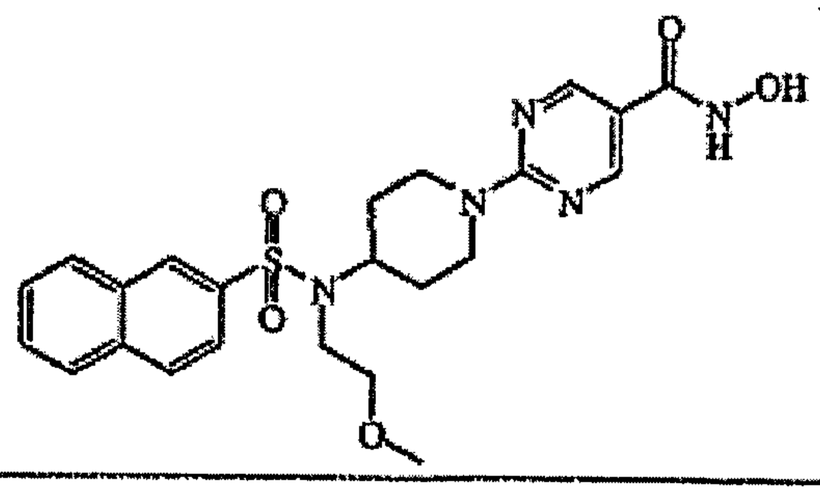


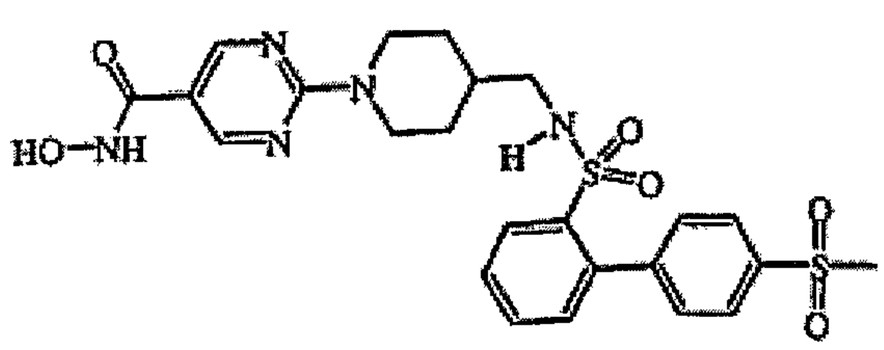


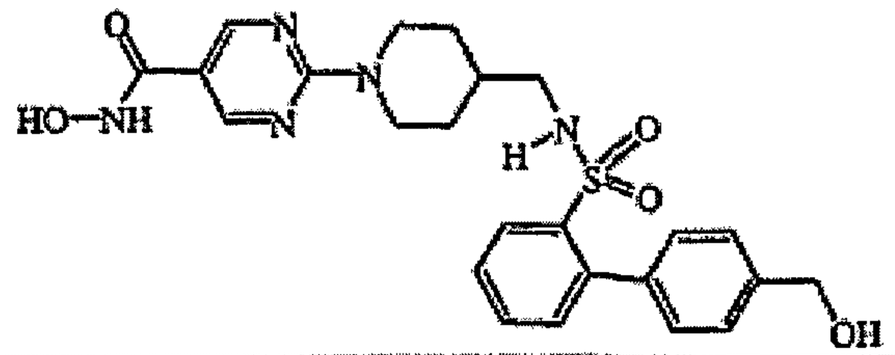


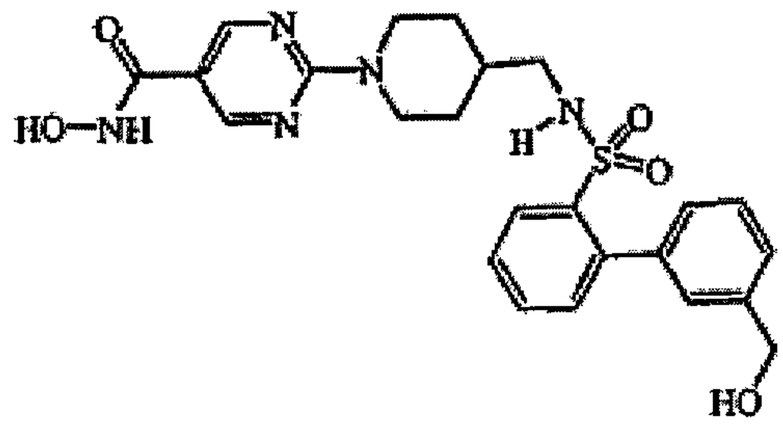


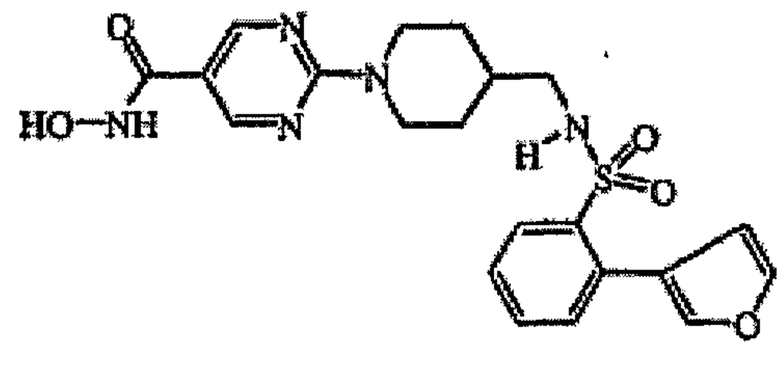


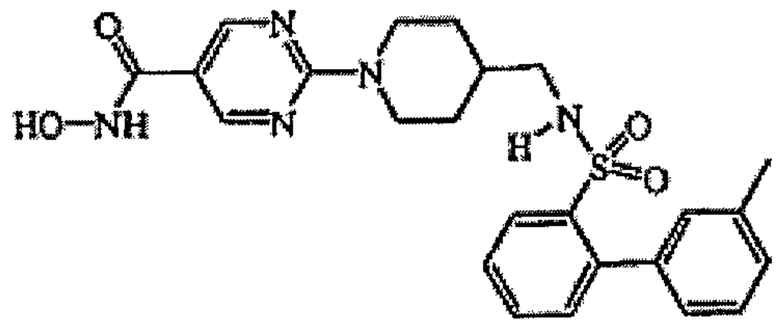


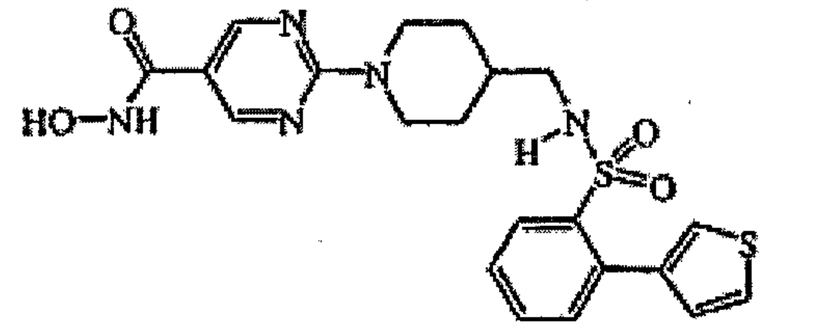


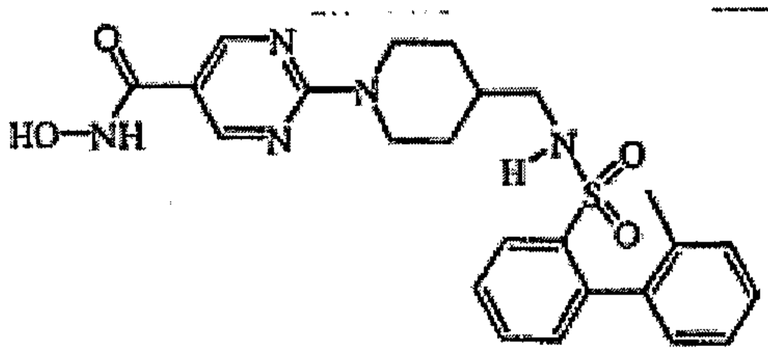


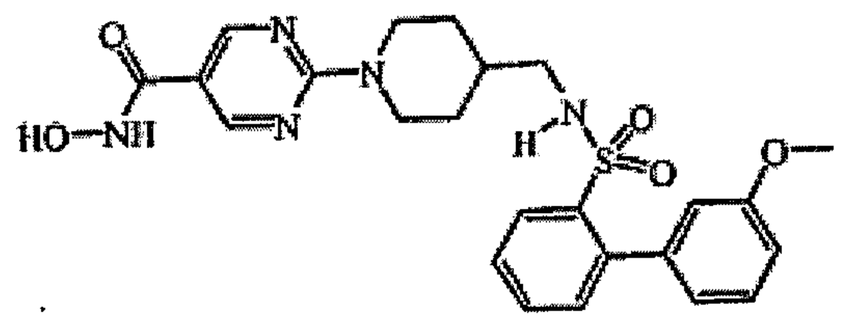


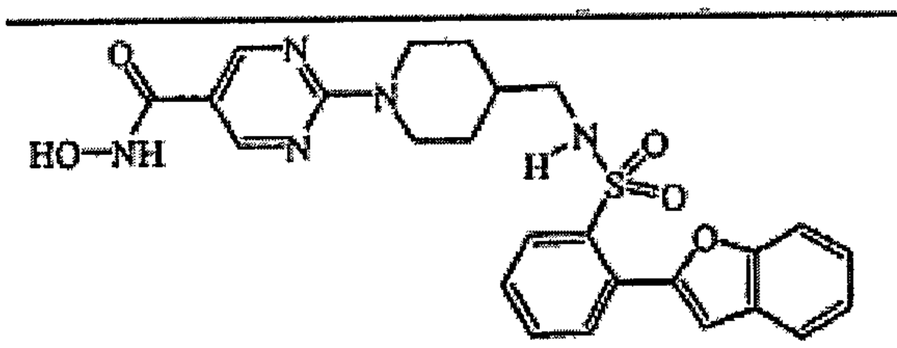


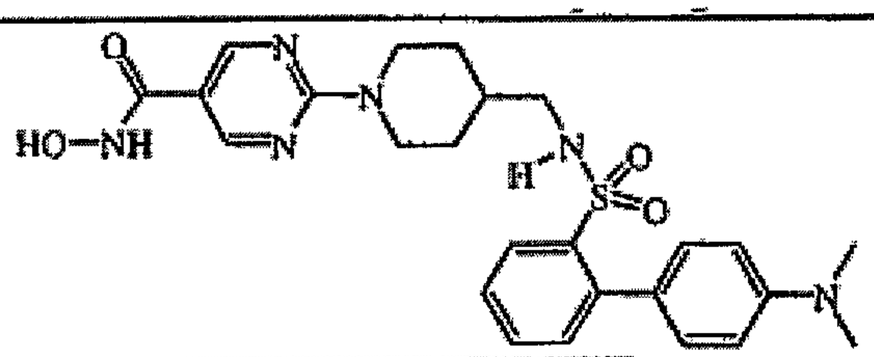


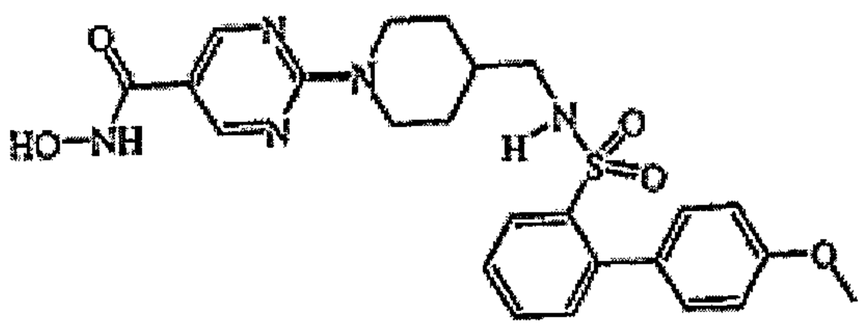




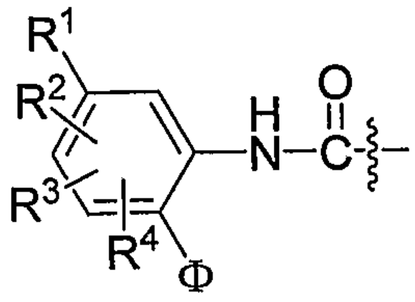








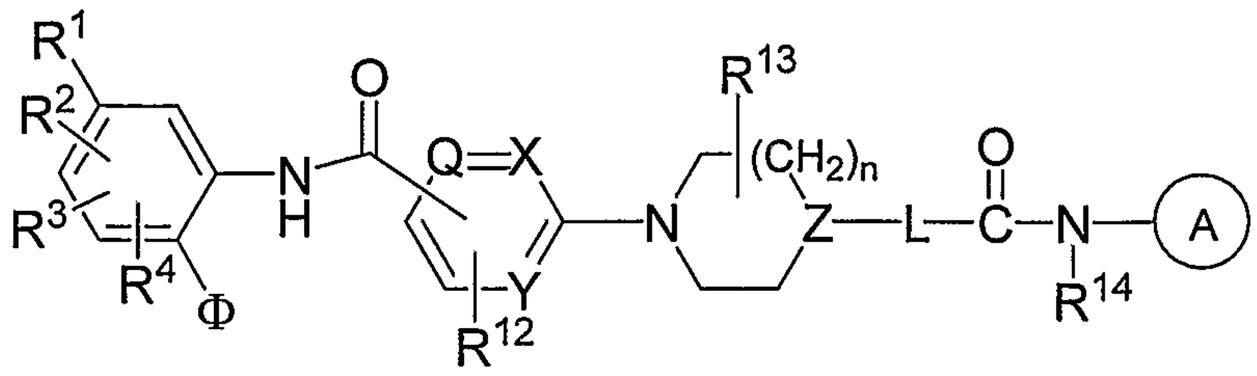
in which the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0157] In the compounds of paragraph [0146] - [0156], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraphs [0146] - [0156], R^1, R^2, R^3, and R^4 are all H.

[0158] In another embodiment, the invention comprises compounds of the following structural formula (9):



(9)

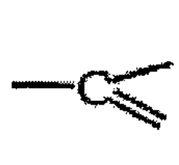
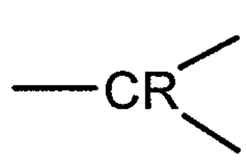
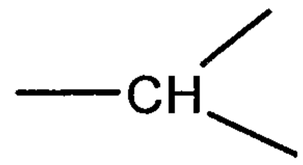
or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or –OH;

R^1 is H or as defined in paragraph [0046];

R^2, R^3, and R^4 are as defined in paragraph [0046];

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

Q is nitrogen or  **,**  **, or**  **;**

X is nitrogen or **;**

Y is nitrogen or **;**

Z is nitrogen or **;**

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

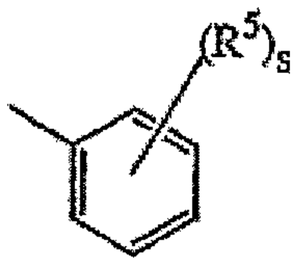
R^{13} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

when Z is equal to nitrogen, then-L- is a direct bond;

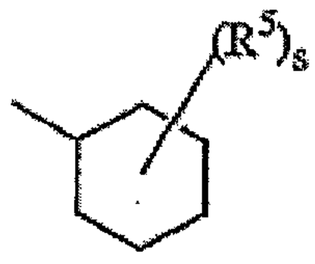
when Z is equal to  , then –L- is –NH- or the bivalent radical -C_{1-6}alkanediylNH-;

R^{14} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;

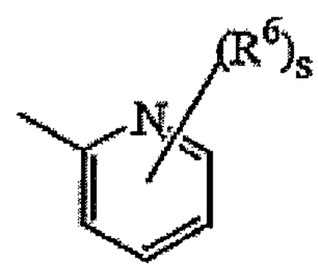
 is a radical selected from



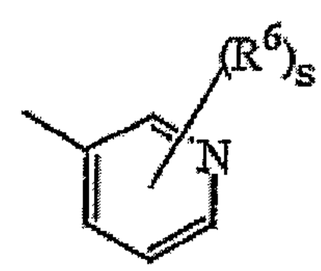
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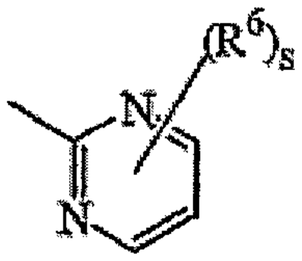
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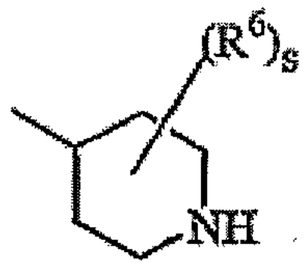
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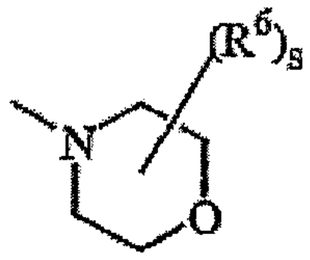
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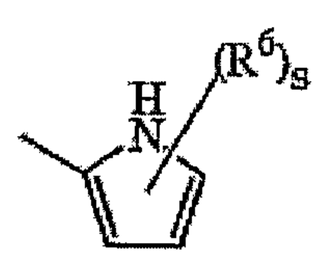
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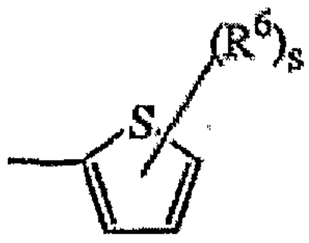
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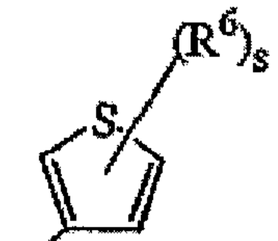
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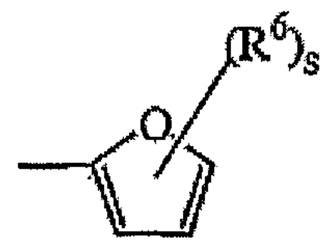
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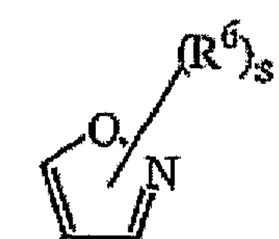
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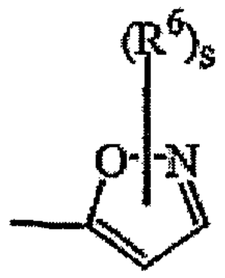
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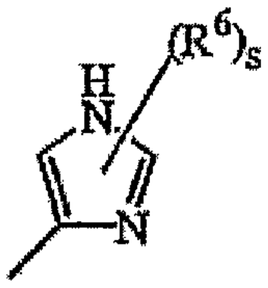
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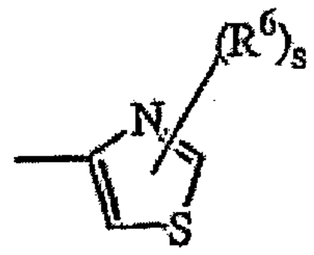
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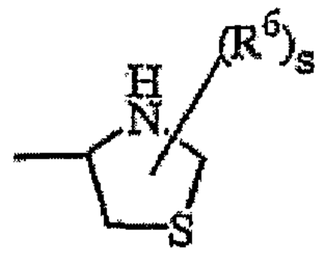
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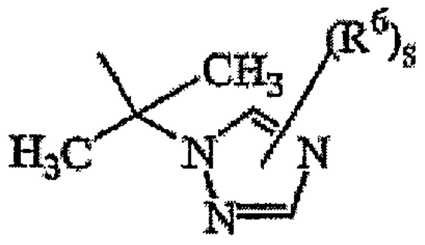
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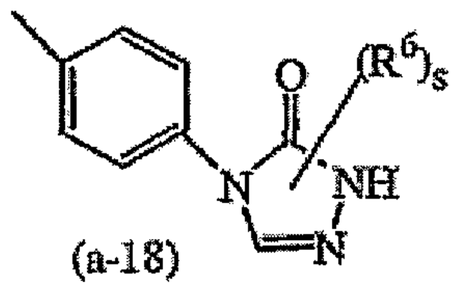
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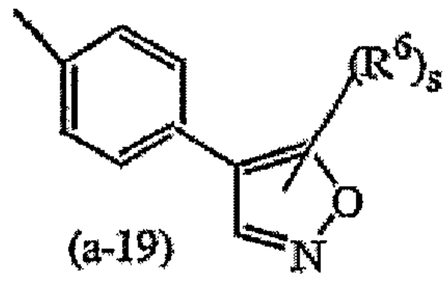
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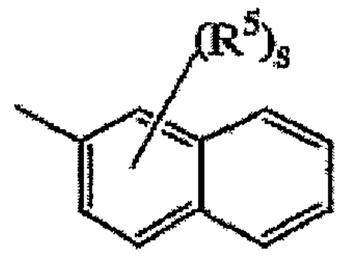
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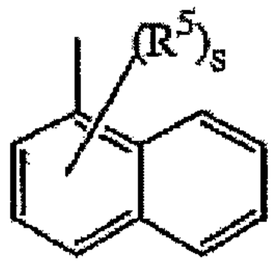
(a-18)



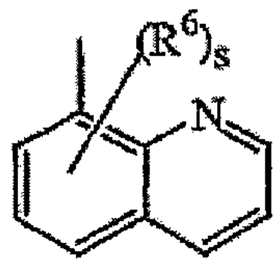
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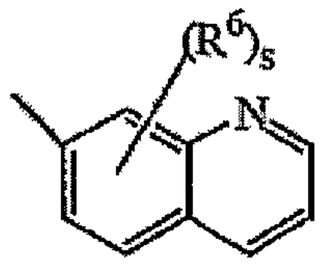
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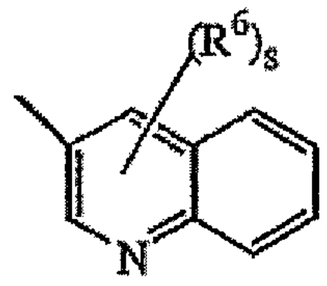
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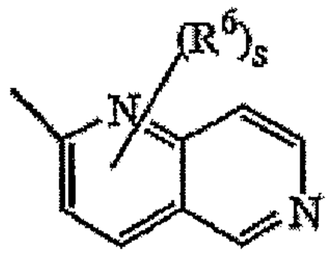
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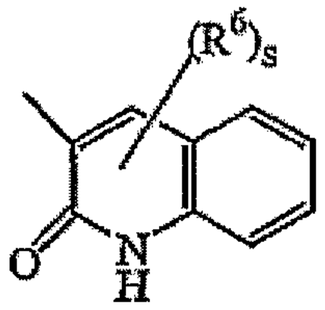
(a-23)



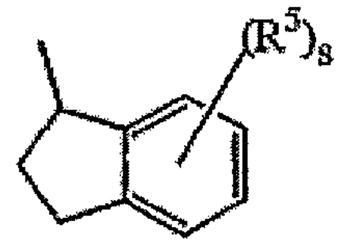
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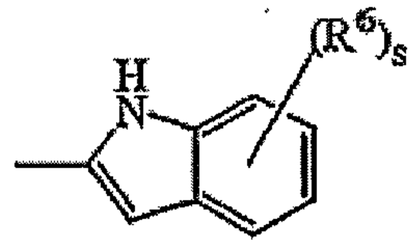
(a-25)



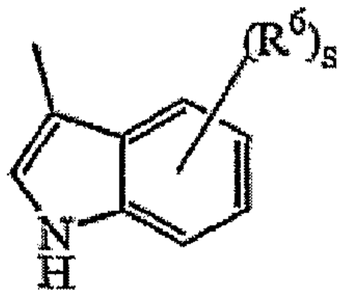
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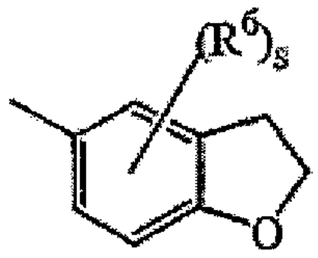
(a-27)



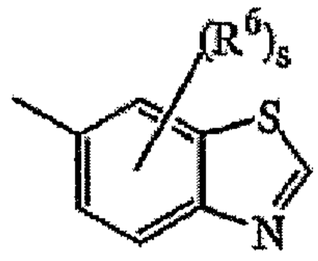
(a-28)



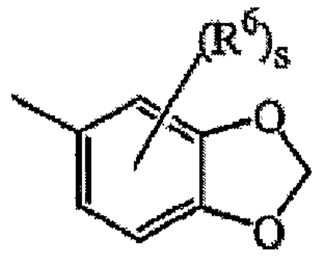
(a-29)



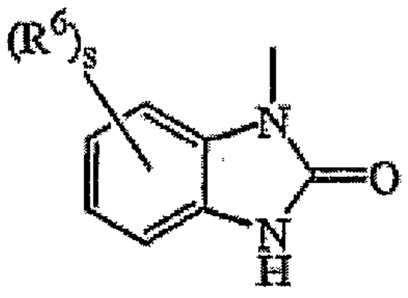
(a-30)



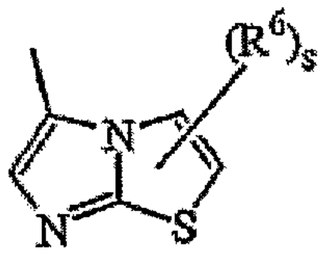
(a-31)



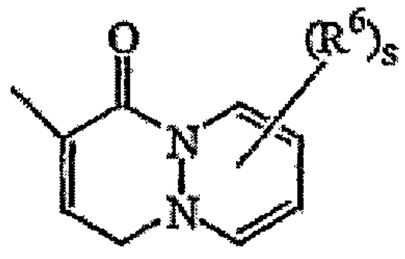
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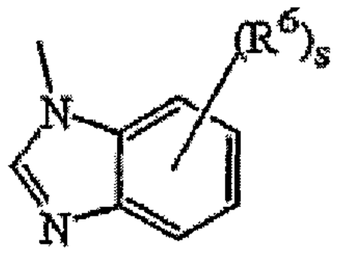
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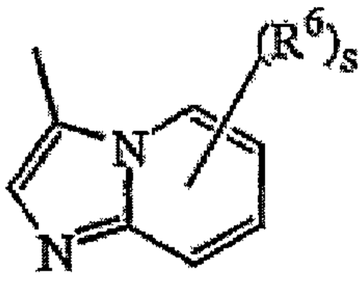
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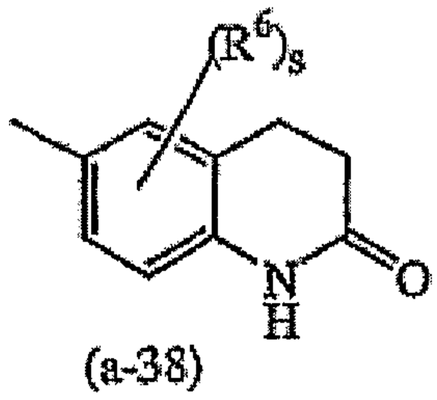
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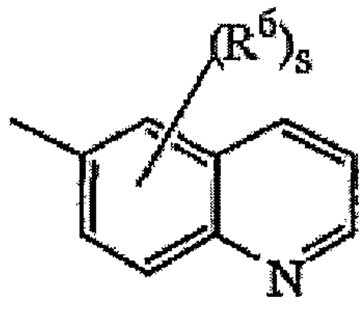
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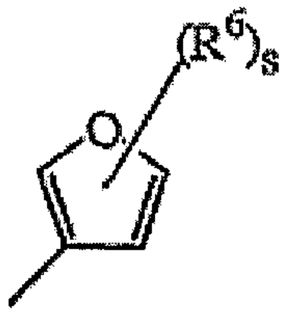
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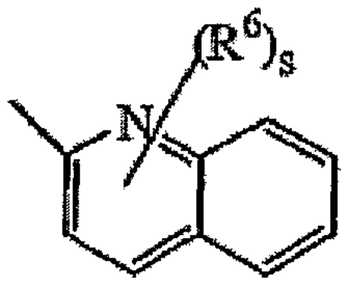
(a-38)



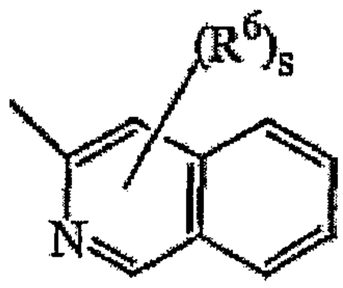
(a-39)



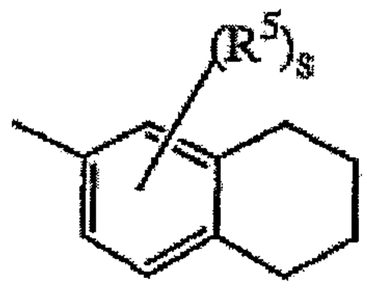
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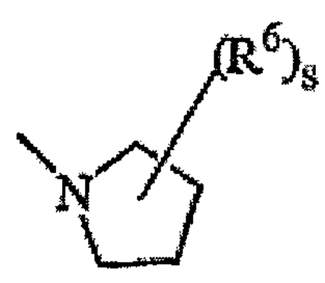
(a-41)



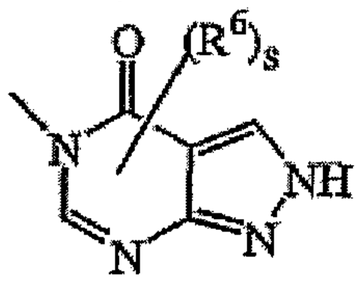
(a-42)



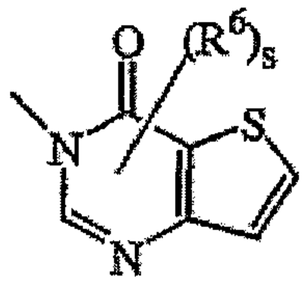
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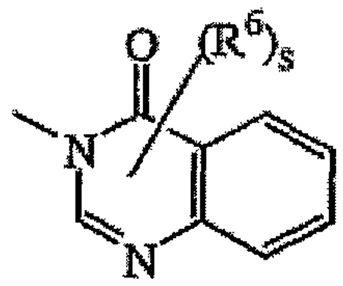
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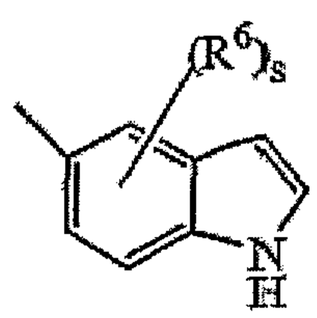
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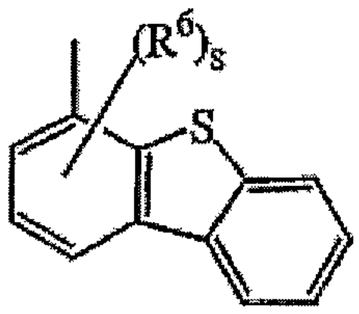
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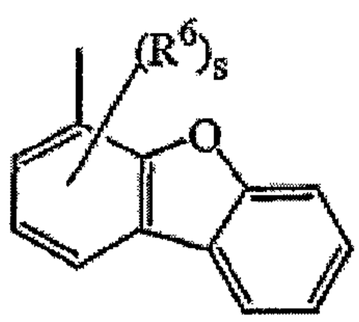
(a-47)



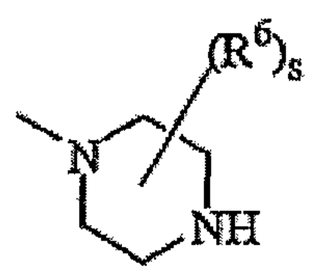
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl;

di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl;

oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy;

morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl;

C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfony C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy,

C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl,

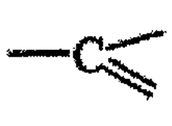
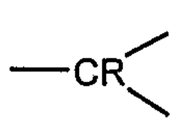
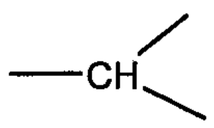
C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

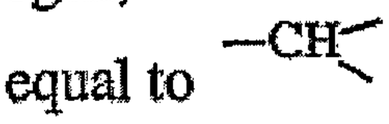
[0159] Other embodiments of the compound according to paragraph [0158] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0158]):

n is 1;

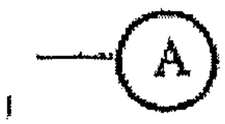
Q is  ,  , or  ;

R^2 is hydrogen or nitro;

R^3 is hydrogen;

when Z is equal to  , then –L- is the bivalent radical -C_{1-6}alkanediylNH-;

R^4 is hydrogen, C_{1-6}alkyl or aryl;

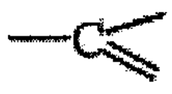
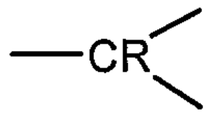
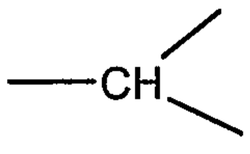
 is a radical selected from (a-1) or (a-21);

each s is independently 0, 1 or 2;

each R^5 is independently selected from hydrogen; halo; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; aryloxy; cyano or phenyl.

[0160] Other embodiments of the compound according to paragraph [0158] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0158]):

n is 1;

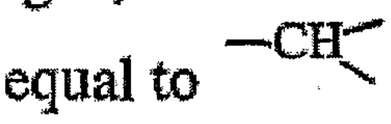
Q is  ,  , or  ;

X is nitrogen;

Y is nitrogen;

R^2 is hydrogen;

R^3 is hydrogen;

when Z is equal to  , then –L- is the bivalent radical -C_{1-6}alkanediylNH-;

R^4 is hydrogen, C_{1-6}alkyl or aryl;

 is the radical (a-1);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

[0161] Other embodiments of the compound according to paragraph [0158] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0158]):

Z is N;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^3 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^4 is hydrogen;



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl;

hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazolyl; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

[0162] Other embodiments of the compound according to paragraph [0158] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0158]):

Z is N;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^3 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^4 is hydrogen;



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

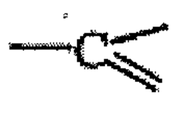
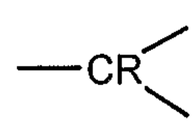
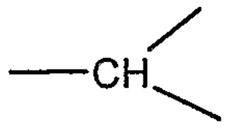
each s is independently 0, 1, 2, 3 or 4;

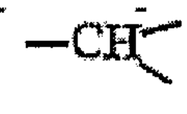
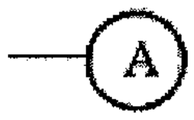
R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl;

hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazolyl; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl; and

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

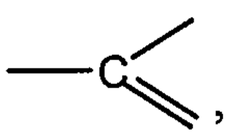
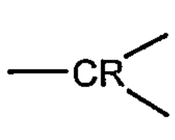
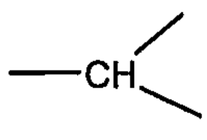
[0163] Other embodiments of the compound according to paragraph [0158] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0158]):

n is 1; Q is  ,  , or  ;

R^2 is hydrogen or nitro; R' is hydrogen; when Z is equal to  , then –L- is the bivalent radical -C_{1-6}alkanediylNH-; R^4 is hydrogen, C_{1-6}alkyl or aryl;  is a radical selected from (a-1) or (a-21); each s is independently 0, 1 or 2; and each R^5 is independently selected from hydrogen; halo; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; aryloxy; cyano or phenyl.

[0164] Other embodiments of the compound according to paragraph [0158] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0158]):

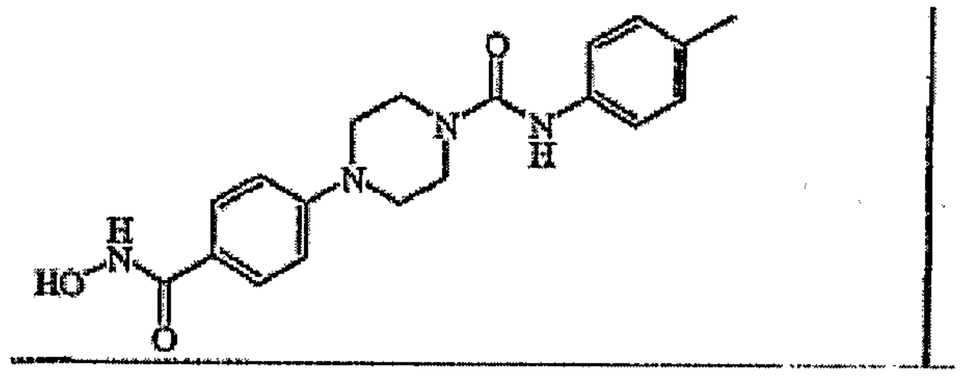
n is 1; X is nitrogen; Y is nitrogen;

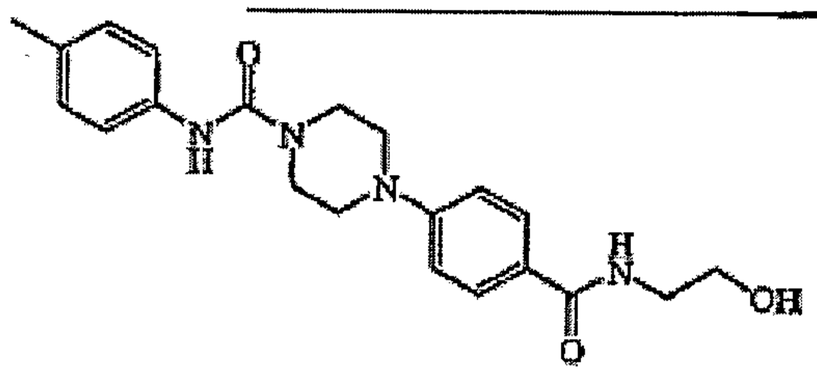
Q is  ,  , or  ;

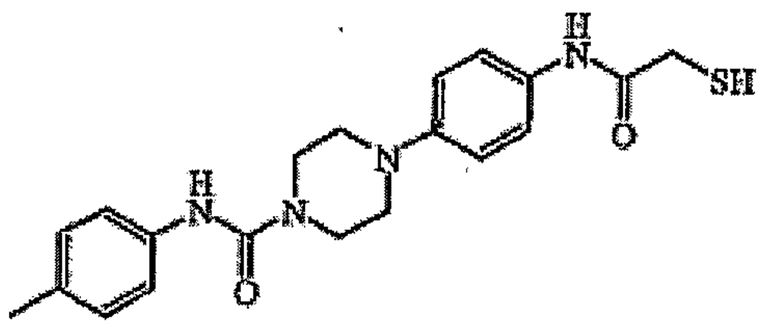
R^2 is hydrogen; R^3 is hydrogen; when Z is equal to  , then

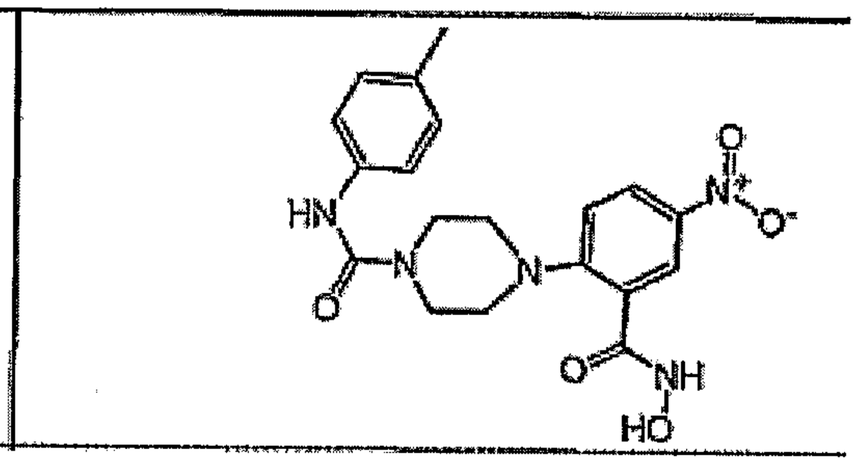
–L– is the bivalent radical -C_{1-6}alkanediylNH-; R^4 is hydrogen, C_{1-6}alkyl or aryl; is the radical (a-1); each s is independently 0 or 1; and each R^5 is independently selected from hydrogen or phenyl.

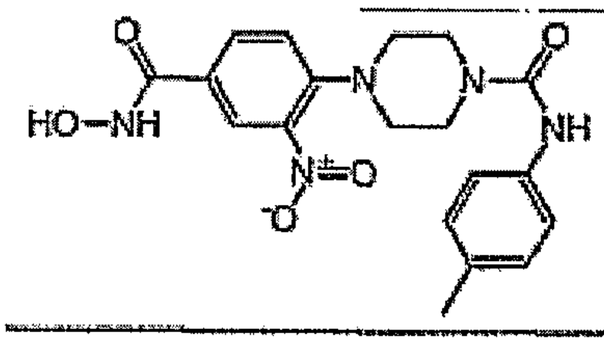
[0165] Particular embodiments of the compound according to paragraph [0158] include the following

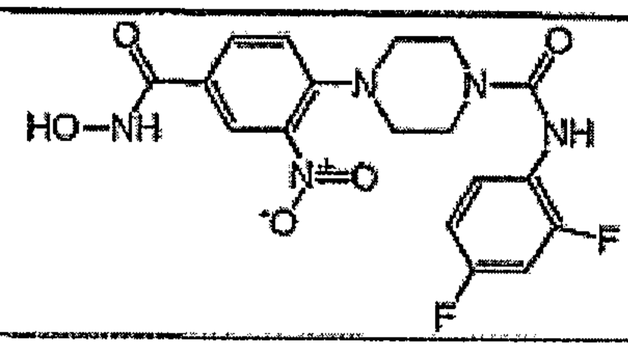


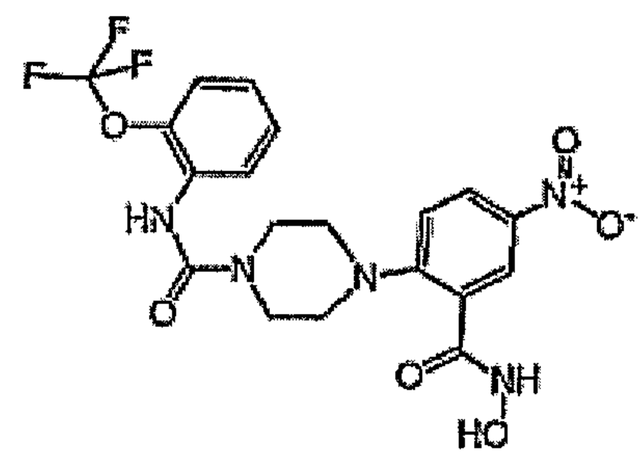


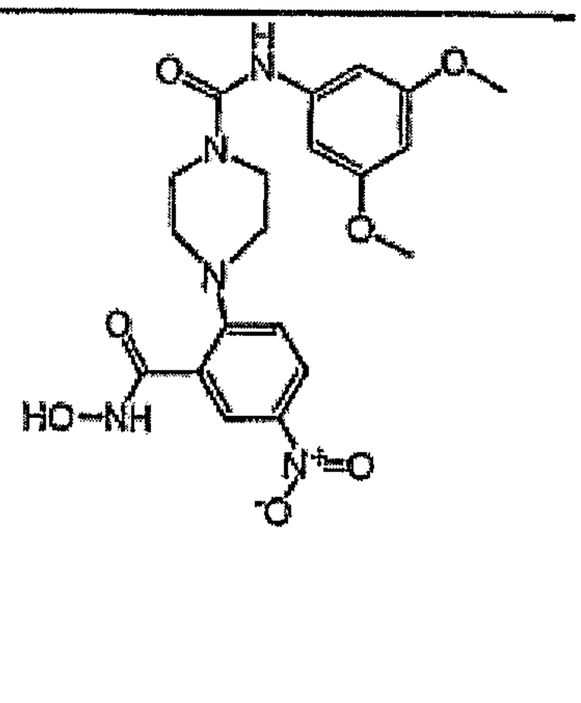


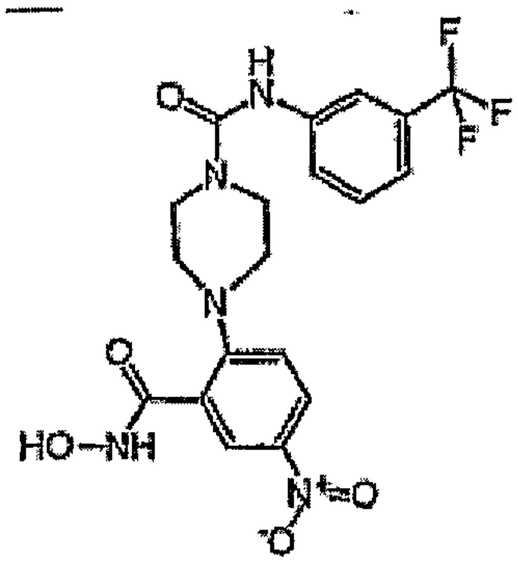


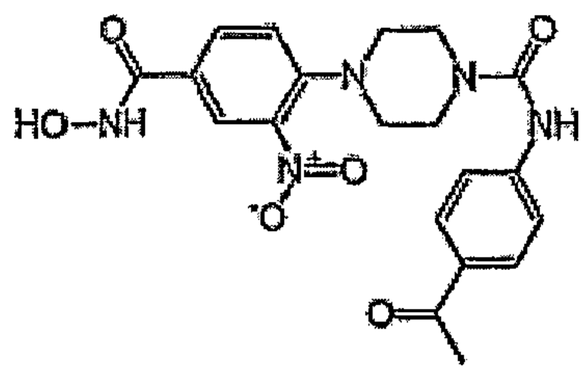


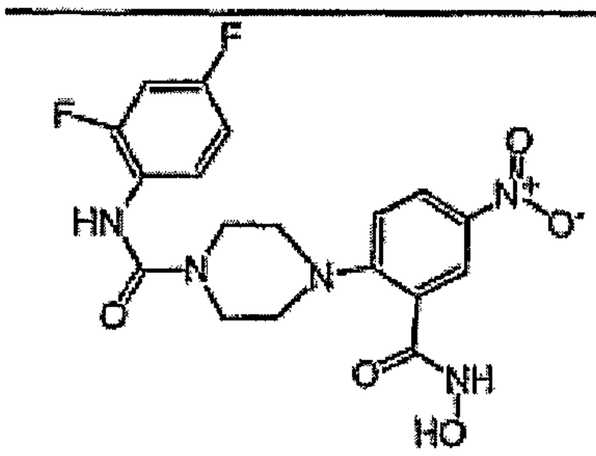


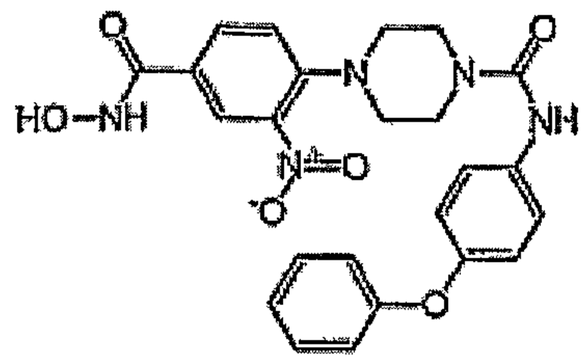


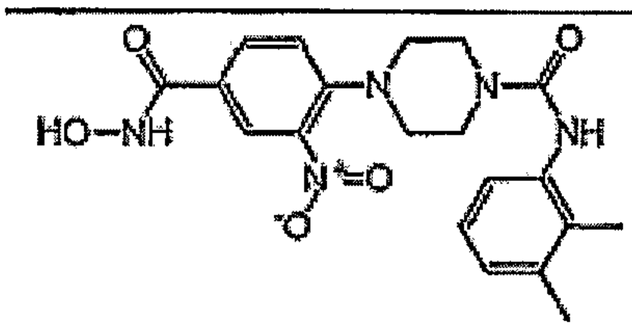


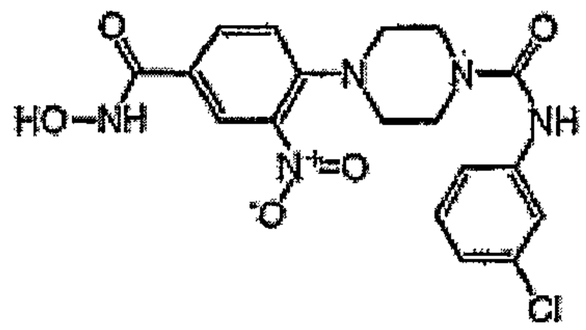


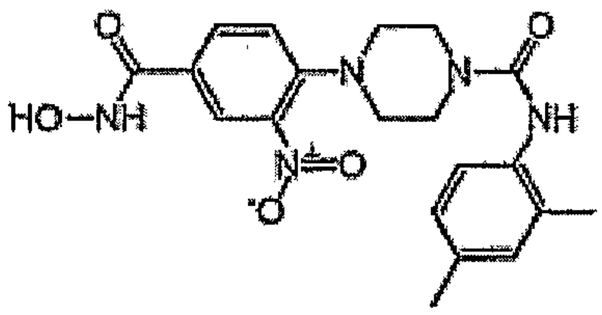


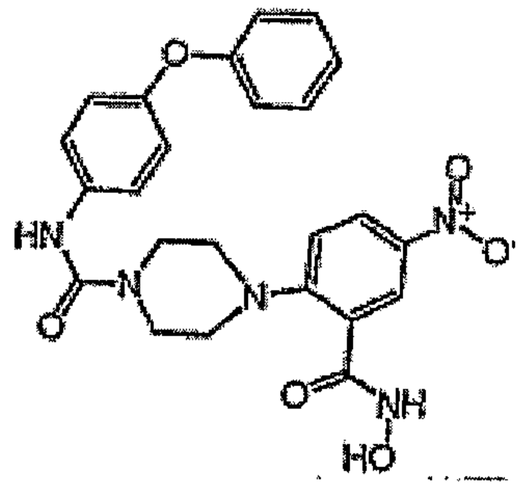


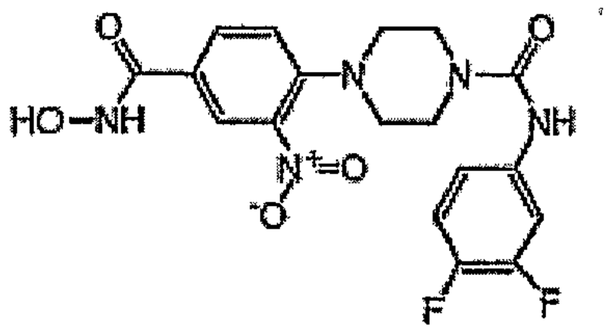


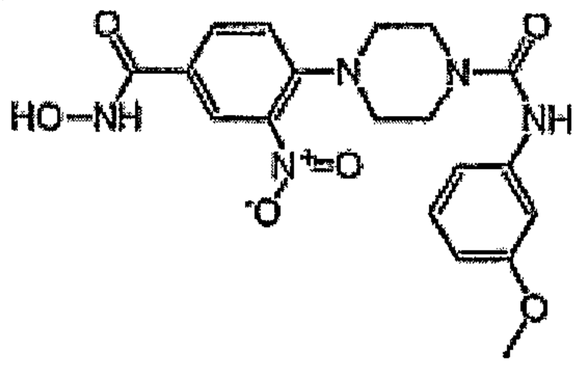


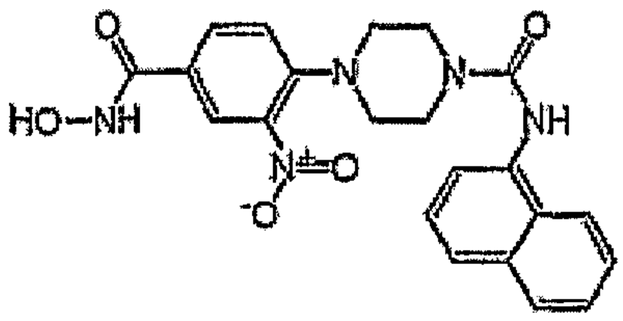


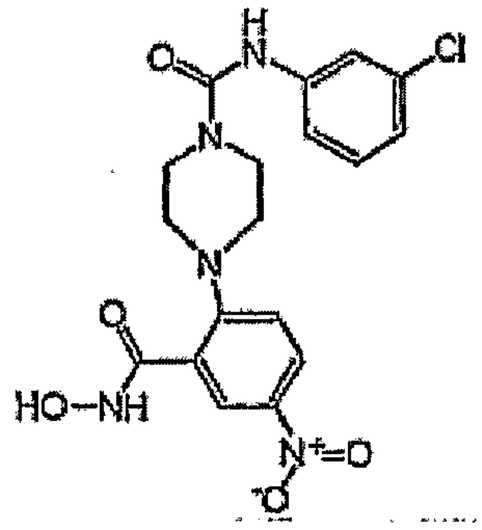


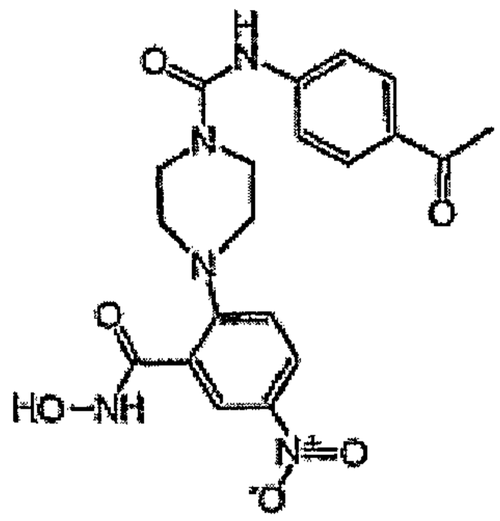


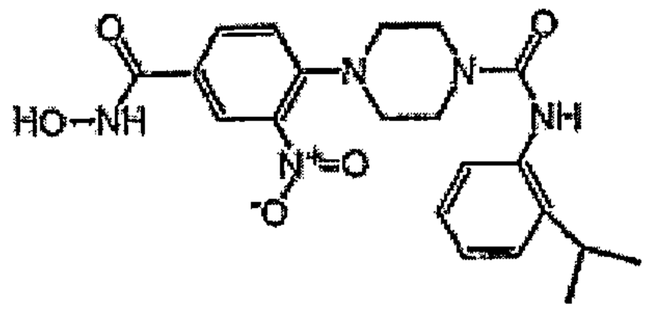


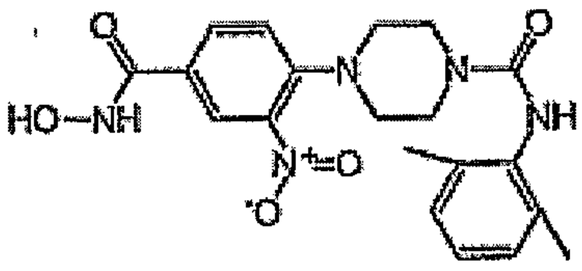


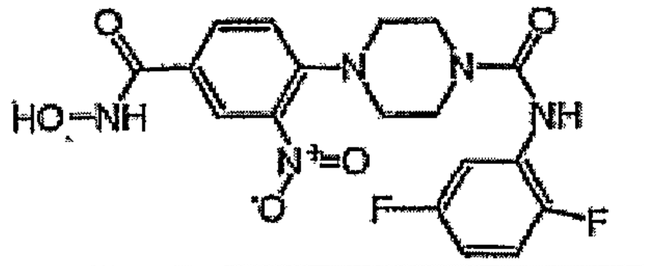


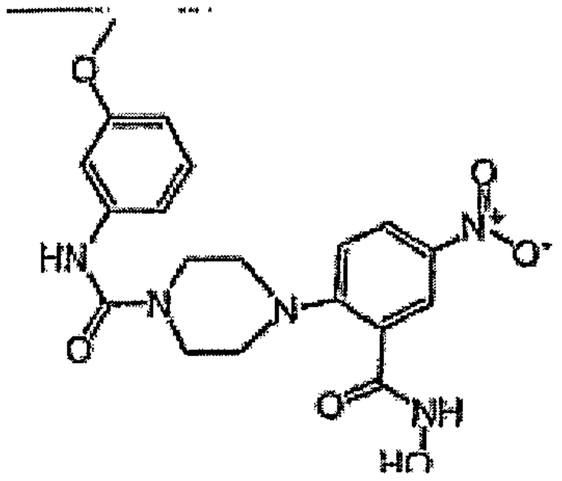


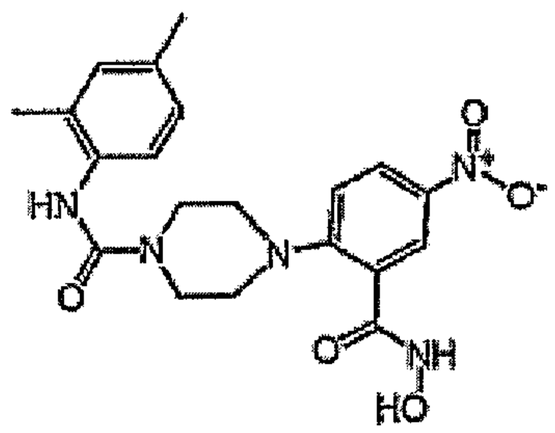


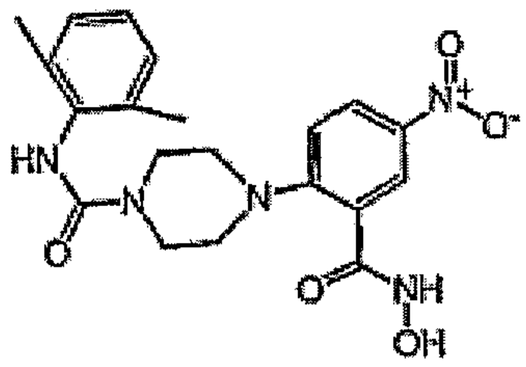


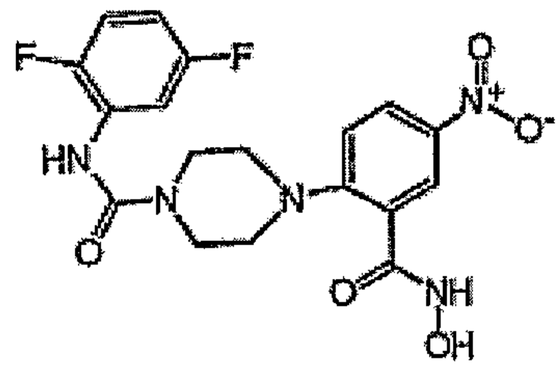


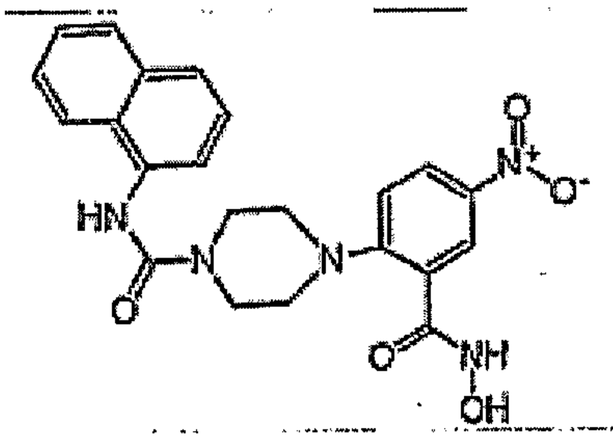


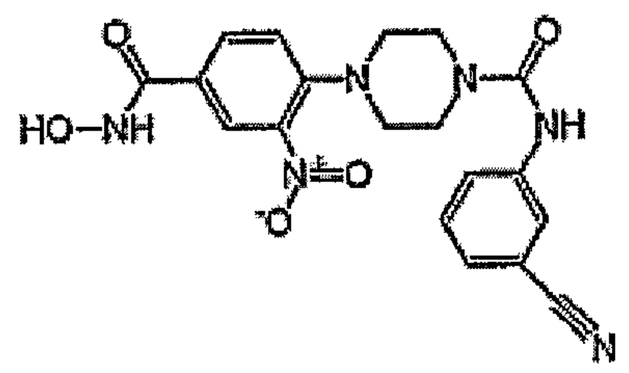


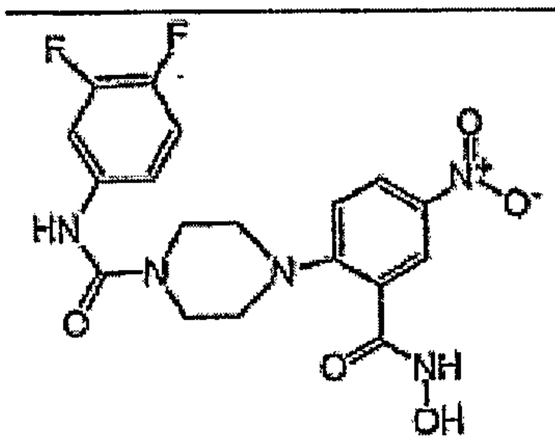


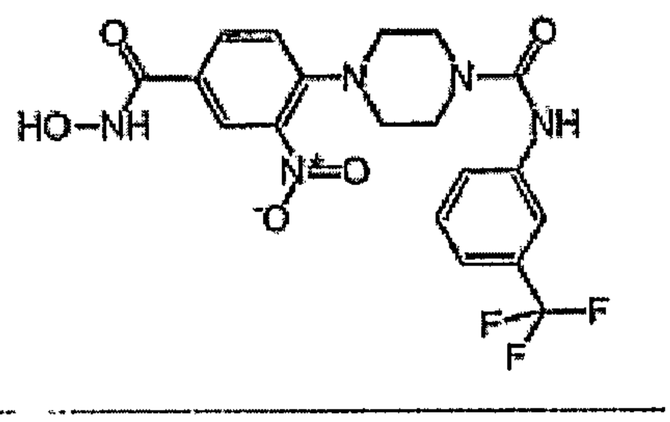


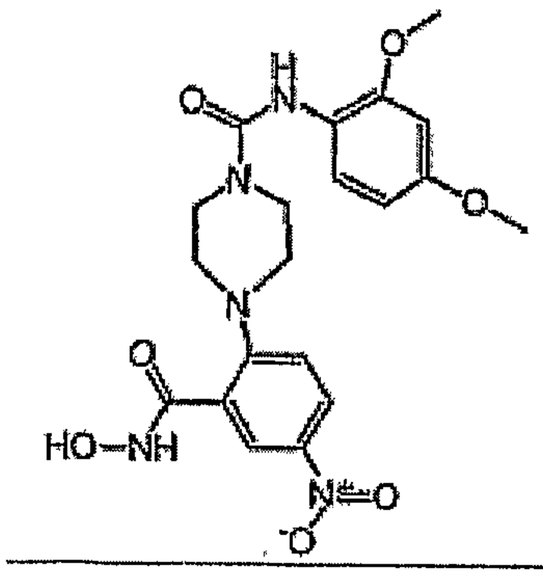


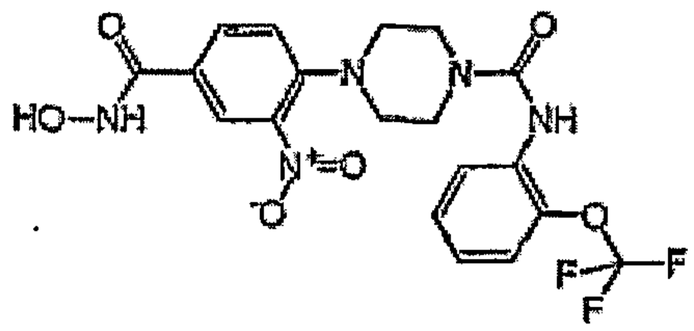


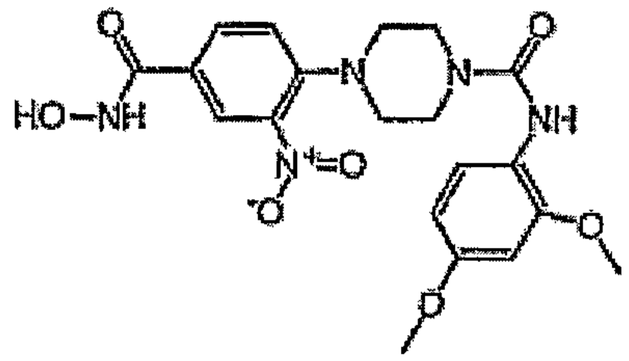


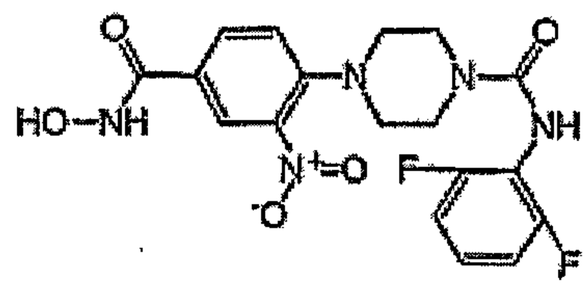


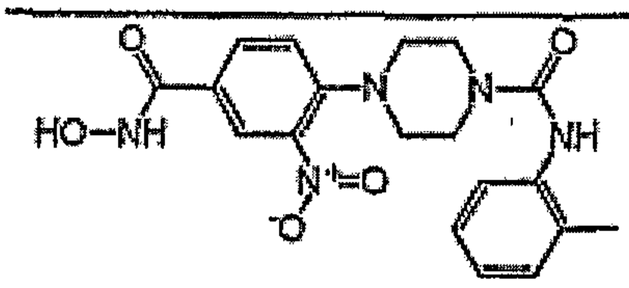


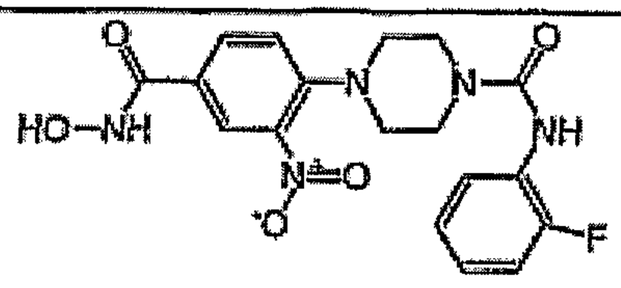


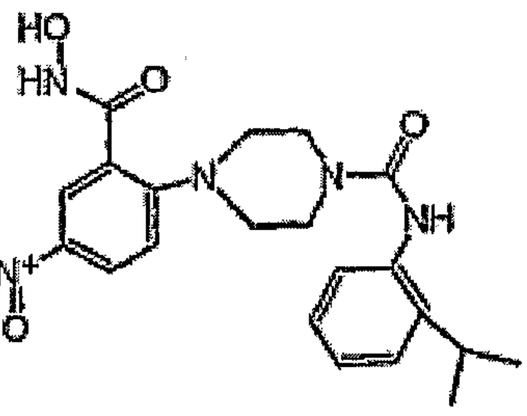


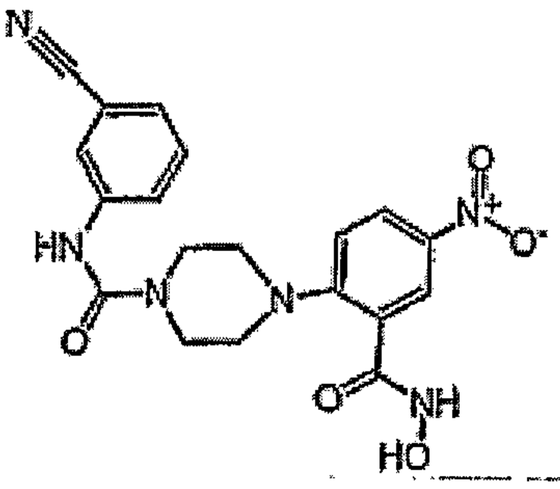


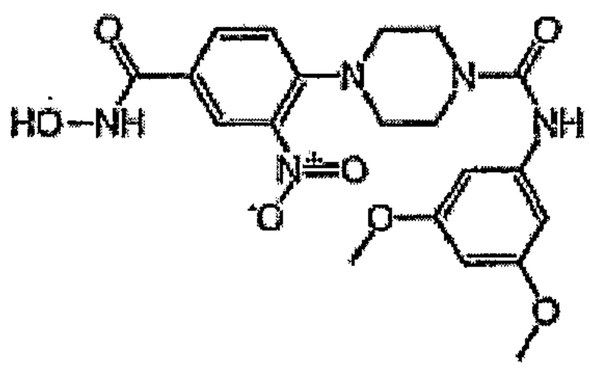


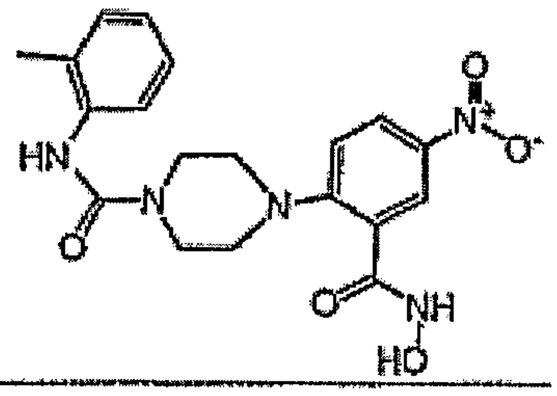


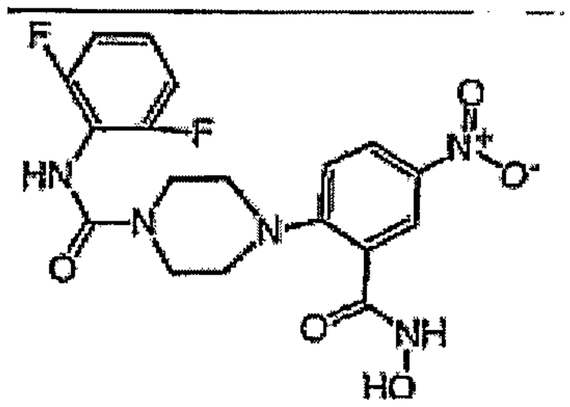


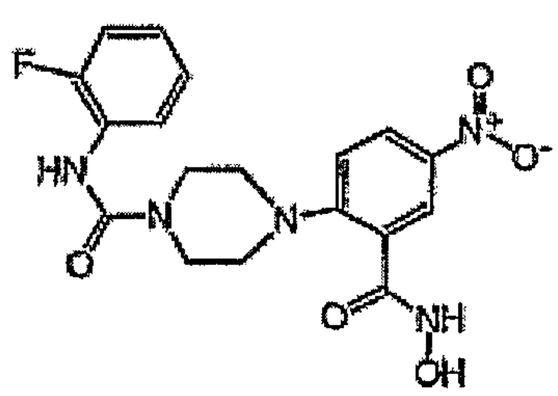


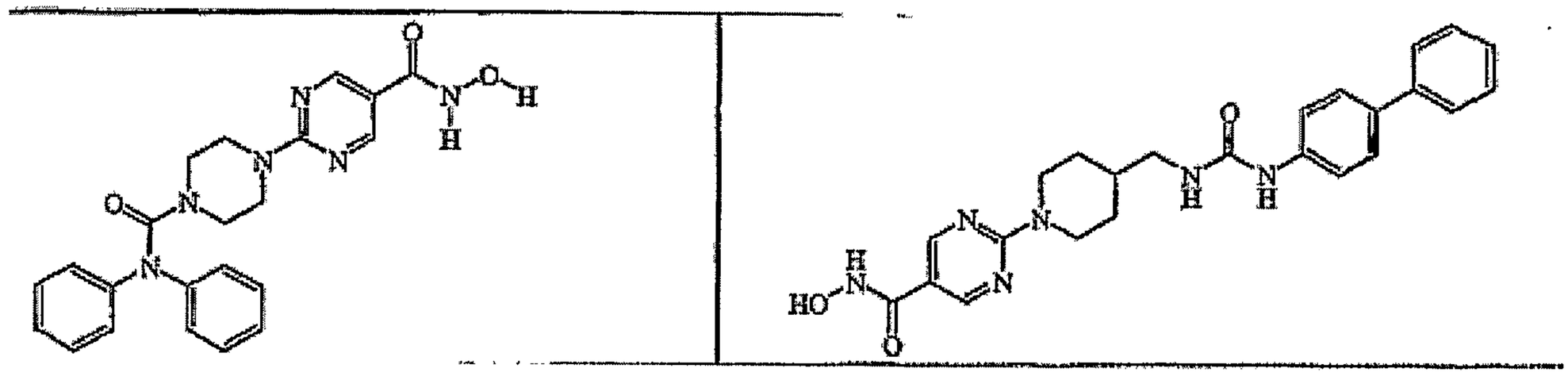


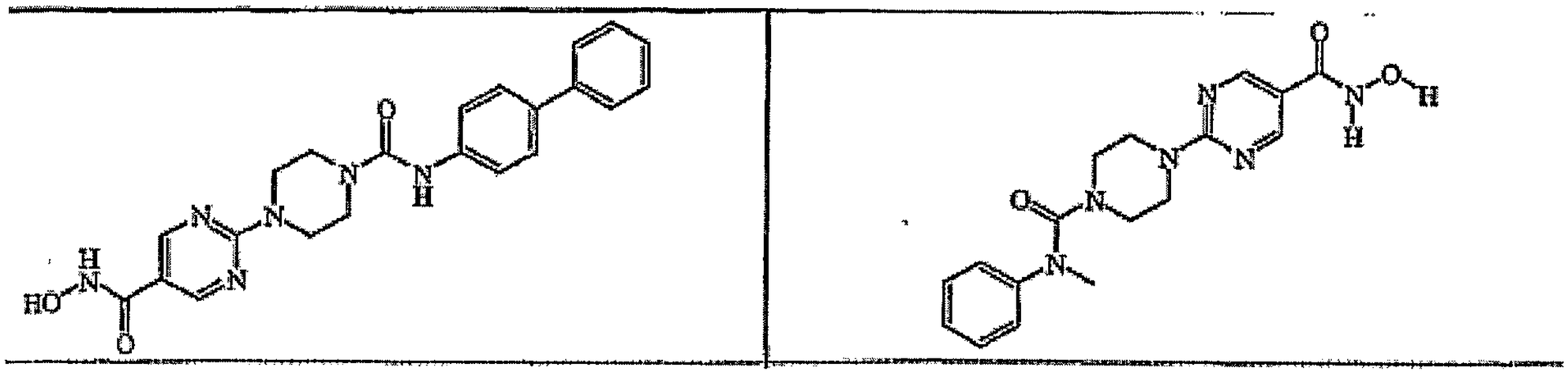




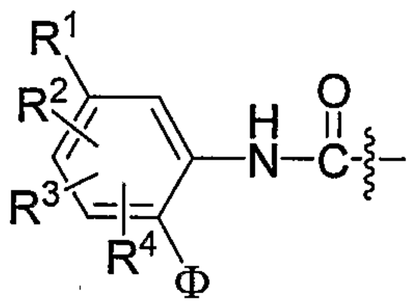








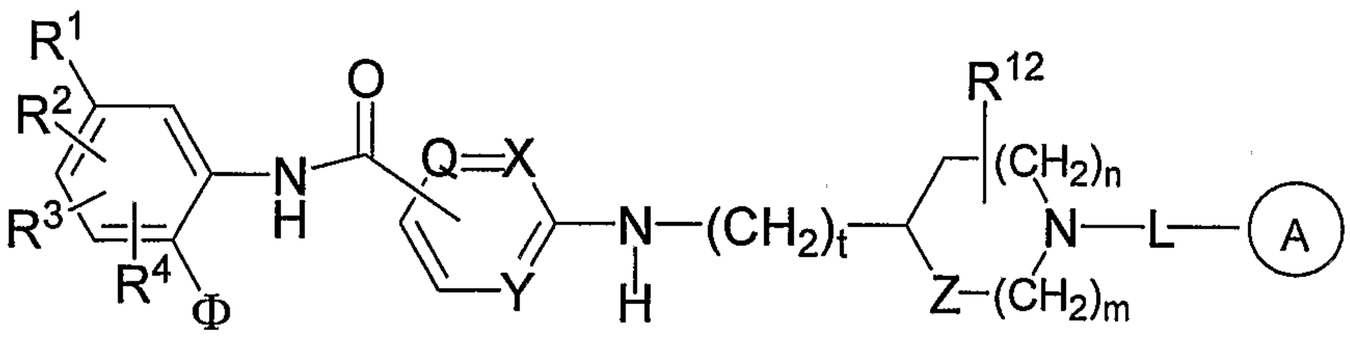
in which the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0166] In the compounds of paragraphs [0158] - [0165], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraphs [0158] - [0165], R^1, R^2, R^3, and R^4 are all H.

[0167] In another embodiment, the invention comprises compounds of the following structural formula (10):



(10)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

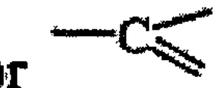
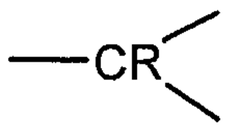
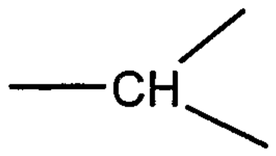
R^1 is H or as defined in paragraph [0046];

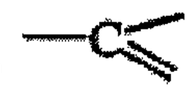
R^2, R^3, and R^4 are as defined in paragraph [0046];

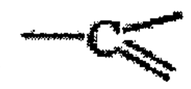
n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

m is 0, 1, 2 or 3 and when m is 0 then a direct bond is intended;

t is 0 or 1 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

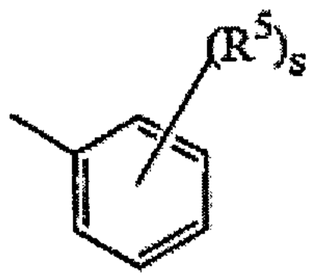
Z is $-CH_2-$ or $-O-$;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

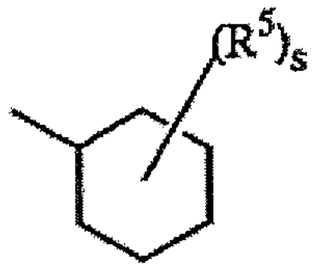
R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from C_{1-6}alkanediyl, carbonyl, sulfonyl, or C_{1-6}alkanediyl substituted with phenyl;

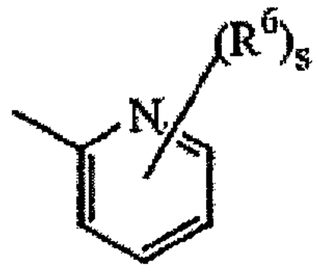
 is a radical selected from



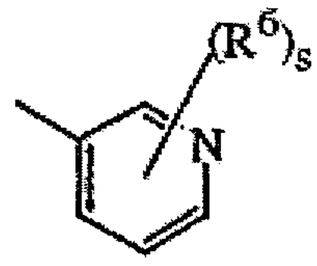
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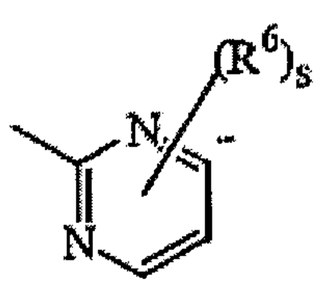
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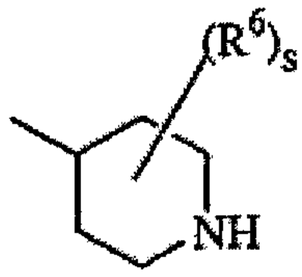
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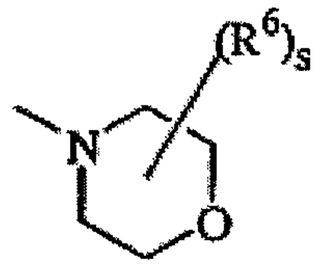
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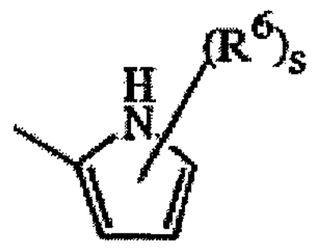
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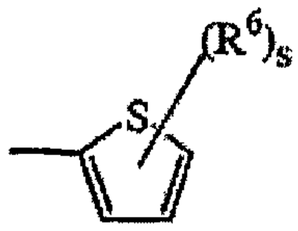
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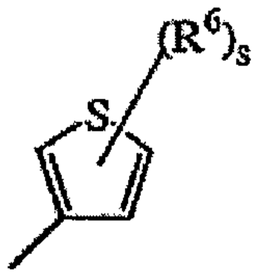
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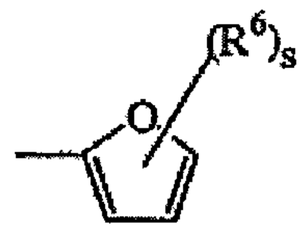
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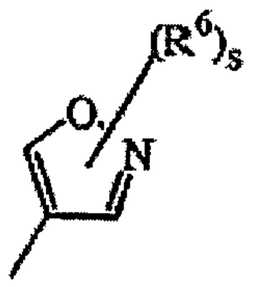
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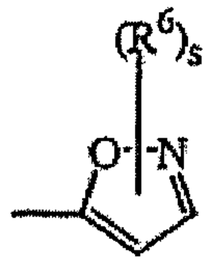
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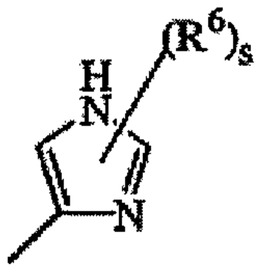
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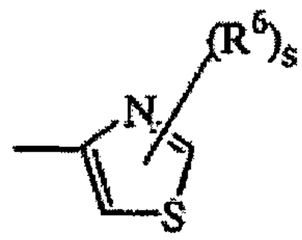
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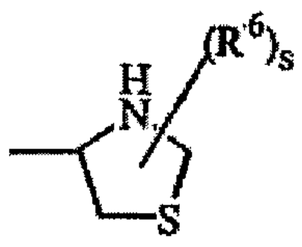
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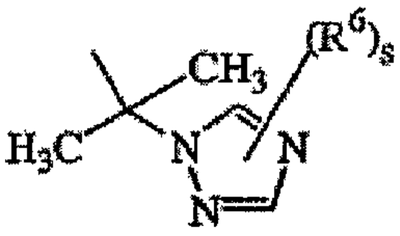
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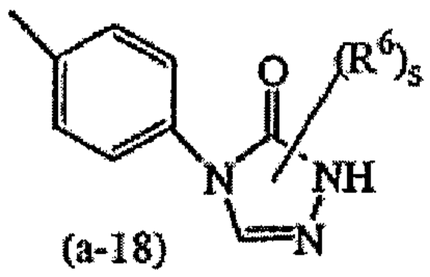
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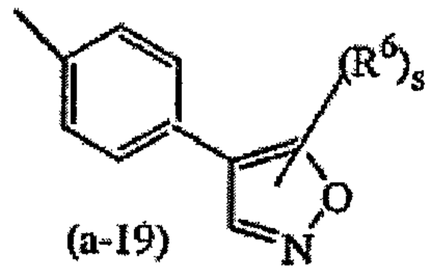
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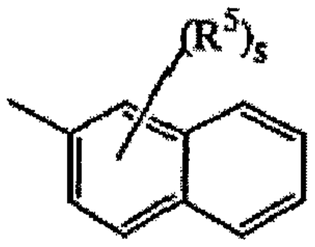
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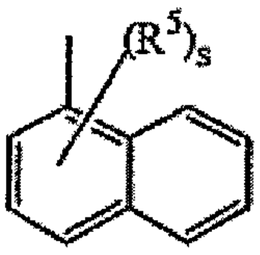
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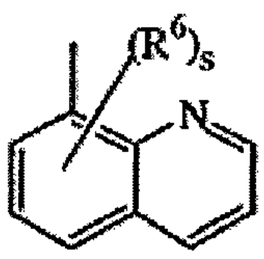
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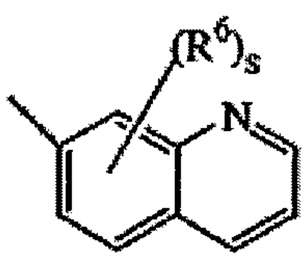
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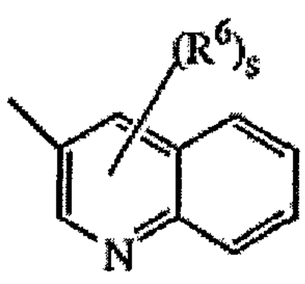
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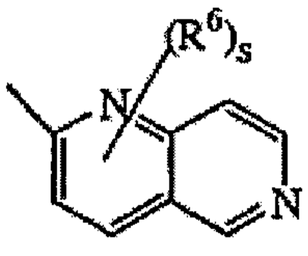
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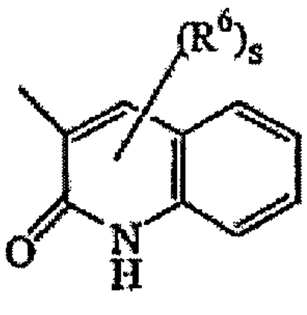
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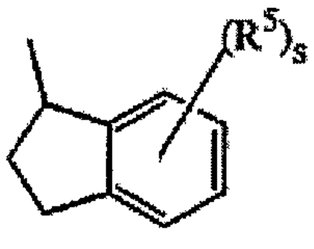
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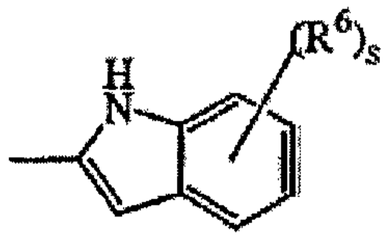
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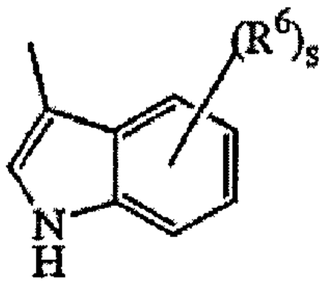
(a-26)



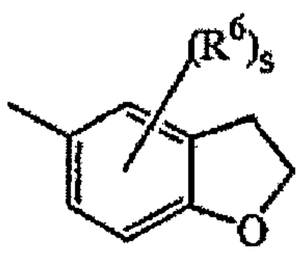
(a-27)



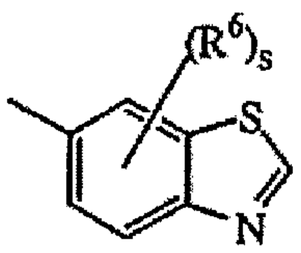
(a-28)



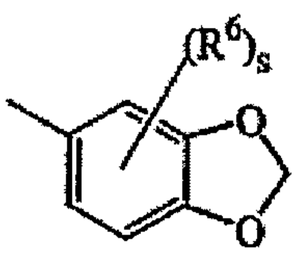
(a-29)



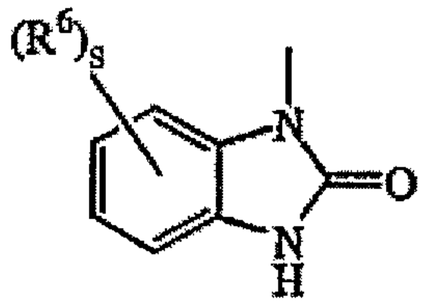
(a-30)



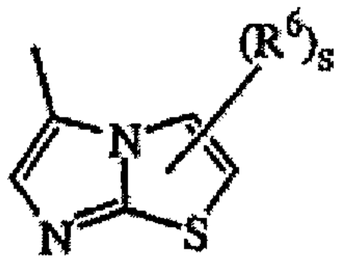
(a-31)



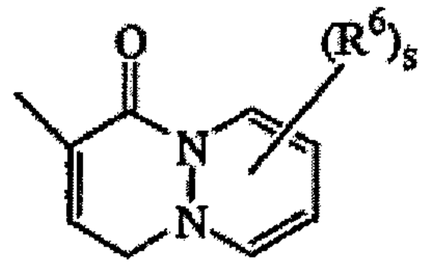
(a-32)



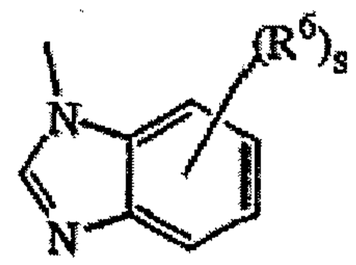
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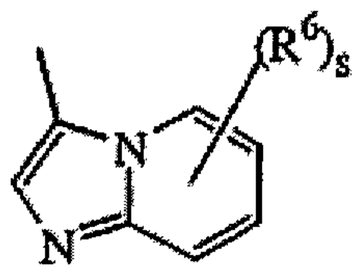
(a-34)



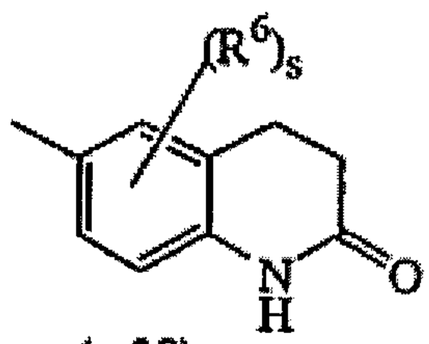
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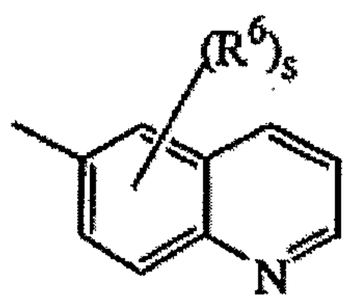
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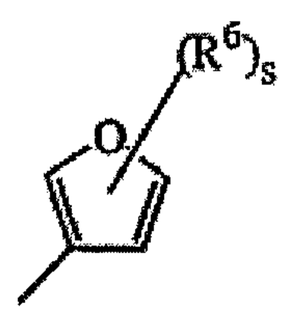
(a-37)



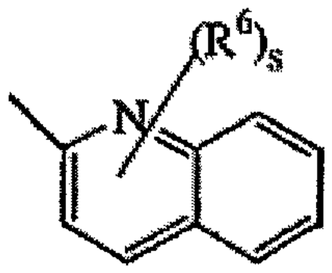
(a-38)



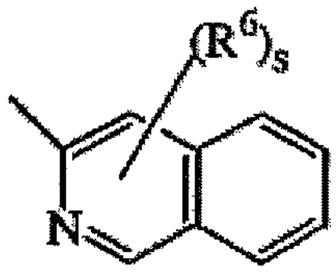
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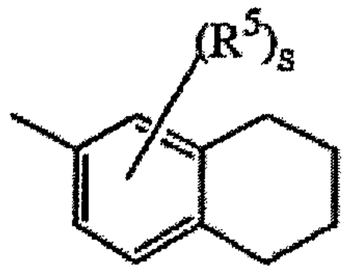
(a-40)



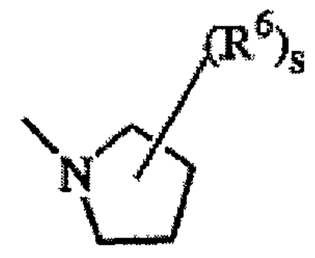
(a-41)



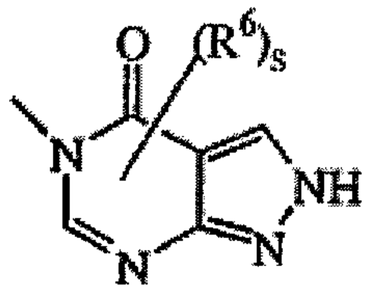
(a-42)



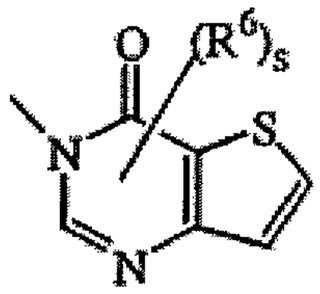
(a-43)



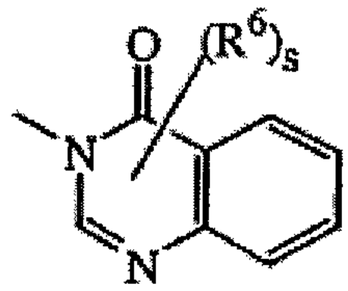
(a-44)



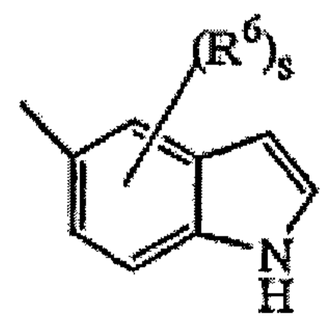
(a-45)



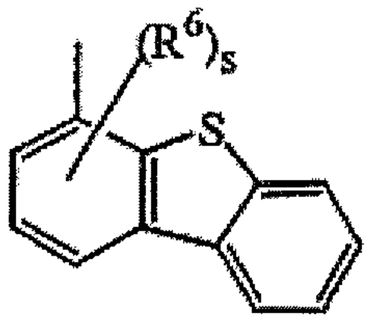
(a-46)



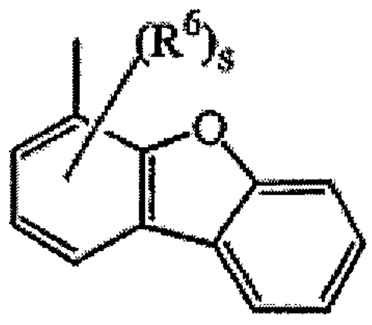
(a-47)



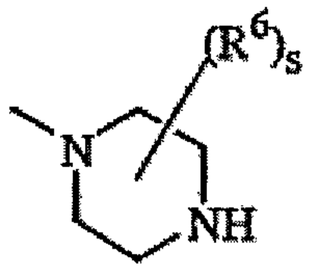
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl;

hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino;

di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl;
di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino;
di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl;
aminosulfonylamino(C_{1-6}alkyl)amino;
aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl;
di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino;
di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy;
morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino;
morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl;

C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl;
naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl;
C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino;

C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl;

pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino,

di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy,

hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

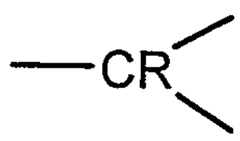
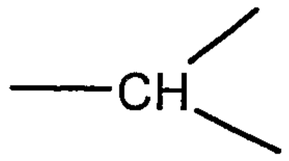
each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

[0168] Other embodiments of the compound according to paragraph [0167] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0167]):

n is 0, 1 or 2;

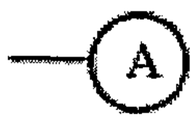
m is 0, 1 or 2;

Q is  ,  , or  ;

X is nitrogen;

R^2 is hydrogen;

-L- is a bivalent radical selected from carbonyl, sulfonyl, or C_{1-6}alkanediyl substituted with phenyl;

 is a radical selected from (a-1), (a-20) or (a-43);

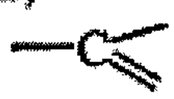
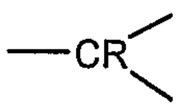
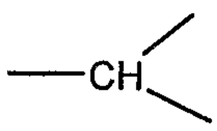
each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

[0169] Other embodiments of the compound according to paragraph [0167] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0167]):

n is 0, 1 or 2;

m is 1 or 2;

Q is  ,  , or  ;

X is nitrogen;

R^2 is hydrogen;

-L- is a bivalent radical selected from carbonyl or sulfonyl;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or aryl.

[0170] Other embodiments of the compound according to paragraph [0167] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0167]):

t is 0;

R^2 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from C_{1-6}alkanediyl, carbonyl or sulfonyl;

—(A) is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

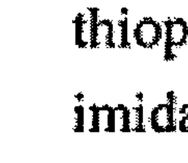
R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

[0171] Other embodiments of the compound according to paragraph [0167] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0167]):

t is 0;

R^2 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from C_{1-6}alkanediyl, carbonyl or sulfonyl;


is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

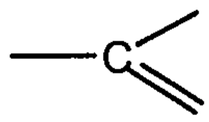
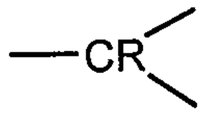
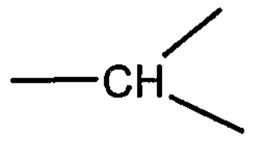
s is 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl;

pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl; and

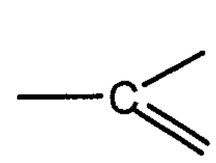
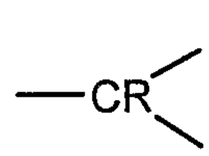
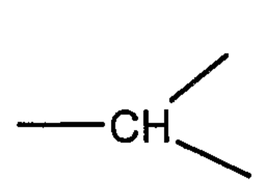
R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

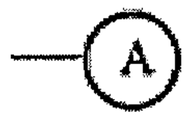
[0172] Other embodiments of the compound according to paragraph [0167] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0167]):

n is 0, 1 or 2; m is 0, 1, or 2; Q is  ,  , or  ; X is nitrogen

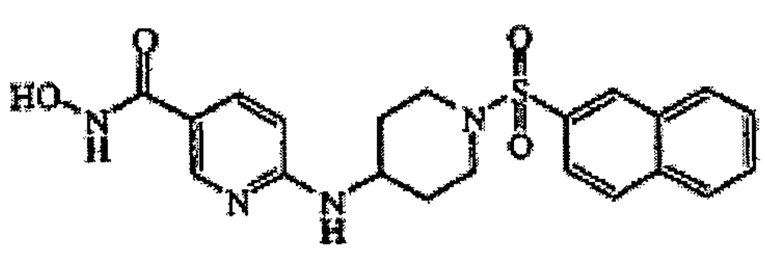
sulfonyl, or C_{1-6}alkanediyl substituted with phenyl;  is a radical selected from (a-1), (a-20) or (a-43); s is 0 or 1; and each R^5 is independently selected from hydrogen or phenyl.

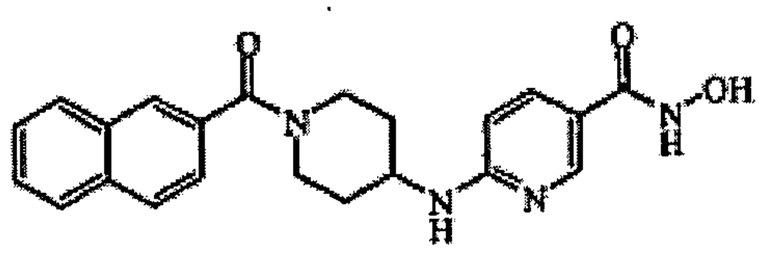
[0173] Other embodiments of the compound according to paragraph [0167] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0167]):

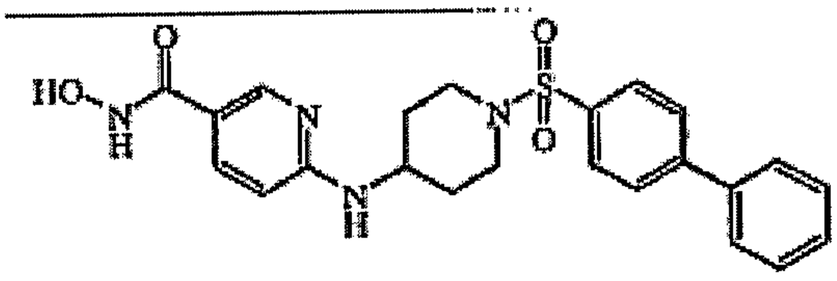
n is 0, 1 or 2; m is 0, 1, or 2; Q is  ,  , or  ; X is nitrogen

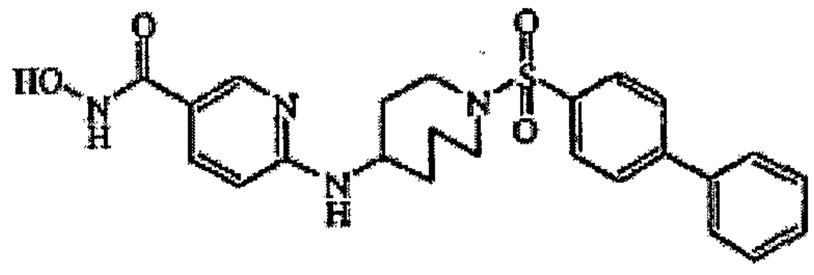
R^2 is hydrogen; -L- is a bivalent radical selected from carbonyl or sulfonyl;  is a radical selected from (a-1) or (a-20); each s is independently 0 or 1; and each R^5 is independently selected from hydrogen or aryl.

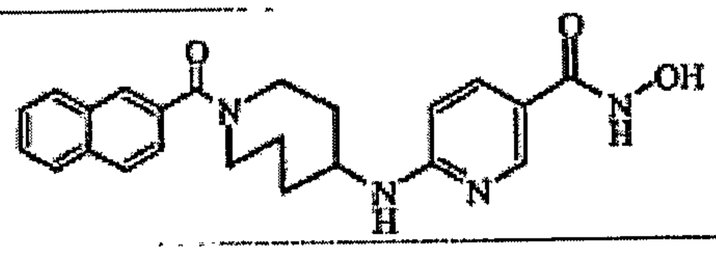
[0174] Particular embodiments of the compound according to paragraph [0167] include the following

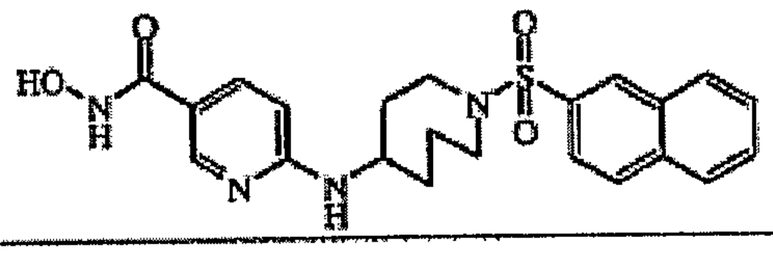


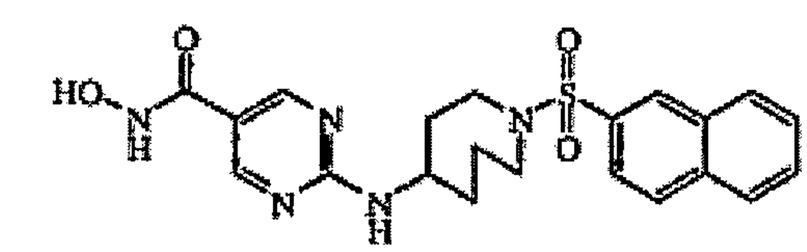


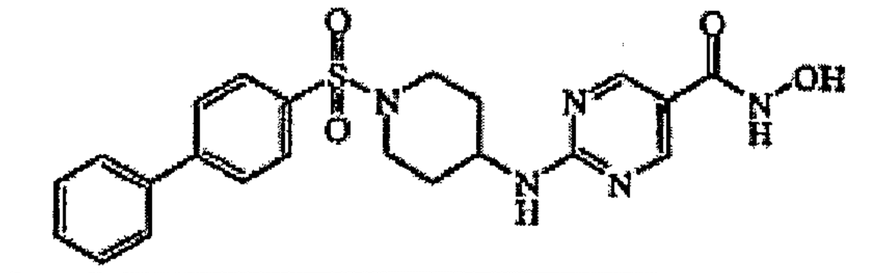


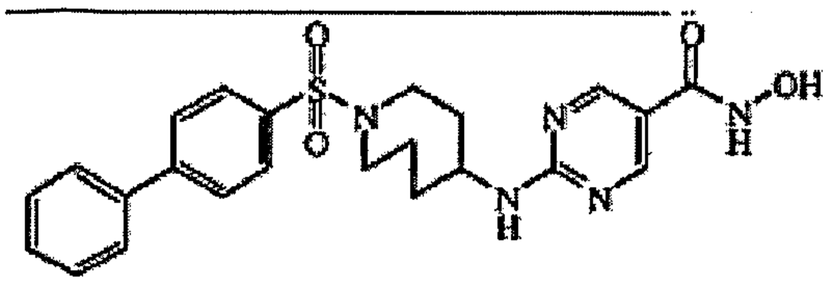


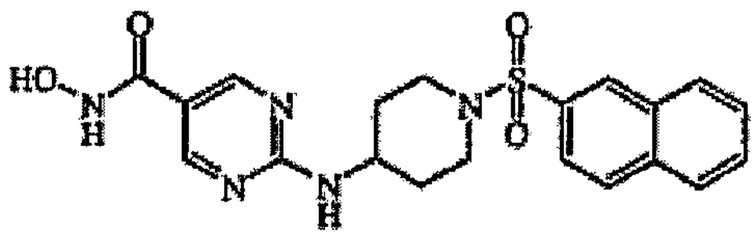


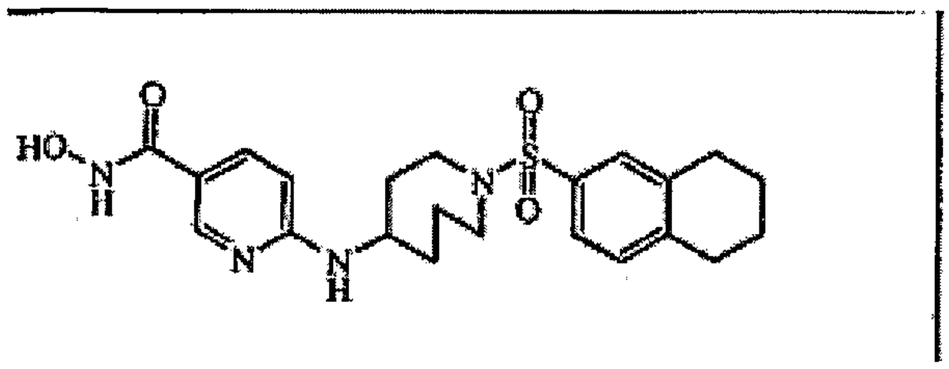


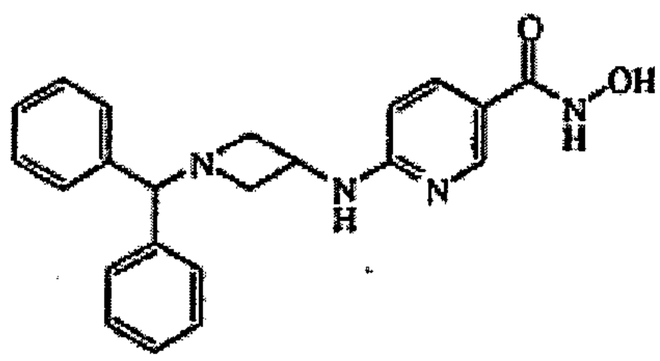


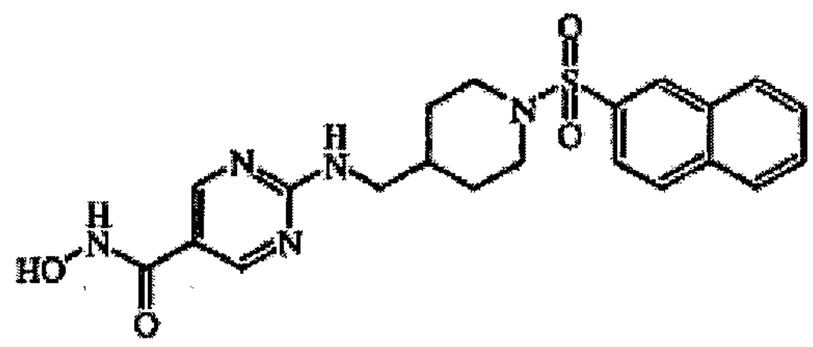


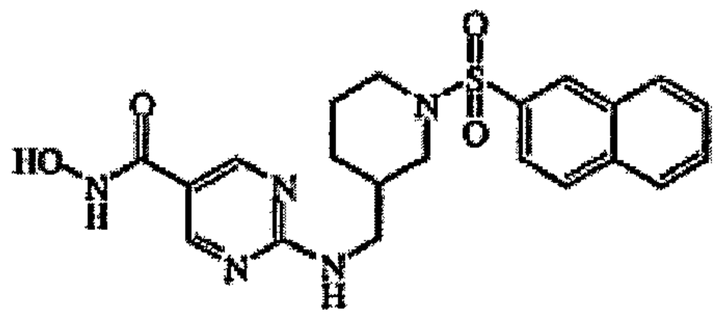


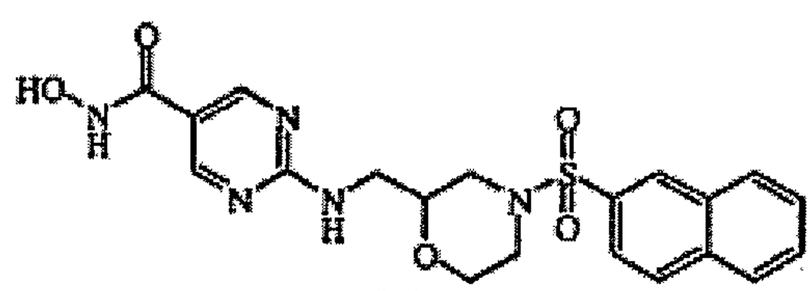




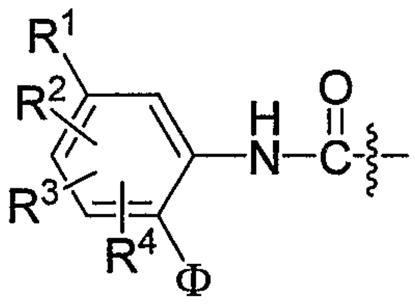








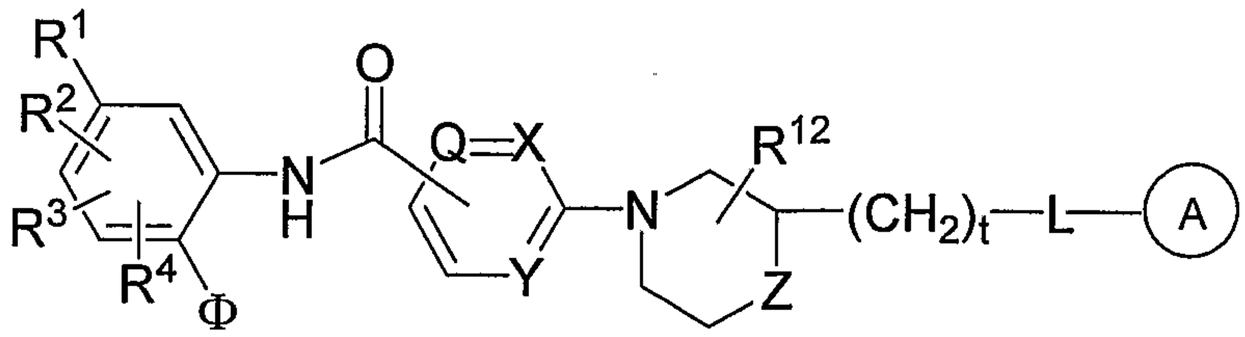
in which the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0175] In the compounds of paragraphs [0167]- [0174], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraphs [0167]- [0174], R^1, R^2, R^3, and R^4 are all H.

[0176] In another embodiment, the invention comprises compounds of the following structural formula (11):



(11)

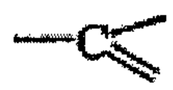
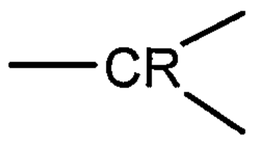
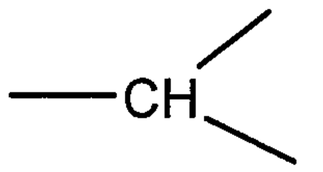
or a pharmaceutically acceptable salt thereof, wherein

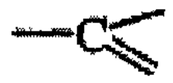
Φ is $-NH_2$ or $-OH$;

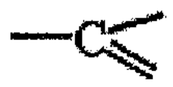
R^1 is H or as defined in paragraph [0046];

R^2, R^3, and R^4 are as defined in paragraph [0046];

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is $-NH-$, $-O-$ or $-CH_2-$;

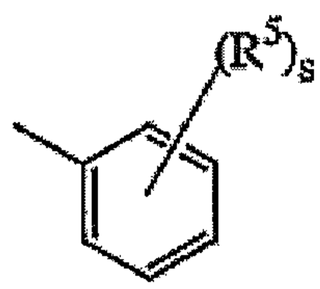
R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

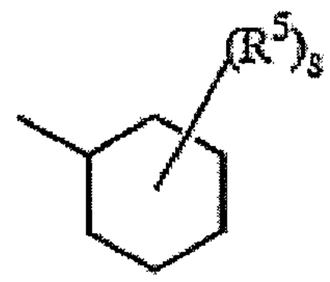
-L- is a bivalent radical selected from $-NR^9C(O)-$, $-NR^9SO_2-$ or $-NR^9CH_2-$ wherein R^9 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;



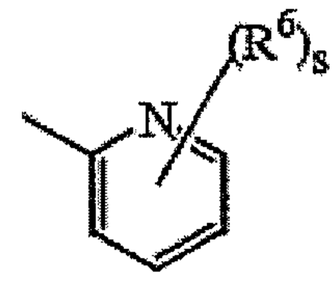
is a radical selected from



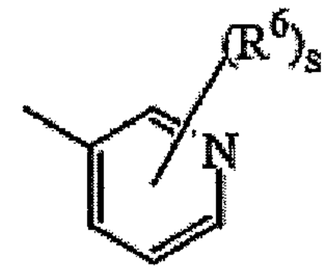
(a-1)



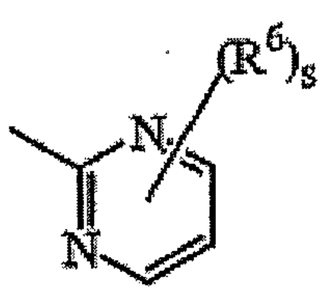
(a-2)



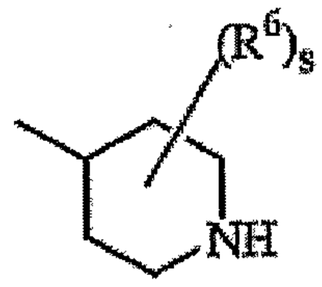
(a-3)



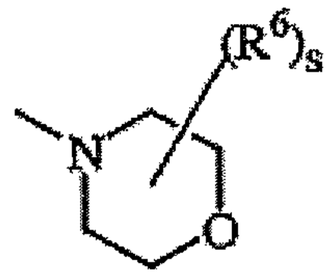
(a-4)



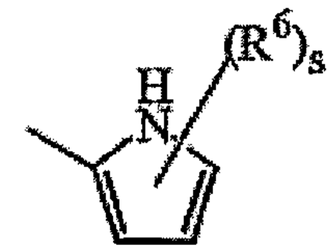
(a-5)



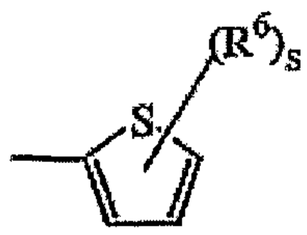
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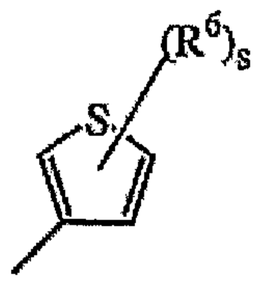
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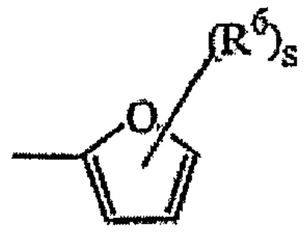
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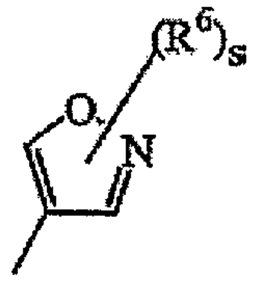
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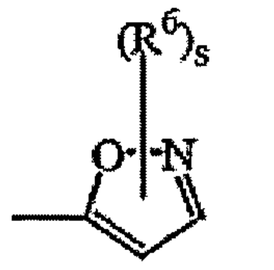
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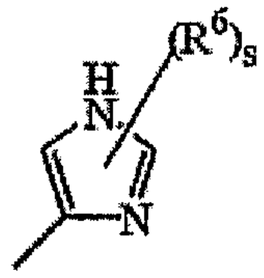
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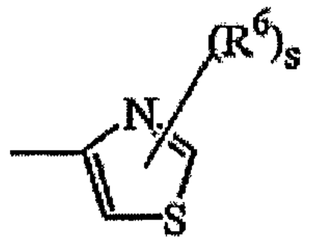
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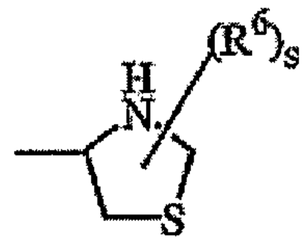
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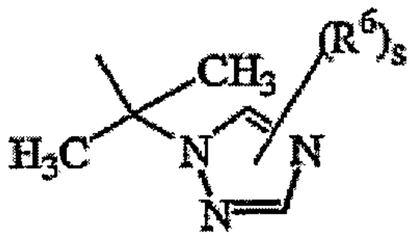
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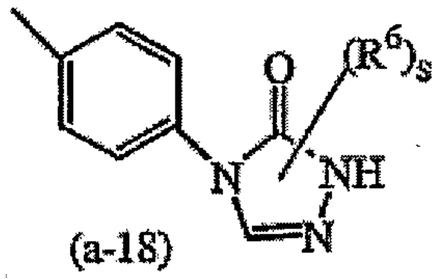
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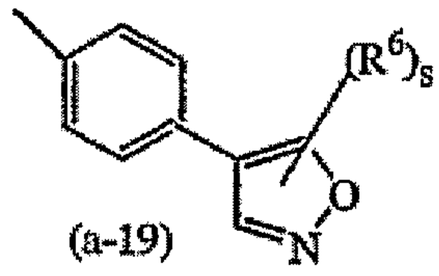
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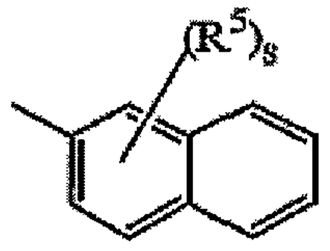
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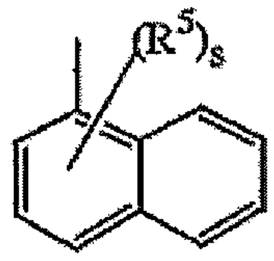
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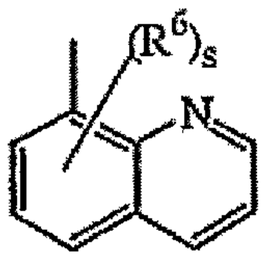
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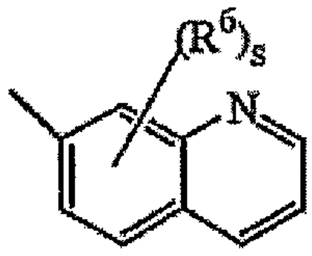
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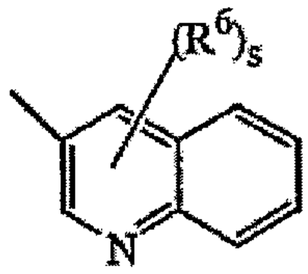
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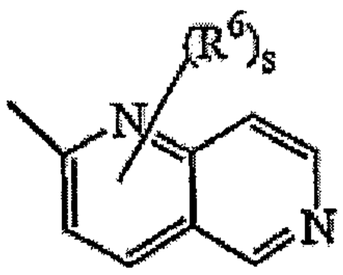
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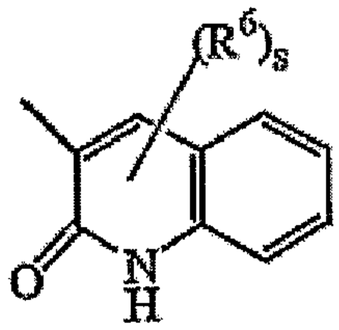
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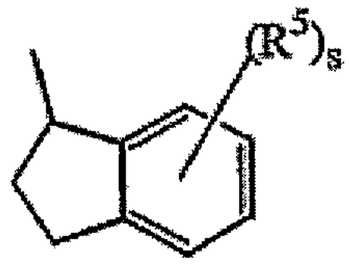
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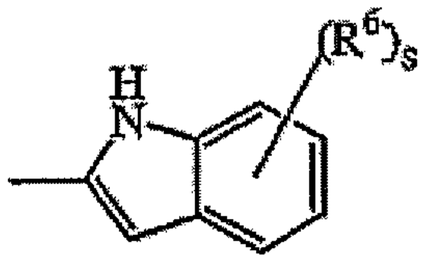
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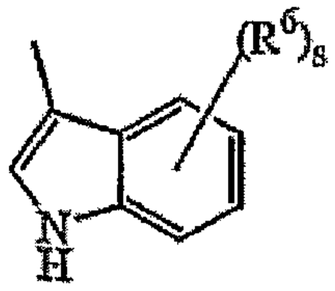
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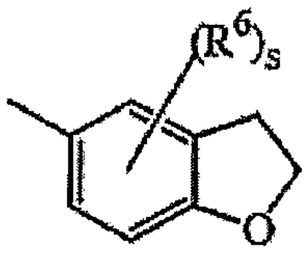
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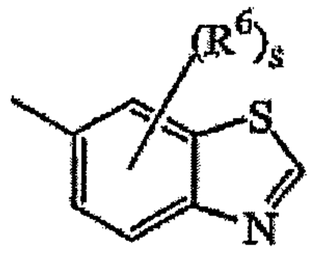
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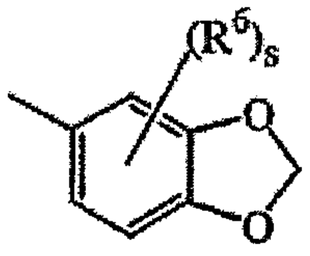
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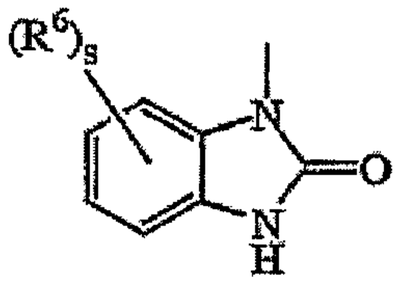
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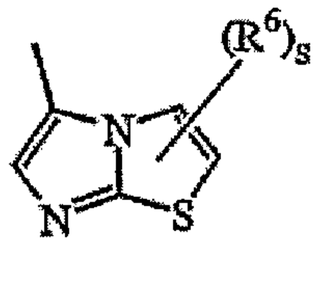
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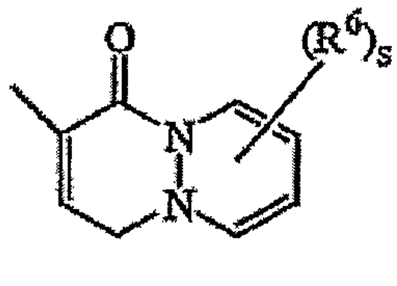
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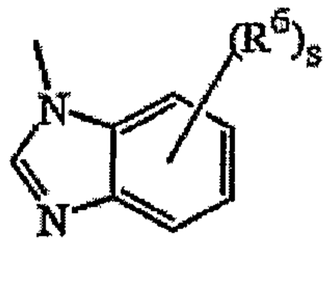
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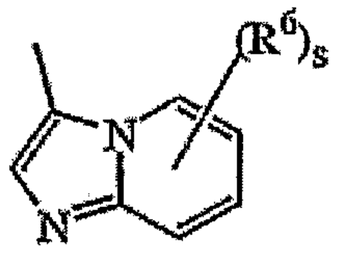
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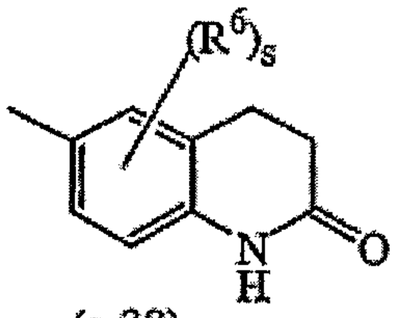
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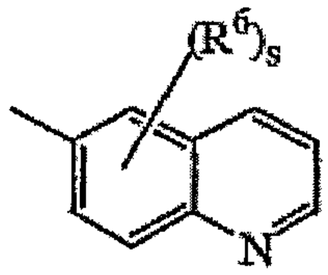
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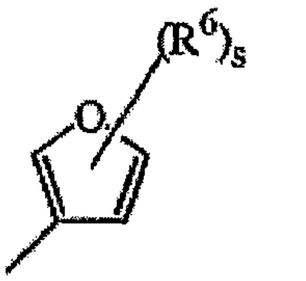
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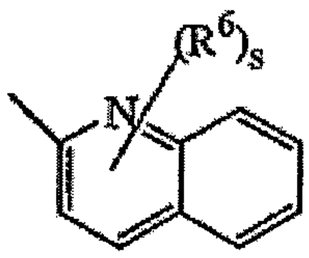
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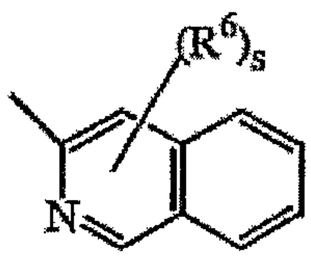
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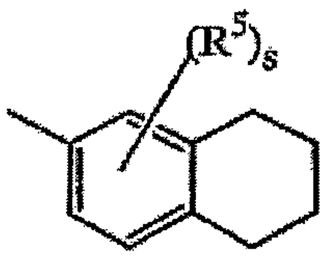
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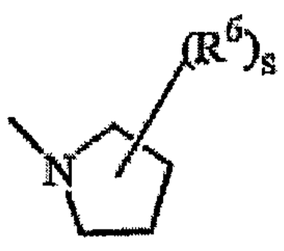
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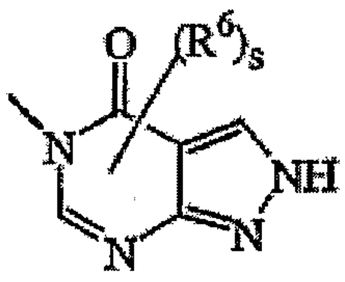
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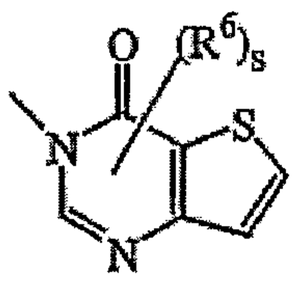
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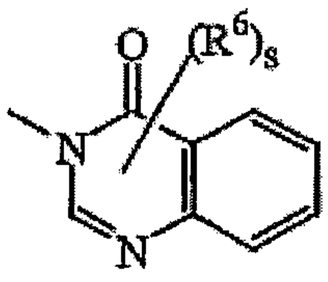
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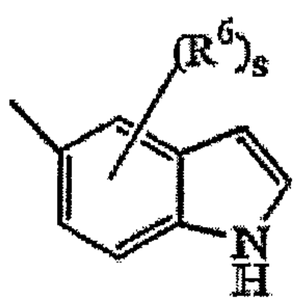
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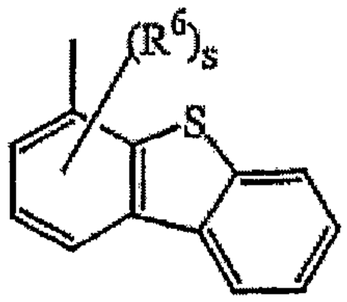
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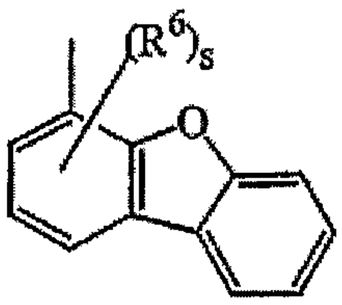
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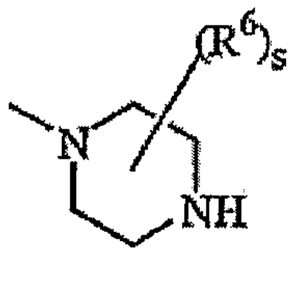
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro;

trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl: C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl;

di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

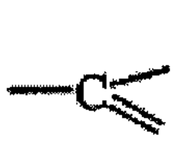
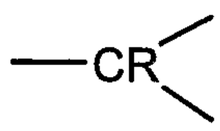
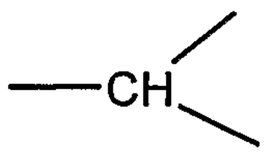
morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

[0177] Other embodiments of the compound according to paragraph [0176] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0176]):

t is 0 or 1;

Q is  ,  , or  ;

X is nitrogen;

R^{12} is hydrogen, hydroxy, C_{1-6}alkyl, or arylC_{1-6}alkyl;

-L- is a bivalent radical selected from –NHC(O)- or -$NHSO_2$-;

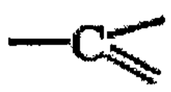
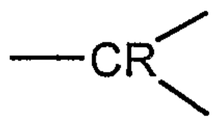
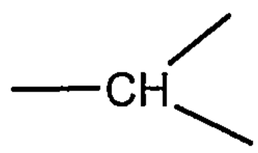
 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

[0178] Other embodiments of the compound according to paragraph [0176] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0176]):

t is 1;

Q is  ,  , or  ;

X is nitrogen;

Y is nitrogen;

Z is –O- or $–CH_2$-;

R^{12} is H;

-L- is a bivalent radical selected from –NHC(O)- or $-NHSO_2$-;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

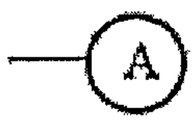
each R^5 is independently selected from hydrogen or phenyl.

[0179] Other embodiments of the compound according to paragraph [0176] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0176]):

t is 0;

R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from –NHC(O)- or $-NHSO_2$-;

 is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

[0180] Other embodiments of the compound according to paragraph [0176] are those in which one or more of the following apply (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0176]):

R^3 and R^4 are each independently selected from hydrogen, hydroxy, hydroxyC_{1-6}alkyl, aminoC_{1-6}alkyl or aminoaryl;

—(A) is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy;

C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

[0181] Other embodiments of the compound according to paragraph [0176] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0176]):

R^3 and R^4 are each independently selected from hydrogen, hydroxy, hydroxyC_{1-6}alkyl, aminoC_{1-6}alkyl or aminoaryl;

—(A) is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy;

C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl;

(hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

[0182] Other embodiments of the compound according to paragraph [0176] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0176]):

t is 0;

-L- is a bivalent radical selected from –NHC(O)- or -$NHSO_2$-;

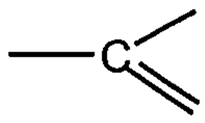
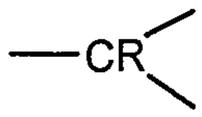
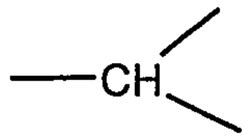
—(A) is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

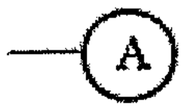
R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

and R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

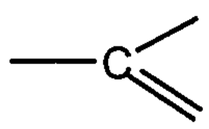
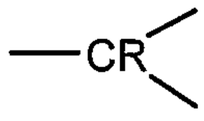
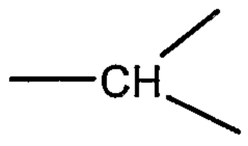
[0183] Other embodiments of the compound according to paragraph [0176] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0176]):

t is 0 or 1; Q is  ,  , or  ; X is nitrogen

R^{12} is hydrogen, hydroxy, C_{1-6}alkyl or arylC_{1-6}alkyl; -L- is a bivalent radical selected from

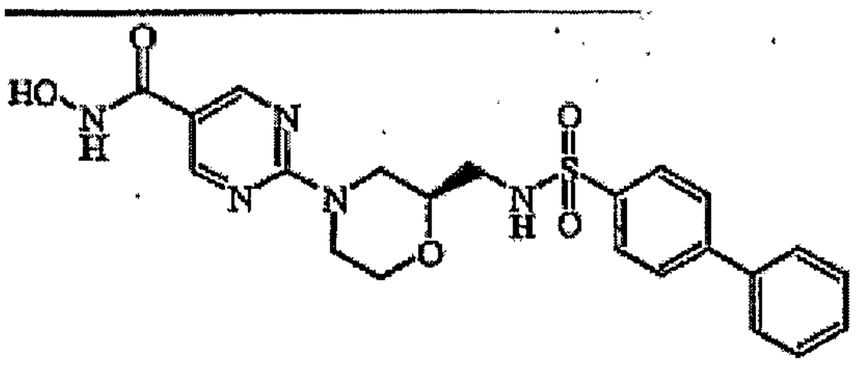
–NHC(O)- or -$NHSO_2$-;  is a radical selected from (a-1) or (a-20); each s is independently 0 or 1; and each R^5 is independently selected from hydrogen or phenyl.

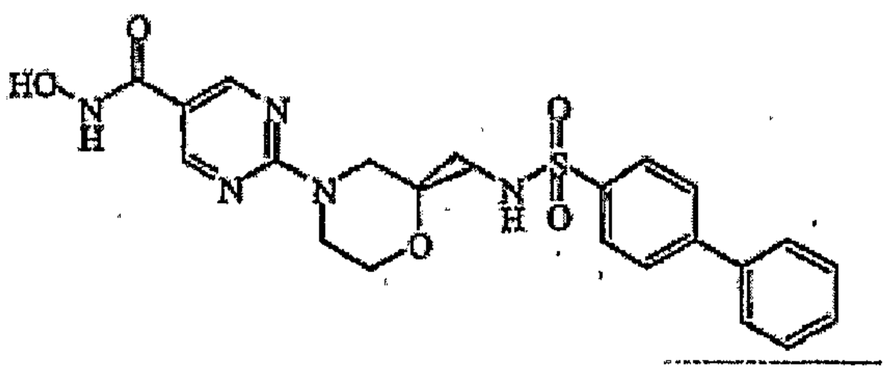
[0184] Other embodiments of the compound according to paragraph [0176] include the following (wherein each of R^2, R^3, and R^4 in this paragraph corresponds to R^{12}, R^{13}, and R^{14}, respectively, in paragraph [0176]):

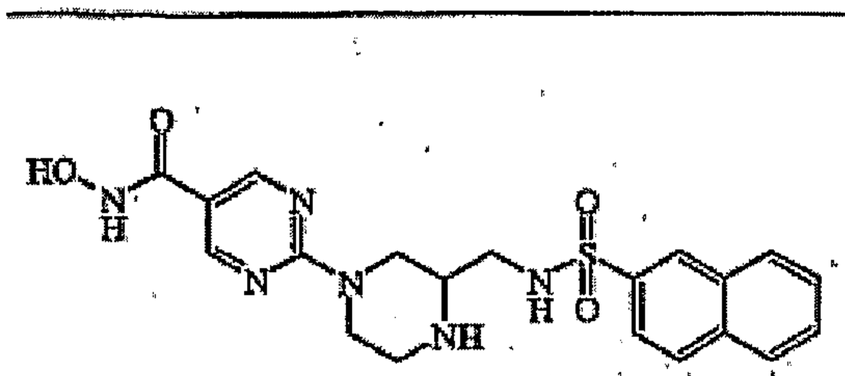
t is 1; Q is  ,  , or  ; X is nitrogen; Y is nitrogen; Z is –O- or –CH_2-;

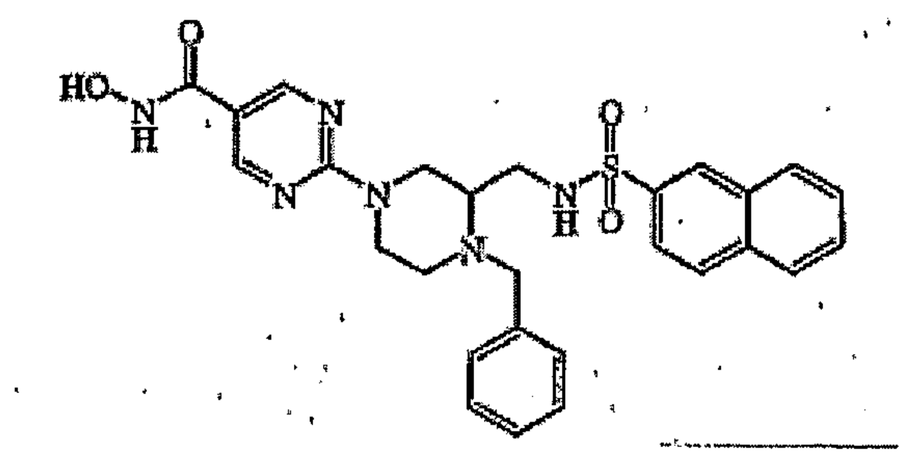
R^2 is hydrogen; -L- is a bivalent radical selected from –NHC(O)- or -$NHSO_2$-;  is a radical selected from (a-1) or (a-20); each s is independently 0 or 1; and each R^5 is independently selected from hydrogen or phenyl.

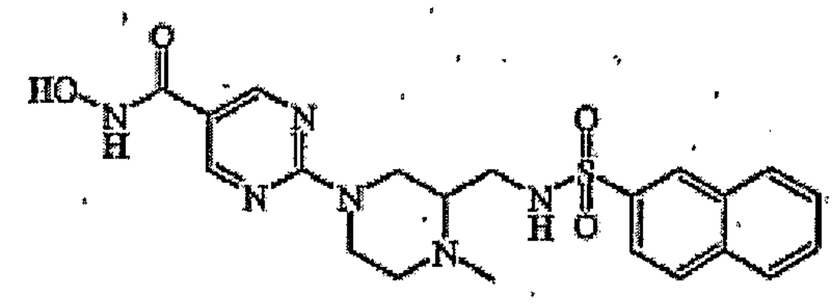
[0185] Particular embodiments of the compound according to paragraph [0176] include the following

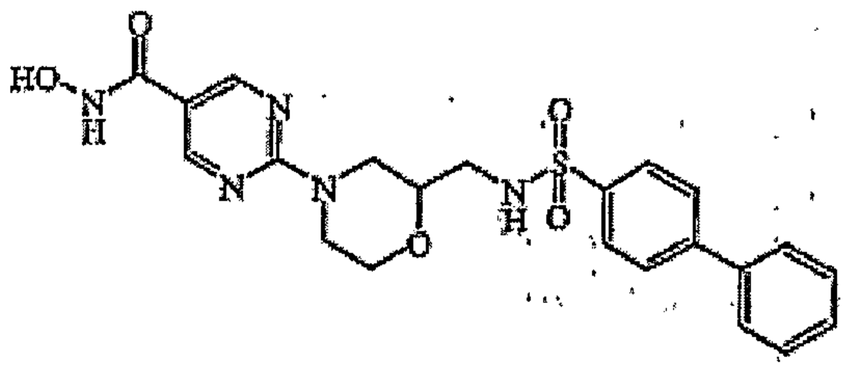


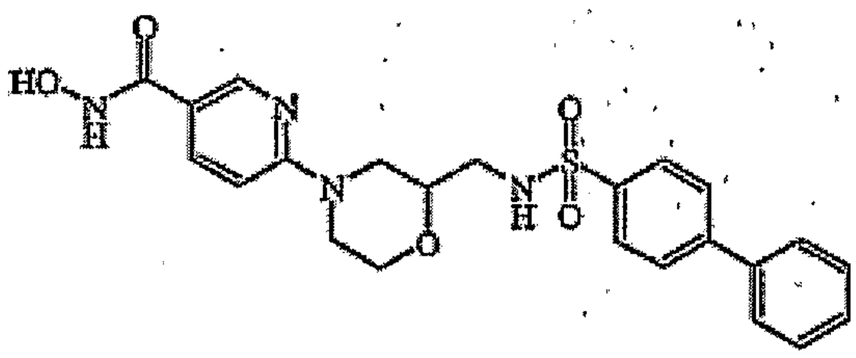


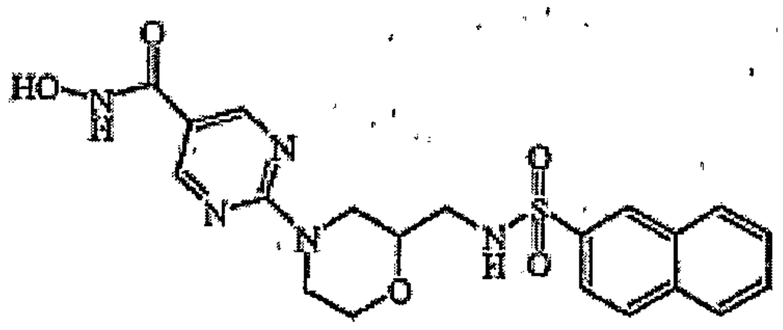


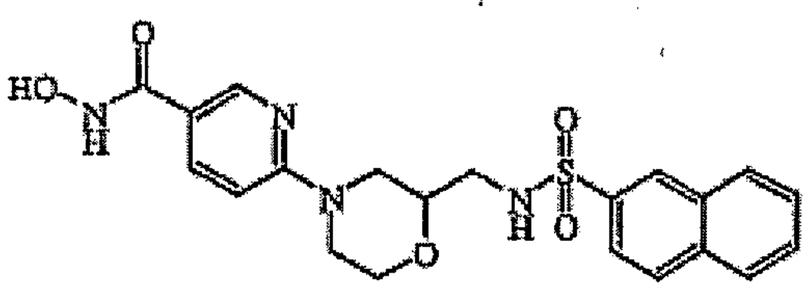


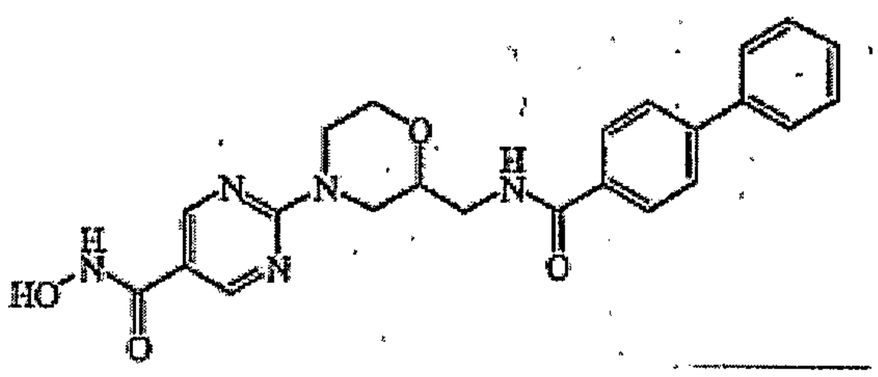


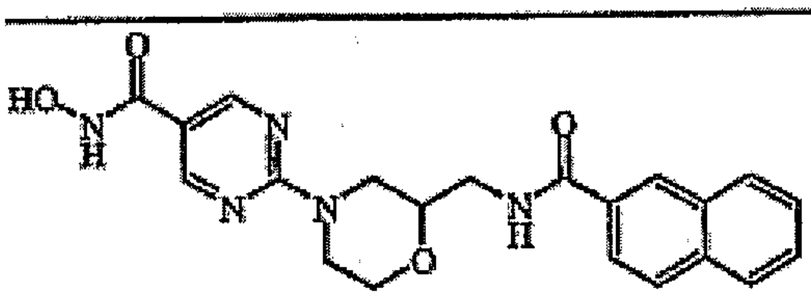


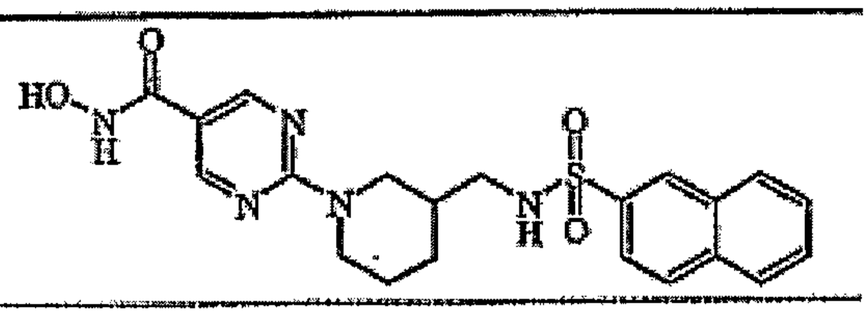


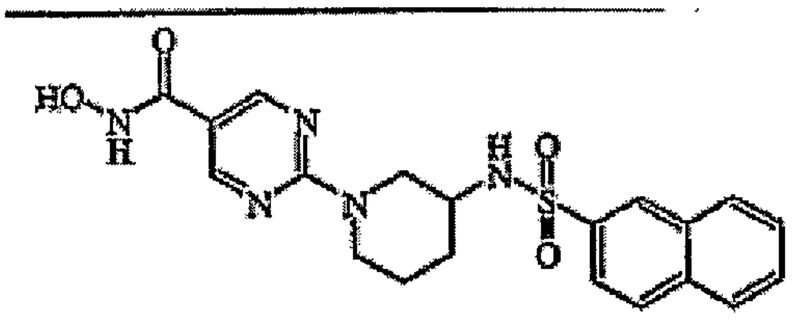


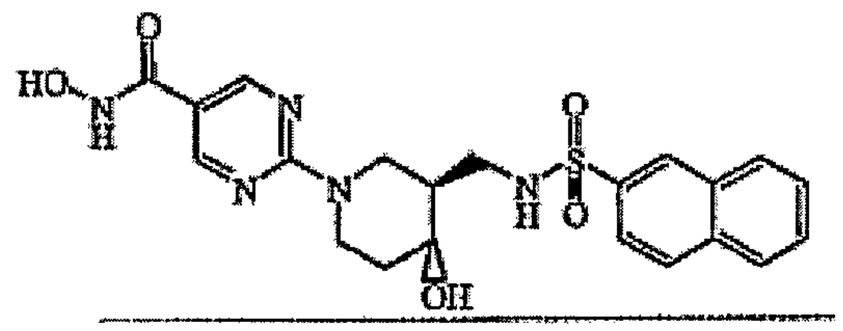




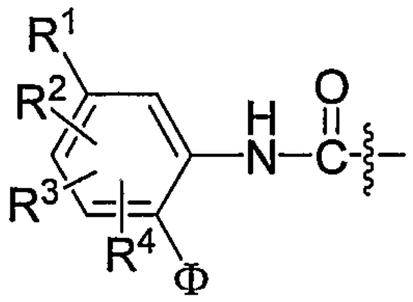








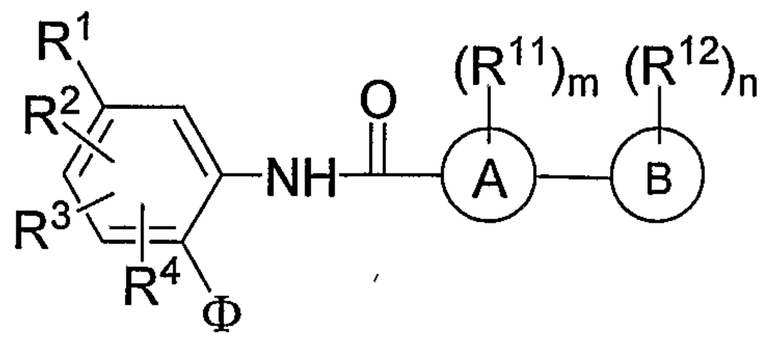
in which the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0186] In the compounds of paragraphs [0176] - [0185], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraphs [0176] - [0185], R^1, R^2, R^3, and R^4 are all H.

[0187] In another embodiment, the invention comprises compounds of the following structural formula (12):



(12)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or –OH;

R^1 is H or as defined in paragraph [0046];

R^2, R^3, and R^4 are as defined in paragraph [0046];

Ring A is a heterocyclyl, wherein if said heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G;

R^{11} is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl or a group (D-E-); wherein R^1, including group (D-E-), may be optionally substituted on carbon by one or more V; and wherein, if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from J;

V is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and **Z** are independently selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl or *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

G, J and **K** are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, C_{1-8}alkanoyl, C_{1-8}alkylsulphonyl, C_{1-8}alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}alkyl)carbamoyl, *N,N*-(C_{1-8}alkyl)carbamoyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl, aryl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G, J and K may be optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from hydrogen or C_{1-6}alkyl;

Q is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, arylC_{1-6}alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}alkyl, (heterocyclic group)C_{1-6}alkoxy, or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

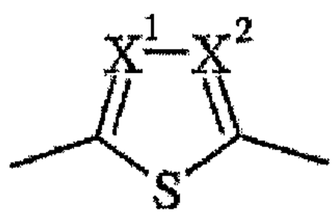
D, D' and **D''** are independently selected from C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{3-8}cycloalkyl, C_{3-8}cycloalkylC_{1-6}alkyl, aryl, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and **E''** are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2-; wherein R^a and R^b are independently selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2;

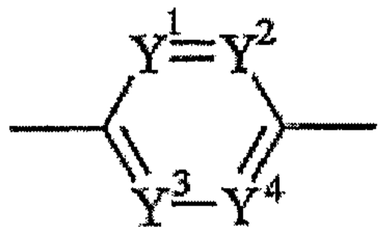
F and F' are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl and *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^1 may be the same or different;

Ring B is a ring selected from



or



wherein,

X^1 and X^2 are selected from CH or N, and

Y^1, Y^2, Y^3 and Y^4 are selected from CH or N provided that at least one of Y^1, Y^2, Y^3 and Y^4 is N;

R^{12} is halo;

n is 0, 1, or 2, wherein the values of R^{12} are the same or different.

[0188] In some embodiments of the compound according to paragraph [0187],

- Ring A is a pyridyl, quinolyl, indolyl, pyrimidinyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, pyrazinyl, thiazolyl, thienyl, thienopyrimidinyl, thienopyridinyl, purinyl, 1',2',3',6'-tetrahydropyridinyl, triazinyl, oxazolyl, pyrazolyl, or furanyl; wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.

- Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, quinolin-8-yl, pyrimidin-6-yl, pyrimidin-5-yl, pyrimidin-4-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, pyridazin-5-yl, pyrazin-6-yl, thiazol-2-yl, thien-2-yl, thieno[3,2d]pyrimidinyl, thieno[3,2b]pyrimidinyl, thieno[3,2b]pyridinyl, purin-6-yl, 1',2',3',6'-tetrahydropyridin-4-yl

- Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, quinolin-8-yl, pyrimidin-6-yl, pyrimidin-5-yl, pyrimidin-4-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, pyridazin-5-yl, pyrazin-6-yl, thiazol-2-yl, thien-2-yl, thieno[3,2d]pyrimidinyl, thieno[3,2b]pyrimidinyl, thieno[3,2b]pyridinyl, purin-6-yl, 1',2',3',6'-tetrahydropyridin-4-yl or triazin-6-yl; wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.
- Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, thiazol-2-yl, thien-2-yl, furan-3-yl, pyrrolidin-1-yl, piperidin-1-yl, triazol-1-yl or 1',2',3',6'-tetrahydropyridin-4-yl wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.
- Ring A is a pyridyl, pyrimidyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, thienyl, pyrazinyl, thiazolyl, 1,2,4-triazolyl or furanyl.
- Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl or 1,2,4-triazolyl.
- Ring B is thienyl, thiadiazolyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl.
- Ring B is thienyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl.
- Ring B is thienyl or pyridyl.
- Ring B is thienyl or pyridyl wherein both the thienyl and the pyridyl are attached to Ring A in the 2-position of the thienyl or pyridyl ring and to the amide group of formula (I) in the 5-position of the thienyl or pyridyl ring.
- R^{11} is halo, amino, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-3}alkanoyloxy, *N*-(C_{1-3}alkyl)amino, *N,N*-(C_{1-3}alkyl)$_2$amino, C_{1-3}alkanoylamino, *N*-(C_{1-3}alkyl)carbamoyl, *N,N*-(C_{1-3}alkyl)$_2$carbamoyl.
- R^{11} is halo, amino, C_{1-6}alkyl or C_{1-6}alkoxy.
- R^{11} is halo, amino, methyl or methoxy.
- R^{11} is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl,

C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N*,*N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N*,*N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N*,*N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl or a group (D-E-); wherein R^1, including group (D-E-), may be optionally substituted on carbon by one or more V; and wherein, if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from J;

V is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N*,*N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N*,*N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N*,*N*-(C_{1-6}alkyl)$_2$sulphamoyl or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and Z are independently selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N*,*N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N*,*N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl or *N*,*N*-(C_{1-6}alkyl)$_2$sulphamoyl;

G, J and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, C_{1-8}alkanoyl, C_{1-8}alkylsulphonyl, C_{1-8}alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}alkyl)carbamoyl, *N*,*N*-(C_{1-8}alkyl)carbamoyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl, aryl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G, J and K may be optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from hydrogen or C_{1-6}alkyl;

Q is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, arylC_{1-6}alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}alkyl, (heterocyclic group)C_{1-6}alkoxy, or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

D, D' and D'' are independently selected from C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{3-8}cycloalkyl, C_{3-8}cycloalkylC_{1-6}alkyl, aryl, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and E'' are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$–, -SO_2N(R^a)-, -N(R^a)SO_2-; wherein R^a and $R^b$are independently selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2; and

F and F' are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl and *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl.

- R^{11} is a substituent on carbon and is selected from cyano, hydroxy, C_{1-6}alkyl or a group (D-E-); wherein R^{11} including group (D-E-), may be optionally substituted on carbon by one or more V;

  V is cyano, hydroxy or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

  W and Z are independently selected from cyano, C_{1-6}alkyl or C_{1-6}alkoxy;

G and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G and K may be optionally substituted on carbon by one or more Q;

Q is cyano, hydroxy, oxo, C_{1-6}alkyl, C_{2-6}alkenyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)carbamoyl, *N*,*N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, aryl, aryloxy or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

D, D' and D'' are independently selected from aryl, arylC_{1-6}alkyl or heterocyclic group; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; a wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionall substituted by a group selected from K;

E, E' and E'' are independently selected from -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -C(O)N(R^a)-, -S(O)$_r$-; wherein R^a is selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2; and

F and F' are independently selected from nitro, hydroxy, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, *N*-(C_{1-6}alkyl)amino, *N*,*N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino or C_{1-6}alkoxycarbonyl.

- m is 0, 1, 2, 3 or 4; wherein the values of R^{11} are the same or different.
- m is 0, 1, or 2; wherein the values of R^{11} are the same or different.
- m is 0.
- m is 1.
- R^{12} is halo.
- R^{12} is fluoro.
- R^{12} is chloro.
- n is 0, 1, or 2; wherein the values of R^{12} are the same or different;
- n is 0;
- n is 1.

[0189] Other embodiments of the compound according to paragraph [0187] include the following (wherein each of R^2 in this paragraph corresponds to R^{12} in paragraph [0187]):

Ring A is a pyridyl, indolyl, pyrimidyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, thienyl, pyrazinyl, thiazolyl, oxazolyl, 1,2,4-triazolyl, isoxazolyl, isothiazolyl, pyrazolyl, or furanyl;

Ring B is thienyl, thiadiazolyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl;

R^{11} is halo, amino, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-3}alkanoyloxy, *N*-(C_{1-3}alkyl)amino, *N,N*-(C_{1-3}alkyl)$_2$amino, C_{1-3}alkanoylamino, *N*-(C_{1-3}alkyl)carbamoyl, *N,N*-(C_{1-3}alkyl)$_2$carbamoyl;

m is 0, 1, 2, wherein the values of R^{11} are the same or different.

n is 0, 1, 2, wherein the values of R^{12} are the same or different;

R^{12} is F or Cl.

[0190] Other embodiments of the compound according to paragraph [0187] include the following (wherein each of R^2 in this paragraph corresponds to R^{12} in paragraph [0187]):

Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl or 1,2,4-triazolyl;

Ring B is thienyl or pyridyl;

R^{11} is halo, amino, methyl or methoxy;

m is 0, 1, 2, wherein the values of R^{11} are the same or different.

n is 0 or 1;

R^{12} is F.

[0191] Other embodiments of the compound according to paragraph [0187] include the following (wherein each of R^2 in this paragraph corresponds to R^{12} in paragraph [0187]):

Ring A is a pyridyl, quinolyl, indolyl, pyrimidinyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, pyrazinyl, thiazolyl, thienyl, thienopyrimidinyl, thienopyridinyl, purinyl, 1',2',3',6'-tetrahydropyridinyl, triazinyl, oxazolyl, pyrazolyl, or furanyl; wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G;

Ring B is thienyl, thiadiazolyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl;

R^{11} is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, oxo,

trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl or a group (D-E-); wherein R^1, including group (D-E-), may be optionally substituted on carbon by one or more V; and wherein, if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from J;

V is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and Z are independently selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl or *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

G, J and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, C_{1-8}alkanoyl, C_{1-8}alkylsulphonyl, C_{1-8}alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}alkyl)carbamoyl, *N,N*-(C_{1-8}alkyl)carbamoyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl, aryl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G, J and K may be optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from hydrogen or C_{1-6}alkyl;

Q is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, arylC_{1-6}alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}alkyl, (heterocyclic group)C_{1-6}alkoxy, or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

D, D' and D'' are independently selected from C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{3-8}cycloalkyl, C_{3-8}cycloalkylC_{1-6}alkyl, aryl, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and E'' are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2-; wherein R^a and $R^b$are independently selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2;

F and F' are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl and *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

m is 0, 1, 2, 3, or 4, wherein the values of R^{11} are the same or different;

R^{12} is F or Cl;

n is 0, 1, or 2, wherein the values of R^{12} are the same or different.

[0192] Other embodiments of the compound according to paragraph [0187] include the following (wherein each of R^2 in this paragraph corresponds to R^{12} in paragraph [0187]):

Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, thiazol-2-yl, thien-2-yl, furan-3-yl, pyrrolidin-1-yl, piperidin-1-yl, triazol-1-yl or 1',2',3',6'-tetrahydropyridin-4-yl wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G;

Ring B is thienyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl;

R^{11} is a substituent on carbon and is selected from cyano, hydroxy, C_{1-6}alkyl or a group (D-E-); wherein R^{11}, including group (D-E-), may be optionally substituted on carbon by one or more V;

W and Z are independently selected from cyano, C_{1-6}alkyl or C_{1-6}alkoxy;

G and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G and K may be optionally substituted on carbon by one or more Q;

Q is cyano, hydroxy, oxo, C_{1-6}alkyl, C_{2-6}alkenyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, aryl, aryloxy or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

D, D' and D'' are independently selected from aryl, arylC_{1-6}alkyl or heterocyclic group; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and E'' are independently selected from -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -C(O)N(R^a)-, -S(O)$_r$-; wherein R^a is selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2;

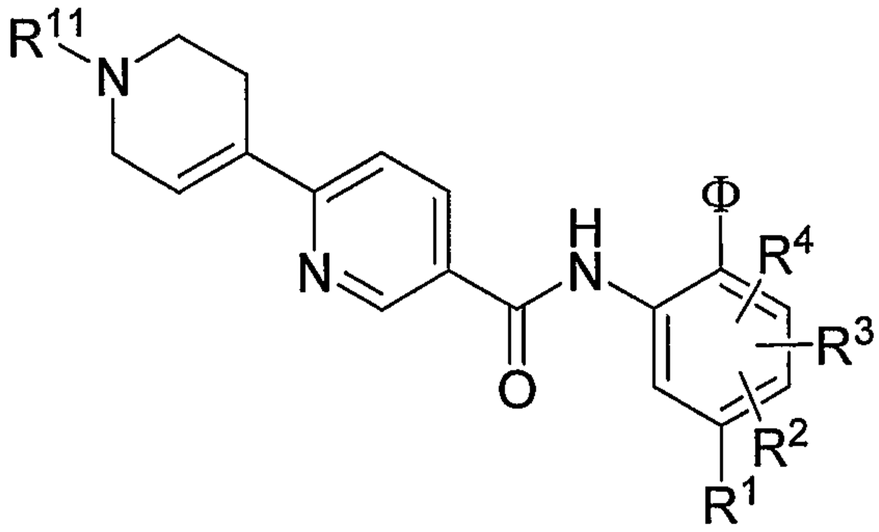
F and F' are independently selected from nitro, hydroxy, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino or C_{1-6}alkoxycarbonyl;

m is 0, 1, or 2, wherein the values of R^{11} are the same or different;

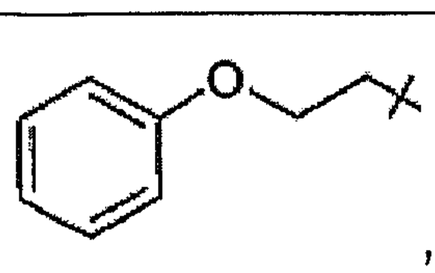
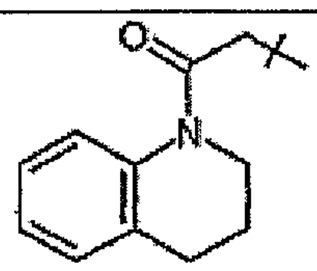
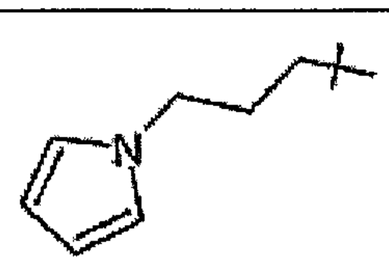
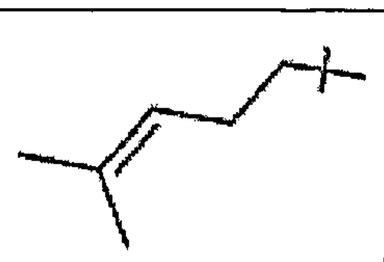
R^{12} is F;

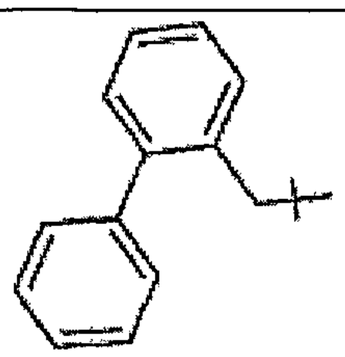
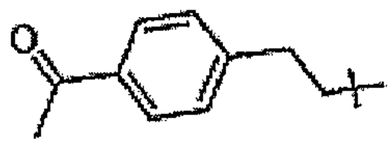
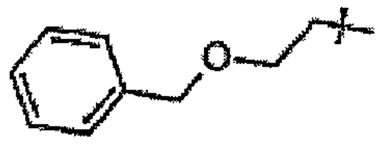
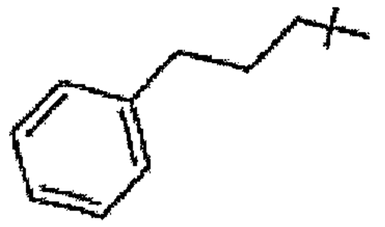
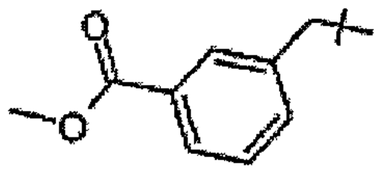
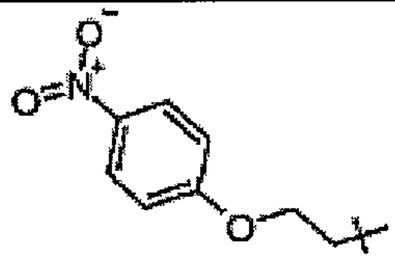
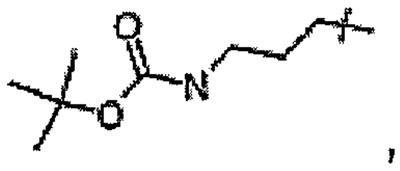
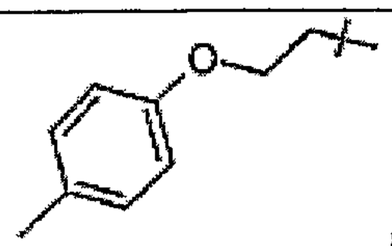
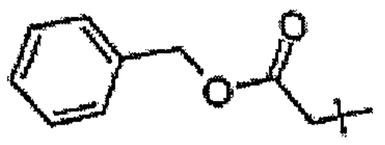
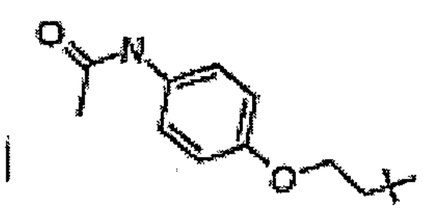
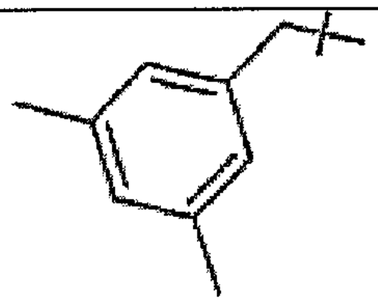
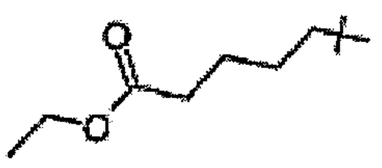
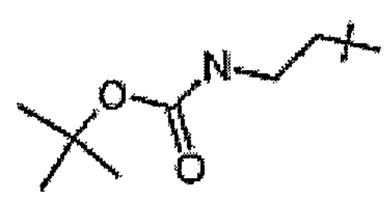
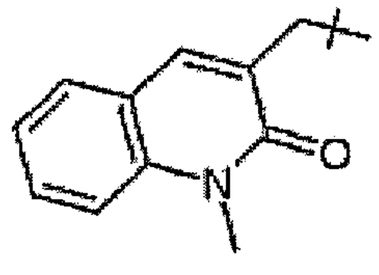
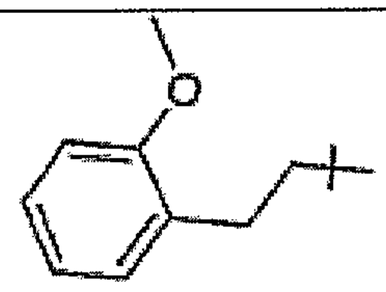
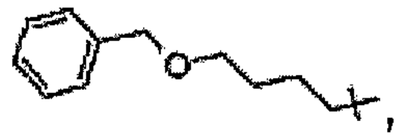
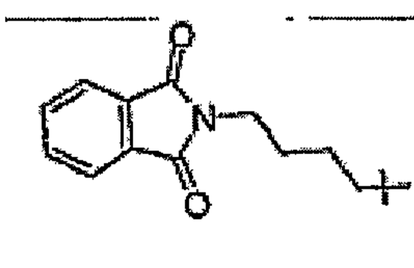
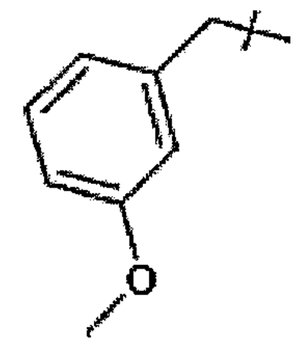
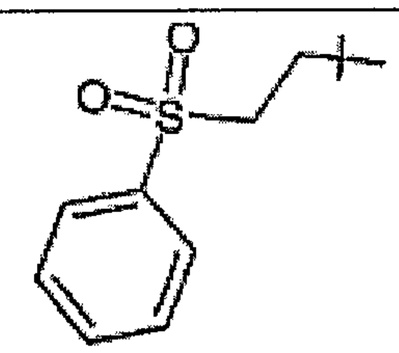
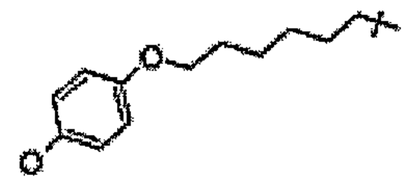
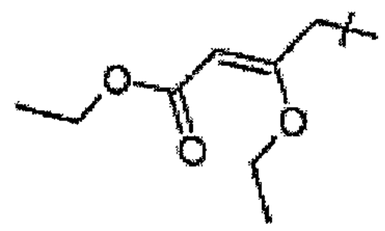
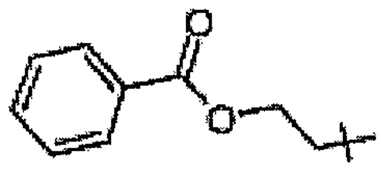
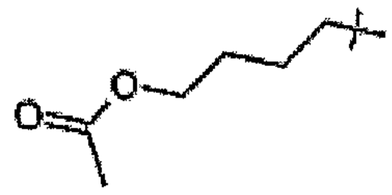
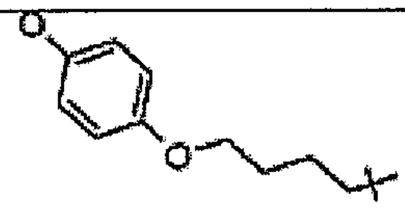
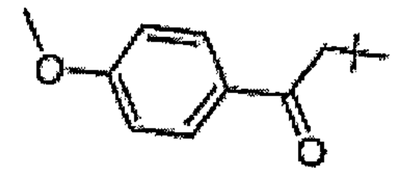
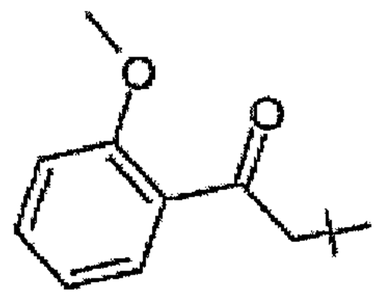
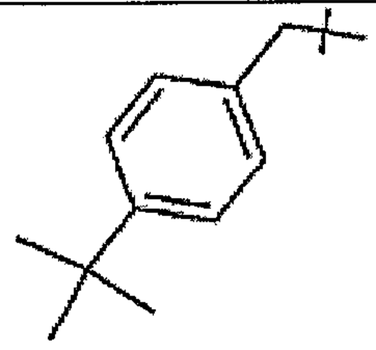
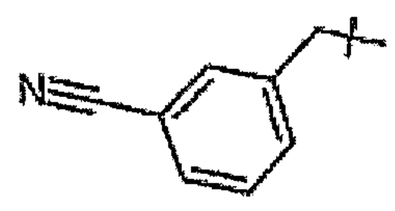
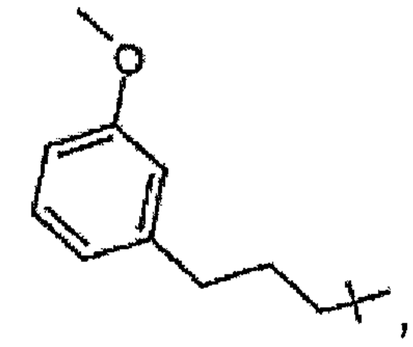
n is 0 or 1.

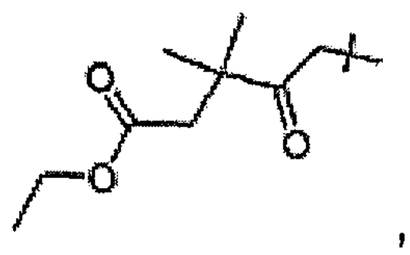
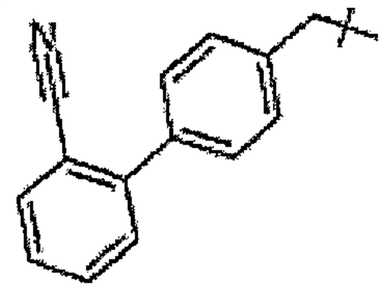
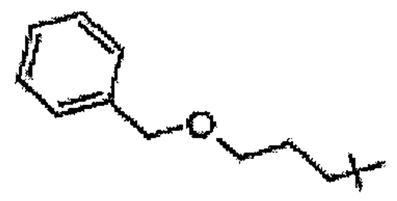
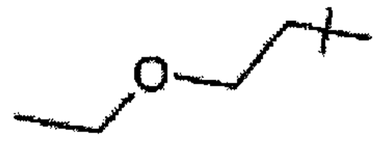
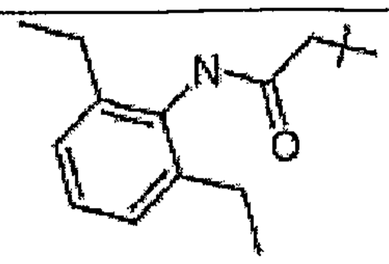
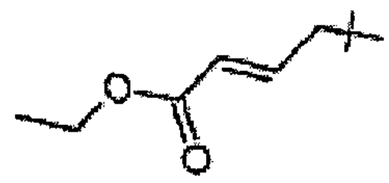
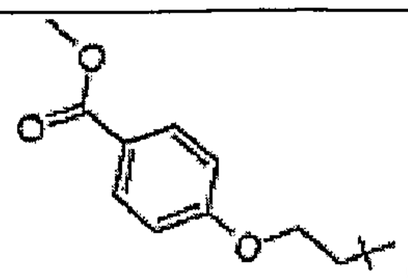
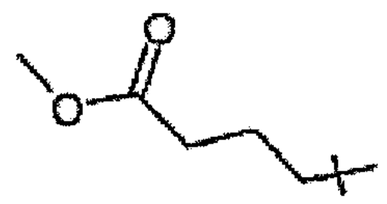
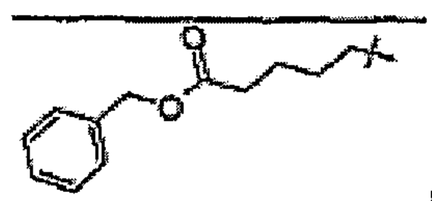
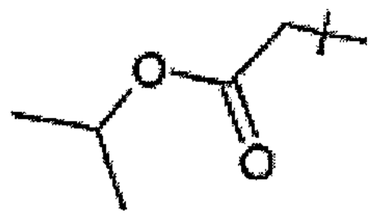
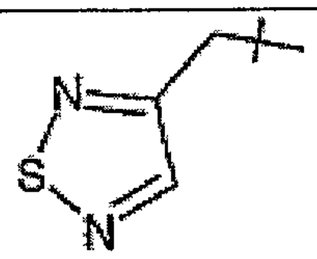
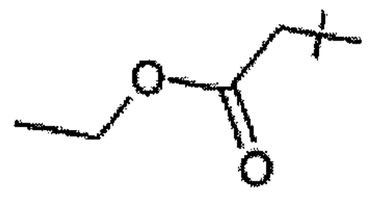
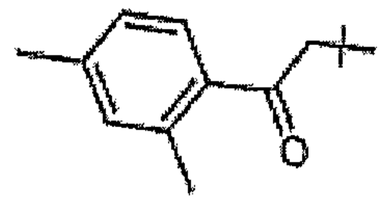
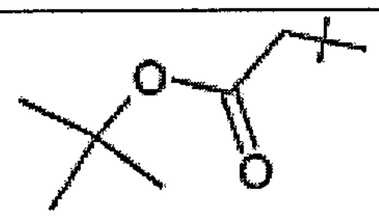
[0193] The following are particular embodiments of the compounds according to paragraph [0187]:



wherein R^{11} is selected from:

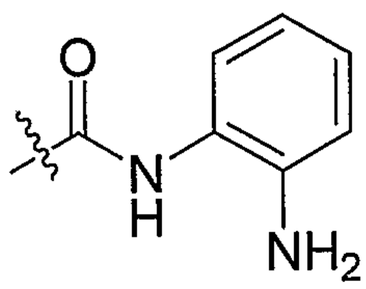
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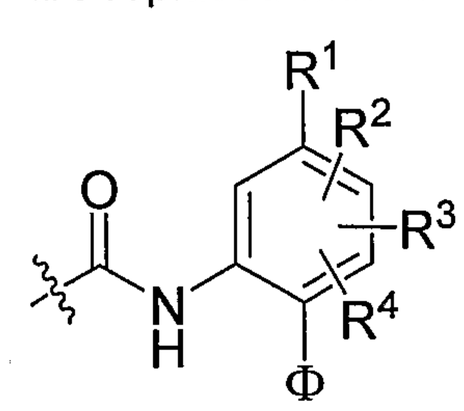
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and	 .		

[0194] In the compounds of paragraph [0187] - [0193], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraph [0187] - [0193], R^1, R^2, R^3, and R^4 are all H.

[0195] In another embodiment, the invention comprises the compounds of WO 03/024448 in which the terminal moieties -C(O)-NH-Ay^1, -C(O)-NH-Ay^2, -C(O)-NH-Ar^a-NH_2, and:

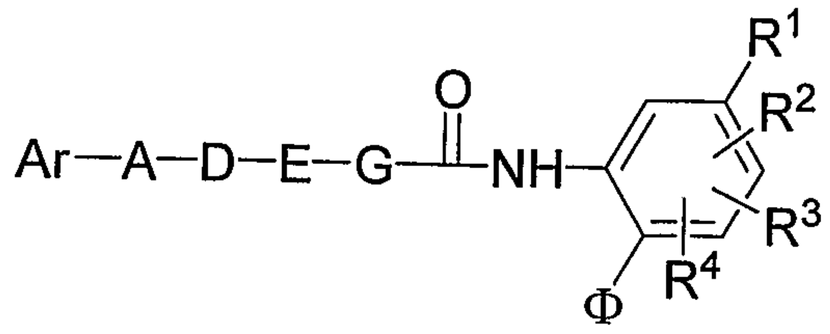


are replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0196] In another embodiment, the invention comprises compounds of the following structural formula (13):



(13)

or a pharmaceutically acceptable salt thereof, wherein

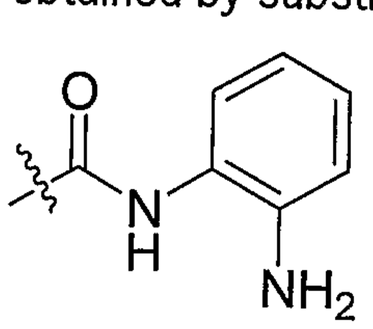
Φ is $-NH_2$ or –OH;

R^1 is H or as defined in paragraph [0046];

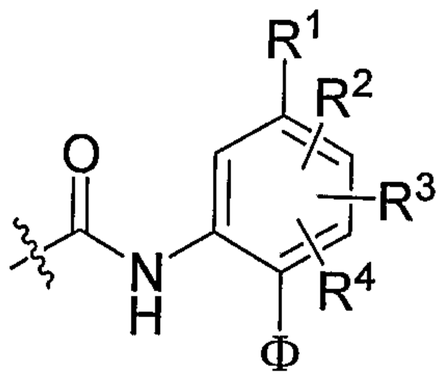
R^2, R^3, and R^4 are as defined in paragraph [0046]; and

Ar, A, D, E, and G are as defined in JP 2003137866.

[0197] In the compounds of paragraph [0196], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraph [0196], R^1, R^2, R^3, and R^4 are all H. Particular embodiments of the compounds of paragraph [0196] are those obtained by substituting the terminal moiety:

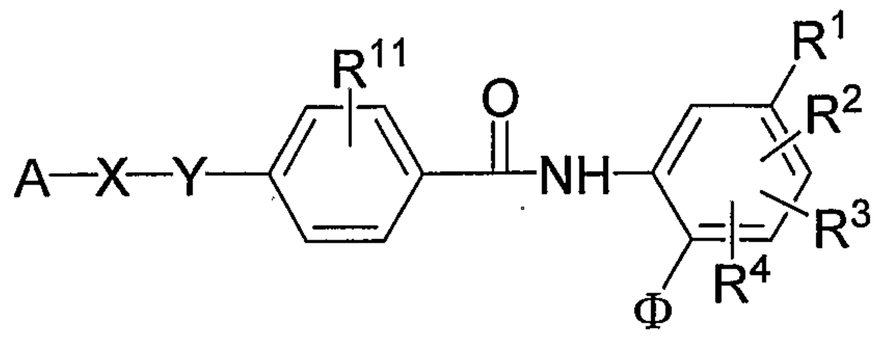


of the compounds of JP 2003137866 with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0198] In another embodiment, the invention comprises compounds of the following structural formula (14):



(14)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

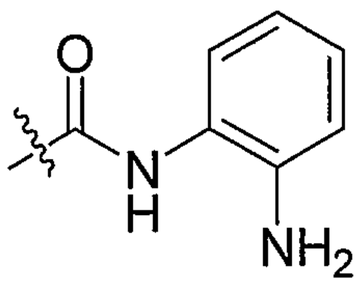
R^1 is H or as defined in paragraph [0046];

R^2, R^3, and R^4 are as defined in paragraph [0046];

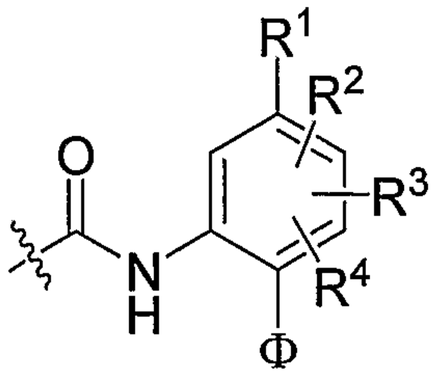
X, Y, and A are as defined in JP 11-269146 (1999); and

R^{11} is the same as R^1 of JP 11-269146 (1999).

[0199] In the compounds of paragraph [0198], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraph [0198], R^1, R^2, R^3, and R^4 are all H. Particular embodiments of the compounds of paragraph [0198] are those obtained by substituting the terminal moiety:

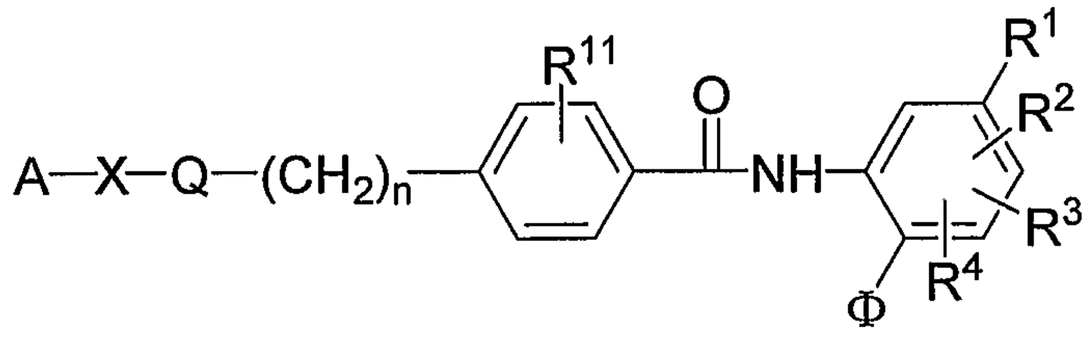


of compounds 1-50 of Tables 2-4 of JP 11-269146 (1999) with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0200] In another embodiment, the invention comprises compounds of the following structural formula (15):



(15)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

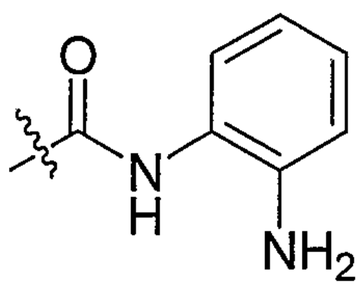
R^1 is H or as defined in paragraph [0046];

R^2, R^3, and R^4 are as defined in paragraph [0046];

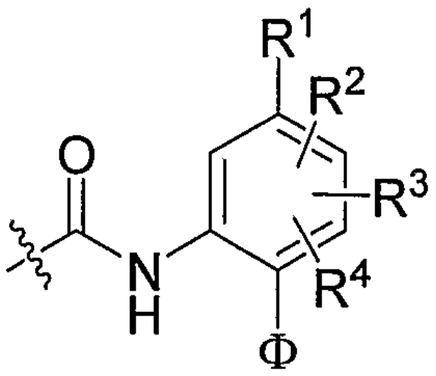
n, X, Q, and A are as defined in JP 11-302173 (1999); and

R^{11} is the same as R^1 of JP 11-302173 (1999).

[0201] In the compounds of paragraph [0200], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraph [0200], R^1, R^2, R^3, and R^4 are all H. Particular embodiments of the compounds of paragraph [0200] are those obtained by substituting the terminal moiety:

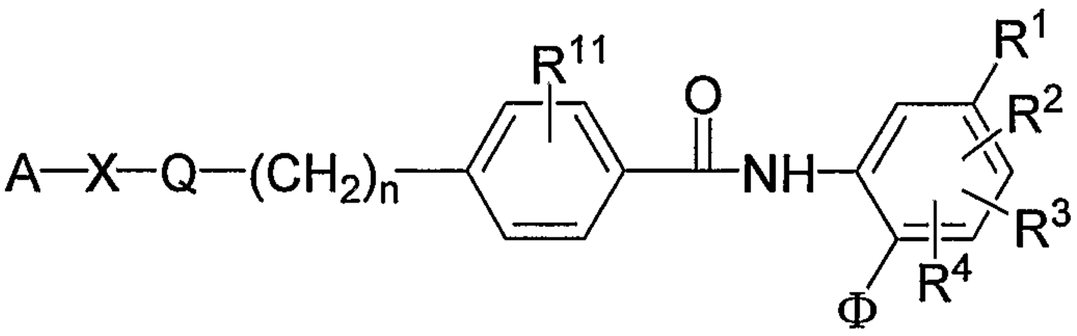


of the compounds 1-67 of JP 11-302173 (1999) with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0202] In another embodiment, the invention comprises compounds of the following structural formula (16):



(16)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

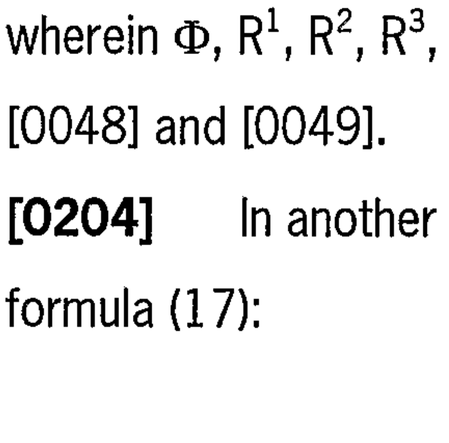
R^1 is H or as defined in paragraph [0046];

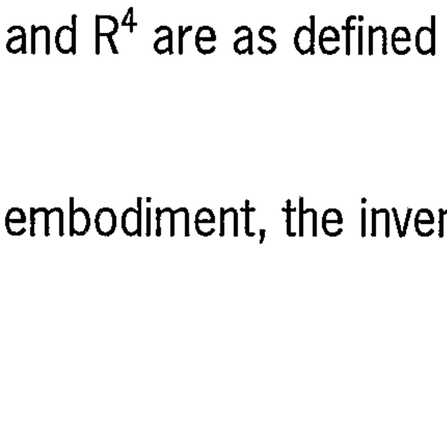
R^2, R^3, and R^4 are as defined in paragraph [0046];

n, Q, X, and A are as defined in JP 2001131130; and

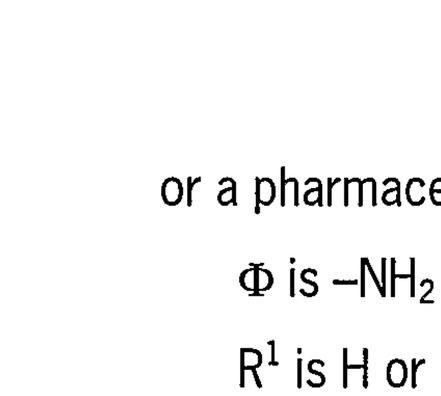
R^{11} is the same as R^1 of JP 2001131130.

[0203] In the compounds of paragraph [0202], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraph [0202], R^1, R^2, R^3, and R^4 are all H. Particular embodiments of the compounds of paragraph [0202] are those obtained by substituting the terminal moieties:



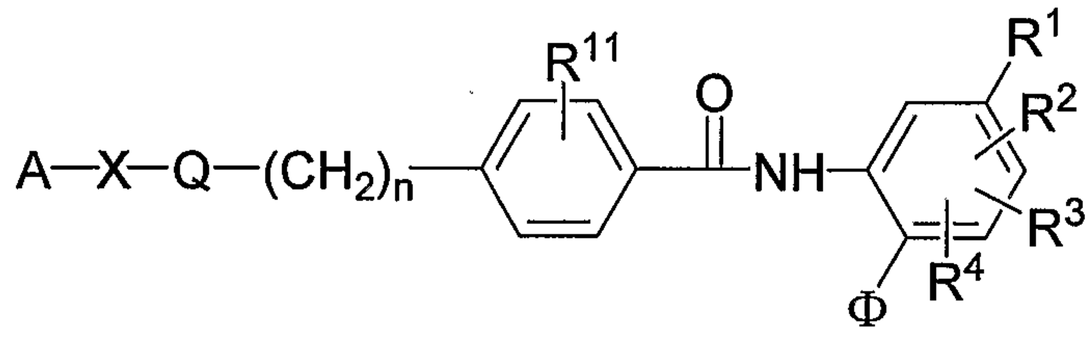
and


of the compounds of JP 2001131130 with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0204] In another embodiment, the invention comprises compounds of the following structural formula (17):



(17)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in paragraph [0046];

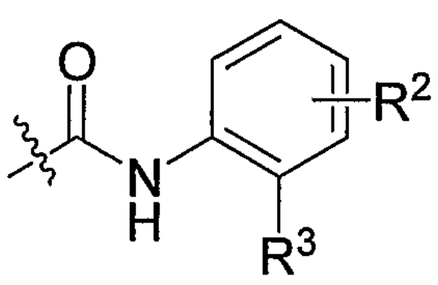
R^2, R^3, and R^4 are as defined in paragraph [0046];

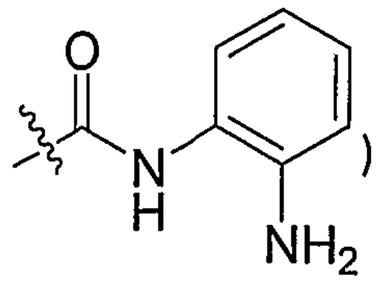
n, X, Q, and A are as defined in JP 10152462, JP 2002332267, and JP 11-302173; and

R^{11} is the same as R^1 of JP 10152462, JP 2002332267, and JP 11-302173.

[0205] In the compounds of paragraph [0204], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraph [0204], R^1, R^2,

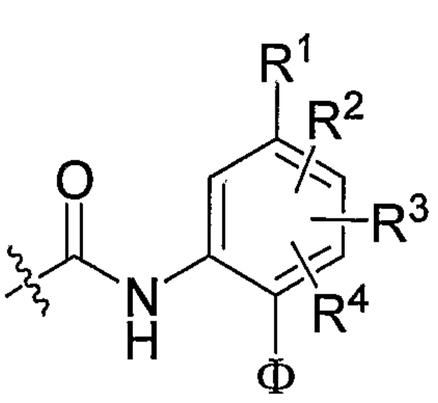
R^3, and R^4 are all H. Particular embodiments of the compounds of paragraph [0204] are those obtained by substituting the terminal moiety:



(particularly 

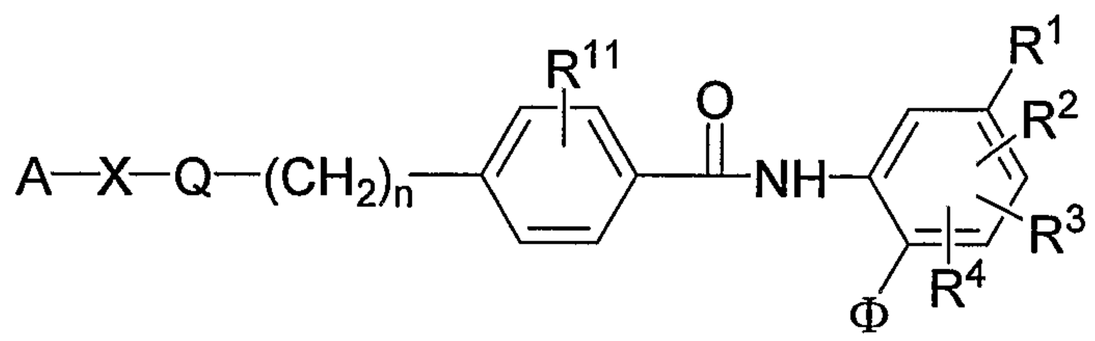
)

of the compounds of JP 10152462, JP 2002332267, and JP 11-302173 with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0206] In another embodiment, the invention comprises compounds of the following structural formula (18):



(18)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or –OH;

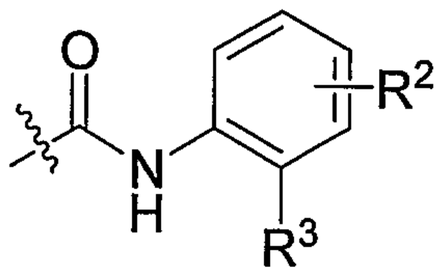
R^1 is H or as defined in paragraph [0046];

R^2, R^3, and R^4 are as defined in paragraph [0046];

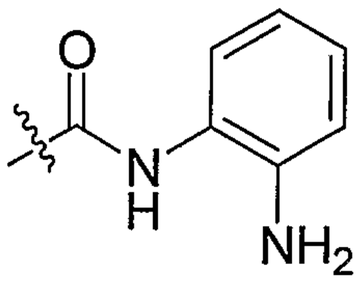
n, X, Q, and A are as defined in US 6,174,905; and

R^{11} is the same as R^1 of US 6,174,905.

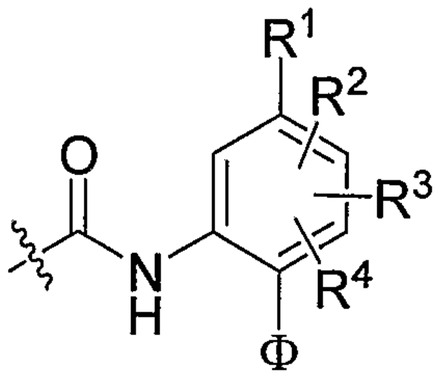
[0207] In the compounds of paragraph [0206], R^1, R^2, R^3, and R^4 are preferably as defined in paragraphs [0048] and [0049]. In other embodiments of the compounds of paragraph [0206], R^1, R^2, R^3, and R^4 are all H. Particular embodiments of the compounds of paragraph [0206] are those obtained by substituting the terminal moiety:



of the compounds of Table 1 of US 6,174,905 and the terminal moiety:

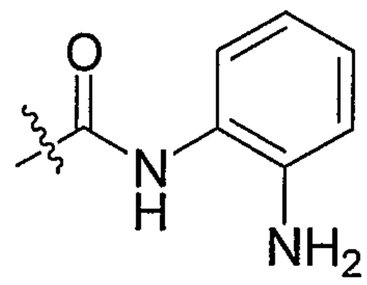


of the compounds of Tables 2-4 of US 6,174,905 with the moiety:

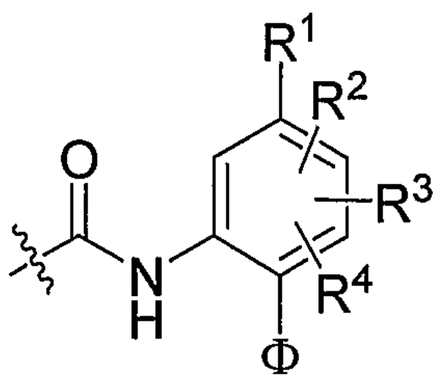


wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

[0208] In another embodiment acording to paragraph [0046], the invention comprises compounds of WO01/70675 wherein the terminal moiety -C(O)-NHOH, -C(O)-CH_2-SC(O)CH_3, -C(O)-CH_2-SH, -C(O)-CH_2-SCH_3, -C(O)-CH_2-SCH_2-phenyl, -C(O)-CH_2-S-phenyl, -C(O)-CH_2-SC(O)-phenyl and



of the compounds of Tables 2 and 3 are replaced by the moiety



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph [0046], and preferably [0048] and [0049].

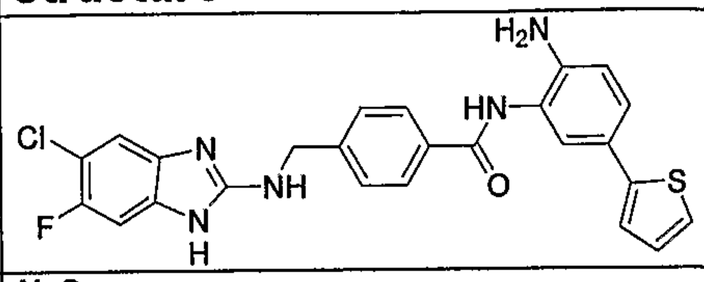
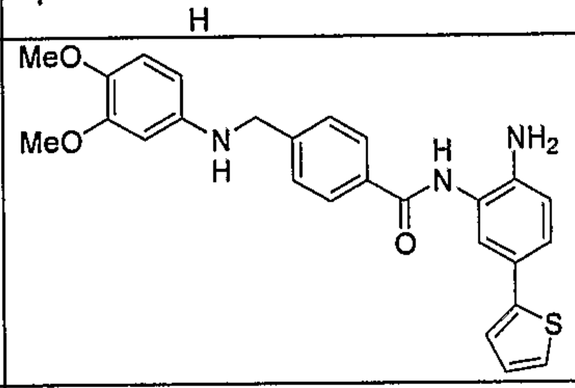
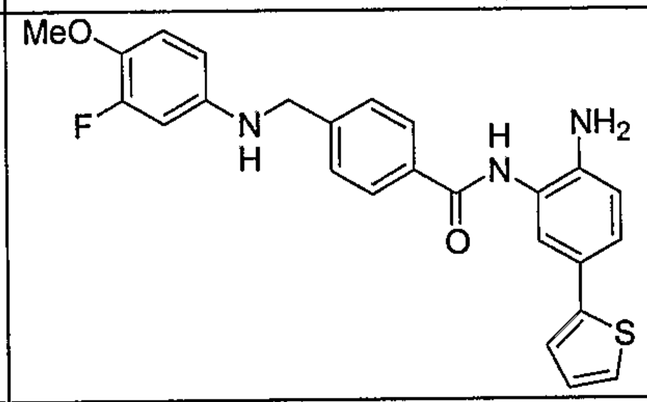
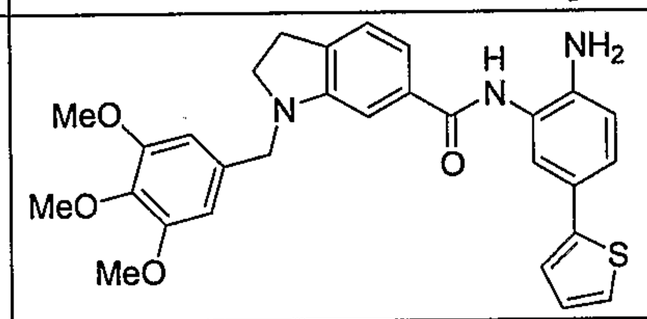
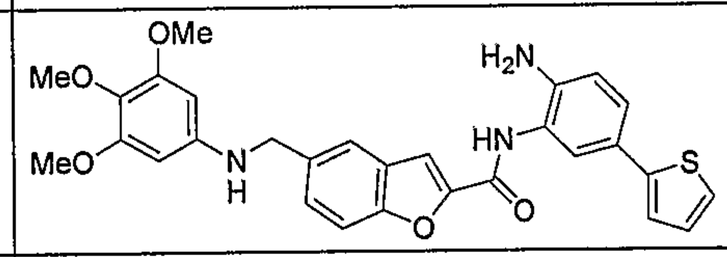
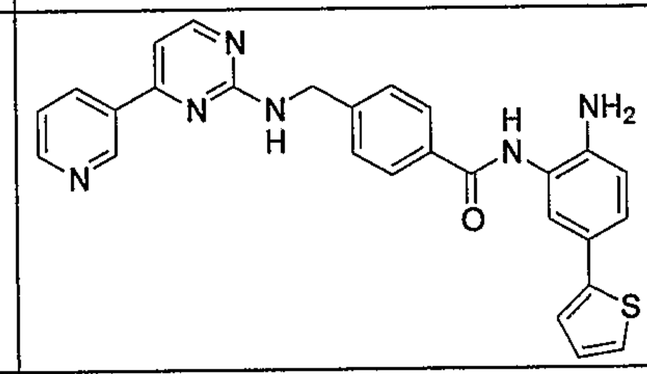
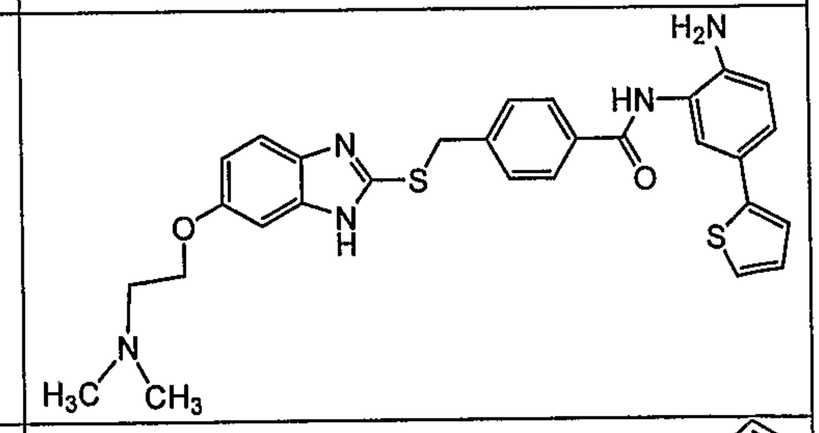
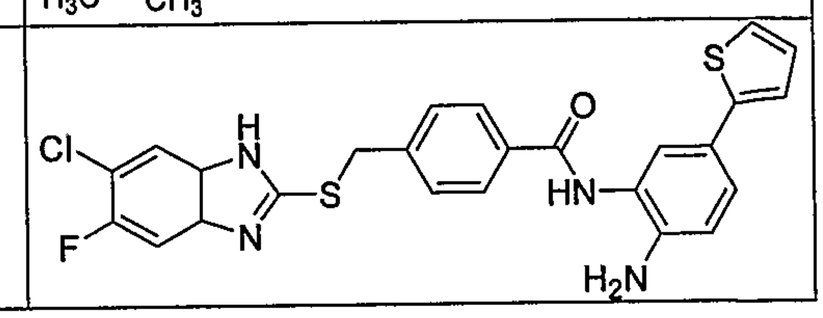
[0209] In the second aspect, the invention provides a composition comprising a compound according to any one of paragraphs [0046] - [0088], [0098] – [0110], and [0115] - [0207], or as depicted in any of the tables herein together with a pharmaceutically acceptable excipient.

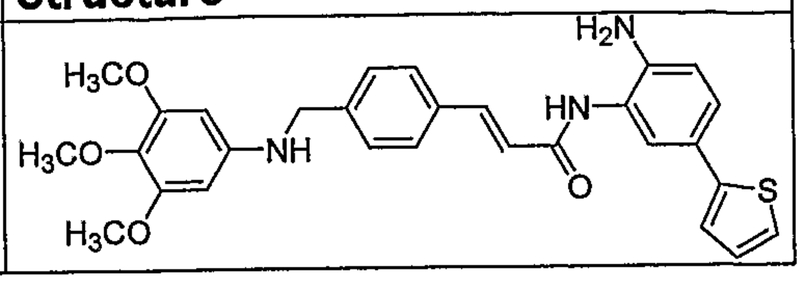
[0210] The third aspect of the invention provides a method of inhibiting histone deacetylase, the method comprising contacting the histone deacetylase with a compound according to any one of paragraphs [0046] - [0088], [0098] – [0110], and [0115] - [0207] or as depicted in any of the tables herein, or with a composition according to paragraph [0209]. Inhibition of the histone deacetylase can be in a cell or a multicellular organism. If in a multicellular organism, the method according to this aspect of the invention comprises administering to the organism a compound according any one of paragraphs [0046] - [0088], [0098] – [0110], and [0115] - [0207] or as depicted in any of the tables herein, or a composition according to paragraph [0209]. Preferably the organism is a mammal, more preferably a human.

[0211] The data presented herein demonstrate the anti-tumor effects of the HDAC inhibitors of the invention. Recent publications reporting on HDAC inhibitor human clinical trials suggest that these inhibitors can effectively treat human solid tumors or cancer (lung, colon, prostrate, stomach, breast, leukemia), including complete remissions of transformed lymphoma (SAHA, ASCO Abstract No. 2321, 2003) and peripheral T-cell lymphoma (depsipeptide/ FR901228 ASCO Abstract No. 88, 2002). Together with the data presented herein demonstrating surprising efficacy at inhibiting HDAC-1 and tumor growth inhibition *in vivo*, these data lead on to reasonably expect that the HDAC-1 inhibitors of the invention are useful not only for inhibition of HDAC, but as therapeutic agents for the treatment of cancer as well.

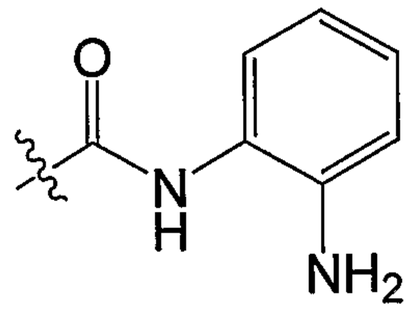
[0212] Preferred compounds according to the invention include those in the Table 1, which were prepared essentially using the methods described herein and illustrated below in the schemes. All of the compounds in this application were named using Chemdraw Ultra version 6.0.2, which is available through Cambridgesoft.co, 100 Cambridge Park Drive, Cambridge, MA 02140, Namepro version 5.09, which is available from ACD labs, 90 Adelaide Street West, Toronto, Ontario, M5H, 3V9, Canada, or were derived therefrom.

Table 1

Compound	Name	Structure
C	*N*-[2-amino-5-(2-thienyl)phenyl]-4-{[(5-chloro-6-fluoro-1*H*-benzimidazol-2-yl)amino]methyl}benzamide	
6	*N*-[2-amino-5-(2-thienyl)phenyl]-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide	
12	*N*-[2-amino-5-(2-thienyl)phenyl]-4-{[(3-fluoro-4-methoxyphenyl)amino]methyl}benzamide	
23	*N*-[2-amino-5-(2-thienyl)phenyl]-1-(3,4,5-trimethoxybenzyl)indoline-6-carboxamide	
29	*N*-[2-amino-5-(2-thienyl)phenyl]-5-{[(3,4,5-trimethoxyphenyl)amino]methyl}-1-benzofuran-2-carboxamide	
43	*N*-[2-amino-5-(2-thienyl)phenyl]-4-{[(4-pyridin-3-ylpyrimidin-2-yl)amino]methyl}benzamide	
50	*N*-[2-amino-5-(2-thienyl)phenyl]-4-[({6-[2-(dimethylamino)ethoxy]-1*H*-benzimidazol-2-yl}thio)methyl]benzamide	
55	*N*-[2-amino-5-(2-thienyl)phenyl]-4-{[(6-chloro-5-fluoro-1*H*-benzimidazol-2-yl)thio]methyl}benzamide	

Compound	Name	Structure
67	trans-*N*-[2-amino-5-(2-thienyl)phenyl]-3-(4-{[(3,4,5-trimethoxyphenyl)amino]methyl }phenyl)acrylamide	

[0213] We have unexpectedly found that when HDAC inhibitors including within them the benzamide moiety:



are substituted on the aniline ring at the 5-position (para to the $-NH_2$ group) with a substantially planar ring or ring system (aryl or heteroaryl), the compound's HDAC inhibitory activity (as measured by the human HDAC-1 inhibition assay described below) increases by a factor of from 3 to 10 or more compared to similar compounds in which the aniline ring is unsubstituted or substituted with a smaller, non-planar moiety, or if the planar moiety is at other than the 5-position of the aninlinyl ring. Additionally, we have found that the planar moiety itself can be substituted. Accordingly, R^1 in the compounds of the invention is a mono-, bi-, or tri-cyclic aryl or heteroaryl moiety, which moiety is optionally substituted. In some preferred embodiments R^1 is not further substituted. In other preferred embodiments, R^1 is substituted with a moiety of from 1-5 atoms, e.g., methyl, hydroxymethyl, halomethyl, halo, hydroxy, amino, etc. In other embodiments, R^1 is substituted with a larger moiety, e.g., from 6-25 atoms.

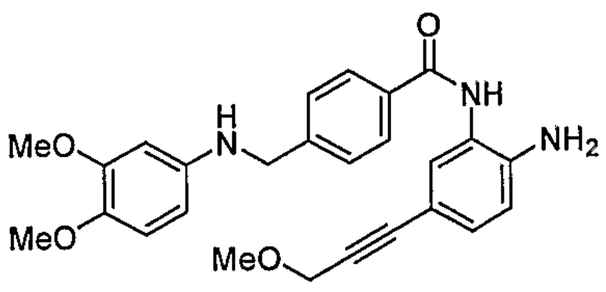
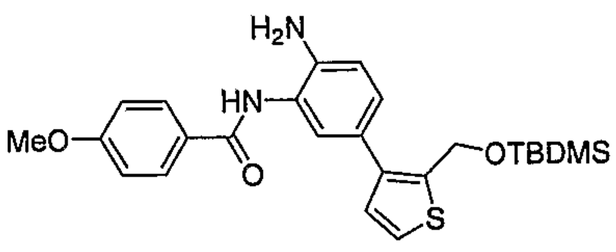
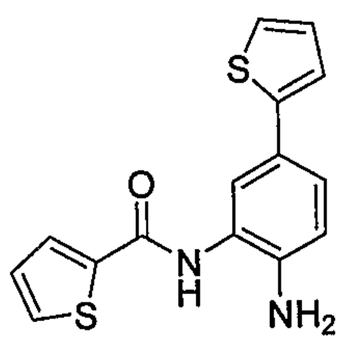
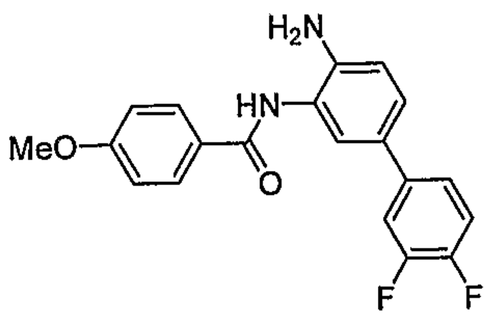
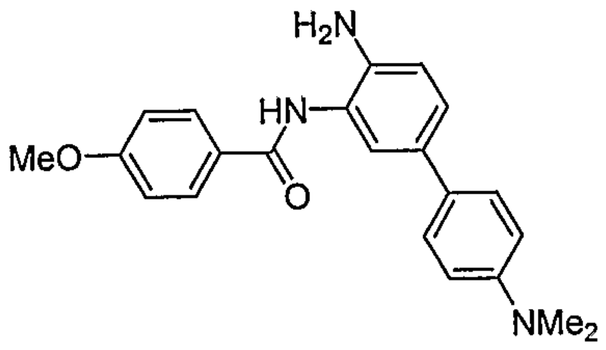
[0214] This is surprising in view of T. Suzuki *et. al.*, *J. Med. Chem*, **1999**, *42*, 3001-3003, which teaches that the substitution pattern on the aniline ring of the benzamide fragment of known HDACs (wherein the amino group is ortho to the amide nitrogen) is highly sensitive to substitutions. Substituents such as Me and OMe ortho- or meta- relative to the amino group are detrimental to HDAC inhibitory activity, causing complete loss of HDAC potency. The same type of substituents in the para-position relative to the amino group did not cause significant drop of potency which allowed assuming that only small substituents such as Me, MeO, F, Cl might be tolerated.

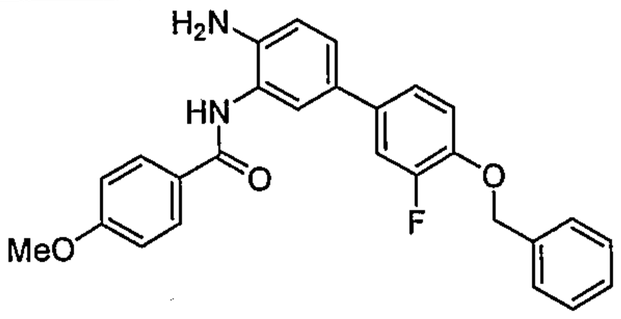
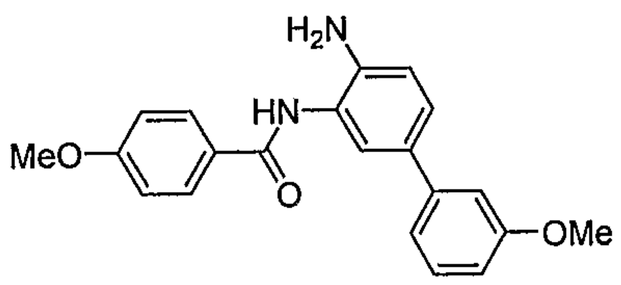
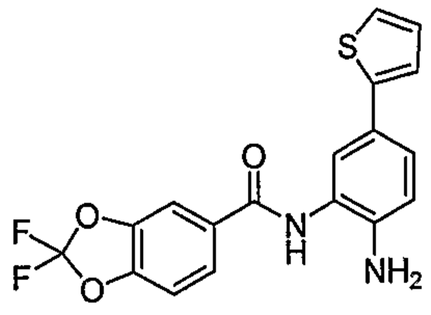
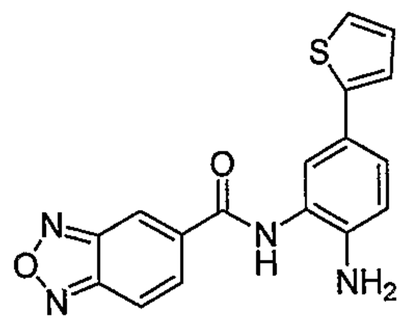
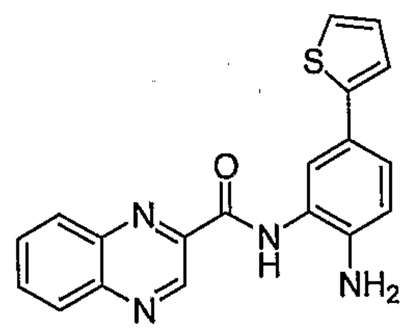
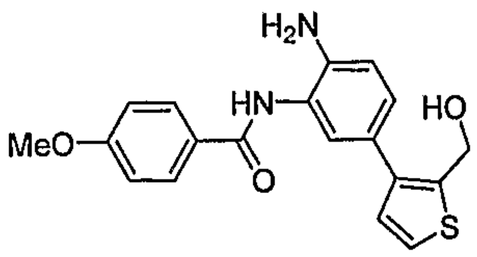
[0215] Furthermore, we have surprisingly found that the HDAC inhibitory activity of such compounds (*i.e.*, compounds comprising the chemical moiety of paragraph [0046] and having a substantially planar ring or ring system at the 5-position of the aniline ring) is substantially

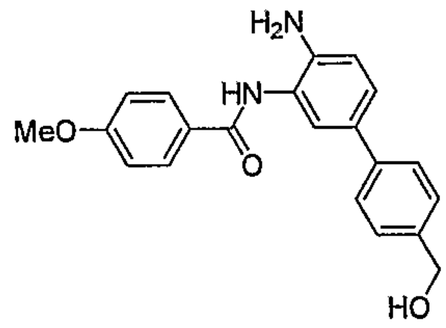
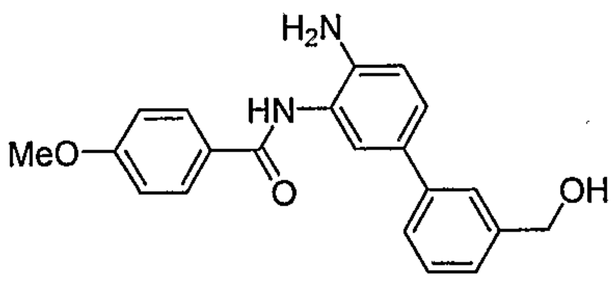
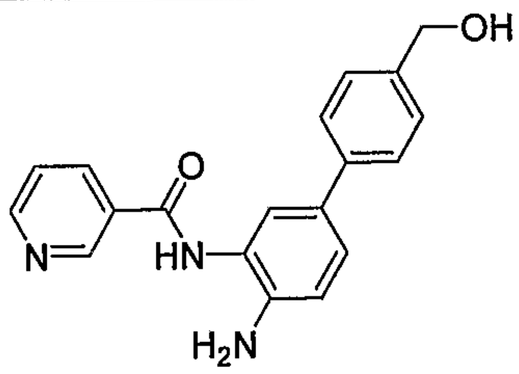
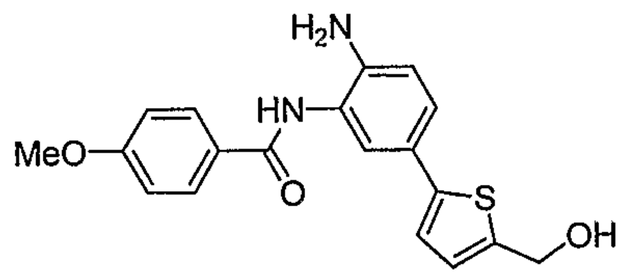
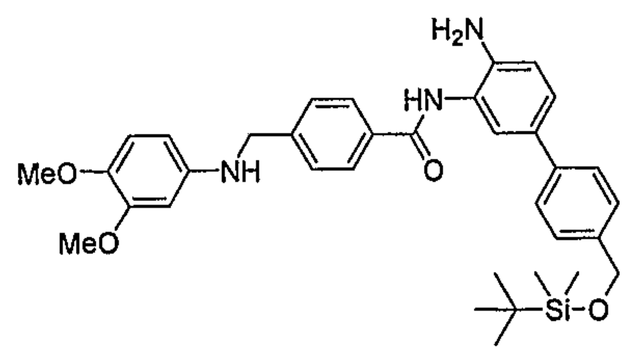
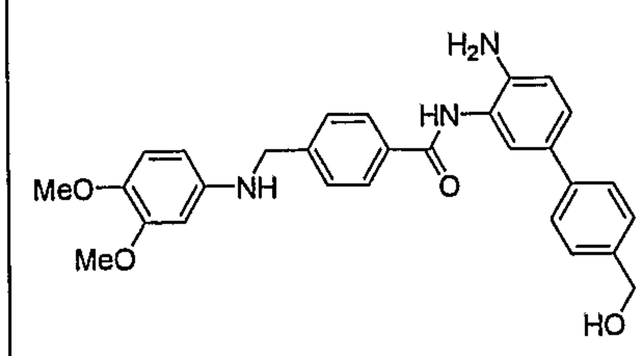
independent of the identity of the chemical moiety bound to the carbonyl of the amide in paragraph [0046]. Accordingly, in compounds of formula 1 Y is any chemical moiety (preferably physiologically non-reactive) consisting of 1 to 50 atoms.

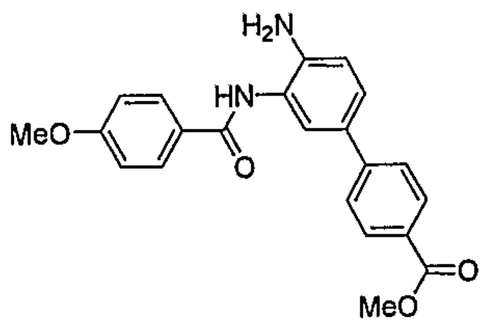
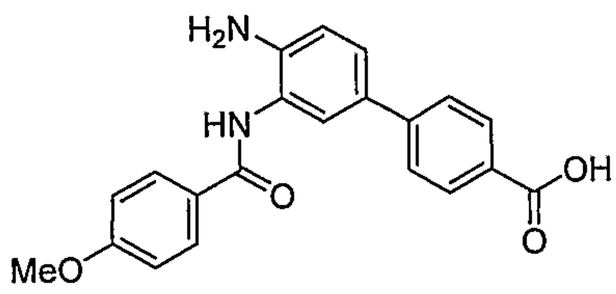
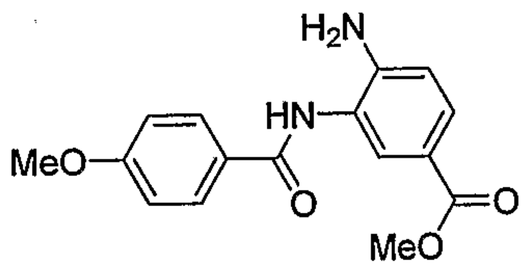
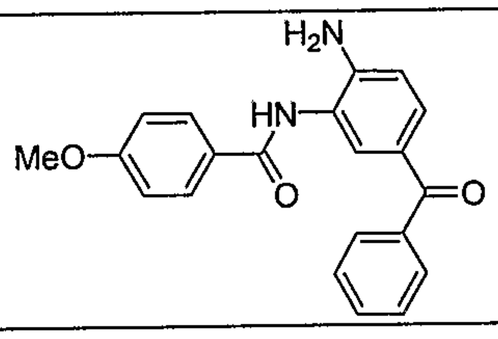
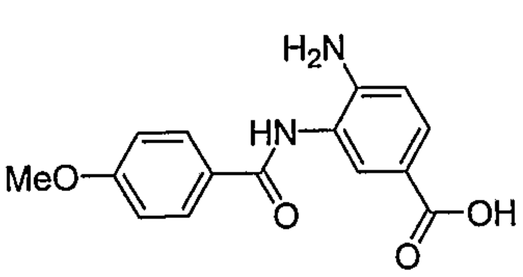
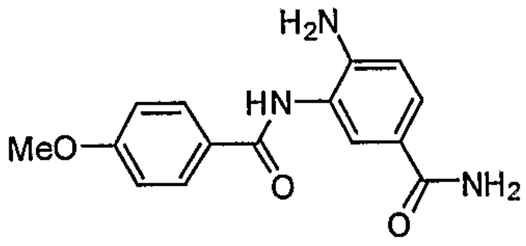
[0216] The following are representative examples of the compounds according to the embodiments described above.

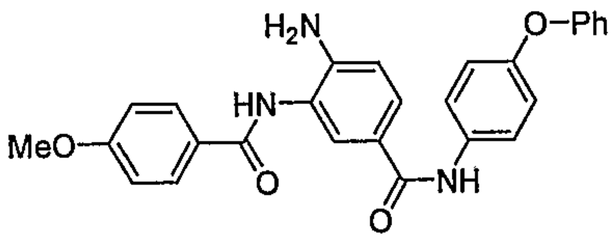
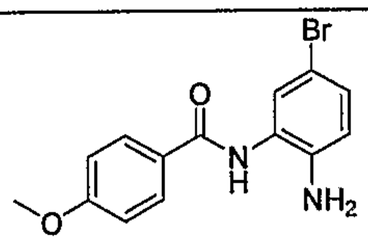
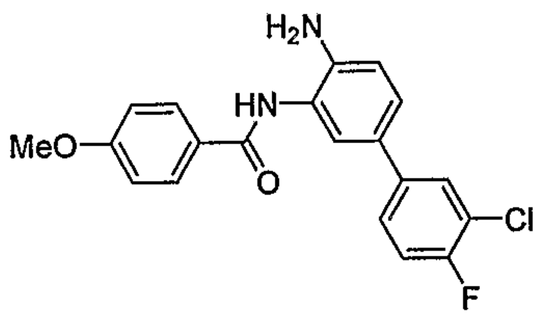
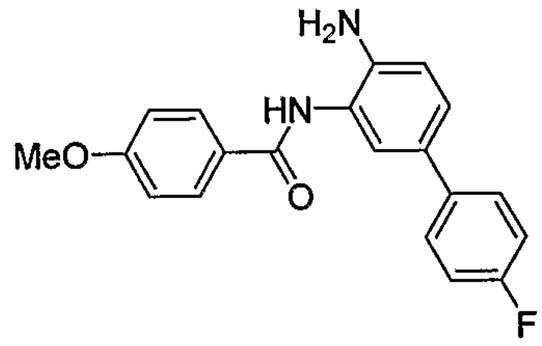
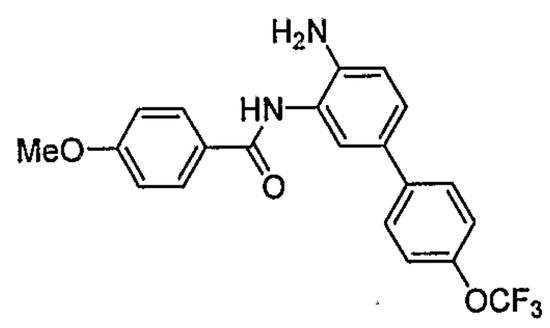
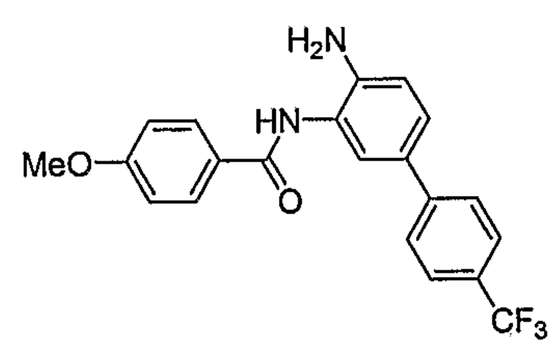
Table 1a

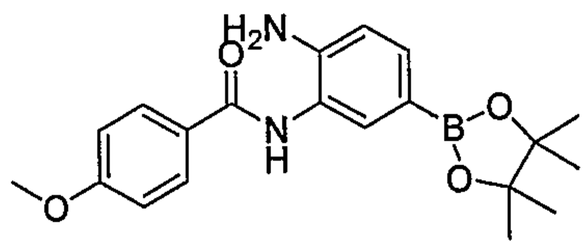
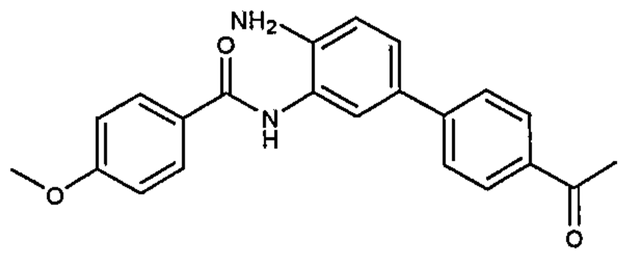
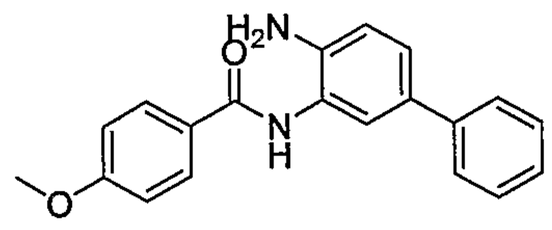
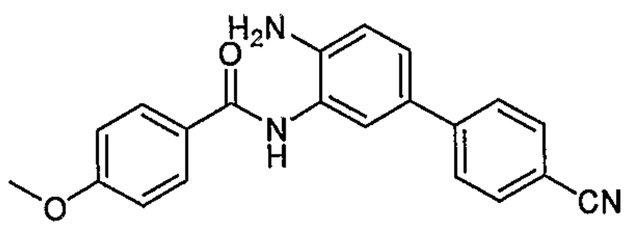
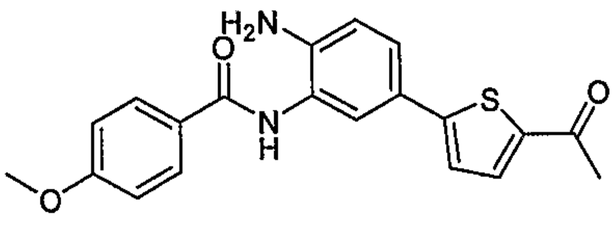
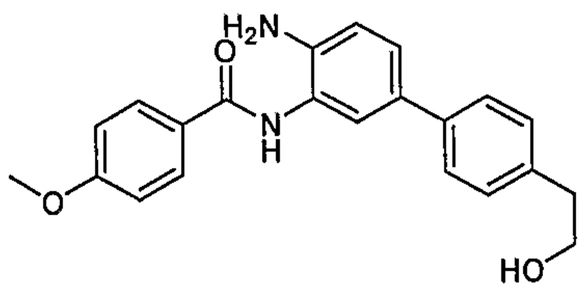
Ex	Cpd	Structure	Name	Characterization	Scheme
15aa	76aa		N-(2-amino-5-(3-methoxyprop-1-ynyl)phenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.52 (s, 1H); 7.89 (d, J=8.2, 2H); 7.46 (d, J=8.2, 2H); 7.25 (d, J=1.9, 1H); 7.04 (dd, J=1.9, 8.2, 1H); 6.70 (d, J=8.2, 1H); 6.64 (d, J=8.6, 1H); 6.31 (d, J=2.5, 1H); 5.98 (m, 2H); 5.35 (bs, 2H); 4.29 (d, J=6.1, 2H); 4.26 (s, 2H); 3.65 (s, 3H); 3.58 (s, 3H); 3.29 (s, 3H).**MS**: calc: 445.5; found: 446.4 (M+H)	13
19	93		N-(2-amino-5-(2-((tert-butyldimethylsilyloxy)methyl)thiophen-3-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.54 (s, 1H), 7.96 (d, J = 8.8 Hz, 2H), 7.43 (d, J = 5.1 Hz, 1H), 7.28 (d, J = 1.8 Hz, 1H), 7.09-7.02 (m, 4H), 6.81 (d, J = 8.2 Hz, 1H), 5.05 (s, 2H), 4.82 (s, 2H), 3.83 (s, 3H), 0.87 (s, 9H), 0.06 (s, 6H). **MS**: (calc.) 468.2; (obt.) 491.2 $(M+Na)^+$.	17
19aa	93aa		N-(2-amino-5-(thiophen-2-yl)phenyl)thiophene-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.76 (s, 1H), 7.99 (d, J= 2.9 Hz, 1H), 7.82 (d, J= 4.9 Hz, 1H), 7.40 (s, 1H), 7.34 (d, J= 5.1 hz, 1H), 7.29 (d, J= 8.2 Hz, 1H), 7.24 (d, J= 3.9 Hz, 1H), 7.20 (t, J= 3.9 Hz, 1H), 7.03 (t, J= 3.5 Hz, 1H), 6.79 (d, J= 8.2 Hz, 1H), 5.17 (s, 2H). **MS**: 300.04 (calc) 301.1 (obs)	17
19bb	93bb		N-(2-amino-5-(3,4-difluorophenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H), 7.97 (d, J = 8.8, Hz, 2H), 7.59 (ddd, J = 12.7, 7.8, 2.3, 1H), 7.49 (d, J = 2.3 Hz, 1H), 745-7.36 (m, 2H), 6.32 (dd, J = 8.2, 2.2 Hz, 1H), 7.04 (d, J = 8.8, Hz, 2H), 6.84 (d, J = 8.2, Hz, 1H), 5.15 (s, 1H), 3.83 (s, 3H). **MS**: (calc.) 354.1; (obt.) 355.2 $(MH)^+$.	17
19cc	93cc		N-(2-amino-5-(4-N,N-dimethylaminophenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.97 (d, J = 9.0, Hz, 2H), 7.38-7.36 (m, 3H), 7.21, (dd, J = 8.2, 2.2 Hz, 1H), 7.04 (d, J = 8.8 Hz, 2H), 6.80 (d, J = 8.4 Hz, 1H), 6.75 (d, J = 9.0 Hz, 2H), 4.89 (sb, 2H), 3.83 (s, 3H), 2.90 (s, 6H). **MS**: (calc.) 361.1; (obt.) 362.3 $(MH)^+$.	17

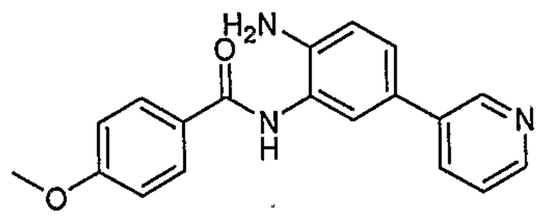
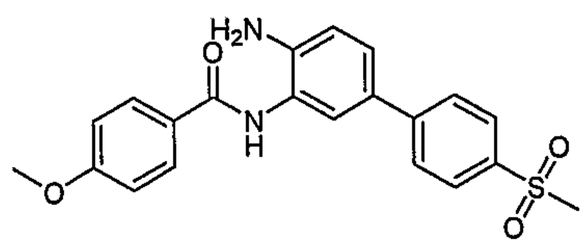
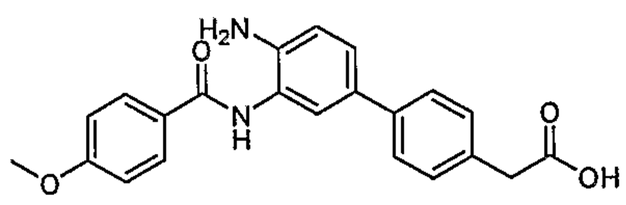
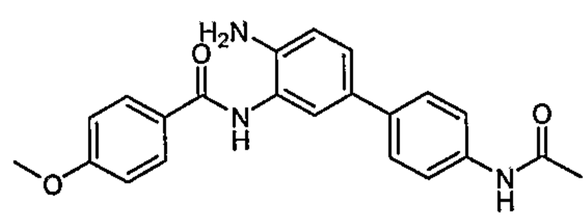
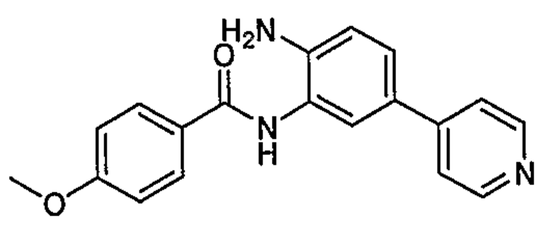
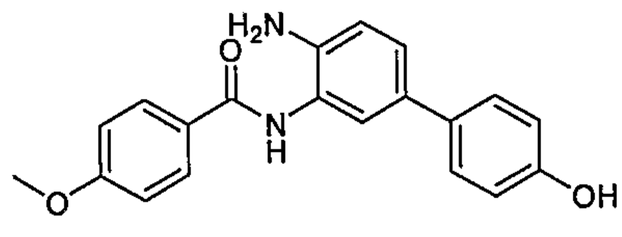
Ex	Cpd	Structure	Name	Characterization	Scheme
19dd	93dd		N-(2-amino-5-(3-fluoro4-benzyloxyphenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H), 7.97 (d, J = 8.8, Hz, 2H), 7.47-7.22 (m, 10H), 7.04 (d, J = 9.0 Hz, 2H), 6.82 (d, J = 8.4 Hz, 1H), 5.18 (s, 2H), 5.06 (sb, 2H), 3.83 (s, 3H). **MS**: (calc.) 442.2; (obt.) 443.4 $(MH)^+$.	17
19ee	93ee		N-(2-amino-5-(3-methoxylphenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.98 (d, J = 8.8 Hz, 2H), 7.47 (d, J = 2.2 Hz, 1H), 7.32-7.26 (m, 2H), 7.12-7.10 (m, 1H), 7.05-7.02 (m, 3H), 6.84 (d, J = 8.2 Hz, 1H), 6.80 (ddd, J = 8.2, 2.5, 0.8 Hz, 1H), 5.07 (sb, 2H), 3.84 (s, 3H), 3.79 (s, 3H). **MS**: (calc.) 348.2; (obt.) 349.2 $(MH)^+$.	17
19ff	93ff		N-(2-amino-5-(thiophen-2-yl)phenyl)-2,2-difluorobenzo[d][1,3]dioxole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.67 (s, 1H), 7.94 (d, J = 1.6 Hz, 1H), 7.83 (dd, J = 8.6, 1.8 Hz, 1H), 7.48 (d, J = 8.4 Hz, 1H), 7.35 (d, J = 2.2 Hz, 1H), 7.26 (dd, J = 5.0, 1.2 Hz, 1H), 7.22 (dd, J = 8.2, 2.3 Hz, 1H), 7.15 (dd, J = 3.6, 1.2 Hz, 1H), 6.96 (dd, J= 5.0, 3.5 Hz, 1H), 6.71 (d, J = 8.4 Hz, 1H), 5.14 (s, 2H). **MS**: 374.05 (calc), 375.0 (obs).	17
19gg	93gg		N-(2-amino-5-(thiophen-2-yl)phenyl)benzo[c][1,2,5]oxadiazole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.03 (s, 1H), 8.74 (s, 1H), 8.15 (d, J= 9.4 Hz, 1H), 8.02 (d, J= 9.4 Hz, 1H), 7.48 (d, J= 2.0 Hz, 1H), 7.33 (d, J= 5.1 Hz, 1H), 7.30 (dd, J= 8.4, 2.0 Hz, 1H), 7.23 (d, J= 3.5 Hz, 1H), 7.03 (t, J= 4.9 Hz, 1H), 6.79 (d, J= 8.2 Hz, 1H), 5.32 (s, 2H). **MS**: 336.07 (calc), 337.0 (obs).	17
19hh	93hh		N-(2-amino-5-(thiophen-2-yl)phenyl)quinoxaline-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.25 (s, 1H), 9.52 (s, 1H), 8.27 to 8.21 (m, 2H), 8.20 to 7.99 (m, 2H), 7.66 (d, J= 2.2 Hz, 1H), 7.35 (dd, J= 5.1, 0.98 Hz, 1H), 7.31 (dd, J= 8.2, 2.2 Hz, 1H), 7.25 (dd, J= 3.5, 0.98 Hz, 1H), 7.04 (dd, J= 5.1, 3.5 Hz, 1H), 6.83 (d, J= 8.4 Hz, 1H), 5.28 (s, 2H). **MS**: 346.09 (calc), 347.1 (obs).	17
20	94		N-(2-amino-5-(2-(hydroxymethyl)thiophen-3-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.57 (s, 1H), 7.96 (d, J = 8.8 Hz, 2H), 7.40 (d, J = 5.1 Hz, 1H), 7.23 (d, J = 1.8 Hz, 1H), 7.09-7.02 (m, 4H), 6.81 (d, J = 8.0 Hz, 1H), 5.51 (t, J = 5.4 Hz, 1H), 5.01 (s, 2H), 4.64 (d, J = 5.3 Hz, 2H), 3.83 (s, 3H). **MS**: (calc.) 354.1; (obt.) 354.1 $(M+Na)^+$.	17

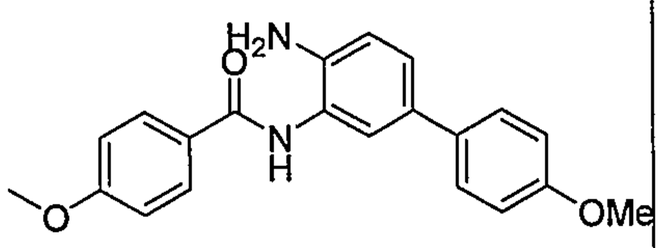
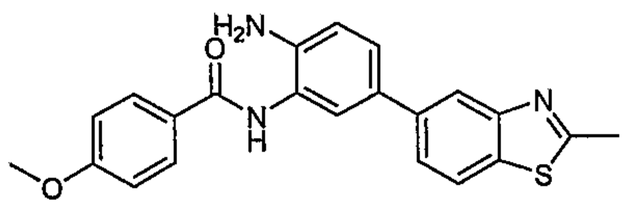
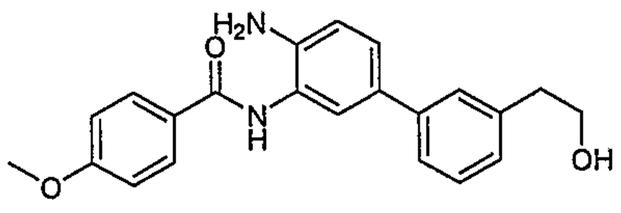
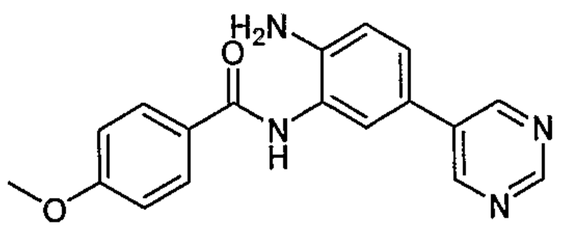
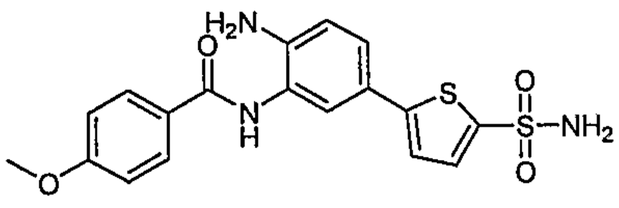
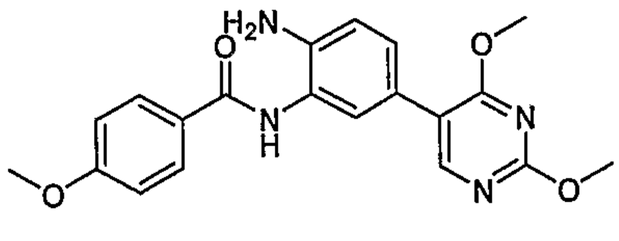
Ex	Cpd	Structure	Name	Characterization	Scheme
20aa	94aa		N-(2-amino-5-(4-hydroxymethylphenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.98 (d, J = 8.8, Hz, 2H), 7.51-7.47 (m, 3H), 7.32-7.28 (m, 3H), 7.04 (d, J = 8.8 Hz, 2H), 6.84 (d, J = 8.2 Hz, 1H), 5.15 (t, J = 5.8 Hz, 1H), 5.04 (sb, 2H), 4.49 (d, J = 5.7 Hz, 2H), 3.84 (s, 3H). **MS**: (calc.) 348.1; (obt.) 349.1 $(MH)^+$.	17
20bb	94bb		N-(2-amino-5-(3-hydroxymethylphenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.98 (d, J = 9.0 Hz, 2H), 7.50-7.49 (m, 2H), 7.40 (d, J = 8.0 Hz, 1H), 7.34-7.29 (m, 2H), 7.17 (d, J = 8.0 Hz, 1H), 7.04 (d, J = 9.0 Hz, 2H), 6.85 (d, J = 8.4 Hz, 1H), 5.19 (t, J = 5.8 Hz, 1H), 5.06 (sb, 2H), 5.52 (d, J = 2.8 Hz, 2H), 3.84 (s, 3H). **MS**: (calc.) 348.2; (obt.) 349.1 $(MH)^+$.	17
20cc	94dd		N-(2-amino-5-(4-(hydroxymethyl)phenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.89 (s, 1H), 9.14 (d, J = 1.6 Hz, 1H), 8.73 (dd, J = 4.9, 1.8 Hz, 1H), 8.33 (dt, J = 8.0, 1.9 Hz, 1H), 6.54 (dd, J = 7.4, 5.2 Hz, 1H), 7.51-7.49 (m, 3H), 7.34-7.30 (m, 3H), 6.84 (d, J = 8.4 Hz, 1H), 5.18 (sb, 3H), 4.49 (d, J = 5.5 Hz, 2H). **MS**: (calc.) 319.1; (obt.) 320.2 $(MH)^+$.	17
20dd	94dd		N-(2-amino-5-(5-(hydroxymethyl)thiophen-2-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.60 (s, 1H), 7.97 (d, J = 9.0, Hz, 2H), 7.40 (d, J = 2.2 Hz, 1H), 7.23 (dd, J = 8.2, 2.2 Hz, 1H), 7.06-7.02 (m, 3H), 6.85 (d, J = 3.5 Hz, 1H), 6.78 (d, J = 8.4 Hz, 1H), 7.41 (s, 1H), 5.10 (sb, 2H), 4.57 (sb, 2H), 3.83 (s, 3H). **MS**: (calc.) 354.1; (obt.) 355.1 $(MH)^+$.	17
21	99		N-(2-amino-5-(4-((tert-butyldimethylsilyloxy)methyl)phenyl)phenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.66 (s, 1H), 7.93 (d, J = 8.0 Hz, 2H), 7.52-7.46 (m, 5H), 7.31-7.29 (m, 3H), 6.84 (d, J = 7.6 Hz, 1H), 6.64 (d, J = 8.6 Hz, 1H), 6.32 (s, 1H), 6.00-5.98 (m, 2H), 5.06 (s, 2H), 4.70 (s, 2H), 4.30 (d, J = 5.9 Hz, 2H), 3.66 (s, 3H), 3.59 (s, 3H), 0.91 (s, 9H), 0.10 (s, 6H). **MS**: (calc.) 597.2 (obt.) 598.5 $(MH)^+$.	18
21-1	100		N-(2-amino-5-(4-(hydroxymethyl)phenyl)phenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.67 (s, 1H), 7.93 (d, J = 7.8 Hz, 2H), 7.50-7.46 (m, 5H), 7.31-7.29 (m, 3H), 6.84 (d, J = 8.0 Hz, 1H), 6.64 (d, J = 8.4 Hz, 1H), 6.32 (d, J = 2.0 Hz, 1H), 6.00-5.98 (m, 2H), 5.15 (t, J = 5.5 Hz, 1H), 5.06 (s, 2H), 4.49 (d, J = 5.7 Hz, 2H), 4.31 (d, J = 5.9 Hz, 2H), 3.66 (s, 3H), 3.59 (s, 3H). **MS**: (calc.) 483.2; (obt.) 484.4 $(MH)^+$.	18

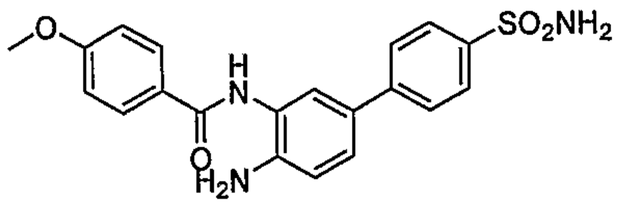
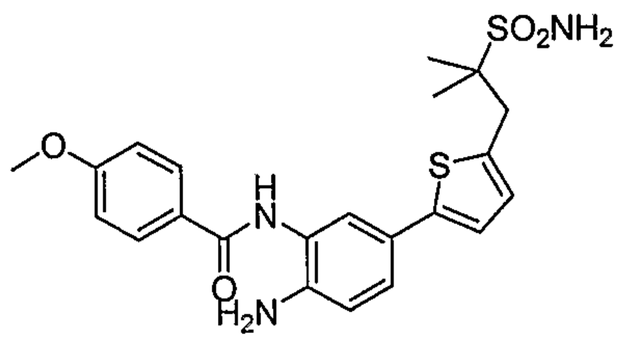
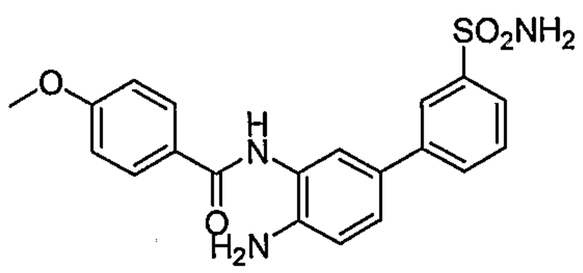
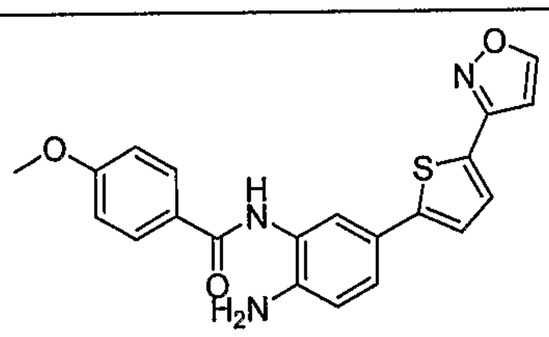
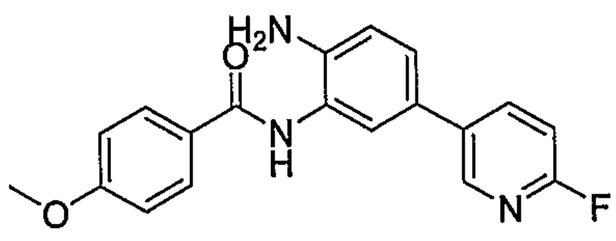
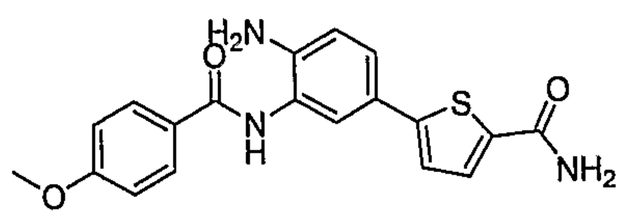
Ex	Cpd	Structure	Name	Characterization	Scheme
22	104		N-(2-amino-5-(4-methoxycarbonylphenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.98 (d, J = 8.8, Hz, 2H), 7.95 (d, J = 8.4 Hz, 2H), 7.71, (d, J = 8.4 Hz, 2H), 7.60 (d, J = 2.2 Hz, 1H), 7.43 (dd, J = 8.4, 2.2 Hz, 1H), 7.04 (d, J = 8.8 Hz, 2H), 6.86 (d, J = 8.4 Hz, 1H), 5.27 (sb, 2H), 3.85 (s, 3H), 3.84 (s, 3H). **MS**: (calc.) 376.1; (obt.) 377.1 $(MH)^+$.	19
23	105		N-(2-amino-5-(4-carboxyphenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.98 (d, J = 8.6, Hz, 2H), 7.93 (d, J = 8.2 Hz, 2H), 7.66 (d, J = 8.2 Hz, 2H), 7.58 (d, J = 2.0 Hz, 1H), 7.40 (dd, J = 8.2, 2.0 Hz, 1H), 7.04 (d, J = 8.8 Hz, 2H), 6.86 (d, J = 8.4 Hz, 1H), 5.23 (sb, 2H), 3.84 (s, 3H). **MS**: (calc.) 362.1; (obt.) 363.1 $(MH)^+$.	19
24	107		methyl 4-amino-3-(4-methoxybenzamido)benzoate	**^{1}H NMR: (DMSO) δ (ppm):** 9.51 (s, 1H), 7.96 (d, J = 8.8 Hz, 2H), 7.75 (d, J = 2.0 Hz, 1H), 7.56 (dd, J = 8.4, 2.0 Hz, 1H), 7.03 (d, J = 9.0 Hz, 2H), 6.75 (d, J = 8.4 Hz, 1H), 5.80 (s, 2H), 3.83 (s, 3H), 3.75 (s, 3H). **MS**: (calc.) 300.1; (obt.) 301.1 $(MH)^+$.	20
24aa	107aa		N-(2-amino-5-benzoylphenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.55 (s, 1H), 7.95 (d, J = 8.8 Hz, 2H), 7.63-7.47 (m, 7H), 7.02 (d, J = 8.8 Hz, 2H), 6.80 (d, J = 8.4 Hz, 1H), 5.98 (s, 2H), 3.83 (s, 3H). **MS**: (calc.) 346.1; (obt.) 347.1 $(MH)^+$.	20
25	108		4-amino-3-(4-methoxybenzamido)benzoic acid	**^{1}H NMR: (DMSO) δ (ppm):** 9.52 (s, 1H), 7.96 (d, J = 8.8 Hz, 2H), 7.71 (d, J = 2.0 Hz, 1H), 7.54 (dd, J = 8.4, 2.0 Hz, 1H), 7.02 (d, J = 9.0 Hz, 2H), 6.74 (d, J = 8.4 Hz, 1H), 5.69 (s, 2H), 3.83 (s, 3H). **MS**: (calc.) 361.1; (obt.) 362.3 $(MH)^+$.	20
26	109		N-(2-amino-5-carbamoylphenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.57 (s, 1H), 7.96 (d, J = 8.8 Hz, 2H), 7.67 (d, J = 2.2 Hz, 1H), 7.59 (sb, 1H), 7.52 (dd, J = 8.2, 2.0 Hz, 1H), 7.02 (d, J = 8.8 Hz, 2H), 6.90 (sb, 1H), 6.72 (d, J = 8.4 Hz, 1H), 5.41 (s, 2H), 3.83 (s, 3H). **MS**: (calc.) 285.1; (obt.) 286.1 $(MH)^+$.	20
27	112		N-(2-amino-5-phenylcarbamoylphenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.83 (s, 1H), 9.62 (s, 1H), 7.99 (d, J = 8.8 Hz, 2H), 7.82 (d, J = 2.0 Hz, 1H), 7.73 (dd, J = 8.8, 1.2 Hz, 2H), 7.67 (dd, J = 8.4, 2.2 Hz, 1H), 7.31-7.27 (m, 2H), 7.05-7.01 (m, 3H), 6.80 (d, J = 8.4 Hz, 1H), 3.84 (s, 3H). **MS**: (calc.) 361.1; (obt.) 362.1 $(MH)^+$.	20

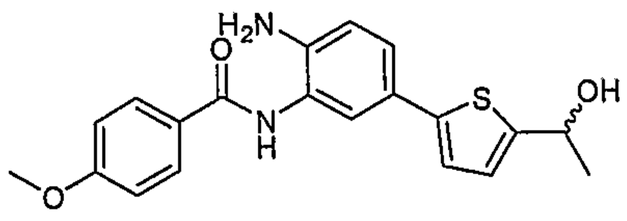
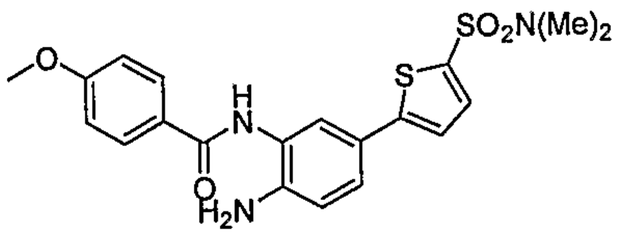
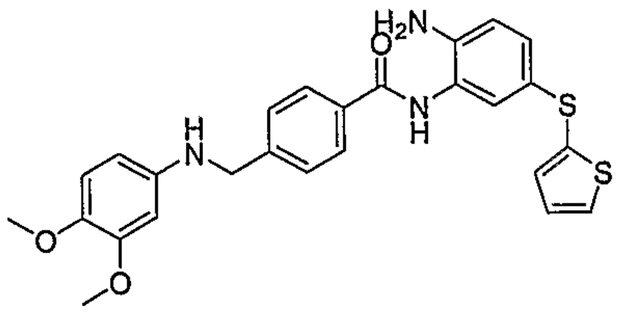
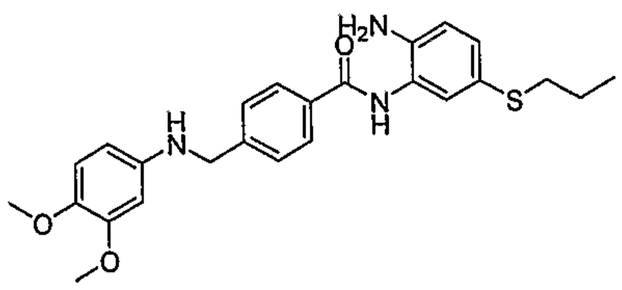
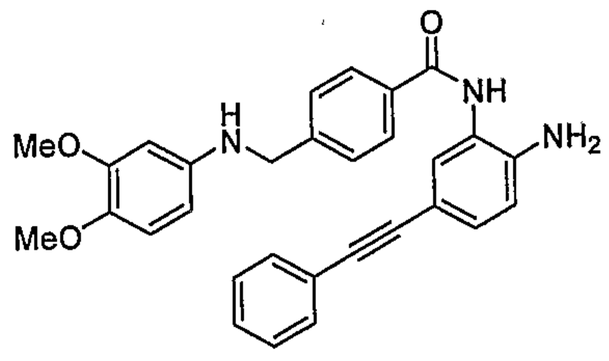
Ex	Cpd	Structure	Name	Characterization	Scheme
27aa	112aa		N-(2-amino-5-(phenoxyphenyl)carbamoylphenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.87 (s, 1H), 9.62 (s, 1H), 7.99 (d, J = 8.8 Hz, 2H), 7.82 (d, J = 2.2 Hz, 1H), 7.75 (dt, J = 9.0, 2.7 Hz, 2H), 7.67 (dd, J = 8.4, 2.2 Hz, 1H), 7.38-7.32 (m, 2H), 7.10-6.94 (m, 7H), 6.80 (d, J = 8.4 Hz, 1H), 5.56 (sb, 2H), 3.84 (s, 3H). **MS**: (calc.) 453.2; (obt.) 454.2 $(MH)^+$.	20
28	114		N-(2-amino-5-bromophenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.52 (s, 1H), 7.93 (d, J=9.0 Hz, 2H), 7.34 (d, J=2.3 Hz, 1H), 7.08 (dd, J=8.6, 2.3 Hz, 1H), 7.02 (d, J=9.0 Hz, 2H), 6.71 (d, J=8.6 Hz, 1H), 5.10 (s, 2H), 3.82 (s, 3H). **MS**: 321.17(calc) 321.0/323.0 (found).	21
29	115		N-(2-amino-5-(3-chloro-4-fluorophenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H), 7.97 (d, J = 8.8 Hz, 2H), 7.71 (dd, J = 7.2, 2.3 Hz, 1H), 7.56-7.52 (m, 1H), 7.51 (d, J = 2.2 Hz, 1H), 7.40 (t, J= 9.0 1H), 7.33 (dd, J = 8.2, 2.3, 1H), 7.04 (d, J = 9.0 Hz, 2H), 6.84 (d, J = 8.4 Hz, 1H), 5.16 (sb, 2H), 3.84 (s, 3H). **MS**: (calc.) 370.1; (obt.) 371.1 $(MH)^+$.	21
29aa	115aa		N-(2-amino-5-(4-fluorophenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 400 MHz, (DMSO) d (ppm): 9.59 (s, 1H), 7.97 (d, J = 8.4 Hz, 2H), 7.58-7.54 (m, 2H), 7.46 (bs, 1H), 7.27 (d, J = 8.0 Hz, 1H), 7.19 (t, J = 8.8 Hz, 2H), 7.04 (d, J = 8.8 Hz, 2H), 6.84 (d, J = 8.4 Hz, 1H), 5.07 (sb, 2H), 3.83 (s, 3H). **MS**: (calc.) 336.1; (obt.) 337.2 $(MH)^+$.	21
29bb	115bb		N-(2-amino-5-(4-(trifluoromethoxy)phenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.60 (s, 1H), 7.97 (d, J = 8.6 Hz, 2H), 7.65 (d, J = 8.8 Hz, 2H), 7.50 (s, 1H), 7.36-7.31 (m, 3H), 7.04 (d, J = 8.6 Hz, 2H), 6.85 (d, J = 8.4 Hz, 1H), 5.15 (sb, 2H), 3.83 (s, 3H). **MS**: (calc.) 402.1; (obt.) 403.4 $(MH)^+$.	21
29cc	115cc		N-(2-amino-5-(4-(trifluoromethyl)phenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.98 (d, J = 8.6 Hz, 2H), 7.77 (d, J = 8.2 Hz, 2H), 7.71 (d, J = 8.2 Hz, 2H), 7.58 (s, 1H), 7.40 (d, J = 8.6 Hz, 1H), 7.04 (d, J = 8.8 Hz, 2H), 6.87 (d, J = 8.4 Hz, 1H), 5.25 (sb, 2H), 3.84 (s, 3H). **MS**: (calc.) 386.1; (obt.) 387.4 $(MH)^+$.	21

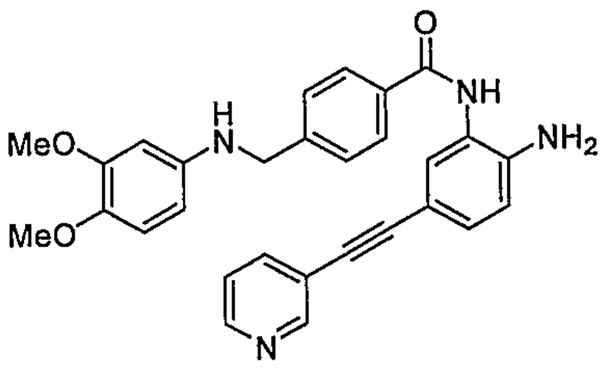
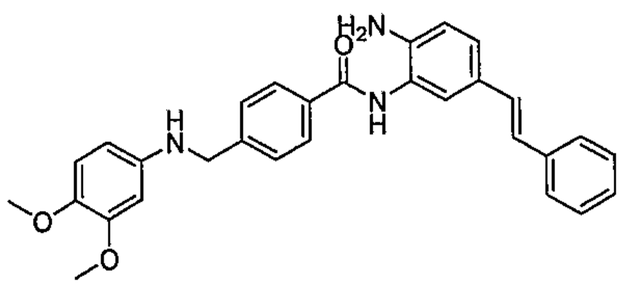
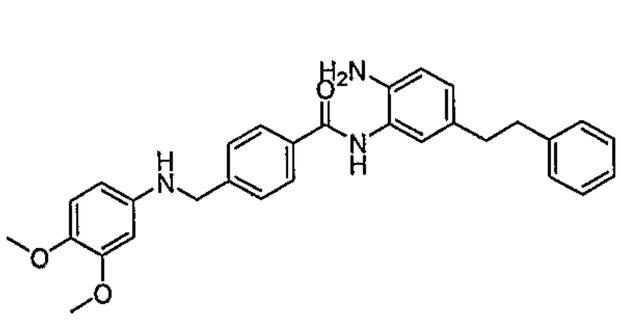
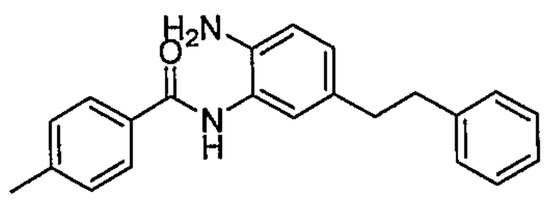
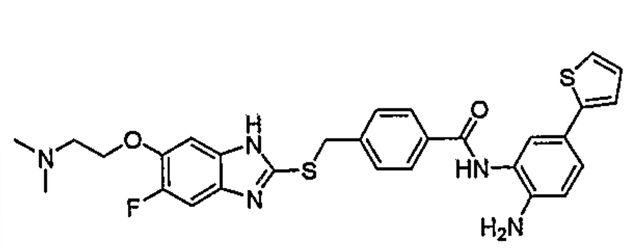
Ex	Cpd	Structure	Name	Characterization	Scheme
30	116		N-(2-amino-5-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.47 (s, 1H), 7.95 (d, J=8.8 Hz, 2H), 7.41 (d, J=1.4 Hz, 1H), 7.24 (dd, J=7.8, 1.4 Hz, 1H), 7.01 (d, J=8.8 Hz, 2H), 6.70 (d, J=7.8 Hz, 1H), 5.31 (s, 2H), 3.82 (s, 3H), 1.25 (s, 12H). **MS**: 368.24(calc) 369.1(found)	21
31	117		*N*-(4-amino-4'-acetylbiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.96 (dd, J=12.8, 8.8 Hz, 4H), 7.70 (d, J=8.8 Hz, 2H), 7.60 (d, J=2.1 Hz, 1H), 7.42 (dd, J=8.4, 2.3 Hz, 1H), 7.04 (d, J=8.8 Hz, 2H), 6.86 (d, J=8.2 Hz, 1H), 5.26 (s, 2H), 3.84 (s, 3H), 2.58 (s, 3H). **MS**: 360.41 (calc) 361.1 (MH+) (found)	21
31aa	117aa		*N*-(4-aminobiphenyl)-3-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.64 (s, 1H), 8.01 (d, J=8.8 Hz, 2H), 7.57 (dd, J=8.4, 1.2 Hz, 2H), 7.51 (d, J=2.0 Hz, 1H), 7.40 (t, J=7.8 Hz, 2H), 7.34 (dd, J=8.2, 2.0 Hz, 1H), 7.25 (t, J=7.2 Hz, 1H), 7.07 (d, J=8.8 Hz, 2H), 6.88 (d, J=8.2 Hz, 1H), 5.10 (s, 2H), 3.87 (s, 3H). **MS**: 318.37(calc) 319.1(found)	21
31bb	117bb		*N*-(4-amino-4'-cyanobiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H), 7.98 (d, J=9.0 Hz, 2H), 7.81-7.73 (m, 4H), 7.61 (d, J=2.2 Hz, 1H), 7.43 (dd, J=8.4, 2.3 Hz, 1H), 7.04 (d, J=8.8 Hz, 2H), 6.86 (d, J=8.4 Hz, 1H), 5.32 (s, 2H), 3.84 (s, 3H). **MS**: 343.38 (calc) 344.1 (MH+) (found)	21
31cc	117cc		*N*-(2-amino-5-(5-acetylthiophen-2-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H), 7.97 (d, J=8.8 Hz, 2H), 7.84 (d, J=4.1 Hz, 1H), 7.57 (d, J=2.2 Hz, 1H), 7.39 (dd, J=8.3, 2.3 Hz, 1H), 7.37 (d, J=3.9 Hz, 1H), 7.04 (d, J=8.8 Hz, 2H), 6.81 (d, J=8.4 Hz, 1H), 5.42 (s, 2H), 3.84 (s, 3H), 2.50 (s, 3H). **MS**: 366.43 (calc) 367.1 (MH+) (found)	21
31dd	117dd		*N*-(4-amino-4'-(2-hydroxyethyl)biphen-3-yl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.60 (s, 1H), 7.97 (d, J=8.8 Hz, 2H), 7.44 (d, J=8.4 Hz, 3H), 7.27 (d, J=8.4 Hz, 1H), 7.21 (d, J=8.4 Hz, 2H), 7.03 (d, J=9.0 Hz, 2H), 6.83 (d, J=8.4 Hz, 1H), 5.01 (d, J=10.4 Hz, 2H), 4.64 (t, J=5.3 Hz, 1H), 3.84 (s, 3H), 3.63-3.58 (m, 2H), 2.72 (t, J=7.0 Hz, 2H). **MS**: 362.43 (calc) 363.1 (MH+) (found)	21

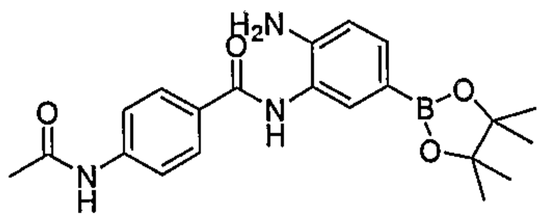
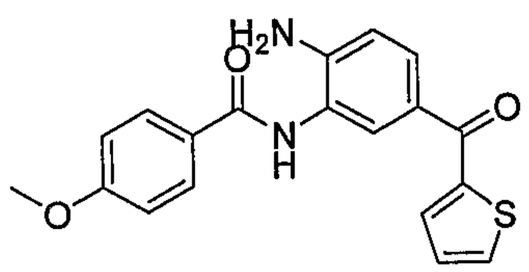
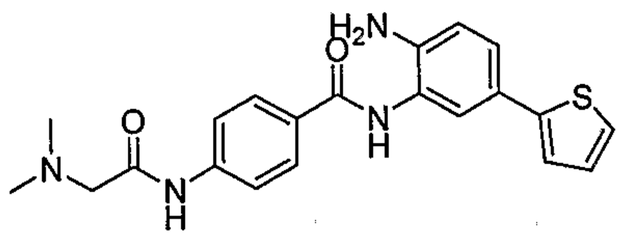
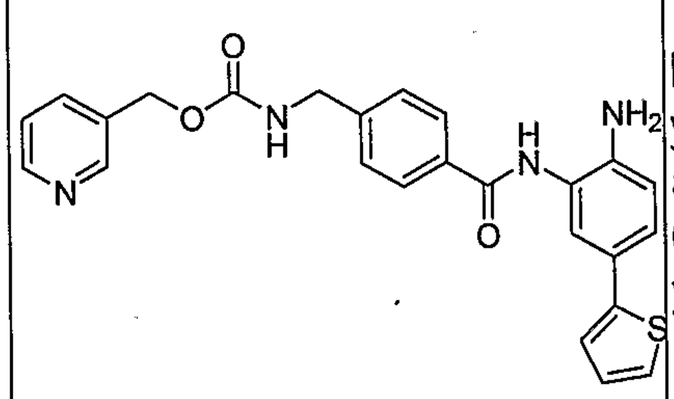
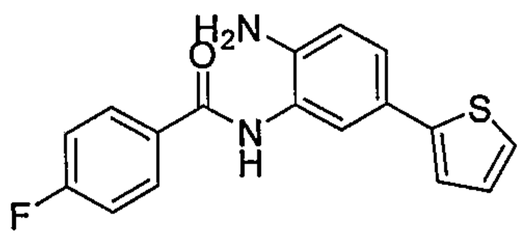
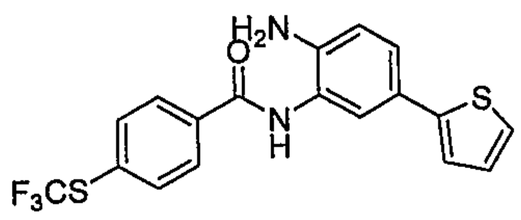
Ex	Cpd	Structure	Name	Characterization	Scheme
31ee	117ee		*N*-(2-amino-5-(pyridin-3-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.62 (s, 1H), 8.77 (s, 1H), 8.42 (d, J=4.7 Hz, 1H), 7.98 (d, J=7.0 Hz, 2H), 7.93 (d, J=7.9 Hz, 1H), 7.53 (s, 1H), 7.40-7.36 (m, 2H), 7.04 (d, J=8.8 Hz, 2H), 6.87 (d, J=8.2 Hz, 2H), 5.16 (d, J=9.7 Hz, 2H), 3.84 (s, 3H). **MS**: 319.36 (calc) 320.1 (MH+) (found)	21
31ff	117ff		*N*-(4-amino-4'-methylsulfonylbiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** (DMSO-d6) d(ppm):9.61 (s, 1H), 7.98 (d, J=9.0 Hz, 2H), 7.89 (d, J=8.6 Hz, 2H), 7.81 (d, J=8.8 Hz, 2H), 7.62-7.61 (m, 1H), 7.43 (dd, J=8.4, 2.3 Hz, 1H), 7.04 (d, J=8.8 Hz, 2H), 6.88 (d, J=8.4 Hz, 1H), 5.30 (s, 2H), 3.84 (s, 3H), 3.22 (s, 3H). **MS**: 396.46 (calc) 397.2 (MH+) (found)	21
31gg	117gg		4-(-4'-amino-*N*-3'-(4-methoxybenzamido) biphenyl acetic acid	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.98 (d, J=9.0 Hz, 2H), 7.48 (d, J=6.5 Hz, 3H), 7.29 (dd, J=8.4, 2.2 Hz, 1H), 7.25 (d, J=8.2 Hz, 2H), 7.04 (d, J=8.8 Hz, 2H), 6.84 (d, J=8.4 Hz, 1H), 5.05 (s, 2H), 3.84 (s, 3H), 3.56 (s, 3H). **MS**: 376.41 (calc) 377.2 (MH+) (found)	21
31hh	117hh		*N*-(4-amino-4'-*N*-acetamidobiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.92 (s, 1H), 9.60 (s, 1H), 7.97 (d, J=8.8 Hz, 2H), 7.57 (d, J=8.8 Hz, 2H), 7.48-7.44 (m, 3H), 7.27 (d, J=8.4 Hz, 1H), 7.04 (d, J=8.8 Hz, 2H), 6.83 (d, J=8.2 Hz, 1H), 5.00 (d, J=10.2Hz, 2H), 3.84 (s, 3H), 2.04 (s, 3H). **MS**: 375.43 (calc) 376.3 (MH+) (found)	21
31ii	117ii		N-(2-amino-5-(pyridin-4-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 8.49 (d, J=5.9 Hz, 2H), 7.98 (d, J=8.8 Hz, 2H), 7.65 (d, J=2.2 Hz, 1H), 7.57 (dd, J=4.5, 1.6 Hz, 2H), 7.49 (dd, J=8.4, 2.2 Hz, 1H), 7.04 (d, J=9.0 Hz, 2H), 6.87 (d, J=8.4 Hz, 1H), 5.34 (d, J=8.6Hz, 2H), 3.84 (s, 3H). **MS**: 319.36 (calc) 320.2 (MH+) (found)	21
31jj	117ii		*N*-(4-amino-4'-hydroxybiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H), 9.32 (s, 1H), 7.97 (d, J=9.0 Hz, 2H), 7.37 (d, J=2.2 Hz, 1H), 7.33 (d, J=8.8 Hz, 2H), 7.19 (dd, J=8.2, 2.2 Hz, 1H), 7.03 (d, J=9.0 Hz, 2H), 6.80 (d, J=8.4 Hz, 1H), 6.76 (d, J=8.6 Hz, 2H), 4.92 (s, 2H), 3.83 (s, 3H). **MS**: 334.37 (calc) 335.1 (MH+) (found)	21

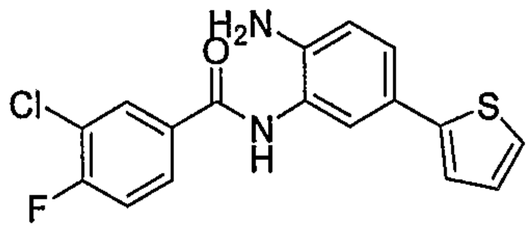
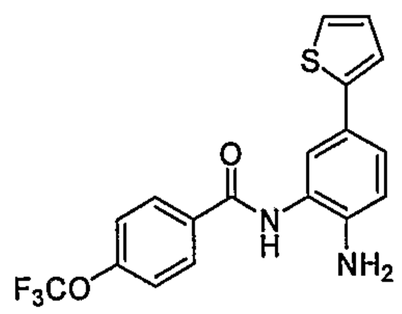
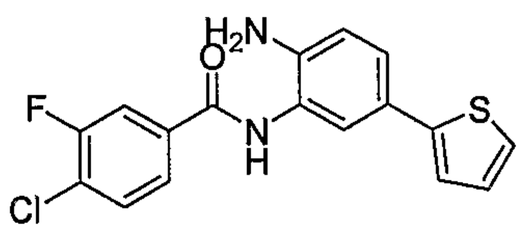
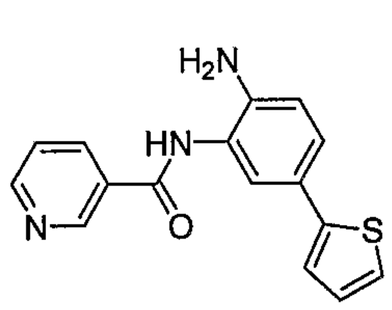
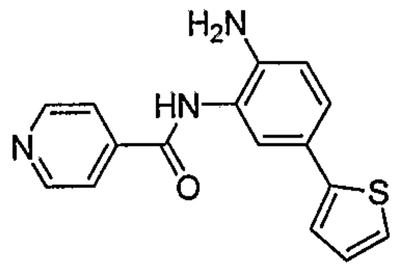
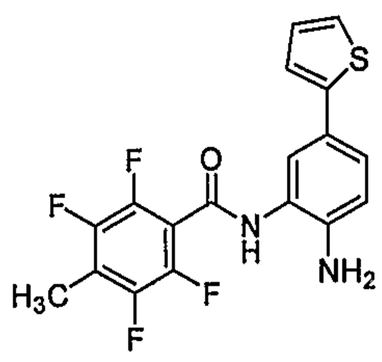
Ex	Cpd	Structure	Name	Characterization	Scheme
31kk	117jj		*N*-(4-amino-4'-methoxybiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.60 (s, 1H), 7.97 (d, J=8.8 Hz, 2H), 7.46 (d, J=8.8 Hz, 2H), 7.41 (d, J=2.3 Hz, 1H), 7.23 (dd, J=8.2, 2.1 Hz, 1H), 7.03 (d, J=9.1 Hz, 2H), 6.94 (d, J=8.8 Hz, 2H), 6.82 (d, J=8.5 Hz, 1H), 4.97 (s, 2H), 3.83 (s, 3H), 3.76 (s, 3H). **MS**: 348.40 (calc) 349.2 (MH+) (found)	21
31ll	117ll		N-(2-amino-5-(2-methylbenzo[d]thiazol-5-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.63 (s, 1H), 8.02-7.97 (m, 4H), 7.60-7.57 (m, 2H), 7.40 (dd, J=8.2, 2.1 Hz, 1H), 7.04 (d, J=8.8 Hz, 2H), 6.87 (d, J=8.5 Hz, 1H), 5.11 (s, 2H), 3.84 (s, 3H), 2.80 (s, 3H). **MS**: 389.47 (calc) 390.2 (MH+) (found)	21
31mm	117mm		*N*-(4-amino-3'-(2-hydroxyethyl)biphen-3-yl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.98 (d, J=8.8 Hz, 2H), 7.47 (d, J=2.0 Hz, 1H), 7.38-7.34 (m, 2H), 7.30-7.25 (m, 2H), 7.07 (d, J=7.4 Hz, 2H), 7.04 (d, J=9.0 Hz, 1H), 6.84 (d, J=8.2 Hz, 1H), 5.04 (s, 2H), 4.64 (t, J=5.3 Hz, 1H), 3.84 (s, 3H), 3.63 (quad, J=7.0 Hz, 2H), 2.76 (t, J=7.0 Hz, 2H). **MS**: 362.43 (calc) 363.3 (MH+) (found)	21
31nn	117nn		*N*-(2-amino-5-(pyrimidin-5-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.64 (s, 1H), 9.02 (s, 1H), 9.00 (s, 2H), 7.98 (d, J=8.6 Hz, 2H), 7.61 (d, J=1.6 Hz, 1H), 7.46 (dd, J=8.4, 1.8 Hz, 1H), 7.04 (d, J=8.6 Hz, 2H), 6.90 (d, J=8.2 Hz, 1H), 5.30 (s, 2H), 3.84 (s, 3H). **MS**: 320.35 (calc) 321.2 (MH+) (found)	21
31oo	117oo		N-[2-Amino-5-(5-sulfamoyl-thiophen-2-yl)-phenyl]-4-methoxy-benzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.58 (s, 1H), 7.97 (d, J=8.4 Hz, 2H), 7.61 (s, 2H), 7.51 (d, J=1.2 Hz, 1H), 7.43 (dd, J=3.9, 1.0 Hz, 1H), 7.32 (dd, J=8.4, 1.4 Hz, 1H), 7.23 (d, J=3.9 Hz, 1H), 7.04 (d, J=8.2 Hz, 2H), 6.81 (d, J=8.2Hz, 1H), 5.35 (s, 2H), 3.84 (s, 3H). **MS**: 403.47 (calc) 404.2 (MH+) (found)	21
31pp	117pp		N-(2-amino-5-(2,4-dimethoxypyrimidin-5-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.60 (s, 1H), 8.24 (s, 1H), 7.96 (d, J=8.2 Hz, 2H), 7.31 (s, 1H), 7.13 (d, J=9.4 Hz, 1H), 7.03 (d, J=8.2 Hz, 2H), 6.81 (d, J=7.9 Hz, 1H), 5.06 (s, 2H), 3.92 (s, 3H), 3.91 (s, 3H), 3.83 (s, 3H). **MS**: 380.40 (calc) 381.4 (MH+) (found)	21

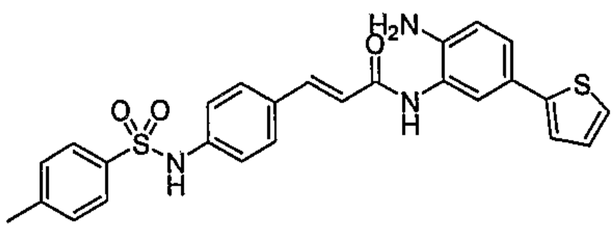
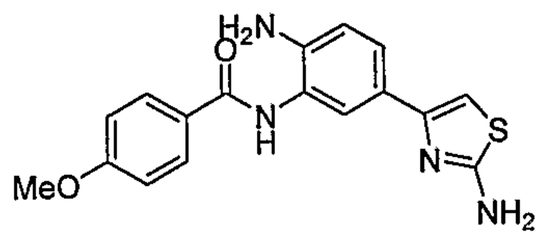
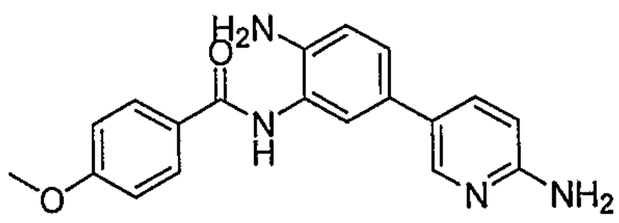
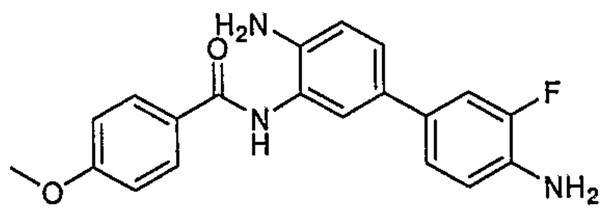
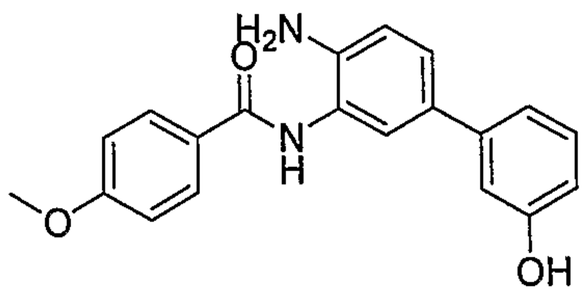
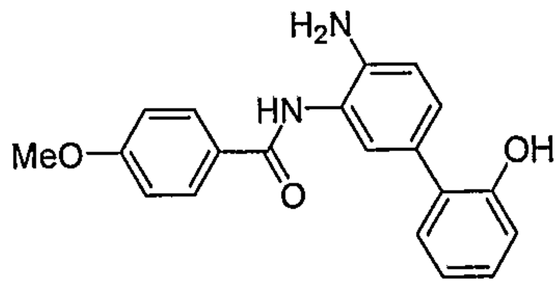
Ex	Cpd	Structure	Name	Characterization	Scheme
31qq	117qq		*N*-(4-amino-4'-sulfamoylbiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.64 (s, 1H), 8.01 (d, J=9.0 Hz, 2H), 7.82 (d, J=8.6 Hz, 2H), 7.76 (d, J=8.8 Hz, 2H), 7.60 (d, J=2.2 Hz, 1H), 7.43 (dd, J=8.6, 6.3 Hz, 1H), 7.33 (s, 2H), 7.07 (d, J=9.0 Hz, 2H), 6.89 (d, J=8.2 Hz, 1H), 5.27 (s, 2H), 3.86 (s, 3H). **MS**: 397.45 (calc) 398.4 (found)	21
31rr	117rr		*N*-(2-amino-5-(5-(2-methyl-2-sulfamoyl-propyl)thiophen-2-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.58 (s, 1H), 7.97 (d, J=8.8 Hz, 2H), 7.66 (s, 1H), 7.49 (d,J=2.3 Hz, 1H), 7.44 (d, J=3.9 Hz, 1H), 7.32 (dd, J=8.2, 2.2 Hz, 1H), 7.22 (d, J=3.9 Hz, 1H), 7.03 (d, J=9.0 Hz, 2H), 6.80 (d, J=8.2 Hz, 1H), 5.36 (s, 2H), 3.83 (s, 3H), 1.99 (s, 2H), 1.17 (s, 6H). **MS**: 459.59 (calc) 460.4 (found)	21
31ss	117ss		*N*-(4-amino-3'-sulfamoylbiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.62 (s, 1H), 7.99 (s, 1H), 7.98 (d, J=8.8 Hz, 2H), 7.77 (d, J=8.6 Hz, 1H), 7.64 (d, J=7.8 Hz, 1H), 7.55 (t, J=7.8 Hz, 1H), 7.54 (d, J=2.5 Hz, 1H), 7.36 (dd, J=8.2, 2.0 Hz, 1H), 7.35 (s, 2H), 7.03 (d, J=8.8 Hz, 2H), 6.87 (d, J=8.4 Hz, 1H), 5.20 (s, 2H), 3.83 (s, 3H). **MS**: 397.45 (calc) 398.3 (found)	21
31tt	117tt		N-(2-amino-5-(5-(isoxazol-3-yl)thiophen-2-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR (Acetone-d6) d(ppm):** 7.89 (d, J=8.8 Hz, 2H), 7.77 (d, J=4.1 Hz, 1H), 7.61 (d, J=2.2 Hz, 1H), 7.31 (dd, J=8.4, 2.3 Hz, 1H), 7.26 (d, J=4.1 Hz, 1H), 6.91 (d, J=9.0 Hz, 2H), 6.80 (d, J=8.4 Hz, 1H), 3.75 (s, 3H). **MS**: 391.45 (calc) 392.3 (found)	21
31uu	117uu		*N*-(2-amino-5-(6-fluoropyridin-3-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR (Acetone-d6) d(ppm):** 9.08 (bs, 1H), 8.40 (d, J=2.2 Hz, 1H), 8.12 (ddd, J=8.4, 7.8, 2.7 Hz, 1H), 8.04 (d, J=8.6 Hz, 2H), 7.64 (t, J=2.3 Hz, 1H), 7.36 (ss, J=8.2, 2.2 Hz, 1H), 7.10 (ddd, J=8.6, 2.5, 0.6 Hz, 1H), 7.06 (d, J=9.0 Hz, 2H), 7.00 (d, J=8.2 Hz, 1H), 4.89 (bs, 2H), 3.90 (s, 3H). **MS**: 337.35 (calc) 338.1 (found)	21
31vv	117vv		N-[2-Amino-5-(5-carbamido-thiophen-2-yl)-phenyl]-4-methoxy-benzamide	**^{1}H NMR (Acetone-d6) d(ppm)**:8.04 (d, J=9.0 Hz, 2H), 7.68 (t, J=2.2Hz, 1H), 7.63 (d, J=3.9 Hz, 1H), 7.05 (d, J=9.0 Hz, 2H), 6.92 (d, J=8.4 Hz, 1H), 3.90 (s, 3H). **MS**: 367.43 (calc) 368.1 (found)	21

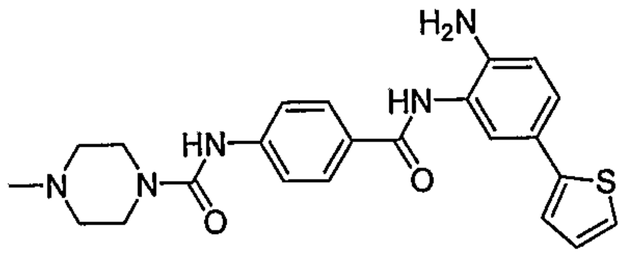
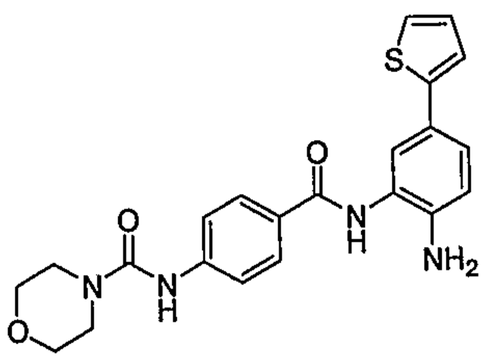
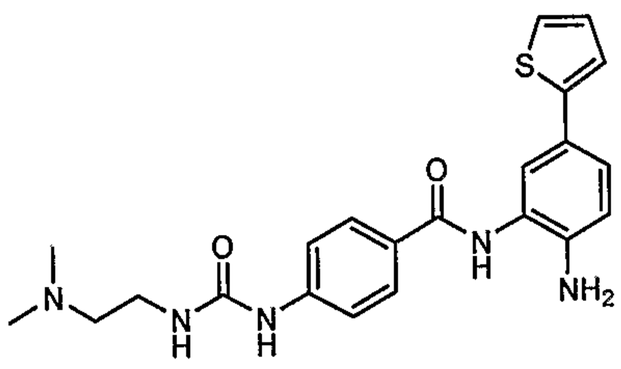
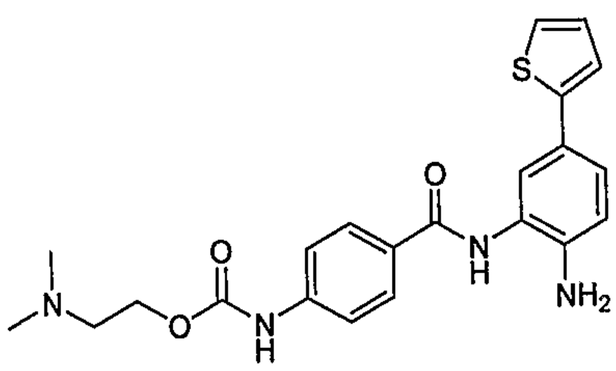
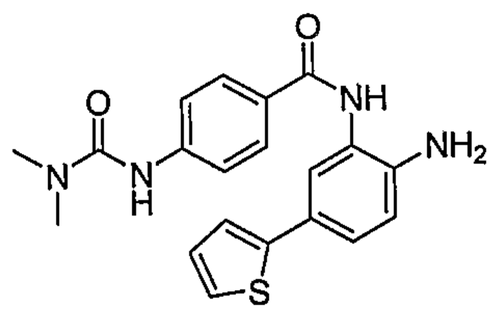
Ex	Cpd	Structure	Name	Characterization	Scheme
31ww	117ww		*N*-(2-amino-5-(5-(1-hydroxyethyl)thiophen-2-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.58 (s, 1H), 7.97 (d, J=8.8 Hz, 2H), 7.40 (d, J=2.2 Hz, 1H), 7.22 (dd, J=8.2, 2.2 Hz, 1H), 7.05-7.02 (m, 3H), 6.81 (dd, J=3.5, 0.8 Hz, 1H), 6.77 (d, J=8.2 Hz, 1H), 5.48 (d, J=4.7 Hz, 1H), 5.09 (s, 2H), 4.88 (quint, J=5.3 Hz, 1H), 3.83 (s, 3H), 1.42 (d, J=6.3 Hz, 3H). **MS**: 368.45 (calc) 369.1 (MH+) (found)	21
31xx	117xx		*N*-[2-Amino-5-(5-(*N*,*N*-dimethyl)sulfamoyl-thiophen-2-yl)-phenyl]-4-methoxy-benzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.56 (s, 1H), 7.97 (d, J=8.8 Hz, 2H), 7.54 (d, J=2.2 Hz, 1H), 7.52 (d, J=3.9 Hz, 1H), 7.38 (d, J=3.9 Hz, 1H), 7.37 (dd, J=8.4, 2.2 Hz, 1H), 7.03 (d, J=9.0 Hz, 2H), 6.81 (d, J=8.4 Hz, 1H), 5.41 (s, 2H), 3.83 (s, 3H), 2.67 (s, 6H). **MS**: 431.53 (calc) 432.2 (found)	21
32	122		N-(2-amino-5-(thiophen-2-ylthio)phenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.57 (s, 1H), 7.87 (d, J=8.4 Hz, 2H), 7.57 (dd, J=5.3, 1.2 Hz, 1H), 7.44 (d, J=8.4 Hz, 2H), 7.27 (d, J=2.0 Hz, 1H), 7.19 (dd, J=3.5, 1.2 Hz, 1H), 7.05 (dd, J=8.2, 2.2 Hz, 1H), 7.01 (dd, J=5.3, 3.5 Hz, 1H), 6.72 (d, J=8.2 Hz, 1H), 6.63 (d, J=8.6 Hz, 1H), 6.30 (d, J=2.5 Hz, 1H), 5.97 (dd, J=8.4, 2.5 Hz, 1H), 5.96 (d, J=6.5 Hz, 1H), 5.20 (s, 2H), 4.28 (d, J=6.3 Hz, 2H), 3.65 (s, 3H), 3.58 (s, 3H). **MS**: 491.63(calc) 492.5(found)	22
33	123		N-(2-amino-5-(propylthio)phenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR (DMSO-d6) d(ppm):**9.57 (s, 1H), 7.89 (d, J=8.2 Hz, 2H), 7.45 (d, J=8.0 Hz, 2H), 7.23 (d, J=0.4 Hz, 1H), 7.01 (dd, J=8.4, 2.2 Hz, 1H), 6.71 (d, J=8.4 Hz, 1H), 6.63 (d, J=8.6 Hz, 1H), 6.31 (d, J=2.3 Hz, 1H), 5.98 (dd, J=8.2, 2.5 Hz, 1H), 5.97 (d, J=5.9 Hz, 1H), 5.04 (s, 2H), 4.29 (d, J=5.9 Hz, 2H), 3.65 (s, 3H), 3.58 (s, 3H), 2.71 (t, J=7.0 Hz, 2H), 1.50 (sext, J=7.0 Hz, 2H), 0.93 (t, J=7.2Hz, 3H). LRMS: 451.59(calc) 452.5(found)	22
34	125		N-(2-amino-5-(2-phenylethynyl)phenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR: (CD3OD) d(ppm):** 7.93 (d, J=8.4 Hz, 2H), 7.52 (d, J=8.2 Hz, 2H), 7.44 (dd, J=8.2, 1.8 Hz, 2H), 7.35-7.29 (m, 4H), 7.21 (dd, J=8.2, 2.0 Hz, 1H), 6.85 (d, J=8.4 Hz, 1H), 6.71 (d, J=8.4 Hz, 1H), 6.36 (d, J=2.7 Hz, 1H), 6.13 (dd, J=8.4, 2.5 Hz, 1H), 4.39 (s, 2H), 3.75 (s, 3H), 3.71 (s, 3H). **MS**: 477.56(calc) 478.5(found)	23

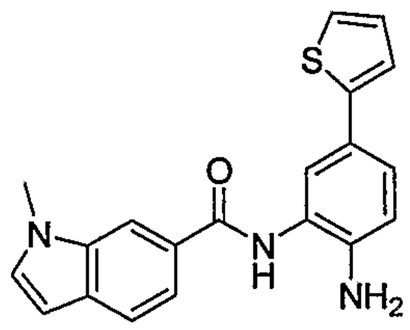
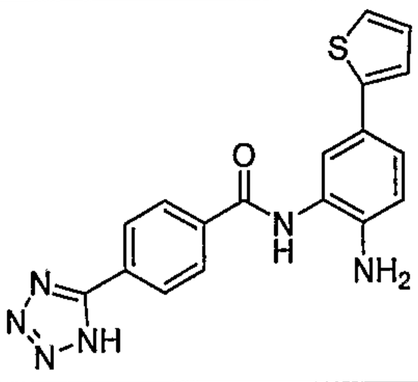
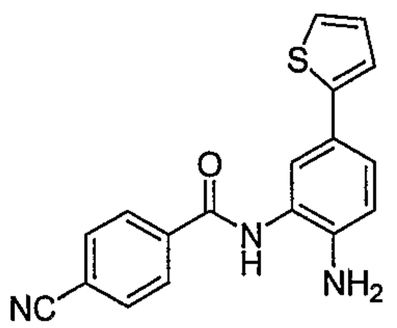
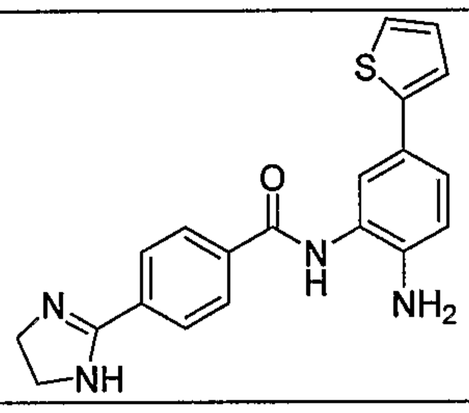
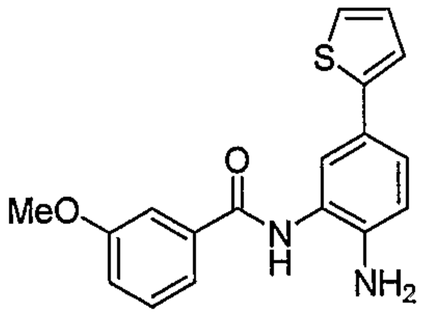
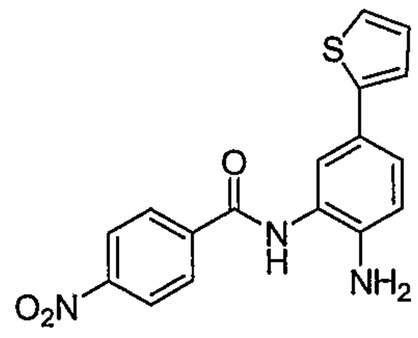
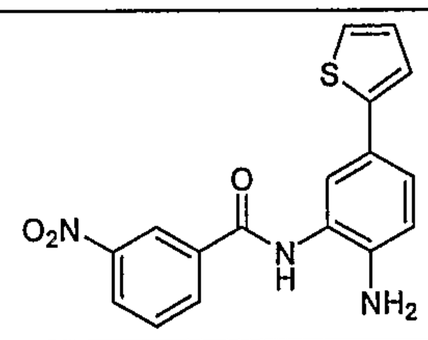
Ex	Cpd	Structure	Name	Characterization	Scheme
34aa	125aa		N-(2-amino-5-(2-(pyridin-3-yl)ethynyl)phenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.55 (s, 1H); 8.65 (dd; J=0.9, 2.2 Hz; 1H); 8.49 (dd; J= 1.6, 4.8 Hz; 1H); 7.91 (d, J=8.2, 2H); 7.87 (m, 1H); 7.46 (d, J=8.2, 2H); 7.40 (dd; J=0.9, 4.8 Hz; 1H); 7.39 (m, 1H); 7.17 (dd; J=2.0, 8.3 Hz; 1H); 6.76 (d, J=8.3, 1H); 6.64 (d, J=8.6, 1H); 6.31 (d, J=2.7, 1H); 5.98 (m, 2H); 5.51 (bs, 2H); 4.30 (d, J=6.3, 2H); 3.66 (s, 3H); 3.58 (s, 3H).**MS**: calc: 478.5; found: 478.5 (M+H)	23
34-1	127		(*E*)-*N*-(2-amino-5-styrylphenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR: (Acetone-d6) d(ppm):** 9.07 (s, 1H), 8.01 (d, J=8.2 Hz, 2H), 7.55 (d, J=8.2 Hz, 2H), 7.55-7.52 (m, 3H), 7.32 (t, J=7.4 Hz, 2H), 7.28 (dd, J=8.2, 2.2 Hz, 1H), 7.19 (t, J=7.2 Hz, 1H), 7.13 (d, J=16.4 Hz, 1H), 7.0 (d, J=16.2 Hz, 1H), 6.89 (d, J=8.2 Hz, 1H), 6.70 (d, J=8.4 Hz, 1H), 6.41 (d, J=2.7 Hz, 1H), 6.12 (dd, J=8.6, 2.7 Hz, 1H), 5.33 (bs, 1H), 4.85 (bs, 2H), 4.43 (s, 2H), 3.72 (s, 3H), 3.67 (s, 3H). **MS**: 479.58(calc) 480.5 (found)	24
35	128		N-(2-amino-5-phenethylphenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR (Acetone-d6) d(ppm):** 9.07 (s, 1H), 7.99 (d, J=8.2 Hz, 2H), 7.53 (d, J=8.6 Hz, 2H), 7.27-7.22 (m, 5H), 7.19-7.14 (m, 1H), 6.87 (dd, J=8.0, 2.0 Hz, 1H), 6.79 (d, J=8.0 Hz, 1H), 6.70 (d, J=8.4 Hz, 1H), 6.40 (d, J=2.8 Hz, 1H), 6.11 (dd, J=8.4, 2.5 Hz, 1H), 5.33 (bs, 1H), 4.51 (bs, 2H), 4.42 (s, 2H), 3.72 (s, 3H), 3.67 (s, 3H). **MS**: 481.59(calc) 482.2(found)	24
36	129		N-(2-amino-5-phenethylphenyl)-4-methylbenzamide	**^{1}H NMR (Acetone-d6) d(ppm):** 9.03 (bs, 1H), 7.94 (d, J=8.0 Hz, 2H), 7.33 (d, J=7.8 Hz, 2H), 7.28-7.23 (m, 5H), 7.18-7.13 (m, 1H), 6.87 (dd, J=8.0, 2.0 Hz, 1H), 6.79 (d, J=8.2 Hz, 1H), 4.48 (bs, 2H), 2.90-2.86 (m, 2H), 2.83-2.78 (m, 2H), 2.42 (s, 3H). **MS**: LRMS: 330.43(calc) 331.1(found)	24
37	131		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-((6-(2-(dimethylamino)ethoxy)-5-fluoro-1H-benzo[d]imidazol-2-ylthio)methyl)benzamide	**^{1}H NMR (Acetone-d6) d(ppm):** 9.16 (bs, 1H), 7.97 (d, J=8.4 Hz, 2H), 7.62 (d, J=2.9 Hz, 1H), 7.61 (d, J=8.4 Hz, 2H), 7.32 (dd, J=8.2, 2.2 Hz, 1H), 7.28 (bs, 0.5 H), 7.27 (dd,J=5.1, 1.0 Hz, 1H), 7.26 (bs, 0.5 H), 7.22 (dd, J=3.5, 1.0 Hz, 1H), 7.21 (bs, 1H), 7.03 (dd, J=5.1, 3.5 Hz, 1H), 6.89 (d, J=8.2 Hz, 1H), 4.87 (bs, 2H), 4.65 (s, 2H), 4.16 (t, J=5.7 Hz, 2H), 2.73 (t, J=5.9 Hz, 2H), 2.30 (s, 6H). **MS**: 561.70 (calc) 562.3 (found)	25

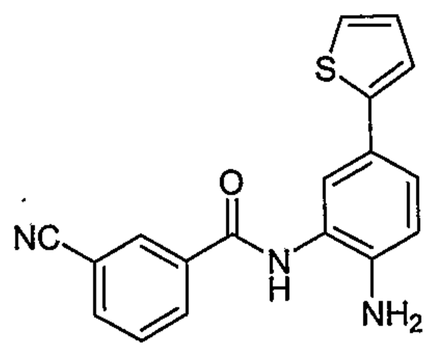
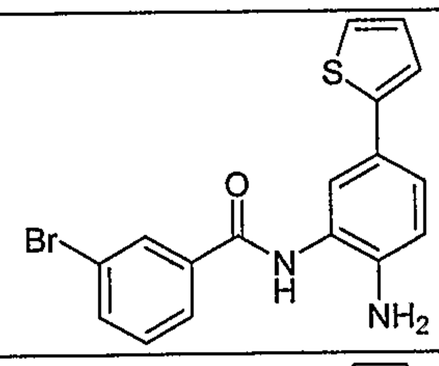
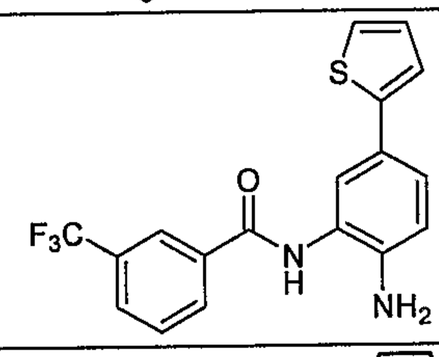
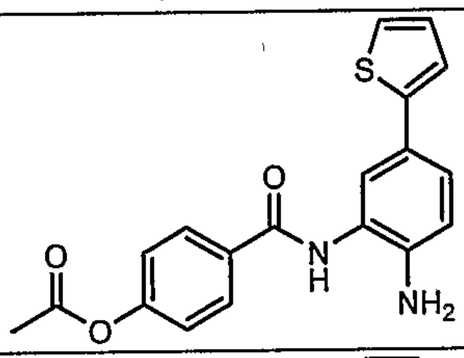
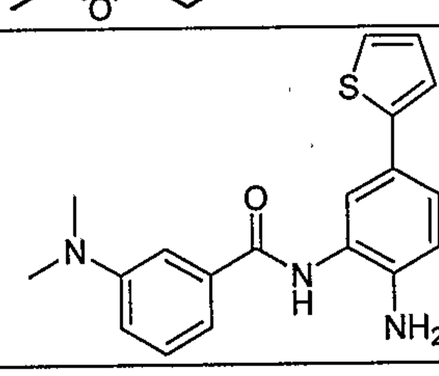
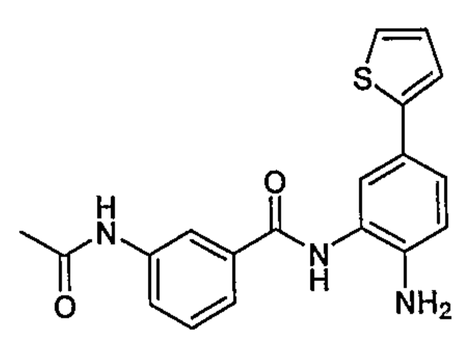
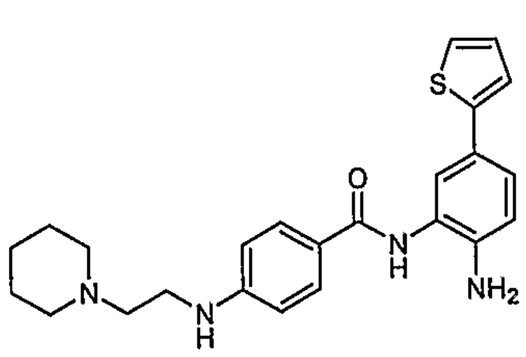
Ex	Cpd	Structure	Name	Characterization	Scheme
38	134		4-acetamido-N-(2-amino-5-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)benzamide	**^{1}H NMR (Acetone-d6) d(ppm):** 9.42 (bs, 1H), 9.03 (bs, 1H), 8.03 (d, J=8.8 Hz, 2H), 7.77 (d, J=8.8 Hz, 2H), 7.60 (d, J=1.6 Hz, 1H), 7.39(dd, J=8.0, 1.6 Hz, 1H), 6.84 (d, J=7.8 Hz, 1H), 5.01 (bs, 2H), 2.13 (s, 3H), 1.31 (s, 12H). **MS**: (calc.) 395.3(calc) 396.1(found)	26
39	136		*N*-(2-amino-5-(thiophene-2-carbonyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 8.02 (d, J=6.3 Hz, 1H), 8.01 (d, J=8.6 Hz, 2H), 7.83 (d, J=2.0 Hz, 1H), 7.75 (d, J=3.2 Hz, 1H), 7.63 (dd, J=8.4, 2.0 Hz, 1H), 7.29 (dd, J=4.9, 3.2 Hz, 1H), 7.08 (d, J=8.8 Hz, 2H), 6.87 (d, J=8.6 Hz, 1H), 6.01 (s, 2H), 3.88 (s, 3H). **MS**: 352.41(calc) 353.1(found)	27
40	140		*N*-(2-amino-5-thiophen-2-ylphenyl)-4-(2-(*N*,*N*-dimethylamino)acetamido)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** (CD3OD) d(ppm): 7.99 (d, J=8.8 Hz, 2H), 7.77 (d, J=8.8 Hz, 2H), 7.48 (d, J=2.2 Hz, 1H), 7.35 (dd, J=8.2, 2.2 Hz, 1H), 7.22 (dd, J=5.1, 1.2 Hz, 1H), 7.20 (td, J=3.5, 1.2 Hz, 1H), 7.01 (dd, J=5.1, 3.7 Hz, 1H), 6.90 (d, J=8.6 Hz, 1H), 3.24 (s, 2H), 2.43 (s, 6H). **MS**: 394.5 (calc) 395.1(found)	28
41a	143a		Pyridin-3-ylmethyl 4-((2-amino-5-(thiophen-2-yl)phenyl)carbamoyl)benzylcarbamate	**^{1}H NMR (DMSO) δ (ppm):** 9.69 (bs, 1H), 8.58 (s, 1H), 8.53-8.51 (m, 1H), 7.98-7.96 (m, 1H), 7.94 (d, J=7.8 Hz, 2H), 7.78-7.76 (m, 1H), 7.46 (s, 1H), 7.40-7.38 (m, 1H), 7.37 (d, J=8.4 Hz, 2H), 7.29 (d, J=8.8 Hz, 1H), 7.24-7.23 (m, 1H), 7.05-7.03 (m, 1H), 6.80 (d, J=8.4 Hz, 1H), 5.15 (bs, 2H), 5.10 (s, 2H), 4.29 (d, J=6.1 Hz, 2H). **MS**: 458.54 (calc) 459.2 (found)	29
41b	143b		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-fluorobenzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.73 (s, 1H), 8.06 (dd, J=8.6, 5.5 Hz, 2H), 7.43 (d, J=1.8 Hz, 1H), 7.35 (d, J=8.8 Hz, 2H), 7.33 (dd, J=6.3, 5.1 Hz, 2H), 7.22 (dd, J=3.7, 1.2 Hz, 1H), 7.03 (dd, J=5.1, 3.5 Hz, 1H), 6.78 (d, J=8.2 Hz, 1H), 5.17 (s, 2H). **MS**: 312.36 (calc) 313.1 (found)	29
41c	143c		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(trifluoromethylthio)benzamide	**^{1}H NMR (DMSO) δ (ppm):** 8.09 (d, J=8.6 Hz, 2H), 7.84 (d, J=8.2 Hz, 2H), 7.58 (d, J=2.2 Hz, 1H), 7.36 (dd, J=8.2, 2.2 Hz, 1H), 7.23 (dd, J=5.1, 3.9 Hz, 1H), 7.21 (dd, J=3.7, 1.2 Hz, 1H), 7.01 (dd, 5.1, 3.7 Hz, 1H), 6.90 (d, J=8.4 Hz, 1H). **MS**: 394.44 (calc) 395.1 (found)	29

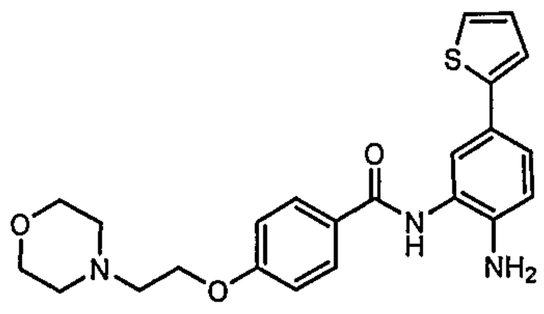
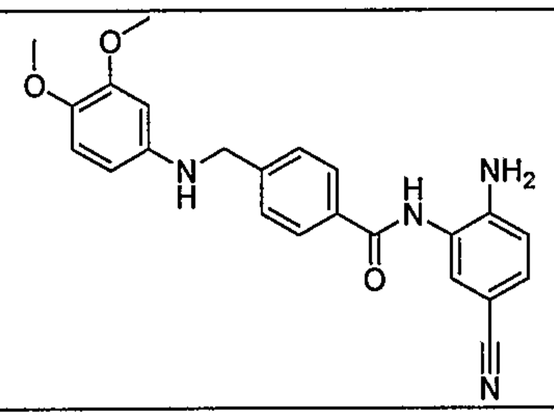
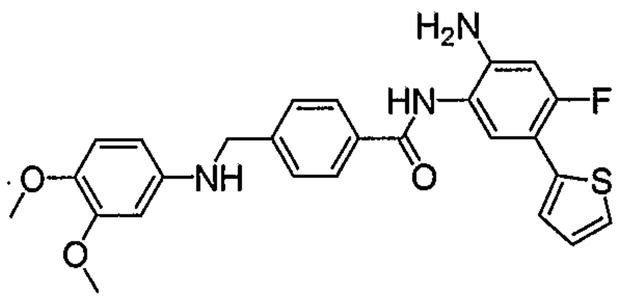
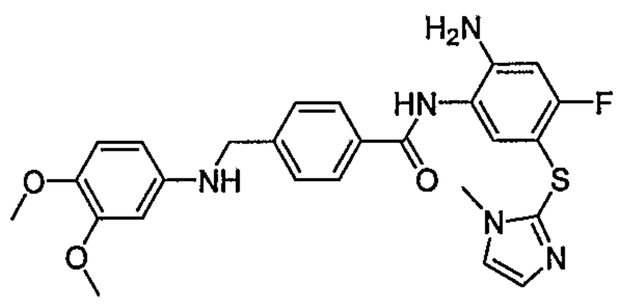
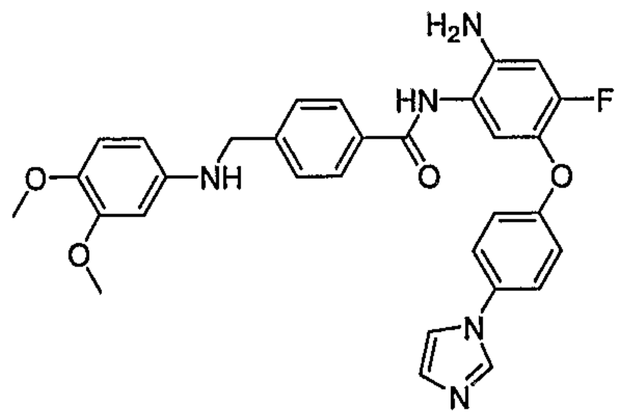
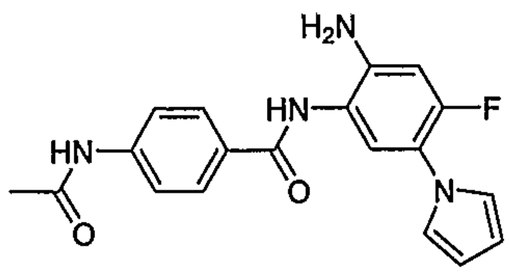
Ex	Cpd	Structure	Name	Characterization	Scheme
41d	143d		N-(2-amino-5-(thiophen-2-yl)phenyl)-3-chloro-4-fluorobenzamide	**^{1}H NMR (Acetone-d6) d(ppm):** 8.22 (d, J=7.2 Hz, 1H), 8.08 (bs, 2H), 7.61 (s, 1H), 7.48 (t, J=8.8 Hz, 1H), 7.35 (dd, J=8.6, 2.0 Hz, 1H), 7.29 (d, J=5.1 Hz, 1H), 7.23 (d, J=3.7 Hz, 2H), 7.04 (dd, J=7.5, 4.3 Hz, 1H), 6.91 (d, J=8.2 Hz, 1H), 4.88 (bs, 1H). **MS**: 346.86 (calc) 347.1 (found)	29
41aa	143aa		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(trifluoromethoxy)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.79 (s, 1H), 8.10 (d, J=8.8 Hz, 2H), 7.50 (d, J=8.4 Hz, 2H), 7.43 (bs, 1H), 7.32 (d, J=5.2 Hz, 1H), 7.28 (dd, J=8.4, 2.0 Hz 1H), 7.22 (bd, J=3.6 Hz, 1H), 7.02(dd, J= 3.6, 5.2Hz, 1H), 6.78 (d, J=8.4 Hz, 1H). **MS**: (calc.) 378; (obt.) 379 $(MH)^+$.	29
41bb	143bb		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-chloro-3-fluorobenzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.82 (s, 1H), 8.01 (d, J=10.4 Hz, 1H), 7.85 (d, J=7.2 Hz, 1H), 7.75 (t, J=7.6 Hz, 1H),7.41 (d, J=2.2 Hz, 1H), 7.33 (d, J=5.1 Hz, 1H), 7.28 (dd, J= 8.4, 1.8 Hz, 1H), 7.22 (d, J=3.5 Hz, 1H), 7.02 (dd, J=4.9, 3.5 Hz, 1H), 6.78 (d, J=8.4 Hz, 1H), 5.23 (s, 2H). **MS**: 346.86 (calc) 347.1/349.1 (found)	29
41cc	143cc		N-(2-amino-5-(thiophen-2-yl)phenyl)nicotinamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.87 (s, 1H), 9.14 (d, J = 1.8, Hz, 1H), 8.73 (dd, J = 4.9, 1.8 Hz, 1H), 8.32 (dt, J = 8.0, 2.0 Hz, 1H), 7.54 (dd, J = 7.8, 5.3 Hz, 1H), 7.46 (d, J = 2.2 Hz, 1H), 7.34 (dd, J = 5.1, , 1.2 Hz, 1H), 7.29 (dd, J = 8.4, 2.3 Hz, 1H), 723 (dd, J = 3.5, 1.0 Hz, 1H), 7.03 (dd, J = 5.1, 3.7 Hz, 1H), 6.79 (d, J = 8.4 Hz, 1H), 5.24 (sb, 2H).**MS**: (calc.) 295.1; (obt.) 296.3 $(MH)^+$.	29
41dd	143dd		N-(2-amino-5-(thiophen-2-yl)phenyl)isonicotinamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.95 (s, 1H), 7.76 (d, J = 6.1, Hz, 2H), 7.90 (d, J = 6.1 Hz, 1H), 7.44 (d, J = 2.2 Hz, 1H), 7.34 (dd, J = 5.1, 1.2 Hz, 1H), 7.30 (dd, J = 8.4, 2.3 Hz, 1H), 7.23 (dd, J = 3.7, 1.2 Hz, 1H), 7.03 (dd, J = 5.1, 3.7 Hz, 1H), 6.79 (d, J = 8.4 Hz, 1H), 5.24 (sb, 2H). **MS**: (calc.) 295.1; (obt.) 296.3 $(MH)^+$.	29
41ee	143ee		N-(2-amino-5-(thiophen-2-yl)phenyl)-2,3,5,6-tetrafluoro-4-methylbenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.18 (s, 1H), 7.60 (d, J=2.4 Hz, 1H), 7.36 (dd, J=1.2, 5.2 Hz, 1H), 7.30 (dd, J=2.4, 8.0 Hz, 1H), 7.23 (dd, J=1.2, 3.2 Hz, 1H), 7.04 (dd, J=3.6, 5.2Hz, 1H), 6.81 (d, J=8.0 Hz, 1H), 5.15 (bs, 2H), 2.32 (s, 3H) **MS**: (calc.) 380.36; (obt.) 381.2 $(MH)^+$.	29

Ex	Cpd	Structure	Name	Characterization	Scheme
42	146		(E)-N-(2-amino-5-(thiophen-2-yl)phenyl)-3-(4-(4-methylphenylsulfonamido)phenyl)acrylamide	**^{1}H NMR (Acetone-d6) d(ppm):** 9.20 (bs, 1H), 8.84 (bs, 1H), 7.72 (d, J=8.0 Hz, 3H), 7.58 (d, J=15.7 Hz, 1H), 7.54 (d, J=8.4 Hz, 2H), 7.34 (d, J=8.6 Hz, 2H), 7.29-7.27 (m, 4H), 7.22 (d, J=3.5 Hz, 1H), 7.04 (t, J=4.9 Hz, 1H), 6.88 (d, J=8.4 Hz, 1H), 6.86 (d, J=15.3 Hz, 1H), 4.84 (bs, 2H), 2.38 (s, 3H). **MS**: 489.62 (calc) 490.1 (found)	30
43	153		*N*-(2-amino-5-(2-aminothiazol-4-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.55 (s, 1H), 7.96 (d, J=9.0 Hz, 2H), 7.60 (d, J=2.2 Hz, 1H), 7.39 (d, J=8.2, 2.0 Hz, 1H), 7.02 (d, J=9.0 Hz, 2H), 6.90 (s, 2H), 6.73 (d, J=8.4 Hz, 1H), 6.63 (s, 1H), 4.98 (s, 2H), 3.83 (s, 3H). **MS**: 340.4(calc) 341.2 (found)	31
44	157		*N*-(2-amino-5-(6-aminopyridin-3-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR (Acetone-d6) d(ppm):** 8.94 (bs, 1H), 8.03 (d, J=1.8 Hz, 1H), 7.88 (d, J=8.8 Hz, 1H), 7.47 (dd, J=8.9, 2.5 Hz, 1H), 7.36 (d, J=2.3 Hz, 1H), 7.07 (dd, J=8.2, 2.3 Hz, 1H), 6.89 (d, J=8.8 Hz, 2H), 6.77 (d, J=8.2 Hz, 1H), 6.45 (dd, J=8.4, 0.6 Hz, 1H), 5.29 (bs, 2H), 3.74 (s, 3H). **MS**: 334.38 (calc) 335.1 (found)	32
44a	157a		*N*-(4,4'-diamino-3'-fluoro-biphenyl-3-yl)-4-methoxy-benzamide	**^{1}H NMR (CD3OD) d(ppm):** 7.97 (d, J=8.6 Hz, 2H), 7.37 (d, J=1.6 Hz, 1H), 7.28 (dd, J=8.4, 2.2 Hz, 1H), 7.20-7.13 (m, 2H), 7.03 (d, J=8.6 Hz, 2H), 6.94 (d, J=8.2 Hz, 1H), 6.85 (t, J=9.0 Hz, 1H), 3.88 (s, 3H). **MS**: 351.38 (calc) 352.3 (MH+) (found)	32
45	160		*N*-(4-amino-3'-hydroxybiphen-3-yl)-4-methoxybenzamide	**^{1}H NMR (DMSO) δ (ppm):** 9.58 (s, 1H), 9.35 (s, 1H), 7.97 (d, J=8.4 Hz, 2H), 7.43 (s, 1H), 7.23 (dd, J=8.2, 1.4 Hz, 1H), 7.16 (t, J=7.6 Hz, 1H), 7.04 (d, J=8.4 Hz, 2H), 6.95 (d, J=7.6 Hz, 1H), 6.91 (s, 1H), 6.82 (d, J=8.4 Hz, 1H), 6.62 (dt, J=8.0, 1.0 Hz, 1H), 5.05 (s, 2H), 3.84 (s, 3H). **MS**: 334.37 (calc) 335.2 (MH+) (found) **CHECK NMR**	33
45aa	160aa		N-(2-amino-5-(3-hydroxyphenyl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H), 9.31 (s, 1H), 7.96 (d, J=8.8 Hz, 2H), 7.36 (d, J=2.0 Hz, 1H), 7.18 (td, J=8.4, 2.0 Hz, 2H), 7.06-7.02 (m, 3H), 6.87 (dd, J=7.8, 0.8 Hz, 1H), 6.82-6.77 (m, 2H), 4.92 (s, 2H), 3.83 (s, 3H). **MS**: 334.37 (calc) 335.1 (MH+) (found) **CHECK NMR**	33

Ex	Cpd	Structure	Name	Characterization	Scheme
46	164		N-(4-((2-amino-5-(thiophen-2-yl)phenyl)carbamoyl)phenyl)-4-methylpiperazine-1-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 400 MHz, (DMSO) d (ppm): 9.57 (s, 1H), 8.80 (s, 1H), 7.89 (d, J = 8.8 Hz, 2H), 7.59 (d, J = 8.8 Hz, 2H), 7.44 (d, J = 2.2 Hz, 1H), 7.34 (dd, J = 5.1, 1.0 Hz, 1H), 7.27 (dd, J = 8.2, 2.2 Hz, 1H), 7.23 (dd, J = 3.5, 1.2 Hz, 1H), 7.03 (dd, J = 5.1, 3.5 Hz, 1H), 6.79 (d, J = 8.4 Hz, 1H), 5.12 (sb, 2H), 3.46 (t, J = 4.8 Hz, 4H), 2.33 (t, J = 4.9 Hz, 4H). **MS**: (calc.) 435.2; (obt.) 436.4 $(MH)^+$.	34
46aa	164aa		N-(4-((2-amino-5-(thiophen-2-yl)phenyl)carbamoyl)phenyl)morpholine-4-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.57 (1H,s), 8.81 (1H,s), 7.90 (2H,d,8.8 Hz), 7.60 (2H,d,9.0 Hz), 7.45 (1H,d,2.2 Hz), 7.34 (1H,dd,3.9 and 1.2 Hz), 7.27 (1H,dd,6.1 and 2.2 Hz), 7.22 (1H,dd,2.3 and 1.2 Hz), 7.03 (1H,m), 6.78 (1H,d,8.2 Hz), 5.12 (2H,s), 3.62 (4H,t,4.5 Hz), 3.45 (4H,t,5.1 Hz)**MS**: 422.14 (calc), 423.3 (obs).	34
46bb	164bb		1-(4-((2-amino-5-(thiophen-2-yl)phenyl)carbamoyl)phenyl)-3-(2-(dimethylamino)ethyl)urea	**^{1}H NMR: (DMSO) δ (ppm):** 9.54 (1H,s), 9.10 (1H,s), [8.37 (2H,s)comes from formic salt], 7.87 (2H,d,8.6), 7.49 (2H,d,8.8 Hz), 7.44 (1H,d,2.2 Hz), 7.34 (1H,dd,3.9 and 1.2 Hz), 7.27 (1H,dd,6.1 and 2.2 Hz), 7.23 (1H,dd,2.5 and 1.0), 7.03 (1H,dd, 3.5 and 1.6), 6.79 (1H,d,8.2 Hz), 6.36 to 6.34 (1H,m), 5.11 (2H,s), 3.2 to 3.1 (2H,m), 2.33 (2H,s), 2.18 (6H,s) **MS**: 423.2 (calc), 424.2 (obs).	34
46cc	164cc		2-(dimethylamino)ethyl 4-((2-amino-5-(thiophen-2-yl)phenyl)carbamoyl)phenylcarbamate	**^{1}H NMR: (DMSO) δ (ppm):** 9.99 (1H,s), 9.59 (1H,s), [8.28 (1H,s) comes from formic acid salt], 7.92 (2H,d,8.8), 7.57 (2H,d,9.0 Hz), 7.44 (1H,d,2.0 Hz), 7.34 (1H,dd,3.7 and 1.2 Hz), 7.27 (1H,dd,6.1 and 2.2 Hz), 7.23 (1H,dd,2.3 and 1.2), 7.03 (1H,dd, 3.3 and 1.8), 6.79 (1H,d,8.6 Hz), 4.18 (2H,t,5.7 Hz), 2.20 (6H,s) **MS**: 424.2 (calc), 425.2 (obs).	34
46dd	164dd		3-(4-((2-amino-5-(thiophen-2-yl)phenyl)carbamoyl)phenyl)-1,1-dimethylurea	**^{1}H NMR: (DMSO) δ (ppm):** 9.56 (s, 1H); 8.56 (s, 1H); 7.88 (d, J=8.8 Hz; 2H); 7.60 (d; J=8.8 Hz; 2H); 7.44 (d; J=2.2 Hz; 1H); 7.34 (dd; J=1.2, 5.1 Hz; 1H); 7.27 (dd; J=2.2, 8.4 Hz; 1H); 7.22 (dd; J=1.2, 3.5 Hz; 1H); 7.03 (dd; J=3.5, 5.1 Hz; 1H); 6.79 (d, J=8.4 Hz; 1H); 5.12 (bs, 2H); 2.95 (s, 6H).**MS**: calc: 380.4; found: 381.2 (M+H)	34

Ex	Cpd	Structure	Name	Characterization	Scheme
47	168		N-(2-amino-5-(thiophen-2-yl)phenyl)-1-methyl-1H-indole-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.72 (s, 1H), 8.19 (s, 1H), 7.67 (abq, J= 29.4, 7.6 Hz, 2H), 7.52 (d, J= 7.6 Hz, 2H), 7.36 (s, 1H), 7.31 (d, J= 6.5 Hz, 1H), 7.26 (s, 1H), 7.06 (s, 1H), 6.83 (d, J= 8.0 Hz, 1H), 6.52 (s, 1H), 5.16 (s, 2H), 3.90 (s, 3H). **MS**: 347.1 (calc), 348.1 (obs).	35
48	172		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(1H-tetrazol-5-yl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.71 (s, 1H), 8.07 (d, J= 8.2 Hz, 2H), 8.00 (d, J= 8.2 Hz, 2H), 7.48 (s, 1H), 7.34 (d, J= 5.1 Hz, 1H), 7.28 (dd, J= 8.2. 2.0 Hz, 1H), 7.24 (d, J= 3.5 Hz, 1H), 7.03 (t, J= 3.7 Hz, 1H), 6.79 (d, J= 8.4 Hz, 1H), 5.17 (s, 2H). **MS**: 362.09 (calc), 363.1 (obs).	36
49	173		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-cyanobenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.92 (s, 1H), 8.14 (d, J= 8.4 Hz, 2H), 8.00 (d, J= 8.4 Hz, 2H), 7.44 (d, J= 2.0 Hz, 1H), 7.34 (dd, J= 5.1, 0.98 Hz, 1H), 7.30 (dd, J= 8.2, 2.2 Hz, 1H), 7.23 (d, J= 3.5 Hz, 1H), 7.03 (dd, J= 5.1, 3.5 Hz, 1H), 6.79 (d, J= 8.4 Hz, 1H), 5.24 (s, 2H). **MS**: 319.08 (calc), 320.1 (obs).	36
50	174		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(4,5-dihydro-1H-imidazol-2-yl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.78 (s, 1H), 8.02 (d, J= 8.0 Hz, 2H), 7.92 (d, J= 8.0 Hz, 2H), 7.45 (s, 1H), 7.33 (d, J= 5.1 Hz, 1H), 7.28 (d, J= 8.2 Hz, 1H), 7.22 (d, J= 3.3 Hz, 1H), 7.03 (t, J= 3.9 Hz, 1H), 6.79 (d, J= 8.2 Hz, 1H), 5.18 (s, 2H), 3.63 (s, 4H). **MS**: 362.12 (calc), 363.1 (obs).	36
51	181		N-(2-amino-5-(thiophen-2-yl)phenyl)-3-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.96 (1H,s), 7.59 - 7.52 (3H,m), 7.46 - 7.41 (3H,m), 7.39 (1H,d,2.2 Hz), 7.33 (1H,dd,2.5 and 1.0 Hz), 7.16 (1H,dd,5.7 and 1.8 Hz), 6.98 (1H,d,8.4 Hz), 3.84 (3H,s) **MS**: 324.1 (calc), 325.1 (obs).	37
51aa	181aa		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-nitrobenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.05 (s, 1H), 8.35 (d, J= 8.6 Hz, 2H), 8.22 (d, J= 8.6 Hz, 2H), 7.46 (s, 1H), 7.36 (d, J= 4.1 Hz, 1H), 7.33 (d, J= 8.2 Hz, 1H), 7.25 (d, J= 2.5 Hz, 1H), 7.04 (t, J= 3.5 Hz, 1H), 6.83 (d, J= 8.4 Hz, 1H), (missing NH_2). **MS**: 339.07 (calc), 340.1 (obs).	37
51bb	181bb		N-(2-amino-5-(thiophen-2-yl)phenyl)-3-nitrobenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.14(1H,s), 8.82 (1H,s), 8.43 (2H,d,6.3 Hz), 7.82 (1H,t,7.8 Hz), 7.46 (1H,d,2.0 Hz), 7.37 - 7.33 (2H,m), 7.27 (1H,d,3.3), 7.05 (1H,dd,3.5 and 1.4 Hz), 6.85 (1H,d,8.4 Hz) **MS**: 339.1 (calc) 340.1 (obs).	37

Ex	Cpd	Structure	Name	Characterization	Scheme
51cc	181cc		N-(2-amino-5-(thiophen-2-yl)phenyl)-3-cyanobenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.97 (1H,s), 8.45 (1H,s), 8.27 (1H,d,8.0 Hz), 8.05 (1H,d,7.8 Hz), 7.74 (1H,t,8.0 Hz), 7.48 (1H,d,1.8 Hz), 7.38 - 7.3(1H,d,8.4 Hz)7.38 - 7.33 (2H,m), 7.27 (1H,d,3.52 Hz), 7.05 (1H,dd,3.5 and 1.4 Hz), 6.86 (1H,d,8.4). **MS**: 319.1 (calc) 320.1 (obs).	37
51dd	181dd		N-(2-amino-5-(thiophen-2-yl)phenyl)-3-bromobenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.90 (1H,s), 8.18 (1H,s), 7.98 (1H,d,7.4 Hz), 7.50 - 7.45 (2H,m), 7.37 - 7.32 (2H,m), 7.27 (1H,d,3.3 Hz), 7.05 (1H,dd,3.5 and 1.6 Hz), 6.85 (1H,d,8.4 Hz) **MS**: 371.9 (calc) 373.0 (obs).	37
51ee	181ee		N-(2-amino-5-(thiophen-2-yl)phenyl)-3-(trifluoromethyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.00 (1H,s), 8.34 (1H,s), 8.29 (1H,d,8.0 Hz), 7.95 (1H,d,8.0 Hz), 7.76 (1H,t,7.6 Hz), 7.44 (1H,s), 7.36 - 7.31 (2H,m), 7.25 (1H,d,3.3 Hz), 7.04 (1H,t,3.7 Hz), 6.82 (1H,d,8.2 Hz) **MS**: 362.1 (calc) 363.1 (obs)	37
52	184		4-(2-amino-5-(thiophen-2-yl)phenylcarbamoyl)phenyl acetate	**^{1}H NMR: (DMSO) δ (ppm):** 9.73 (1H,s), 8.03 (2H,d,8.4), 7.45 (1H,s,), 7.34 (1H,d,9.0 Hz), 7.30 - 7.22 (4H,m), 7.04 (1H,dd,3.5 and 1.6 Hz), 6.79 (1H,d,8.4 Hz), 5.18 (2H,s), 2.31 (3H,s) **MS**: 352.1 (calc), 353.1 (obs)	37
52aa	184aa		N-(2-amino-5-(thiophen-2-yl)phenyl)-3-(dimethylamino)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.64 (1H,s), 7.45 (1H,s), 7.34 (1H,dd,3.9 and 1.2 Hz), 7.29 - 7.26 (4H,m), 7.24 - 7.22 (1H,m), 7.03 (1H,dd,3.7 and 1.4 Hz), 6.90 (1H,d,8.2 Hz), 6.80 (1H,d,8.2 Hz), 5.10 (2H,s), 2.96 (6H,s) **MS**: 337.1 (calc) 338.1 (obs).	37
52bb	184bb		3-acetamido-N-(2-amino-5-(thiophen-2-yl)phenyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.11 (1H,s), 9.83 (1H,s), 8.11 (1H,s), 7.79 (1H,d,6.7 Hz), 7.67 (1H,d,7.6 Hz), 7.49 (1H,s), 7.43 (1H,t,7.8 Hz), 7.38 (1H,d,4.9 Hz), 7.34 (1H,d,8.4 Hz), 7.28 (1H,d,3.3 Hz), 7.05 (1H,t,3.7 Hz), 6.89 (1H,d,8.4 Hz), 2.07 (3H,s) **MS**: 351.1 (calc) 352.1 (obs)	37
53	190		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(2-(piperidin-1-yl)ethylamino)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.34 (1H,s), [8.25 (2H,s)comes from formic salt], 7.77 (2H,d,8.8), 7.44 (1H,d,2.2 Hz), 7.34 (1H,dd,4.0 and 1.2 Hz), 7.26 - 7.21 (2H,m), 7.03 (1H,dd,3.5 and 1.4), 6.78 (1H,d,8.2), 6.62 (1H,d,8.8 Hz), 6.09 (1H,m), 3.25 - 3.15(8H,m), 1.53 to 1.49 (4H,m), 1.39 (2H,m) **MS**: 420.2 (calc), 421.3 (obs).	38

Ex	Cpd	Structure	Name	Characterization	Scheme
54	197		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(2-morpholinoethoxy)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.67 (1H,s), 8.01 (2H,d,8.8), 7.44 (1H,d,2.0 Hz), 7.36 (1H,dd,4.1 and 1.0 Hz), 7.30 (1H,dd,6.1 and 2.2 Hz), 7.24 (1H,dd,2.5 and 1.2), 7.12 (2H,d,8.8), 7.04 (1H,dd,3.5 and 1.6 Hz), 6.82 (1H,d,8.4 Hz), 4.44 (2H,t,4.1), 3.65 to 3.15 (10H,m) **MS**: 423.2 (calc), 424.2 (obs).	39
55	199		4-((3,4-dimethoxyphenylamino)methyl)-N-(2-amino-5-cyanophenyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.56 (bs, 1H), 7.89 (d, J=8.0 Hz, 2H), 7.52 (bs, 1H), 7.45 (d, J=8.4 Hz, 2H), 6.77 (d, J=8.4 Hz, 1H), 6.63 (d, J= 8.4 Hz, 1H), 6.30 (d, J=2.4 Hz, 1H), 5.99-5.95 (m, 2H), 5.74 (bs, 1H), 4.92 (bs, 2H), 3.64 (s, 3H), 3.32 (s, 3H).**MS**: (calc.); 402.5 (obt.) 403.4 $(MH)^+$.	40
56	205		4-((3,4-dimethoxyphenylamino)methyl)-N-(2-amino-4-fluoro-5-(thiophen-2-yl)phenyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.65 (s, 1H), 7.96 (d, J=8.0 Hz, 2H), 7.48-7.51 (m, 4H), 7.31 (d, J=4.0 Hz, 1H), 7.11 (d, J=4.0 Hz, 1H), 6.80 (d, J=8.8 Hz, 1H), 6.50 (d, J=13.6 Hz, 1H), 6.35 (d, J=2.8 Hz, 1H), 6.03-6.01 (m, 2H), 5.50 (bs, 2H), 4.34 (d, J=6.0 Hz, 2H), 3.70 (s, 3H), 3.62 (s, 3H).**MS**: (calc.) 477.6; (obt.) 478.4 $(MH)^+$.	41
57a	209a		N-(5-(1-methyl-1H-imidazol-2-ylthio)-2-amino-4-fluorophenyl)-4-((3,4-dimethoxyphenylamino)methyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.5 (s, 1H), 7.86 (d, J=8.4 Hz, 2H), 7.43 (d, J=8.4 Hz, 2H), 7.2 (s, 1H), 7.10 (d, J=8.4 Hz, 1H), 6.90 (s, 1H), 6.6 (d, J=8.8 Hz, 1H), 6.56 (d, J=11.6 Hz, 1H), 6.29 (d, J=2.4 Hz, 1H), 5.95 (dd, J=2.4, 8.8 Hz,2H), 5.52 (bs, 2H), 4.28 (bs, 2H), 3.64 (s, 6H), 3.57 (s, 3H).**MS**: (calc.) 507.6; (obt.) 508.4 $(MH)^+$.	42
57b	209b		4-((3,4-dimethoxyphenylamino)methyl)-N-(5-(4-(1H-imidazol-1-yl)phenoxy)-2-amino-4-fluorophenyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 7.87 (d, J=8.4 Hz, 2H), 7.75 (bs, 1H), 7.60 (d, J=8.0 Hz, 2H), 7.44 (d, J=8.4 Hz, 2H), 7.26 (bs, 1H), 7.14 (d, J=8.0 Hz, 1H), 7.03 (d, J=8.0 Hz, 2H), 6.723 (d, J=13.2 Hz, 1H), 6.62 (d, J=8.4 Hz, 1H), 6.29 (d, J=2.4 Hz, 1H), 5.96 (dd, J=2.4, 8.8 Hz, 2H), 4.28 (bs, 2H), 3.64 (s, 3H), 3.57 (s, 3H) **MS**: (calc.) 553.6; (obt.) 554.5 $(MH)^+$.	42
58	213		4-acetamido-N-(2-amino-4-fluoro-5-(1H-pyrrol-1-yl)phenyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.11 (s, 1H), 9.48 (s, 1H), 7.83 (d, J=8.4 Hz, 2H), 7.56 (d, J=8.8 Hz, 2H), 7.20 (d, J=8.4 Hz, 1H), 6.86 (dd, J=2.0, 4.0 Hz, 2H), 6.62 (d, J=12.8Hz, 1H), 6.10 (2H, dd, J=2.0, 4.0 Hz, 2H), 5.28 (bs, 2H), 2.09 (s, 3H). **MS**: (calc.) 352.36; (obt.) 353.2 $(MH)^+$.	42

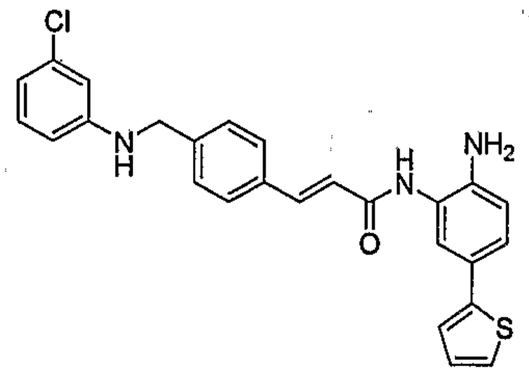
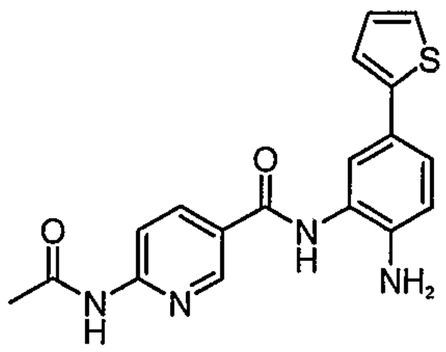
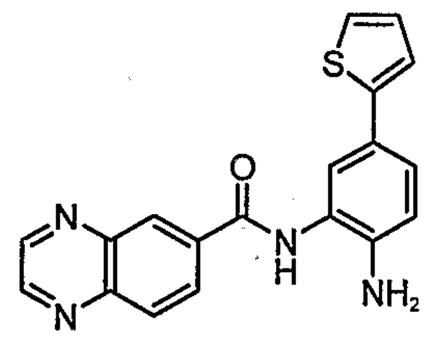
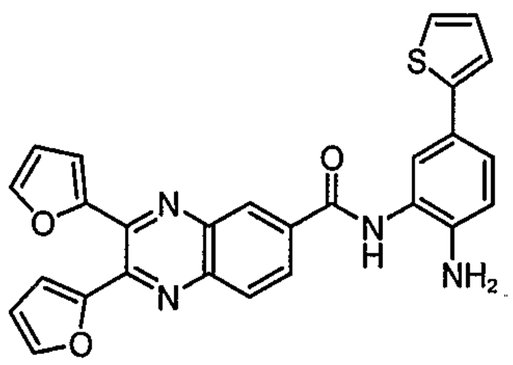
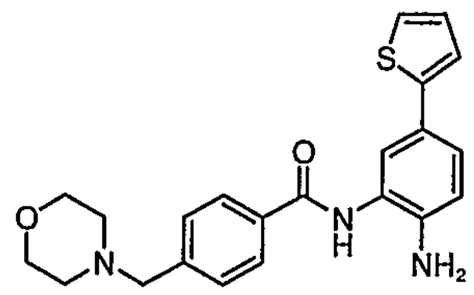
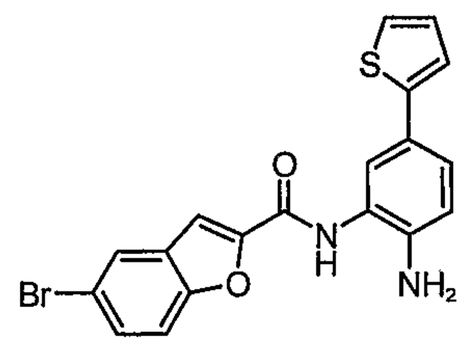
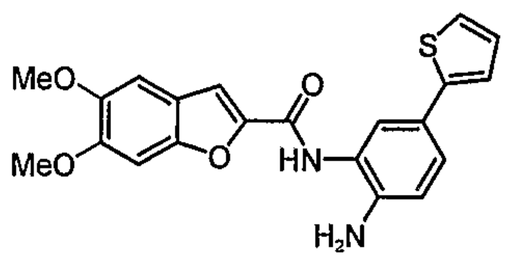
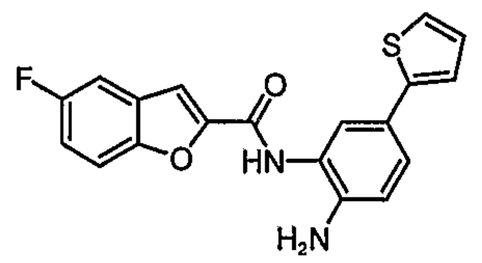
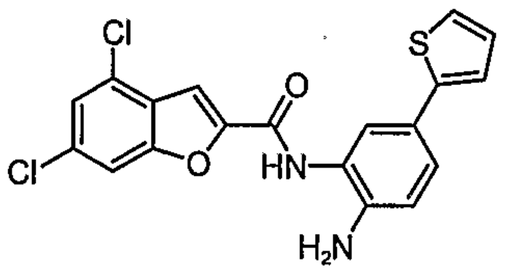
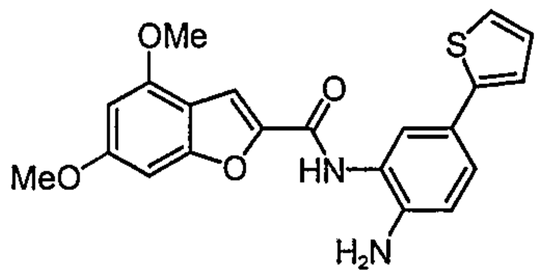
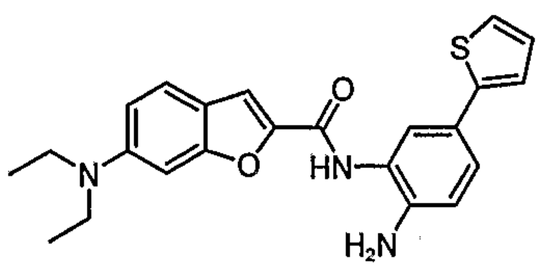
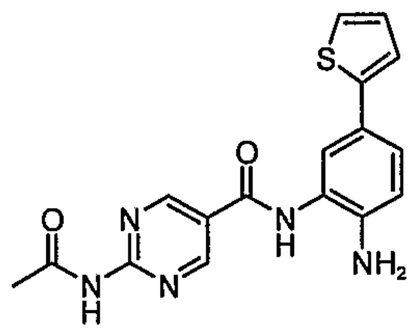
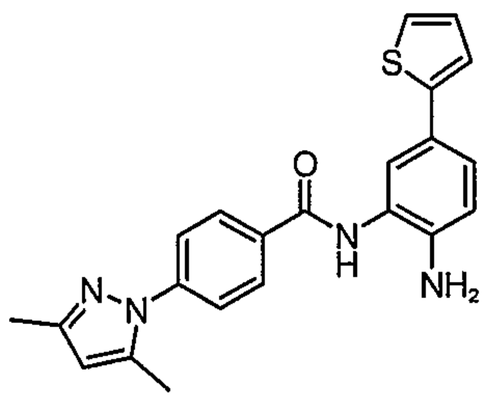
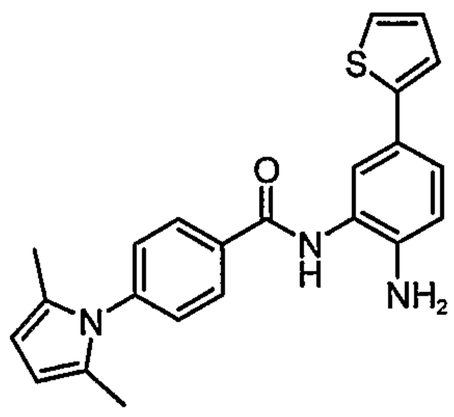
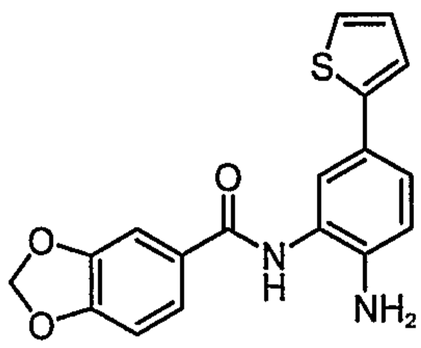
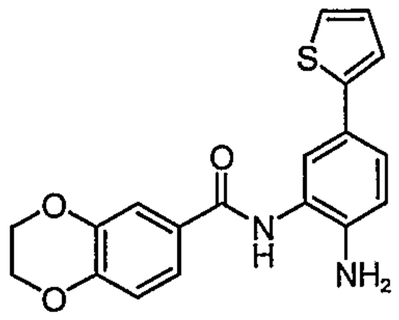
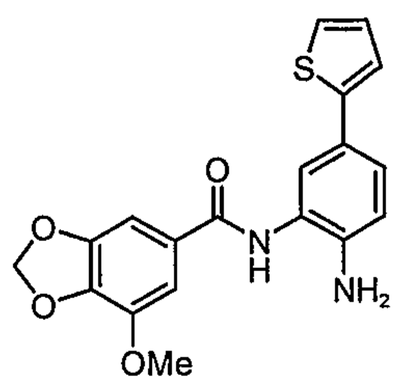
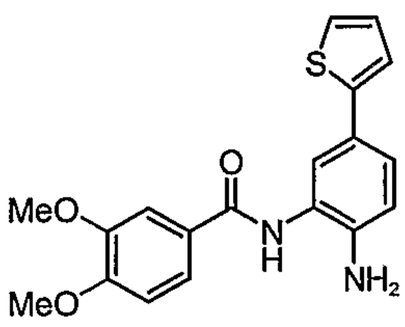
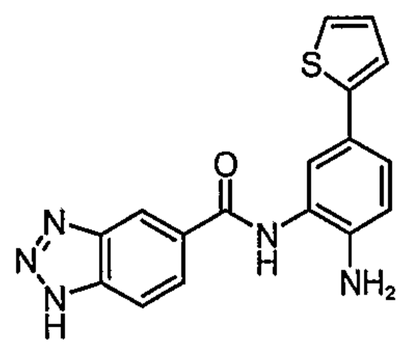
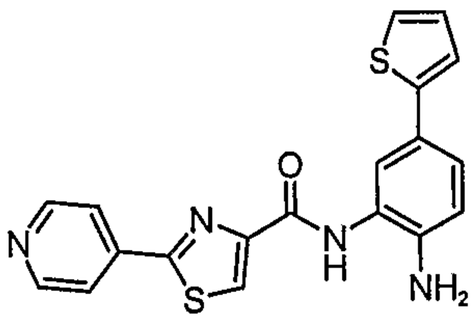
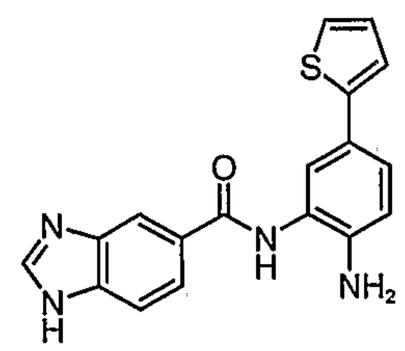
Ex	Cpd	Structure	Name	Characterization	Scheme
63	232		(E)-3-(4-((3-Chlorophenylamino)methyl)phenyl)-N-(2-amino-5-(thiophen-2-yl)phenyl)acrylamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.42 (bs, 1H), 7.66-7.32 (m, 7H), 7.22-7.14 (m, 2H), 7.10-7.00 (m, 2H), 6.87-6.74 (m, 1H), 6.62-6.50 (m, 4H), 5.19 (bs, 1H),4.29 (d, J=5.6Hz, 2H), **MS**: (calc.) 459.2; (obt.) 460.3 $(MH)^+$.	46

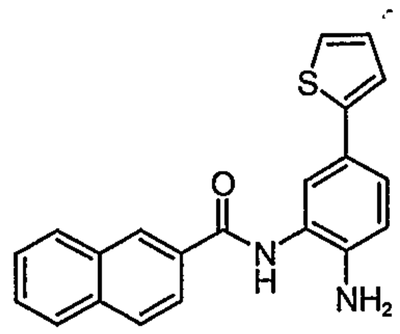
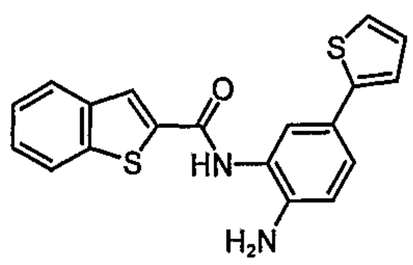
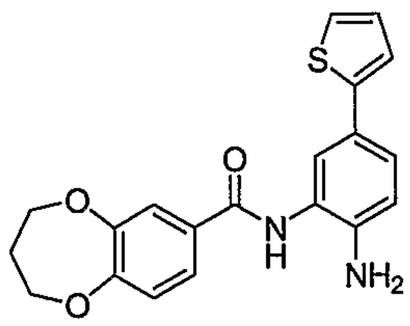
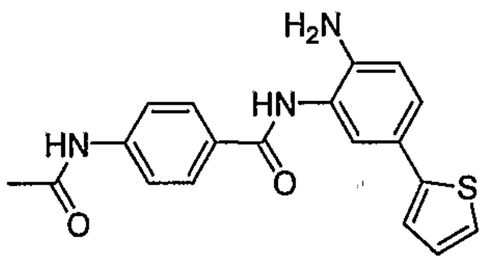
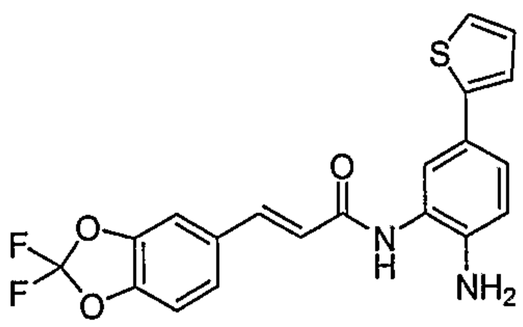
Table 1a (cont.)

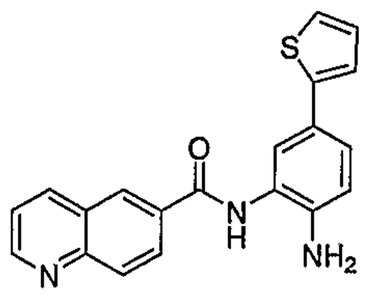
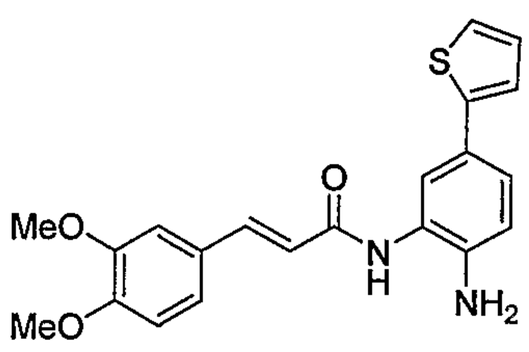
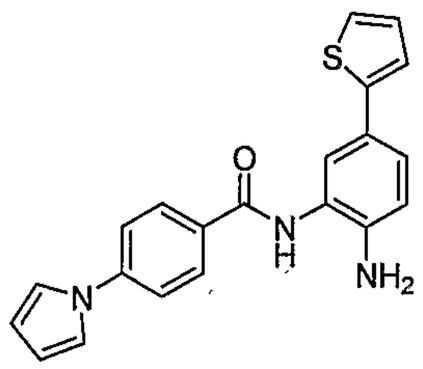
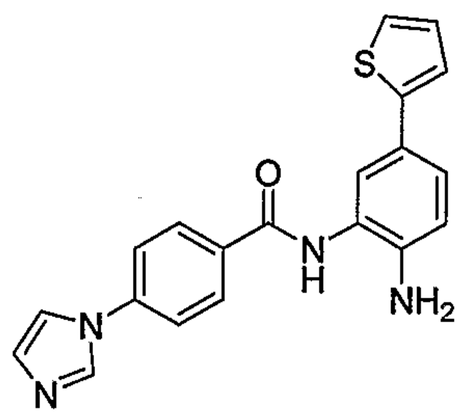
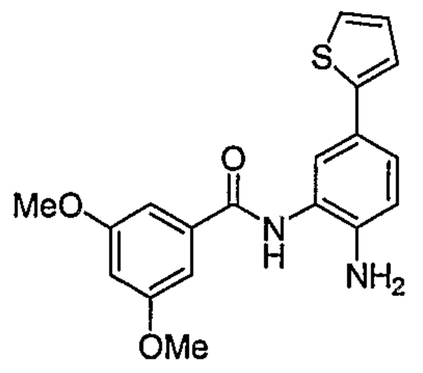
Ex	Cpd	Structure	Name	Characterization	Scheme
64	235		6-Acetamido-N-(2-amino-5-(thiophen-2-yl)phenyl)pyridine-3-carboxamide	**^{1}H NMR: (DMSO) δ (ppm**10.79 (br s, 1H), 9.75 (br s, 1H), 8.90 (s, 1H), 8.31 (d, J=9.4 Hz, 1H), 8.15 (d, J=8.5 Hz, 1H), 7.42 (s, 1H), 7.33 (m, 1H), 7.28 (d, J=8.5 Hz, 1H), 7.22 (s, 1H), 7.02 (m, 1H), 6.78 (d, J=8.0 Hz, 1H), 5.20 (br s, 2H), 2.13 (s, 3H). **MS**: (calc.) 352.1; (obt.) 353.2 $(MH)^+$.	47
65a	238a		N-(2-amino-5-(thiophen-2-yl)phenyl)quinoxaline-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.09 (br s, 1H), 9.04 (dd, J=6.7, 1.8 Hz, 2H), 8.79 (d, J=1.8 Hz, 1H), 8.37 (dd, J=8.9, 2.0 Hz, 1H), 8.20 (d, J=8.6 Hz, 1H), 7.51 (d, J=2.2 Hz, 1H), 7.34 (dd, J=4.9, 1.0 Hz, 1H), 7.30 (dd, J=2.1, 8.1 Hz, 1H), 7.24 (dd, J=3.5, 1.2 Hz, 1H), 7.04 (dd, J=4.9, 3.5 Hz, 1H), 6.81 (d, J=8.2 Hz, 1H), 5.28 (br s, 2H). **MS**: (calc.) 346.1 (obt.) 347.1 $(MH)^+$.	48
65b	238b		N-(2-amino-5-(thiophen-2-yl)phenyl)-2,3-di(furan-2-yl)quinoxaline-6-carboxamide	**^{1}H NMR: (CD_3OD) δ (ppm):** 8.56 (s, 1H), 8.21 (d, J=8.6 Hz, 1H), 8.03 (d, J=8.8 Hz, 1H), 7.63 (s, 2H), 7.45 (d, J=1.7 Hz, 1H), 7.27 (d, J=8.4 Hz, 1H), 7.13 - 7.12 (m, 2H), 6.90 (t, J=4.1 Hz, 1H), 6.83 (d, J=8.4 Hz, 1H), 6.69 (t, J=3.9 Hz, 2H), 6.55 - 6.56 (m, 2H).**MS**: (calc.) 478.1; (obt.) 479.1 $(MH)^+$.	48
65c	238c		N-(2-amino-5-(thiophen-2-yl)phenyl)-2,3-di(thiophen-2-yl)quinoxaline-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.09 (s, 1H), 8.75 (d, J=1.8 Hz, 1H), 8.32 (dd, J=8.6, 2.0 Hz, 1H), 8.12 (d, J=8.6 Hz, 1H), 7.84 - 7.82 (m, 2H), 7.52 (d, J=2.0 Hz, 1H), 7.35 - 7.24 (m, 5H), 7.14 - 7.11 (m, 2H), 7.03 (dd, J=5.0, 3.5 Hz, 1H), 6.81 (d, J=8.4 Hz, 1H), 5.29 (s, 2H).**MS**: (calc.) 510.1; (obt.) 511.1 $(MH)^+$.	48

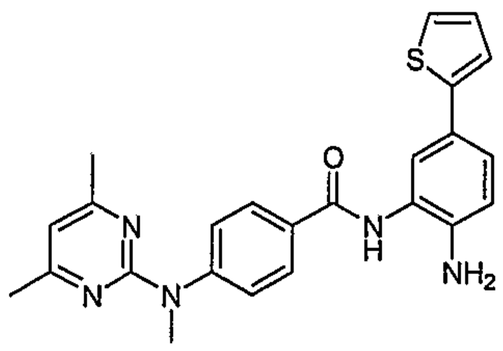
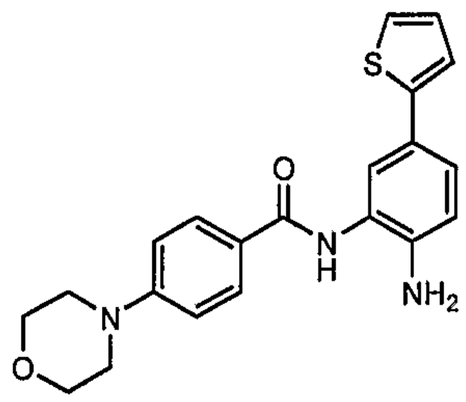
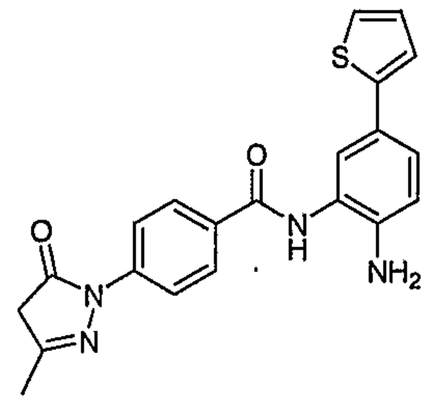
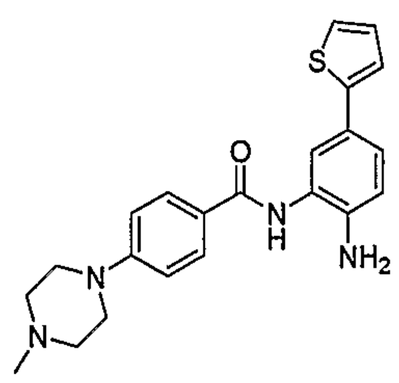
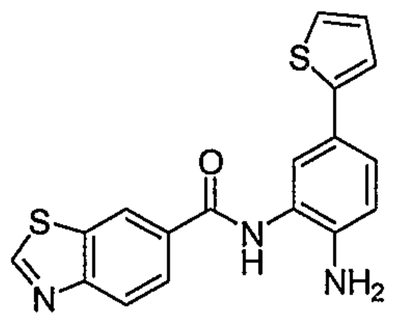
Ex	Cpd	Structure	Name	Characterization	Scheme
66	242		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(morpholinomethyl)benzamide	**^{1}H NMR: ($CDCl_3$) δ (ppm):** 8.61 - 8.59 (m, 1H), 8.02 (br s, 1H), 7.86 (d, J=8.0 Hz, 2H), 7.53 (br s, 1H), 7.44 (d, J=8.0 Hz, 2H), 7.33 (dd, J=8.2, 2.2 Hz, 1H), 7.30 - 7.26 (m, 1H), 7.17 (dd, J=5.1, 1.2 Hz, 1H), 7.15 - 7.14 (m, 1H), 7.01 (dd, J=5.1, 3.5 Hz, 1H), 6.82 (d, J=8.2 Hz, 1H), 3.73 (t, J=4.7 Hz, 4H), 3.57 (s, 2H), 2.47 (t, J=4.3 Hz, 4H). **MS**: (calc.) 393.2; (obt.) 394.2 $(MH)^+$.	49
67a	245a		N-(2-amino-5-(thiophen-2-yl)phenyl)-5-bromobenzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.01 (s, 1H), 8.05 (d, J=1.6 Hz, 1H), 7.69 - 7.67 (m, 2H), 7.61 (dd, J=8.8, 2.0 Hz, 1H), 7.44 (d, J=2.2 Hz, 1H), 7.34 (dd, J=5.1, 1.2 Hz, 1H), 7.30 (dd, J=8.4, 2.2 Hz, 1H), 7.23 (dd, J=3.6, 1.2 Hz, 1H), 7.02 (dd, J=4.9, 3.6 Hz, 1H), 6.79 (d, J=8.4 Hz, 1H), 5.24 (s, 2H). **MS**: (calc.) 413.0 (d); (obt.) 414.0 (d) $(MH)^+$.	50
67b	245b		N-(2-amino-5-(thiophen-2-yl)phenyl)-5,6-dimethoxybenzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm**9.77 (s, 1H), 7.64 (s, 1H), 7.51 (d, J=2.1 Hz, 1H), 7.37 (dd, J=5.1, 1.2 Hz, 1H), 7.33 (d, J=2.2 Hz, 1H), 7.31 - 7.30 (m, 2H), 7.26 (dd, J=3.7, 1.2 Hz, 1H), 7.06 (dd, J=5.1, 3.5 Hz, 1H), 6.83 (d, J=8.5 Hz, 1H), 5.22 (s, 2H), 3.88 (s, 3H), 3.85 (s, 3H). **MS**: (calc.) 394.1; (obt.) 395.1 $(MH)^+$.	50
67c	245c		N-(2-amino-5-(thiophen-2-yl)phenyl)-5-fluorobenzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.98 (s, 1H), 7.75 - 7.71 (m, 2H), 7.63 (dd, J=9.0, 2.8 Hz, 1H), 7.44 (d, J=2.0 Hz, 1H), 7.36 - 7.29 (m, 3H), 7.23 (dd, J=3.5, 1.1 Hz, 1H), 7.03 (dd, J=5.1, 3.7 Hz, 1H), 6.79 (d, J=8.4 Hz, 1H), 5.24 (s, 2H). **MS**: (calc.) 352.1; (obt.) 353.1 $(MH)^+$.	50
67d	245d		N-(2-amino-5-(thiophen-2-yl)phenyl)-4,6-dichlorobenzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.04 (s, 1H), 7.95 (dd, J=1.6, 1.0 Hz, 1H), 7.85 (s, 1H), 7.63 (d, J=1.6 Hz, 1H), 7.43 (d, J=2.2 Hz, 1H), 7.34 (dd, J=5.1, 1.2 Hz, 1H), 7.30 (dd, J=8.4, 2.3 Hz, 1H), 7.23 (dd, J=3.5, 1.2 Hz, 1H), 7.03 (dd, J=5.1, 3.5 Hz, 1H), 6.78 (d, J=8.3 Hz, 1H), 5.28 (s, 2H) **MS**: (calc.) 403.0 (d); (obt.) 404.0 (d) $(MH)^+$.	50

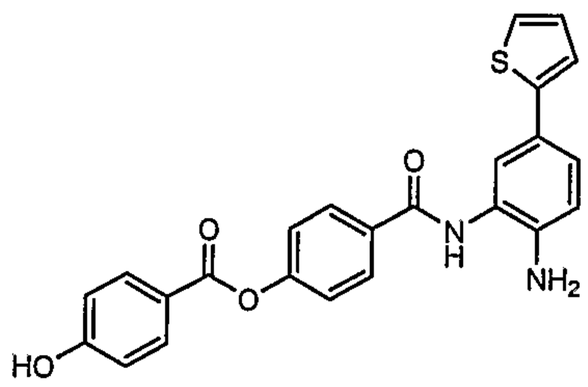
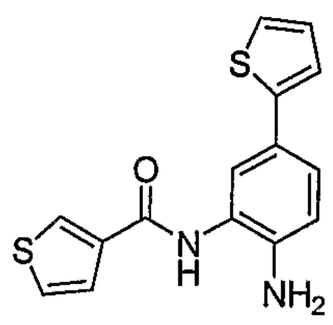
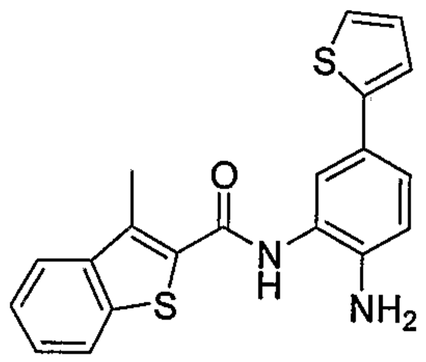
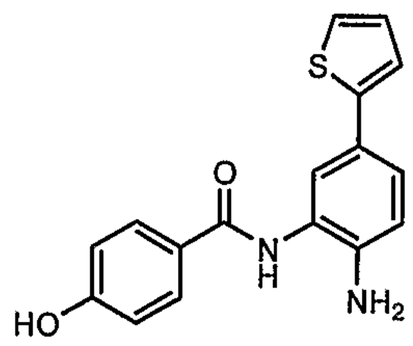
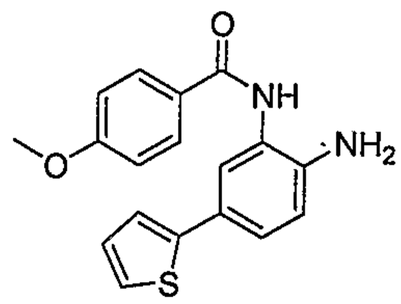
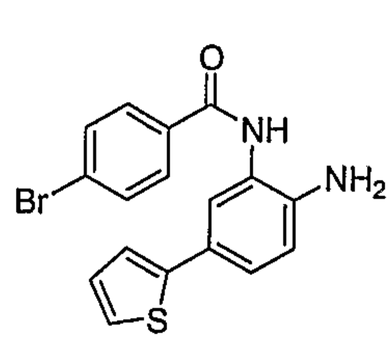
Ex	Cpd	Structure	Name	Characterization	Scheme
67e	245e		N-(2-amino-5-(thiophen-2-yl)phenyl)-4,6-dimethoxybenzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.68 (s, 1H), 7.64 (s, 1H), 7.46 (d, J=2.0 Hz, 1H), 7.32 (d, J=1.0 Hz, 1H), 7.27 (dd, J=8.2, 2.1 Hz, 1H), 7.22 (dd, J=3.5, 1.0 Hz, 1H), 7.02 (dd, J=4.9, 3.5 Hz, 1H), 6.84 (s, 1H), 6.78 (d, J=8.4 Hz, 1H), 6.47 (d, J=1.7 Hz, 1H), 5.20 (s, 2H), 3.90 (s, 3H), 3.83 (s, 3H). **MS**: (calc.) 394.1; (obt.) 395.1 $(MH)^+$.	50
67f	245f		N-(2-amino-5-(thiophen-2-yl)phenyl)-6-(diethylamino)benzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.60 (s, 1H), 7.51 - 7.49 (m, 3H), 7.33 (dd, J=5.1, 1.2 Hz, 1H), 7.27 (dd, J=8.2, 2.1 Hz, 1H), 7.22 (dd, J=3.5, 1.2 Hz, 1H), 7.02 (dd, J=5.0, 3.5 Hz, 1H), 6.80 - 6.76 (m, 3H), 5.17 (s, 2H), 3.40 (q, J=6.8 Hz, 4H), 1.13 (t, J=7.0 Hz, 6H). **MS**: (calc.) 405.1; (obt.) 406.1 $(MH)^+$.	50
68	250		2-acetamido-N-(2-amino-5-(thiophen-2-yl)phenyl)pyrimidine-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.90 (s, 1H), 9.87 (s, 1H), 9.16 (s, 2H), 7.47 (d, J=2.2 Hz, 1H), 7.36 (dd, J=5.1, 1.2 Hz, 1H), 7.32 (dd, J=8.4, 2.2 Hz, 1H), 7.25 (dd, J=3.5, 1.1 Hz, 1H), 7.05 (dd, J=5.1, 3.7 Hz, 1H), 6.81 (d, J=8.4 Hz, 1H), 5.33 (br s, 2H), 2.26 (s, 3H). **MS**: (calc.) 353.1; (obt.) 354.1 $(MH)^+$.	51
69a	253a		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(3,5-dimethyl-1H-pyrazol-1-yl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.81 (s, 1H), 8.09 (d, J=8.4 Hz, 2H), 7.64 (d, J=8.6 Hz, 2H), 7.46 (d, J=2.0 Hz, 1H), 7.33 (dd, J=5.1, 1.2 Hz, 1H), 7.28 (dd, J=8.2, 2.2 Hz, 1H), 7.23 (dd, J=3.5, 1.0 Hz, 1H), 7.03 (dd, J=5.1, 3.5 Hz, 1H), 6.80 (d, J=8.3 Hz, 1H), 6.12 (s, 1H), 5.19 (s, 2H), 2.38 (s, 3H), 2.20 (s, 3H).**MS**: (calc.) 388.1; (obt.) 389.1 $(MH)^+$.	52
69b	253b		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(2,5-dimethyl-1H-pyrrol-1-yl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.85 (s, 1H), 8.14 (d, J=8.4 Hz, 2H), 7.49 (d, J=2.0 Hz, 1H), 7.44 (d, J=8.4 Hz, 2H), 7.37 (dd, J=5.1, 1.2 Hz, 1H), 7.32 (dd, J=8.5, 2.4 Hz, 1H), 7.26 (dd, J=3.6, 1.0 Hz, 1H), 7.07 (dd, J=5.1, 3.5 Hz, 1H), 6.83 (d, J=8.4 Hz, 1H), 5.86 (s, 2H), 5.24 (s, 2H), 2.05 (s, 6H). **MS**: (calc.) 387.1; (obt.) 388.1 $(MH)^+$.	52
70a	256a		N-(2-amino-5-(thiophen-2-yl)phenyl)benzo[d][1,3]dioxole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H), 7.60 (dd, J=8.0, 1.6 Hz, 1H), 7.55 (d, J=1.6 Hz, 1H), 7.43 (d, J=2.2 Hz, 1H), 7.35 (dd, J=4.9, 0.6 Hz, 1H), 7.29 (dd, J=8.2, 2.2 Hz, 1H), 7.24 (dd, J=3.7, 1.0 Hz, 1H), 7.06 - 7.04 (m, 2H), 6.79 (d, J=8.2 Hz, 1H), 6.13 (s, 2H), 5.15 (br s, 2H). **MS**: (calc.) 338.1; (obt.) 339.1 $(MH)^+$.	53

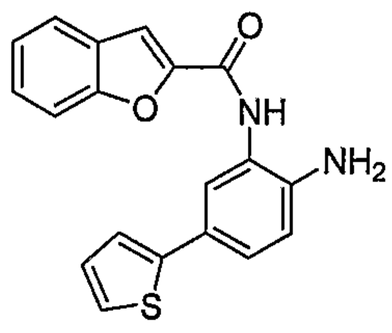
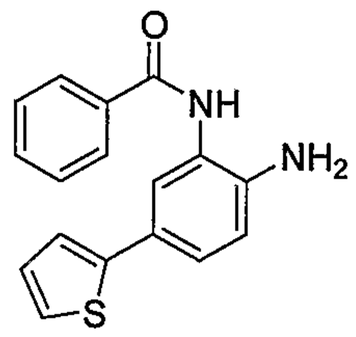
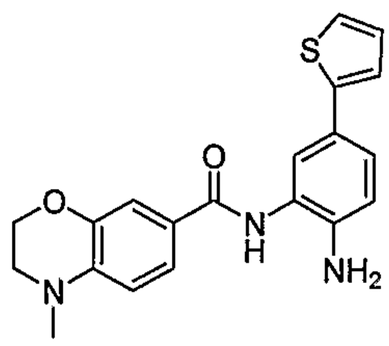
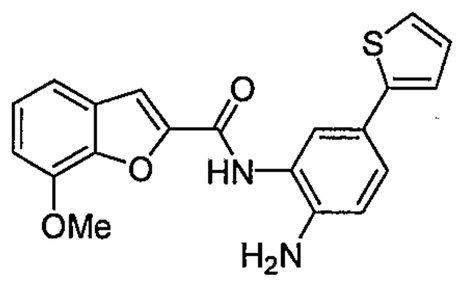
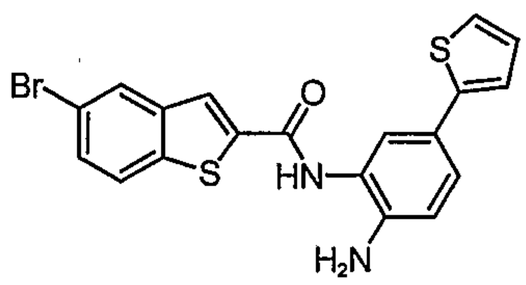
Ex	Cpd	Structure	Name	Characterization	Scheme
70b	256b		N-(2-amino-5-(thiophen-2-yl)phenyl)-2,3-dihydrobenzo[b][1,4]dioxine-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.57 (s, 1H), 7.54 (d, J=2.1 Hz, 1H), 7.51 (dd, J=8.4, 2.1 Hz, 1H), 7.42 (d, J=2.1 Hz, 1H), 7.33 (dd, J=5.1, 1.2 Hz, 1H), 7.26 (dd, J=8.4, 2.3 Hz, 1H), 7.22 (dd, J=3.5, 1.2 Hz, 1H), 7.02 (dd, J=5.1, 3.5 Hz, 1H), 6.95 (d, J=8.2 Hz, 1H), 6.79 (d, J=8.4 Hz, 1H), 5.11 (s, 2H), 4.31 - 4.28 (m, 4H). **MS**: (calc.) 352.1; (obt.) 353.1 $(MH)^+$.	53
70c	256c		N-(2-amino-5-(thiophen-2-yl)phenyl)-7-methoxybenzo[d][1,3]dioxole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.60 (s, 1H), 7.41 (d, J=2.2 Hz, 1H), 7.36 (d, J=1.4 Hz, 1H), 7.34 (dd, J=5.2, 1.2 Hz, 1H), 7.30 - 7.26 (m, 2H), 7.23 (dd, J=3.6, 1.2 Hz, 1H), 7.04 (dd, J=4.9, 3.5 Hz, 1H), 6.79 (d, J=8.4 Hz, 1H), 6.10 (s, 2H), 5.14 (br s, 2H), 3.91 (s, 3H). **MS**: (calc.) 368.1; (obt.) 369.1 $(MH)^+$.	53
71a	258a		N-(2-amino-5-(thiophen-2-yl)phenyl)-3,4-dimethoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.64 (s, 1H), 7.63 (dd, J=8.2, 2.0 Hz, 1H), 7.57 (d, J=2.2 Hz, 1H), 7.42 (d, J=2.2 Hz, 1H), 7.33 (dd, J=5.1, 1.2 Hz, 1H), 7.28 (dd, J=8.3, 2.3 Hz, 1H), 7.23 (dd, J=3.5, 1.2 Hz, 1H), 7.05 (d, J=8.6 Hz, 1H), 7.02 (dd, J=5.1, 3.6 Hz, 1H), 6.79 (d, J=8.3 Hz, 1H), 5.12 (br s, 2H), 3.83 (s, 3H), 3.82 (s, 3H).**MS**: (calc.) 354.1; (obt.) 355.1 $(MH)^+$.	54
71b	258b		N-(2-amino-5-(thiophen-2-yl)phenyl)-1H-benzo[d][1,2,3]triazole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm**9.90 (s, 1H), 8.66 (s, 1H), 8.05 (d, J=9.8 Hz, 1H), 7.96 (d, J=8.6 Hz, 1H), 7.49 (d, J=2.0 Hz, 1H), 7.33 (dd, J=5.1, 1.2 Hz, 1H), 7.30 (dd, J=8.2, 2.2 Hz, 1H), 7.23 (dd, J=3.5, 1.1 Hz, 1H), 7.03 (dd, J=5.0, 3.7 Hz, 1H) 6.81 (d, J=8.4 Hz, 1H), 5.23 (br s, 2H).**MS**: (calc.) 335.1; (obt.) 336.0 $(MH)^+$.	54
71c	258c		N-(2-amino-5-(thiophen-2-yl)phenyl)-2-(pyridin-4-yl)thiazole-4-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.94 (s, 1H), 8.78 (m, 3H), 8.11 (dd, J=4.3, 1.6 Hz, 2H), 7.64 (d, J=2.2 Hz, 1H), 7.38 (dd, J=5.1, 1.0 Hz, 1H), 7.33 (dd, J=8.2, 2.1 Hz, 1H), 7.28 (dd, J=3.7, 1.2 Hz, 1H), 7.07 (dd, J=5.1, 3.7 Hz, 1H), 6.86 (d, J=8.4 Hz, 1H), 5.23 (s, 2H). **MS**: (calc.) 378.0; (obt.) 379.0 $(MH)^+$.	54
71d	258d		N-(2-amino-5-(thiophen-2-yl)phenyl)-1H-benzo[d]imidazole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.72 (s, 1H), 8.34 (s, 2H), 7.87 - 7.85 (m, 2H), 7.48 (d, J=1.8 Hz, 1H), 7.34 (dd, J=5.1, 1.0 Hz, 1H), 7.28 (dd, J=8.1, 5.2 Hz, 1H), 7.23 (dd, J=3.5, 1.2 Hz, 1H), 7.03 (dd, J=5.1, 3.6 Hz, 1H), 6.80 (d, J=8.4 Hz, 1H), 5.15 (s, 2H). **MS**: (calc.) 334.1; (obt.) 335.0 $(MH)^+$.	54

Ex	Cpd	Structure	Name	Characterization	Scheme
71e	258e		N-(2-amino-5-(thiophen-2-yl)phenyl)-2-naphthamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.90 (s, 1H), 8.62 (s, 1H), 8.07 - 7.98 (m, 4H), 7.63 - 7.60 (m, 2H), 7.51 (d, J=2.1 Hz, 1H), 7.34 (dd, J=5.1, 1.2 Hz, 1H), 7.30 (dd, J=8.4, 2.2 Hz, 1H), 7.24 (dd, J=3.5, 1.2 Hz, 1H), 7.04 (dd, J=5.1, 3.7 Hz, 1H), 6.81 (d, J=8.4 Hz, 1H), 5.21 (s, 2H).**MS**: (calc.) 344.1; (obt.) 345.1(MH)$^+$.	54
71f	258f		N-(2-amino-5-(thiophen-2-yl)phenyl)benzo[b]thiophene-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.99 (s, 1H), 8.32 (s, 1H), 8.03 (dd, J=8.4, 2.0 Hz, 1H), 7.97 (dd, J=6.6, 2.7 Hz, 1H), 7.49 - 7.43 (m, 3H), 7.33 (dd, J=5.0, 1.1 Hz, 1H), 7.30 (dd, J=8.2, 2.2 Hz, 1H), 7.24 (dd, J=3.6, 1.0 Hz, 1H), 7.03 (dd, J=5.2, 3.7 Hz, 1H), 6.80 (d, J=8.4 Hz, 1H), 5.24 (s, 2H).**MS**: (calc.) 350.0; (obt.) 351.0 (MH)$^+$.	54
71g	258g		N-(2-amino-5-(thiophen-2-yl)phenyl)-3,4-dihydro-2H-benzo[b][1,4]dioxepine-7-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.61 (s, 1H), 7.63 (d, J=2.2 Hz, 1H), 7.59 (dd, J=8.4, 2.2 Hz, 1H), 7.41 (d, J=2.0 Hz, 1H), 7.33 (d, J=5.1 Hz, 1H), 7.27 (dd, J=8.2, 2.2 Hz, 1H), 7.22 (dd, J=3.5, 1.0 Hz, 1H), 7.06 - 7.01 (m, 2H), 6.78 (d, J=8.4 Hz, 1H), 5.12 (br s, 2H), 4.22 - 4.17 (m, 4H), 2.16 (quintet, J=5.5 Hz, 2H) **MS**: (calc.) 366.1; (obt.) 367.1 (MH)$^+$.	54
71aa	258aa		4-acetamido-N-(2-amino-5-(thiophen-2-yl)phenyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.19 (s, 1H), 9.61 (s, 1H), 7.94 (d, J = 8.6 Hz, 2H), 7.68 (d, J = 8.6 Hz, 2H), 7.44 (d, J = 2.2 Hz, 1H), 7.34 (dd, J = 5.1, 1.2 Hz, 1H), 7.27 (dd, J = 8.2, 2.2 Hz, 1H), 7.23 (dd, J = 3.7, 1.2 Hz, 1H), 7.03 (dd, J = 5.1, 4.1 Hz, 1H), 6.79 (d, J = 8.4 Hz, 1H), 5.13 (s, 2H), 2.09 (s, 3H). **MS**: (calc.) 351.1; (obt.) 352.3 (MH)$^+$.	54
71bb	258bb		(E)-N-(2-amino-5-(thiophen-2-yl)phenyl)-3-(2,2-difluorobenzo[d][1,3]dioxol-5-yl)acrylamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.46 (s, 1H), 7.68 (s, 1H), 7.65 (d, J = 2.2 Hz, 1H), 7.57 (d, J = 7.8 Hz, 1H), 7.48 (s, 2H), 7.34 (dd, J = 5.2, 1.0 Hz, 1H), 7.23 (dd, J = 8.4, 2.2 Hz, 1H), 7.20 (dd, J = 3.6, 1.2 Hz, 1H), 7.03 (dd, J = 5.1, 3.7 Hz, 1H), 6.85 (d, J= 15.7 Hz, 1H), 6.76 (d, J = 8.4 Hz, 1H), 5.20 (s, 2H). **MS**: 400.07 (calc), 401.1 (obs).	54

Ex	Cpd	Structure	Name	Characterization	Scheme
71cc	258cc		N-(2-amino-5-(thiophen-2-yl)phenyl)quinoline-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.97 (s, 1H), 8.99 (dd, J= 4.1, 1.6 Hz, 1H), 8.68 (d, J = 1.8 Hz, 1H), 8.50 (d, J = 8.2 Hz, 1H), 8.29 (dd, J= 8.8, 2.0, 1H), 8.10 (d, J = 8.8 Hz, 1H), 7.62 (dd, J = 8.2, 4.3 Hz, 1H), 7.50 (d, J = 2.2 Hz, 1H), 7.34 (dd, J = 4.9, 0.98 Hz, 1H), 7.30 (dd, J= 8.2, 2.2 Hz, 1H), 7.24 (dd, J = 3.5, 1.2 Hz, 1H), 7.04 (dd, J= 5.1, 3.5 Hz, 1H), 6.82 (d, J= 8.2 Hz, 1H), 5.24 (s, 2H) **MS**: 345.09 (calc), 346.0 (obs).	54
71dd	258dd		(E)-N-(2-amino-5-(thiophen-2-yl)phenyl)-3-(3,4-dimethoxyphenyl)acrylamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.33 (s, 1H), 7.68 (d, J= 1.6 Hz, 1H), 7.49 (d, J= 15.5 Hz, 1H), 7.33 (dd, J= 5.1, 0.98 Hz, 1H), 7.22 (d, J= 2.2 Hz, 1H), 7.20 (d, J= 0.98 Hz, 2H), 7.19 (d, J= 1.2 Hz, 1H), 7.16 (d, J= 8.2 Hz, 1H), 7.02 (dd, J= 5.1, 3.7 Hz, 1H), 7.00 (d, J= 8.4 Hz, 1H), 6.76 (t, J= 8.6 Hz, 1H), 5.19 (s, 2H), 3.81 (s, 3H), 3.79 (s, 3H). **MS**: 380.12 (calc), 381.1 (obs).	54
71ee	258ee		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(1H-pyrrol-1-yl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.73 (s, 1H), 8.07 (d, J= 8.4 Hz, 2H), 7.73 (d, J= 8.4 Hz, 2H), 7.51 (d, J= 1.8 Hz, 2H), 7.44 (s, 1H), 7.33 (d, J= 5.1 Hz, 1H), 7.28 (dd, J= 8.2, 1.6 Hz, 1H), 7.23 (d, J= 3.5 Hz, 1H), 7.03 (t, J= 4.1 Hz, 1H), 6.79 (d, J= 8.4 Hz, 1H), 6.30 (s, 2H), 5.16 (s, 2H). **MS**: 359.11 (calc), 360.1 (obs).	54
71ff	258ff		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(1H-imidazol-1-yl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.79 (s, 1H), 8.40 (s, 1H), 8.12 (d, J= 8.4 Hz, 2H), 7.88 (s, 1H), 7.82 (d, J= 8.6 Hz, 2H), 7.45 (d, J= 1.8 Hz, 1H), 7.33 (dd, J= 4.9, 0.78 Hz, 1H), 7.29 (dd, J= 8.2, 2.2 Hz, 1H), 7.23 (d, J= 3.5 Hz, 1H), 7.13 (s, 1H), 7.04 to 7.02 (m, 1H), 6.79 (d, J= 8.4 Hz, 1H), 5.19 (s, 2H). **MS**: 360.1 (calc), 361.1 (obs).	54
71gg	258gg		N-(2-amino-5-(thiophen-2-yl)phenyl)-3,5-dimethoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.68 (s, 1H), 7.40 (d, J= 2.0 Hz, 1H), 7.32 (dd, J= 5.1, 1.2 Hz, 1H), 7.27 (dd, J= 8.2, 2.2 Hz, 1H), 7.21 (dd, J= 3.5, 1.2 Hz, 1H), 7.13 (d, 2.2 Hz, 2H), 7.01 (dd, J= 5.1, 3.5 Hz, 1H), 6.78 (d, J= 8.2 Hz, 1H), 6.66 (t, J= 2.2 Hz, 1H), 5.11 (s, 2H), 3.79 (s, 6H). **MS**: 354.1 (calc), 355.1 (obs).	54

Ex	Cpd	Structure	Name	Characterization	Scheme
71hh	258hh		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-((4,6-dimethylpyrimidin-2-yl)(methyl)amino)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.72 (1H,s), 7.97 (2H,d,8.6 Hz), 7.50 to 7.46 (3H,m,), 7.34 (1H,dd,3.9 and 1.2 Hz), 7.28 (1H,dd,6.1 and 2.3 Hz), 7.23 (1H,dd,2.3 and 1.2 Hz), 7.04 (1H,dd,3.5 and 1.4 Hz), 6.79 (1H,d,8.4 Hz), 6.59 (1H,s), 5.18 (2H,s), 3.52 (3H,s), 2.25 (6H,s,) **MS**: 429.2 (calc), 430.2 (obs).	54
71ii	258ii		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-morpholinobenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.49 (1H,s), 7.88 (2H,d,8.6 Hz), 7.43 (1H,s), 7.35 (1H,d,8.0 Hz), 7.26 to 7.21 (2H,m), 7.04 to 6.99 (3H,m), 6.78 (1H,d,8.4), 5.1 (2H,s), 3.74 to 3.73 (4H,m), 3.29 to 3.23 (4H,m) **MS**: 379.1 (calc), 380.1 (obs).	54
71jj	258jj		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(3-methyl-5-oxo-4,5-dihydropyrazol-1-yl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.70 (1H,s), 8.03 (2H,d,8.8 Hz), 7.93 (1H,d,8.8), 7.70 - 7.62 (1H,m), 7.46 (1H,d,2.2 Hz), 7.34 (1H,dd,4.1 and 1.0 Hz), 7.28 (1H,dd,6.1 and 2.2 Hz), 7.24 (1H,dd,2.5 and 1.0), 7.03 (1H,dd, 3.5 and 1.6), 6.80 (1H,d,8.4 Hz), 5.14 (1H,s), 4.19 (2H,m), 2.12 (3H,s) **MS**: 390.1 (calc), 391.2 (obs).	54
71kk	258kk		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-(4-methylpiperazin-1-yl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.48 (s, 1H), 7.87 (d, J= 9.0 Hz, 2H), 7.44 (d, J= 2.2 Hz, 1H), 7.34 (d, J= 4.9 Hz, 1H), 7.26 (dd, J= 8.4, 2.2 Hz, 1H), 7.23 (d, J= 3.5 Hz, 1H), 7.03 (dd, J= 5.1, 3.7 Hz, 1H), 6.99 (d, J= 9.0 Hz, 2H), 6.79 (d, J= 8.2 Hz, 1H), 5.09 (s, 2H), 3.36 (t, J= 6.7 Hz, 4H), 2.45 (t, J= 4.9 Hz, 4H), 2.23 (s, 3H). **MS**: 392.17 (calc), 393.2 (obs).	54
71ll	258ll		N-(2-amino-5-(thiophen-2-yl)phenyl)benzo[d]thiazole-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.87 (s, 1H), 9.55 (s, 1H), 8.83 (s, 1H), 8.17 (q, J= 8.4 Hz, 2H), 7.50 (s, 1H), 7.35 (d, J= 5.1 Hz, 1H), 7.30 (dd, J= 8.2, 1.8 Hz, 1H), 7.24 (d, J= 3.3 Hz, 1H), 7.04 (t, J= 4.5 Hz, 1H), 6.84 (d, J= 8.4 Hz, 1H), 5.23 (s, 2H). **MS**: 351.05 (calc), 352.0 (obs).	54

Ex	Cpd	Structure	Name	Characterization	Scheme
71mm	258mm		4-((2-amino-5-(thiophen-2-yl)phenyl)carbamoyl)phenyl 4-hydroxybenzoate	**^{1}H NMR: (DMSO) δ (ppm):** 9.76 (1H,s), 8.07 (2H,d,8.6), 7.97 (2H,d,8.4 Hz), 7.46 (1H,s), 7.39 - 7.33 (3H,m), 7.29 (1H,dd,6.1 and 2.2), 7.24 (1H,d,3.5), 7.04 (1H,dd,3.5 and 1.6 Hz), 6.91 - 6.89 (2H,m), 6.80 (1H,d,8.4), 5.19 (2H,s), 4.15 (1H,s). **MS**: 430.1 (calc), 431.1 (obs).	54
71nn	**258nn**		N-(2-amino-5-(thiophen-2-yl)phenyl)thiophene-3-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.58 (s, 1H), 8.32 (s, 1H), 7.62 (d, J= 2.0 Hz, 2H), 7.42 (d, J= 2.0 Hz, 1H), 7.34 (d, J= 5.1 Hz, 1H), 7.28 (dd, J= 8.2, 2.0 Hz, 1H), 7.23 (d, J= 2.9 Hz, 1H), 7.03 (dd, J= 5.1, 3.7 Hz, 1H), 6.79 (d, J= 8.4 Hz, 1H), 5.15 (s, 2H). **MS**: 300.04 (calc) 301.1 (obs)	54
71oo	258oo		N-(2-amino-5-(thiophen-2-yl)phenyl)-3-methylbenzo[b]thiophene-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.58 (s, 1H), 7.97 (dt, J= 41.5, 3.7 Hz, 2H), 7.54 (s, 1H), 7.49 (t, J= 5.1 Hz, 1H), 7.29 (dd, J= 8.2, 2.0 Hz, 1H), 7.24 (d, J= 2.9 Hz, 1H), 7.04 (t, J= 4.9 Hz, 1H), 6.82 (d, J= 8.4 Hz, 1H), 5.17 (s, 2H), 2.68 (s, 3H). **MS**: 364.07 (calc) 365.1 (obs)	54
71pp	258pp		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-hydroxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.49 (1H,s), 7.85 (2H,d,8.6), 7.43 (1H,s,), 7.34 (1H,d,5.1 Hz), 7.26 (1H,d,6.1 Hz), 7.22 (1H,d,3.5 Hz), 7.03 (1H,dd,5.1 and 0 Hz), 6.84 - 6.77 (3H,m), 5.09 (2H,s) **MS**: 310.1 (calc), 311.1 (obs).	54
71qq	258qq		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.59 (s, 1H); 7.97 (d, J=8.8 Hz; 2H); 7.43 (d; J=2.2 Hz; 1H); 7.34 (dd; J=1.2, 5.1 Hz; 1H); 7.27 (dd; J=2.2, 8.2 Hz; 1H); 7.23 (dd; J=1.2, 3.5 Hz; 1H); 7.04 (d; J=8.8 Hz; 2H); 7.03 (m, 1H); 6.79 (d; J=8.2 Hz; 1H); 5.12 (bs, 2H); 3.84 (s, 3H).**MS**: calc: 324.4; found: 325.2 (M+H)	54
71rr	258rr		N-(2-amino-5-(thiophen-2-yl)phenyl)-4-bromobenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.78 (s, 1H); 7.93 (d, J=8.5 Hz; 2H); 7.71 (d, J=8.5 Hz; 2H); 7.43 (d; J=1.9 Hz; 1H); 7.33 (dd; J=1.2, 5.1 Hz; 1H); 7.28 (dd; J=1.9, 8.3 Hz; 1H); 7.23 (dd; J=1.2, 3.5 Hz; 1H); 7.03 (dd; J= 3.5, 5.1 Hz; 1H); 6.78 (d; J=8.3 Hz; 1H); 5.20 (bs, 2H).**MS**: calc: 371.9 and 373.9; found: 373.1 and 375.1 (M+H)	54

Ex	Cpd	Structure	Name	Characterization	Scheme
71ss	258ss		N-(2-amino-5-(thiophen-2-yl)phenyl)benzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.73 (s, 1H); 7.99 (s, 1H); 7.97 (s, 1H); 7.56 (d, J=7.2 Hz; 1H); 7.50 (m, 2H); 7.45 (d; J=2.1 Hz; 1H); 7.33 (dd; J=1.0, 5.1 Hz; 1H); 7.28 (dd; J=2.1, 8.2 Hz; 1H); 7.23 (dd; J=1.0, 3.5 Hz; 1H); 7.03 (dd; J= 3.5, 5.1 Hz; 1H); 6.79 (d; J=8.2 Hz; 1H); 5.12 (bs, 2H).**MS**: calc: 334.4; found: 335.1 (M+H)	54
71tt	258tt		N-(2-amino-5-(thiophen-2-yl)phenyl)benzamide	**^{1}H NMR: (CD3OD) δ (ppm):** 8.52 (s, 1H); 7.76 (d; J=7.4 Hz; 1H); 7.65 (d; J= 8.4 Hz; 1H); 7.63 (s, 1H); 7.56 (d; J= 2.0 Hz; 1H); 7.49 (m, 1H); 7.37 (dd; J=2.1, 8.3 Hz; 1H); 7.34 (m, 1H); 7.23 (m, 2H); 7.02 (dd; J=3.7, 5.3 Hz; 1H); 6.91 (d; J=8.3 Hz; 1H).**MS**: calc: 294.4; found: 295.2 (M+H)	54
71uu	258uu		N-(2-amino-5-(thiophen-2-yl)phenyl)-3,4-dihydro-4-methyl-2H-benzo[b][1,4]oxazine-7-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.40 (s, 1H), 7.50 (d, J= 8.4 Hz, 1H), 7.42 (s, 1H), 7.34 (d, J= 5.3 Hz, 2H), 7.25 (d, J= 8.2 Hz, 1H), 7.22 (d, J= 2.7 Hz, 1H), 7.03 (t, J= 4.9 Hz, 1H), 6.78 (d, J= 8.4 Hz, 1H), 6.73 (d, J= 8.6 Hz, 1H), 5.06 (s, 2H), 4.23 (d, J= 4.1 Hz, 2H), 3.30 (m, 2H), 2.93 (s, 3H) **MS**: 365.12 (calc) 366.1 (obs)	54
71ww	258ww		N-(2-amino-5-(thiophen-2-yl)phenyl)-7-methoxybenzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.90 (s, 1H); 7.71 (s, 1H); 7.46 (d, J= 2.0 Hz; 1H); 7.35 (s, 1H); 7.34 (m, 1H); 7.30 (dd; J=2.0, 8.4 Hz; 1H); 7.27 (d; J= 7.9 Hz; 1H); 7.24 (m, 1H); 7.08 (d; J= 7.9 Hz; 1H); 7.04 (dd; J= 3.7, 5.1 Hz; 1H); 6.80 (d; J=8.2 Hz; 1H); 5.12 (bs, 2H); 3.98 (s; 3H). **MS**: calc: 364.4; found: 365.1 (M+H)	54
72a	261a		N-(2-amino-5-(thiophen-2-yl)phenyl)-5-bromobenzo[b]thiophene-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.08 (s, 1H), 8.27 (s, 1H), 8.23 (d, J=1.8 Hz, 1H), 8.02 (d, J=8.6 Hz, 1H), 7.60 (dd, J=8.6, 2.0 Hz, 1H), 7.43 (d, J=2.3 Hz, 1H), 7.34 (dd, J=5.0, 1.2 Hz, 1H), 7.30 (dd, J=8.2, 2.2 Hz, 1H), 7.24 (dd, J=3.5, 1.2 Hz, 1H), 7.03 (dd, J=5.1, 3.5 Hz, 1H), 6.79 (d, J=8.2 Hz, 1H), 5.25 (s, 2H). **MS**: (calc.) 429.0 (d) ; (obt.) 430.0 (d) $(MH)^+$.	55

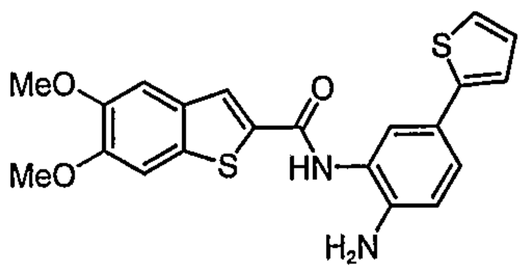
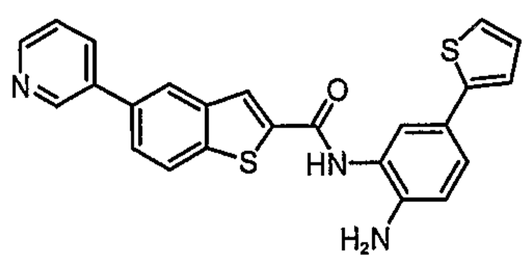
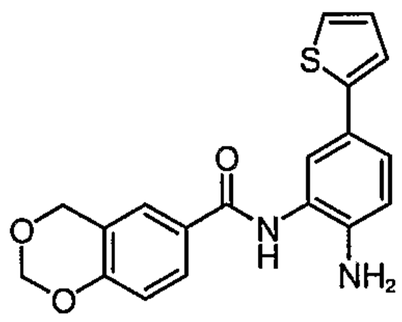
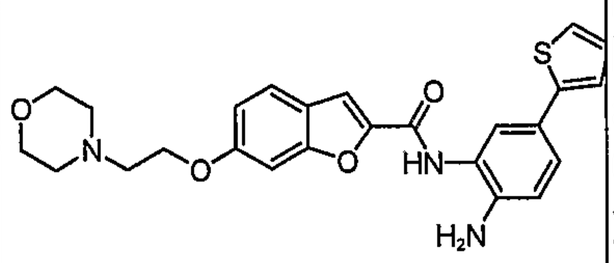
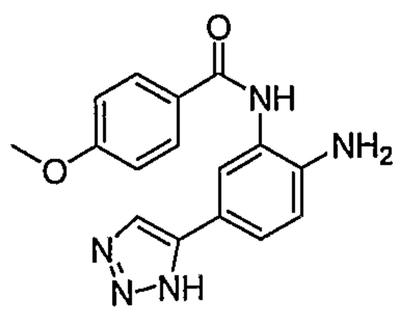
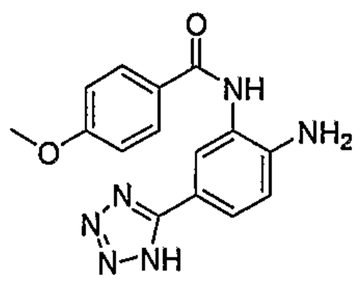
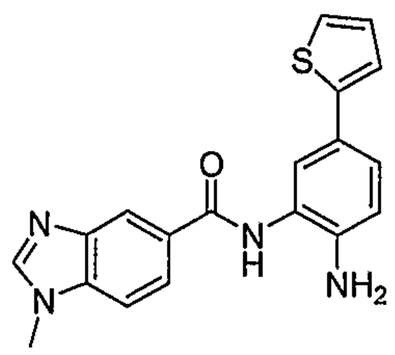
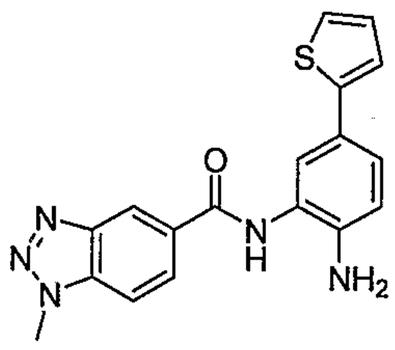
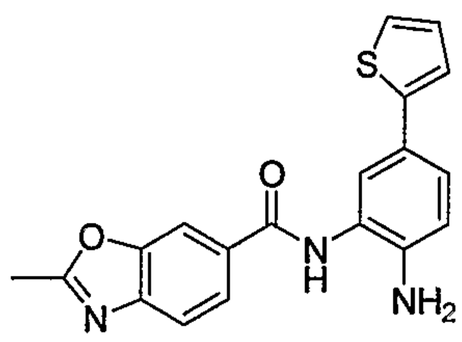
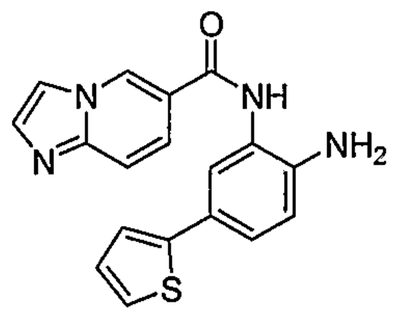
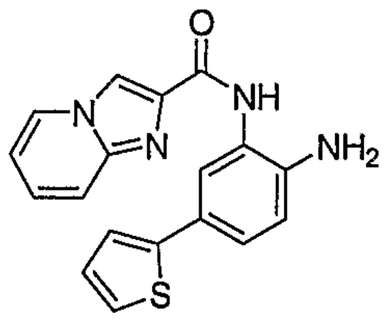
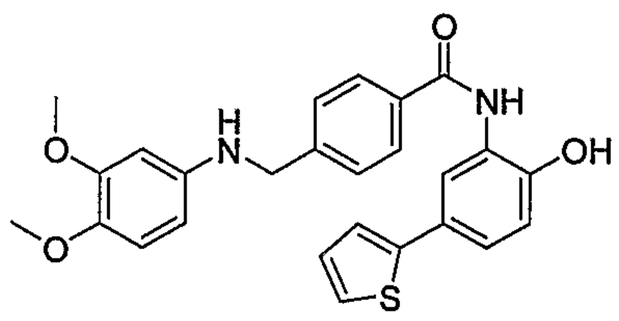
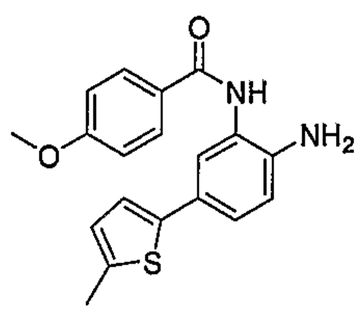
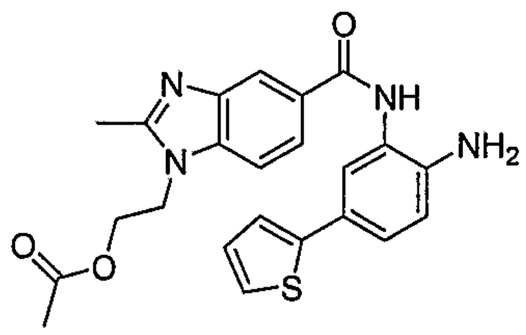
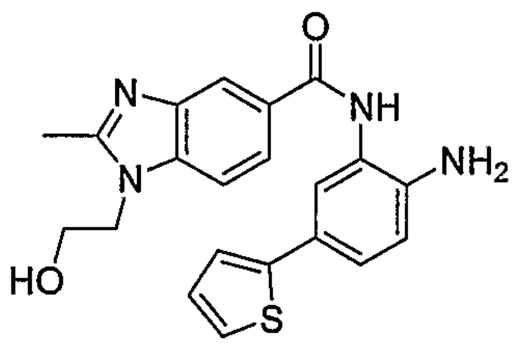
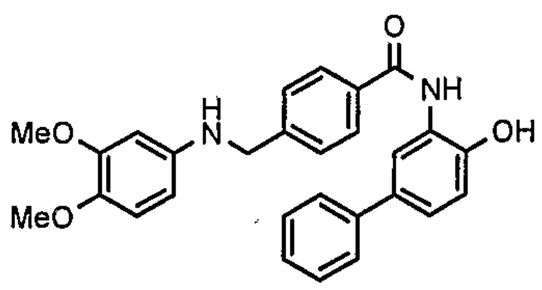
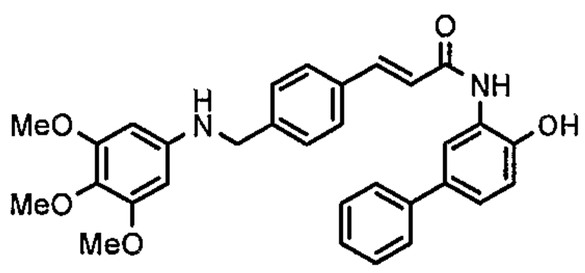
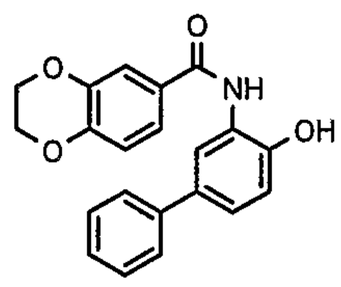
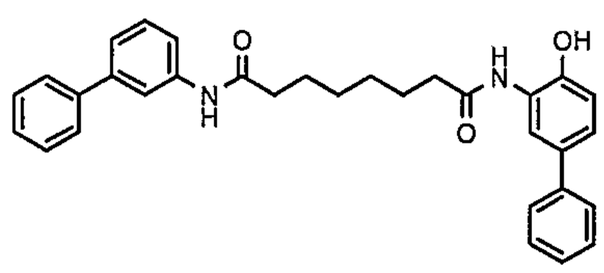
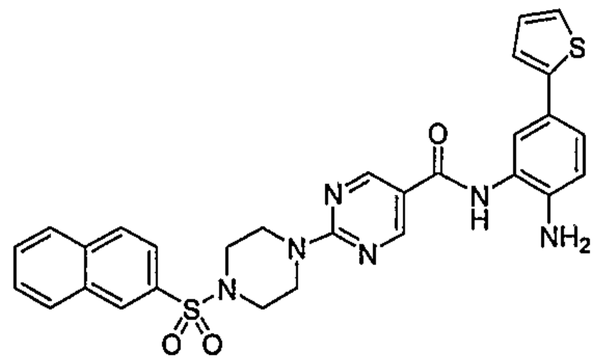
Ex	Cpd	Structure	Name	Characterization	Scheme
72b	261b		N-(2-amino-5-(thiophen-2-yl)phenyl)-5,6-dimethoxybenzo[b]thiophene-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.87 (s, 1H), 8.14 (s, 1H), 7.58 (s, 1H), 7.44 (d, J=2.2 Hz, 1H), 7.41 (s, 1H), 7.34 (dd, J=5.1, 1.1 Hz, 1H), 7.29 (dd, J=8.4, 2.3 Hz, 1H), 7.03 (dd, J=4.9, 3.5 Hz, 1H), 6.80 (d, J=8.4 Hz, 1H), 5.20 (s, 2H), 3.85 (s, 3H), 3.84 (s, 3H). **MS**: (calc.) 410.1; (obt.) 411.1 $(MH)^+$.	55
73	262		N-(2-amino-5-(thiophen-2-yl)phenyl)-5-(pyridin-3-yl)benzo[b]thiophene-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.09 (s, 1H), 8.99 (dd, J=2.3, 0.8 Hz, 1H), 8.58 (dd, J=4.7, 1.6 Hz, 1H), 8.38 (s, 1H), 8.33 (d, J=1.4Hz, 1H), 8.17 (ddd, J=9.6, 3.9, 1.8 Hz, 1H), 7.83 (dd, J=8.5, 1.8 Hz, 1H), 7.53 - 7.50 (m, 2H), 7.46 (d, J=2.2 Hz, 1H), 7.34 (dd, J=5.1, 1.2 Hz, 1H), 7.31 (dd, J=8.2, 2.2 Hz, 1H), 7.25 (dd, J=3.5, 1.2 Hz, 1H), 7.03 (dd, J=5.1, 3.7 Hz, 1H), 6.81 (d, J=8.4 Hz, 1H), 5.74 (s, 2H). **MS**: (calc.) 427.1; (obt.) 428.1 $(MH)^+$.	57
74	264		N-(2-amino-5-(thiophen-2-yl)phenyl)-4H-benzo[d][1,3]dioxine-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.60 (s, 1H), 7.82 (dd, J=8.6, 2.2 Hz, 1H), 7.74 (d, J=2.1 Hz, 1H), 7.41 (d, J=2.1 Hz, 1H), 7.33 (dd, J=5.1, 1.2 Hz, 1H), 7.26 (dd, J=8.4, 2.3 Hz, 1H), 7.21 (dd, J=3.5, 1.2 Hz, 1H), 7.02 (dd, J=5.1, 3.8 Hz, 1H), 6.94 (d, J=8.6 Hz, 1H), 6.77 (d, J=8.4 Hz, 1H), 5.32 (s, 2H), 5.11 (s, 2H), 4.94 (s, 2H).**MS**: (calc.) 352.1; (obt.) 353.1 $(MH)^+$.	57
75	269		6-(2-morpholinoethoxy)-N-(2-amino-5-(thiophen-2-yl)phenyl)benzofuran-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 7.21 (d, 1H), 7.14 (d, 2H), 6.95 (d, 1H), 6.84 – 6.79 (m, 3H), 6.62 – 6.57 (m, 2H), 6.49 (d, 1H), 3.80 (m, 2H), 3.30 (m, 4H), 2.46 (m, 2H), 2.21 (m, 4H). **MS**: (calc.) 463.2; (obt.) 464.2 $(MH)^+$.	58

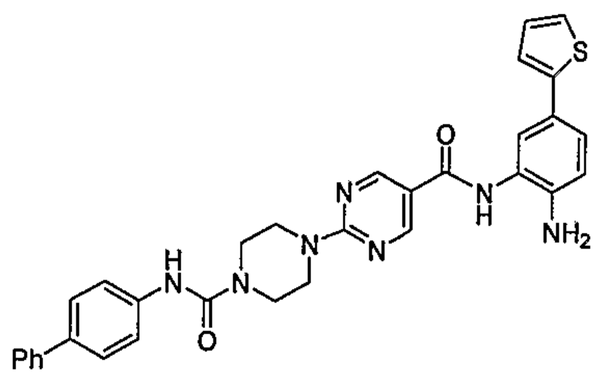
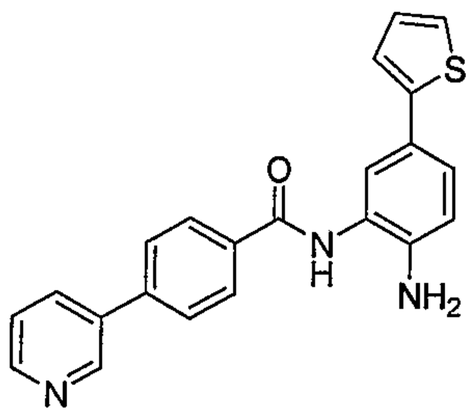
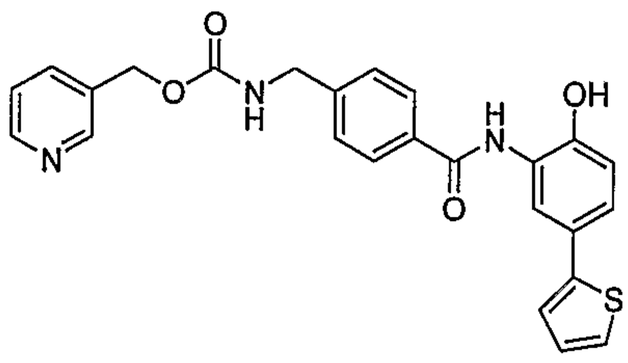
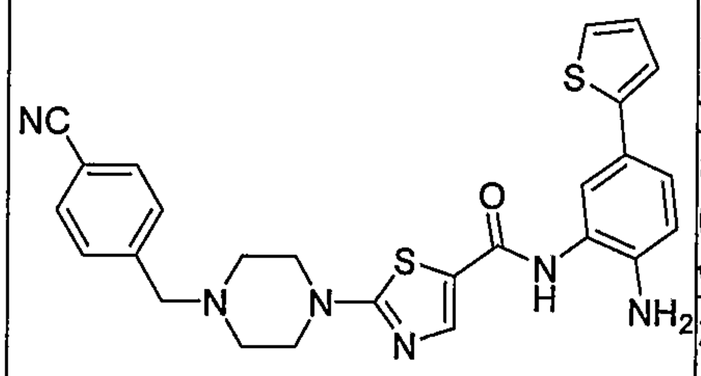
Table 1a (cont.)

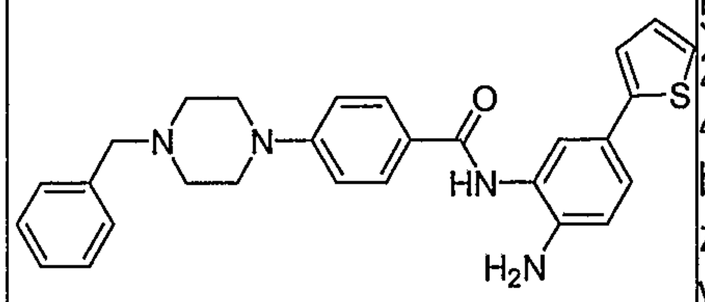
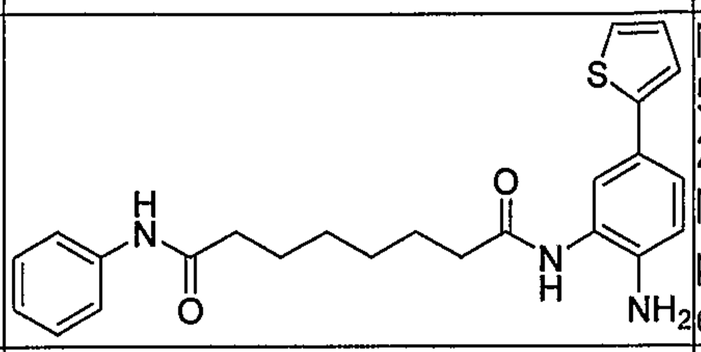
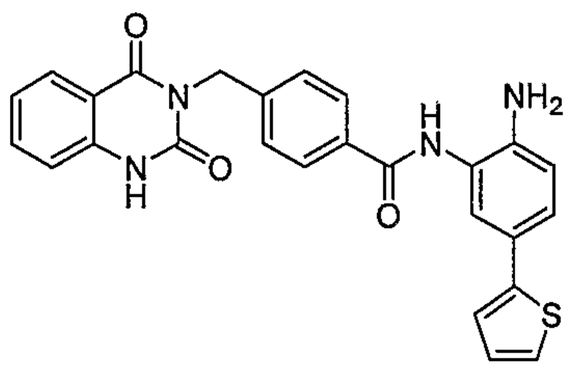
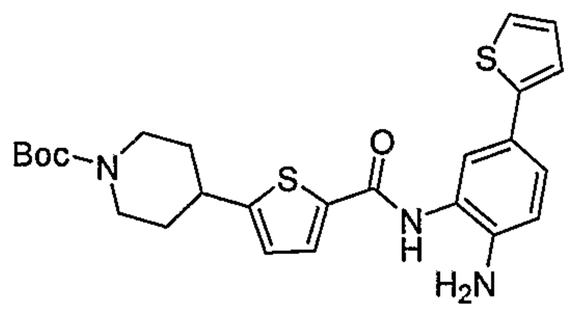
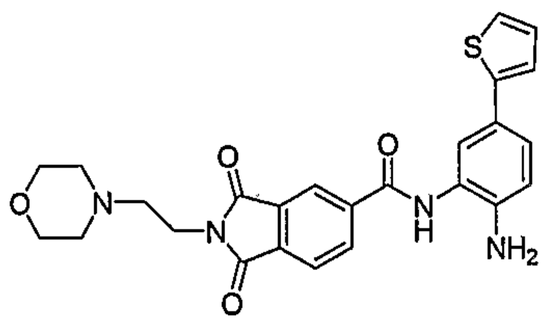
Ex	Cpd	Structure	Name	Characterization	Scheme
76	273		N-(2-amino-5-(3H-1,2,3-triazol-4-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.62 (s, 1H); 8.08 (bs, 2H); 7.97 (d, J=8.5 Hz; 2H); 7.62 (s, 1H); 7.45 (d, J=8.2 Hz; 1H); 7.03 (d, J=8.5 Hz; 2H); 6.82 (d, J=8.2 Hz; 1H); 5.11 (bs, 2H); 3.83 (s, 3H). **MS**: calc: 309.3; found: 310.1 (M+H)	59

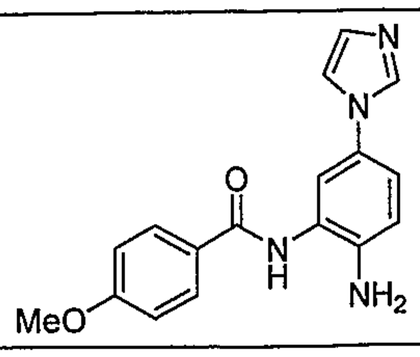
Ex	Cpd	Structure	Name	Characterization	Scheme
77	277		N-(2-amino-5-(1H-tetrazol-5-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.63 (s, 1H); 7.98 (d, J=8.8 Hz; 2H); 7.81 (d, J= 2.0 Hz; 1H); 7.61 (dd; J=2.0, 8.4 Hz; 1H); 7.04 (d, J= 8.8 Hz; 2H); 6.85 (d, J= 8.4 Hz; 1H); 3.85 (s, 3H). **MS**: calc: 310.3; found: 311.1 (M+H)	61
78	283		N-(2-amino-5-(thiophen-2-yl)phenyl)-1-methyl-1H-benzo[d]imidazole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.75 (s, 1H), 8.38 (d, J= 1.0 Hz, 1H), 8.34 (s, 1H), 7.95 (dd; J=1.4, 8.4 Hz; 1H); 7.68 (d, J= 8.4 Hz, 1H), 7.50 (d; J=2.2 Hz; 1H); 7.34 (dd; J=1.0, 5.0 Hz; 1H); 7.28 (dd; J=2.2, 8.4 Hz; 1H); 7.24 (dd; J=1.4, 3.6 Hz; 1H); 7.04 (dd; J= 3.6, 5.0 Hz; 1H); 6.81 (d; J=8.4 Hz; 1H); 3.90 (s, 3H). **MS**: calc: 348.4; found: 349.1 (M+H)	62
79	286		N-(2-amino-5-(thiophen-2-yl)phenyl)-1-methyl-1H-benzo[d][1,2,3]triazole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.88 (s, 1H); 8.75 (s, 1H), 8.15 (dd; J=1.0, 8.6 Hz; 1H); 7.95 (dd, J= 1.0, 8.6 Hz, 1H), 7.49 (d, J= 2.0 Hz, 1H), 7.34 (dd; J=1.2, 5.1 Hz; 1H); 7.30 (dd; J=2.0, 8.3 Hz; 1H); 7.24 (dd; J=1.2, 3.5 Hz; 1H); 7.04 (dd; J= 3.5, 5.1 Hz; 1H); 6.81 (d; J=8.3 Hz; 1H); 5.24 (bs, 2H); 4.37 (s, 3H). **MS**: calc: 349.4; found:350.1 (M+H)	62
79aa	286aa		N-(2-amino-5-(thiophen-2-yl)phenyl)-2-methylbenzo[d]oxazole-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.80 (s, 1H); 8.29 (d, J= 1.4 Hz, 1H),), 8.00 (dd; J=1.4, 8.4 Hz; 1H); 7.76 (d, J= 8.2 Hz, 1H), 7.46 (d; J=2.0 Hz; 1H); 7.34 (dd; J=1.0, 5.0 Hz; 1H); 7.30 (dd; J=2.0, 8.4 Hz; 1H); 7.23 (dd; J=1.0, 3.5 Hz; 1H); 7.04 (dd; J= 3.5, 5.0 Hz; 1H); 6.80 (d; J=8.2 Hz; 1H); 5.20 (bs, 2H); 2.67 (s, 3H). **MS**: calc: 349.4; found: 350.0 (M+H)	62
80	291		N-(2-amino-5-(thiophen-2-yl)phenyl)H-imidazo[1,2-a]pyridine-6-carboxamide	**^{1}H NMR: (CD3OD) δ (ppm):** 9.19 (s, 1H); 7.99 (s, 1H); 7.86 (d; J=8.5 Hz; 1H); 7.67 (s, 1H); 7.64 (d; J=8.5 Hz; 1H); 7.50 (s, 1H); 7.37 (d; J= 8.5 Hz; 1H); 7.22 (d; J= 4.9 Hz; 1H); 7.21 (m, 1H); 7.01 (t; J= 4.9 Hz; 1H); 6.91 (d; J=8.5 Hz; 1H). **MS**: calc: 334.4; found: 335.1 (M+H)	63

Ex	Cpd	Structure	Name	Characterization	Scheme
81	296		N-(2-amino-5-(thiophen-2-yl)phenyl)H-imidazo[1,2-a]pyridine-2-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.73 (s, 1H), 8.62 (dt, J= 1.2; 6.8 Hz, 1H), 8.50 (d, J= 0.7 Hz; 1H); 7.76 (d; J=2.2 Hz; 1H); 7.66 (d, J= 0.7 Hz, 1H), 7.39 (dd; J=1.6, 6.8 Hz; 1H); 7.36 (dt; J=1.6, 4.9 Hz; 1H); 7.26 (dd; J=2.2, 8.2 Hz; 1H); 7.24 (dd; J= 1.2, 3.6 Hz; 1H); 7.05 (m; 1H); 7.01 (dd; J= 1.2, 6.8 Hz; 1H); 6.84 (d; J=8.2 Hz; 1H); 5.13 (bs, 2H). **MS**: calc: 334.4; found: 335.1 (M+H).	64
82	301		4-((3,4-dimethoxyphenylamino)methyl)-N-(2-hydroxy-5-(thiophen-2-yl)phenyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.1 (s, 1H); 9.52 (s, 1H); 8.00 (s, 1H); 7.92 (d, J=7.0, 2H); 7.49 (d, J=7.0, 2H); 7.42 (m, 1H); 7.33 (d, J=8.0, 1H); 7.29 (s, 1H); 7.07 (s, 1H); 6.93 (d, J=8.0, 1H); 6.65 (d, J=8.5, 1H); 6.32 (s, 1H); 5.98 (m, 2H); 4.30 (s, 2H); 3.65 (s, 3H); 3.58 (s, 3H). **MS**: calc: 460.5; found: 461.1 (M+H)	65
83	302		N-(2-amino-5-(5-methylthiophen-2-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.60 (s, 1H), 7.96 (d, J = 8.0, Hz, 2H); 7.36 (d, J = 2.1 Hz, 1H); 7.20 (dd, J = 2.1, 8.3 Hz, 1H); 7.03 (d, J = 8.0, Hz, 2H); 7.00 (d, J = 3.5 Hz, 1H); 6.78 (d, J = 8.3 Hz, 1H), 6.70 (dd, J = 1.1, 3.5 Hz, 1H); 3.83 (s, 3H); 2.42 (d, J = 1.1 Hz, 3H). **MS**: calc: 338.4; found: 338.4 (M+H).	66
84	308		2-(5-((2-amino-5-(thiophen-2-yl)phenyl)carbamoyl)-2-methyl-1H-benzo[d]imidazol-1-yl)ethyl acetate	**^{1}H NMR: (DMSO) δ (ppm):** 9.70 (s, 1H), 8.23 (s, 1H), 7.87 (dd; J=1.0, 8.4 Hz; 1H); 7.62 (d, J= 8.4 Hz, 1H), 7.48 (d; J=2.0 Hz; 1H); 7.34 (dd; J=0.8, 4.8 Hz; 1H); 7.28 (dd; J=2.0, 8.0 Hz; 1H); 7.23 (dd; J=0.8, 3.6 Hz; 1H); 7.03 (dd; J= 1.2, 4.8 Hz; 1H); 6.81 (d; J=8.0 Hz; 1H); 5.15 (bs, 2H); 4.52 (t; J=4.8 Hz; 2H); 4.35 (t; J=4.8 Hz; 2H); 2.60 (s, 3H); 1.91 (s, 3H). **MS**: calc: 434.5; found: 435.2 (M+H)	67
85	309		N-(2-amino-5-(thiophen-2-yl)phenyl)-1-(2-hydroxyethyl)-2-methyl-1H-benzo[d]imidazole-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.70 (s, 1H), 8.22 (s, 1H), 7.84 (dd; J=1.4, 8.2 Hz; 1H); 7.57 (d, J= 8.4 Hz, 1H), 7.49 (d; J=2.2 Hz; 1H); 7.34 (dd; J=1.4, 5.1 Hz; 1H); 7.28 (dd; J=2.2, 8.2 Hz; 1H); 7.23 (dd; J=1.0, 3.5 Hz; 1H); 7.04 (dd; J= 3.5, 5.1 Hz; 1H); 6.80 (d; J=8.4 Hz; 1H); 5.14 (bs, 2H); 5.00 (bs, 1H); 4.28 (t; J=5.4 Hz; 2H); 3.72 (t; J=5.4 Hz; 2H); 2.59 (s, 3H); **MS**: calc: 392.5; found: 393.2 (M+H)	67

Ex	Cpd	Structure	Name	Characterization	Scheme
86	312		4-((3,4-dimethoxyphenylamino)methyl)-N-(2-hydroxy-5-(phenyl)phenyl)benzamide	**^{1}H NMR: (DMSO) δ (ppm):** 3.62 (s,3H), 3.69 (s,3H), 4.34 (d, *J* = 5.7 Hz, 2H), 6.03 (m,2H), 6.35 (d, *J* = 2.2 Hz, 1H), 6.68 (d, *J* = 8.4 Hz, 1H), 7.03 (d, *J* = 8.4 Hz, 1H), 7.32 (t, *J* = 7.2 Hz, 1H), 7.37 (dd, *J* = 10.4, 1.6 Hz, 1H), 7.45 (t, *J* = 7.6 Hz, 2H), 7.52 (d, *J* = 8.0 Hz, 2H), 7.59 (d, *J* = 7.6 Hz, 2H), 7.95 (d, *J* = 8.0 Hz, 2H), 8.03 (br s,1H), 9.58 (br s,1H), 10.00 (br s,1H) **MS:** (calc.) 454.5; (obt.) 455.4 $(MH)^+$	68
87	313		(E)-3-(4-((3,4,5-trimethoxyphenylamino)methyl-phenyl)-N-(2-hydroxy-5-(phenyl)phenyl)acrylamide	**^{1}H NMR: (DMSO) δ (ppm):** 3.54 (s,3H), 3.68 (s,3H), 4.30 (d, *J* = 5.9 Hz, 2H), 5.92 (s,2H), 6.13 (t, *J* = 6.3 Hz, 1H), 7.01 (d, *J* = 8.2 Hz, 1H), 7.21 (d, *J* = 15.7 Hz, 1H), 7.29 (dd, *J* = 8.4, 2.3 Hz, 1H), 7.33 (d, *J* = 7.2 Hz, 1H), 7.42-7.50 (m,4H), 7.54-7.64 (m,4H), 8.34 (s,1H), 9.55 (br s,1H), 10.21 (br s,1H) **MS:** (calc.) 510.6; (obt.) 511.2 $(MH)^+$	68
88	314		2,3-dihydro-N-(2-hydroxy-5-(phenyl)phenyl)benzo[b][1,4]dioxine-6-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 4.30 (d, *J* = 5.9 Hz, 2H), 6.98 (d, *J* = 8.3 Hz, 1H), 7.26-7.36 (m,2H), 7.42 (t, *J* = 7.3 Hz, 2H), 7.50-7.60 (m,2H), 7.97 (br s,1H), 9.47 (br s,1H), 9.93 (br s,1H) **MS:** (calc.) 347.4; (obt.) 348.1 $(MH)^+$	68
89	315		N^1-(2-hydroxy-5-(phenyl)phenyl)-N^8-(3-(phenyl)phenyl)octanediamide	**^{1}H NMR: (DMSO) δ (ppm):** 1.34-1.46 (m,4H), 1.60-1.74 (m,4H), 2.38 (t, *J* = 6.8 Hz, 2H), 2.47 (t, *J* = 7.0 Hz, 2H), 6.98 (d, *J* = 8.2 Hz, 1H), 7.20-7.70 (m,15H), 7.96 (s,1H), 8.10 (s,1H), 9.34 (br s,1H), 10.00 (br s,1H) **MS:** (calc.) 492.6; (obt.) 493.5 $(MH)^+$	69
90	320		2-[4-(Naphthalene-2-sulfonyl)-piperazin-1-yl]-pyrimidine-5-carboxylic acid (2-amino-5-thiophen-2-yl-phenyl)-amide	**^{1}H NMR: (400.2 MHz, DMSO) δ (ppm):** 9.52 (bs, 1H); 8.83 (s, 2H); 8.44 (s, 1H); 8.20 (d, J= 7.6 Hz, 1H); 8.15 (d, J= 8.6 Hz, 1H); 8.05 (d, J= 8.0 Hz, 1H); 7.75 (dd; J=1.8, 8.6 Hz; 1H); 7.69 (m, 2H); 7.37 (d, J= 1.8 Hz, 1H); 7.31 (dd; J=1.2, 5.1 Hz; 1H); 7.25 (dd; J=2.2, 8.4 Hz; 1H); 7.19 (dd; J= 1.2, 3.5 Hz; 1H); 7.01 (dd; J= 3.5, 5.1 Hz; 1H); 6.74 (d, J= 8.2 Hz, 1H); 5.16 (bs, 2H); 3.96 (t, J= 4.3 Hz, 4H);); 3.07 (t, J= 4.3 Hz, 4H); **MS:** calc: 570.7; found: 571.3 (M+H)	70

Ex	Cpd	Structure	Name	Characterization	Scheme
91	323		2-[4-(Biphenyl-4-ylcarbamoyl)-piperazin-1-yl]-pyrimidine-5-carboxylic acid (2-amino-5-thiophen-2-yl-phenyl)-amide	**^{1}H NMR: (400.2 MHz, DMSO) δ (ppm):** 9.59 (bs, 1H); 8.93 (s, 2H); 8.75 (bs, 1H); 7.63 (d, J= 1.2 Hz, 1H); 7.61 (m, 1H); 7.57 (m, 4H); 7.41 (m, 3H); 7.33 (dd; J= 1.2, 5.1 Hz; 1H); 7.29 (m, 2H); 7.23 (dd; J= 1.2, 2.5 Hz; 1H); 7.03 (dd; J= 3.7, 5.1 Hz; 1H); 6.78 (d, J= 8.2 Hz, 1H); 5.22 (bs, 2H); 3.93 (t, J= 3.9 Hz, 4H);); 3.60 (t, J= 3.9 Hz, 4H). **MS:** calc: 575.7; found: 576.3 (M+H)	71
92	327		*N*-(2-Amino-5-(thiophen-2-yl)phenyl)-4-(pyridin-3-yl)benzamide	**^{1}H NMR: (400 MHz, DMSO-d_6) δ (ppm):** 9.80 (s, 1H), 8.98 (d, J=2.2 Hz, 1H), 8.60 (dd, J=4.7, 1.6 Hz, 1H), 8.17 (d, J=8.6 Hz, 1H), 8.12 (d, J=8.0 Hz, 2H), 7.90 (d, J=8.6 Hz, 2H), 7.52 (dd, J=7.2, 4.1 Hz, 1H), 7.48 (s, 1H), 7.35 (d, J=4.1 Hz, 1H), 7.29 (dd, J=8.4, 2.3 Hz, 1H), 7.24 (d, J=3.3 Hz, 1H), 7.04 (dd, J=5.1, 1.4, 1H), 6.80 (d, J=8.2 Hz, 1H), 5.19 (s, 2H). **LRMS:** (m/z): 372.3 (MH^+).	72
93	333		(Pyridin-3-yl) methyl 4-(2-hydroxy-5-(thiophen-2-yl) phenylcarbamoyl) benzyl carbamate	**^{1}H NMR: (Acetone-d_6) δ (ppm):** 9.37 (bs, 1H), 9.35 (bs, 1H), 8.47 (d, J=1.2 Hz, 8.38 (d, J=3.9 Hz, 1H), 7.97 (s, 1H), 7.87 (d, J=8.4 Hz, 2H), 7.64 (d, J=7.4 Hz, 1H), 7.35 (d, J=8.2 Hz, 2H), 7.25 (dd, J=8.4, 2.3 Hz, 1H), 7.22 (dd, J=5.1, 1.2 Hz, 1H), 7.16 (dd, J=3.7, 1.2 Hz, 1H), 6.93 (d, J=8.1 Hz, 1H), 6.93 (d, J=1.6 Hz, 1H), 6.86 (d, J=8.4 Hz, 1H), 5.01 (s, 2H), 4.31 (d, J=6.3 Hz, 2H). **LRMS:** (m/z): 460.2 (MH^+).	73
94	341		2-(4-(4-Cyanobenzyl)piperazin-1-yl)-N-(2-amino-5-(thiophen-2-yl)phenyl)thiazole-5-carboxamide	**^{1}H NMR: (400.2 MHz, CD_3OD) δ (ppm):** 7.95 (br.s, 1H), 7.75 (m, 1H), 7.68 (m, 2H), 7.53 (t, 1H, J=7.6 Hz), 7.42 (s, 1H), 7.33 (d, 1H, J=8.2 Hz), 7.20 (m, 2H), 7.00 (m, 1H), 6.87 (d, 1H, J=8.3 Hz), 3.72 (s, 2H), 3.60 (m, 4H), 2.68 (m, 4H). **MS:** calc: 500.1; found: 501.2 (M+H)	74

Ex	Cpd	Structure	Name	Characterization	Scheme
95	344		N-(2-Amino-5-(thiophen-2-yl)phenyl)-4-(4-benzylpiperazin-1-yl)benzamide	**^{1}H NMR: (400.2 MHz, $CDCl_3$) δ (ppm):** 2.625 (t, J=5Hz, 4H), 3.35 (t, J=5Hz, 4H), 3.59 (s, 2H), 4.00 (s, 2H), 6.84 (d, J=8Hz, 1H), 6.90 (d, J=9Hz, 2H), 7.01 (m, 1H), 7.16 (m, 2H), 7.25 (m, 6H), 7.50 (s, 1H), 7.75 (s, 1H), 7.81 (d, J=9Hz, 2H). **MS:** calc: 468.0; found: 469.0 (M+H)	75
96	347		N1-(2-amino-5-(thiophen-2-yl)phenyl)-N8-phenyloctanediamide	**^{1}H NMR: (400.2 MHz, CD_3OD) δ (ppm):** 7.51 (br.s. 2H), 7.38 (s, 1H), 7.16-7.27 (m, 5H), 6.9-7.1 (m, 2H), 6.84 (m, 1H), 2.42 (m, 4H), 1.76 (m, 4H), 1.49 (m, 4H). **MS:** calc: 421.2; found: 422.2 (M+H)	76
97	349		N-(2-Amino-5-(thiophen-2-yl)phenyl)-4-((1,2-dihydro-2,4-dioxoquinazolin-3(4H)-yl)methyl)benzamide	**^{1}H NMR ($DMSO-d_6$) □(ppm):** 11.57 (s, 1H), 9.81 (s, 1H), 7.95-7.92 (m, 3H), 7.68 (td, J=7.2, 1.4 Hz, 1H), 7.48 (d, J=1.8 Hz, 1H), 7.42 (d, J=8.2 Hz, 2H), 7.38 (d, J=5.1 Hz, 1H), 7.34 (dd, J=8.2, 2.0 Hz, 1H), 7.27 (d, J=3.3 Hz, 1H), 7.24-7.20 (m, 2H), 7.05 (dd, J=4.9, 3.5 Hz, 1H), 6.89 (d, J=8.4 Hz, 1H), 5.17 (s, 2H). (The NH_2 group is missing, overlapped by H_2O). **MS (m/z):** 468.53 (calc) 469.2 (MH+) (found).	77
98	355		*tert*-Butyl 4-(5-(2-amino-5-(thiophen-2-yl) phenylcarbamoyl) thiophen-2-yl) piperidine-1-carboxylate	**^{1}H NMR: (CD_3OD) δ (ppm)** 7.73 (d, J=3.3 Hz, 1H), 7.45 (d, J=2.1 Hz, 1H), 7.34 (dd, J=8.2, 2.2 Hz, 1H), 7.23 – 7.19 (m, 2H), 7.01 (dd, J=4.7, 3.7 Hz, 1H), 6.96 (d, J=3.9 Hz, 1H), 6.88 (d, J=8.1 Hz, 1H), 4.17 (d, J=13.1 Hz, 2H), 3.00 – 2.90 (m, 2H), 2.04 (d, J=12.1 Hz, 2H), 1.60 – 1.54 (m, 2H).	78
99	358		N-(2-amino-5-(thiophen-2-yl)phenyl)-2-(2-morpholinoethyl)-1,3-dioxoisoindoline-5-carboxamide	**^{1}H NMR: (DMSO) δ (ppm):** 10.03 (s, 1H), 8.45 (s, 1H), 8.38 (d, J= 7.6 Hz, 1H), 7.99 (d, J= 7.6 Hz, 1H), 7.44 (d, J= 2.0 Hz, 1H), 7.32 (dd, J= 11.9, 5.1 Hz, 1H), 7.28 (d, J= 2.0 Hz, 1H), 7.03 (d, J= 4.9 Hz, 1H), 6.78 (d, J= 8.2 Hz, 1H), 5.27 (s, 2H), 3.73 (t, J= 6.3 Hz, 2H), 3.48 (m, 4H), 2.54 (t, J= 6.5 Hz, 2H), 2.41 (m, 4H). MS: 476.15 (calc), 477.2 (obs).	79

Ex	Cpd	Structure	Name	Characterization	Scheme
100	361		N-(2-amino-5-(1H-imidazol-1-yl)phenyl)-4-methoxybenzamide	**^{1}H NMR: (DMSO) δ (ppm):** 9.62 (s, 1H), 7.96 (d, J= 9.0 Hz, 3H), 7.52 (m, 1H), 7.42 (d, J= 2.5 Hz, 1H), 7.19 (dd, J= 8.6, 2.5 Hz, 1H), 7.04 (d, J= 8.8 Hz, 2H), 7.03 (s, 1H), 6.85 (d, J= 8.4 Hz, 1H), 5.11 (s, 2H), 3.83 (s, 3H). **MS**: 308.13 (calc), 309.2 (obs).	80

Synthetic Schemes and Experimental Procedures

[0217] The compounds of the invention can be prepared according to the reaction schemes for the examples illustrated below utilizing methods known to one of ordinary skill in the art. These schemes serve to exemplify some procedures that can be used to make the compounds of the invention. One skilled in the art will recognize that other general synthetic procedures may be used. The compounds of the invention can be prepared from starting components that are commercially available. Any kind of substitutions can be made to the starting components to obtain the compounds of the invention according to procedures that are well known to those skilled in the art.

[0218] The compounds according to paragraphs [0083] – [0088] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/087057.

[0219] The compounds according to paragraphs [0098] – [0110] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/076422.

[0220] The compounds according to paragraphs [0115] – [0124] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/075929.

[0221] The compounds according to paragraphs [0125] – [0135] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/076395.

[0222] The compounds according to paragraphs [0136] – [0145] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/076400.

[0223] The compounds according to paragraphs [0146] – [0157] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/076401.

[0224] The compounds according to paragraphs [0158] – [0166] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/076421.

[0225] The compounds according to paragraphs [0167] – [0175] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/076430.

[0226] The compounds according to paragraphs [0176] – [0186] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/076438.

[0227] The compounds according to paragraphs [0187] – [0194] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/92686.

[0228] The compounds according to paragraph [0195] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO 03/024448.

[0229] The compounds according to paragraphs [0196] - [0197] can be routinely synthesized using techniques described herein in conjunction with the teachings of JP 2003137866.

[0230] The compounds according to paragraph [0198] - [0199] can be routinely synthesized using techniques described herein in conjunction with the teachings of JP 11-269146 (1999).

[0231] The compounds according to paragraphs [0200] - [0201] can be routinely synthesized using techniques described herein in conjunction with the teachings of JP 11-302173 (1999).

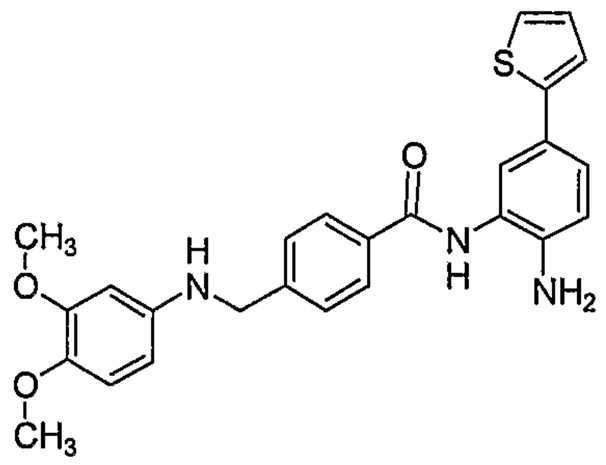
[0232] The compounds according to paragraphs [0202] - [0203] can be routinely synthesized using techniques described herein in conjunction with the teachings of JP 2001131130.

[0233] The compounds according to paragraphs [0204] - [0205] can be routinely synthesized using techniques described herein in conjunction with the teachings of JP 10152462, JP 2002332267, and JP 11-302173.

[0234] The compounds according to paragraphs [0206] - [0207] can be routinely synthesized using techniques described herein in conjunction with the teachings of US 6,174,905.

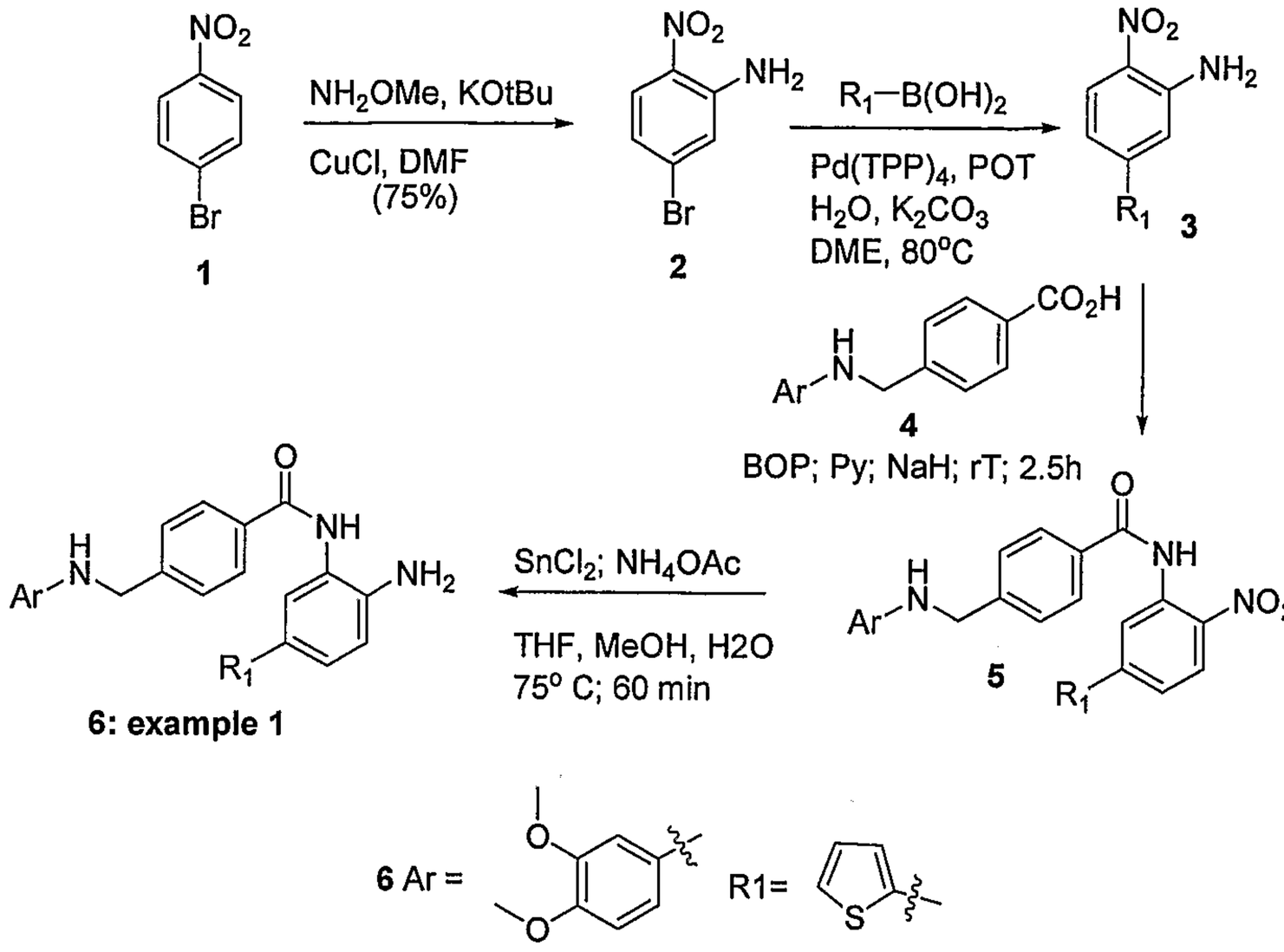
[0235] The compounds according to paragraphs [0206] can be routinely synthesized using techniques described herein in conjunction with the teachings of WO01/70675.

Example 1



***N*-[2-amino-5-(2-thienyl)phenyl]-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (6)**

Scheme 1



Step 1. **5-Brom0-2-nitro-phenylamine (2)**

[0236] To a solution of potassium tert-butoxide (14.5 g; 129.2 mmol) and copper(I) chloride (301 mg; 3.04 mmol) in ethyleneglycol dimethylether (120 mL), stirred at 0°C under nitrogen, a solution of 1-bromo-4-nitro-benzene (1, 6.141 g; 30.4 mmol) and O-methyl-hydroxylamine hydrochloride (3.174 g; 38 mmol) in *N,N*-dimethylformamide (65 mL) was added drop wise over 103 min, the cooling bath was removed and the mixture was allowed to react at room temperature for 3h, diluted with ethyl acetate (600 mL) and washed with saturated aqueous ammonium chloride. The organic layer was dried ($MgSO_4$), filtered and concentrated. After purification by flash chromatography (eluent 25% ethyl acetate in hexane), 4.96 g (75% yield) of compound 2 were obtained.

[0237] ^1H NMR: (400.2 MHz, $CDCl_3$) δ (ppm): 7.98 (d, J=9.24, 1H); 7.02 (d, J=1.98, 1H); 6.82 (dd, J=1.98 and 9.24, 1H); 6.12 (bs, 2H).

Step 2. **2-Nitro-5-thiophen-2-yl-phenylamine (3).**

[0238] A suspension of bromoarene 2 (5.85 g; 26.9 mmol) (or any other haloarene of choice); 2-thiopheneboronic acid (4.56 g, 35.6 mmol); (or the any other arylboronic acid of choice), tri-o-tolyl-phosphine (2.69 g; 8.8 mmol) and potassium carbonate (11.1 g; 80 mmol) in degassed

ethyleneglycol dimethylether (70 mL) and water (35 mL), was treated with tetrakis(triphenylphosphine)palladium(0) (2.04 g, 1.77 mmol) and the mixture stirred on a preheated oil bath at 80° C for 18 h, diluted with dichloromethane (300 mL), washed with water, dried ($MgSO_4$) and concentrated. Purification by flash chromatography (eluent 50 % ether in hexane) afforded compound 3 (5.63g, 95% yield).

[0239] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 7.97 (d, J=9.0, 1H); 7.69 (dd, J=1.2 and 5.1, 1H); 7.60 (dd, J=1.2 and 3.6, 1H); 7.49 (bs, 2H); 7.27 (d, J=2.0, 1H); 7.18 (dd, J=3.6 and 5.1, 1H); 6.97 (dd, J=2.0 and 9.0, 1H).

Step 3. **4-[(3,4-Dimethoxy-phenylamino)-methyl]-N-(2-nitro-5-thiophen-2-yl-phenyl)-benzamide (5).**

[0240] To a solution of nitrophenylamine (3, 460 mg, 2.1 mmol), (or any other nitrophenylamine of choice, 1 eq); 4-[(3,4-dimethoxy-phenylamino)-methyl]-benzoic acid (4, see below), 761 mg, 2.65 mmol) (or any other acid of choice, 1.3 eq) and benzotriazol-1-yloxytris(dimethylamino)phosphonium hexafluorophosphate (BOP) (1095 mg, 2.47 mmol) in pyridine (15 mL), 60% sodium hydride in oil (563 mg, 14.1 mmol) was added portion wise under a stream of nitrogen, and the reaction was allowed to progress at room temperature for 2.5 h and diluted with toluene. Excess of NaH was quenched with acetic acid and the whole mixture was concentrated, re-dissolved in ethyl acetate and washed with a solution of $NaHCO_3$ in brine, dried ($MgSO_4$) and concentrated. After purification by flash chromatography (eluent 30% to 75% AcOEt in hexane), 883 mg (1.80 mmol, 86% yield) of amide 5 were obtained.

[0241] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 10.8 (s, 1H); 8.10 (d, J=2.0, 1H); 8.06 (d, J=8.6, 1H); 7.90 (d, J=8.2, 2H); 7.74 (dd, J=1.0 and 4.9, 1H); 7.72 (dd, J=1.0 and 3.5, 1H); 7.69 (dd, J=2.2 and 8.7, 1H); 7.53 (d, J=8.2, 2H); 7.22 (dd, J=3.5 and 4.9, 1H); 6.64 (d, J=8.6, 1H); 6.31 (d, J=2.0, 1H); 6.01 (t, J=6.1, 1H); 5.98 (dd, J=2.2 and 8.4, 1H); 4.32 (d, J=6.1, 2H); 3.66 (s, 3H); 3.59 (s, 3H).

4-[(3,4-Dimethoxy-phenylamino)-methyl]-benzoic acid (4).

[0242] To a solution of 3,4-dimethoxy-phenylamine (786 mg; 5.13 mmol) and dibutyltindichloride (219 mg; 0.72 mmol) in ethyleneglycol dimethylether (7 mL), 4-formyl-benzoic acid (748 mg; 4.98 mmol) was added. The suspension was stirred at room temperature for 10 min, treated with phenylsilane (1.0 mL; 7.9 mmol) and the mixture stirred at the same temperature for 12 h. Methanol

and a few drops of water were added, stirred for 5h, concentrated under vacuum, suspended in dichloromethane and stirred for one day at room temperature. After filtration, pure acid 4 (1.13 g; 79% yield) was obtained as a beige solid.

[0243] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 7.86 (d, J=8.2, 2H); 7.44 (d, J=8.2, 2H); 6.63 (d, J=8.5, 1H); 6.29 (d, J=2.3, 1H); 5.96 (dd, J=2.3, 8.5, 1H); 5.96 (bs, 1H); 4.28 (s, 2H); 3.64 (s, 3H); 3.58 (s, 3H).

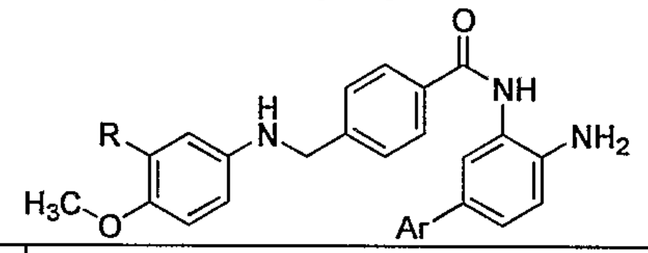
Step 4. *N*-**(2-Amino-5-thiophen-2-yl-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide (6)**

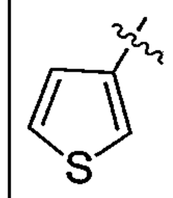
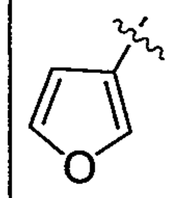
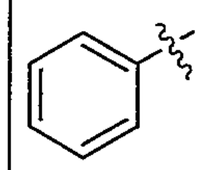
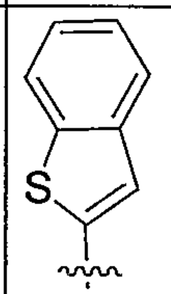
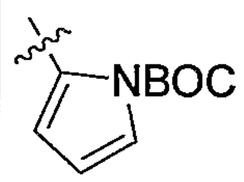
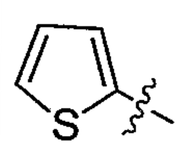
[0244] A suspension of compound 5 (250 mg, 0.511 mmol) (or any other nitroamide of choice, 1 eq) and tin(II) chloride dihydrate (2.30g, 10.2 mmol) in a 1:1:1 mixture THF/MeOH/water (18 mL) was stirred at 75 °C in a sealed tube for 1h, diluted with ethyl acetate and washed with saturated aqueous solution of $NaHCO_3$, dried over Na_2SO_4 and purified by flash chromatography, eluent 20% EtOAc in dichloromethane, to afford 138 mg (59% yield) of the title compound 6.

[0245] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 9.66 (s, 1H); 7.92 (d, J=8.4, 2H); 7.46 (d, J=8.4, 2H); 7.44 (d, J=2.0, 1H); 7.34 (dd, J=1.1; 5.0, 1H); 7.27 (dd, J=2.0; 8.2, 1H); 7.22 (dd, J=1.1 and 3.6, 1H); 7.03 (dd, J=3.6, 5.0, 1H); 6.78 (d, J=8.5, 1H); 6.64 (d, J=8.5, 1H); 6.31 (d, J=2.5, 1H); 6.01-5.97 (m, 2H); 5.14 (bs, 2H); 4.30 (d, J=6.1, 2H); 3.66 (s, 3H); 3.58 (s, 3H).

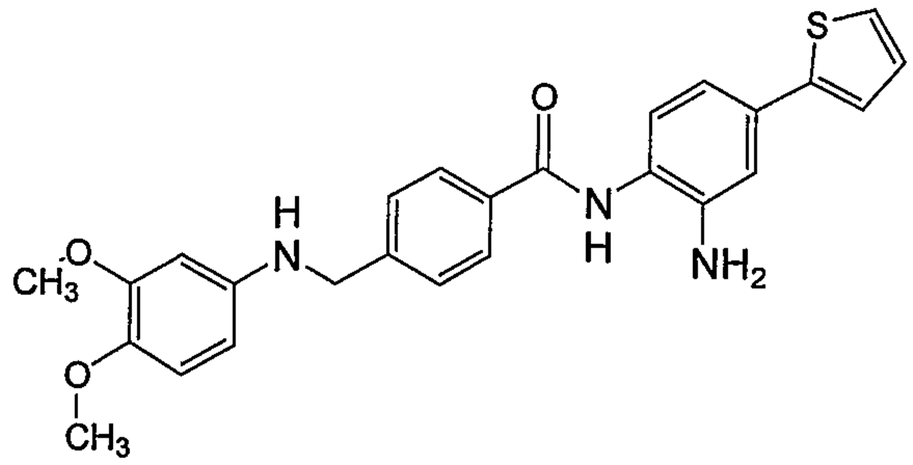
CA 02539117 2006-03-14

Table 2
Characterization of compounds prepared according to Scheme 1



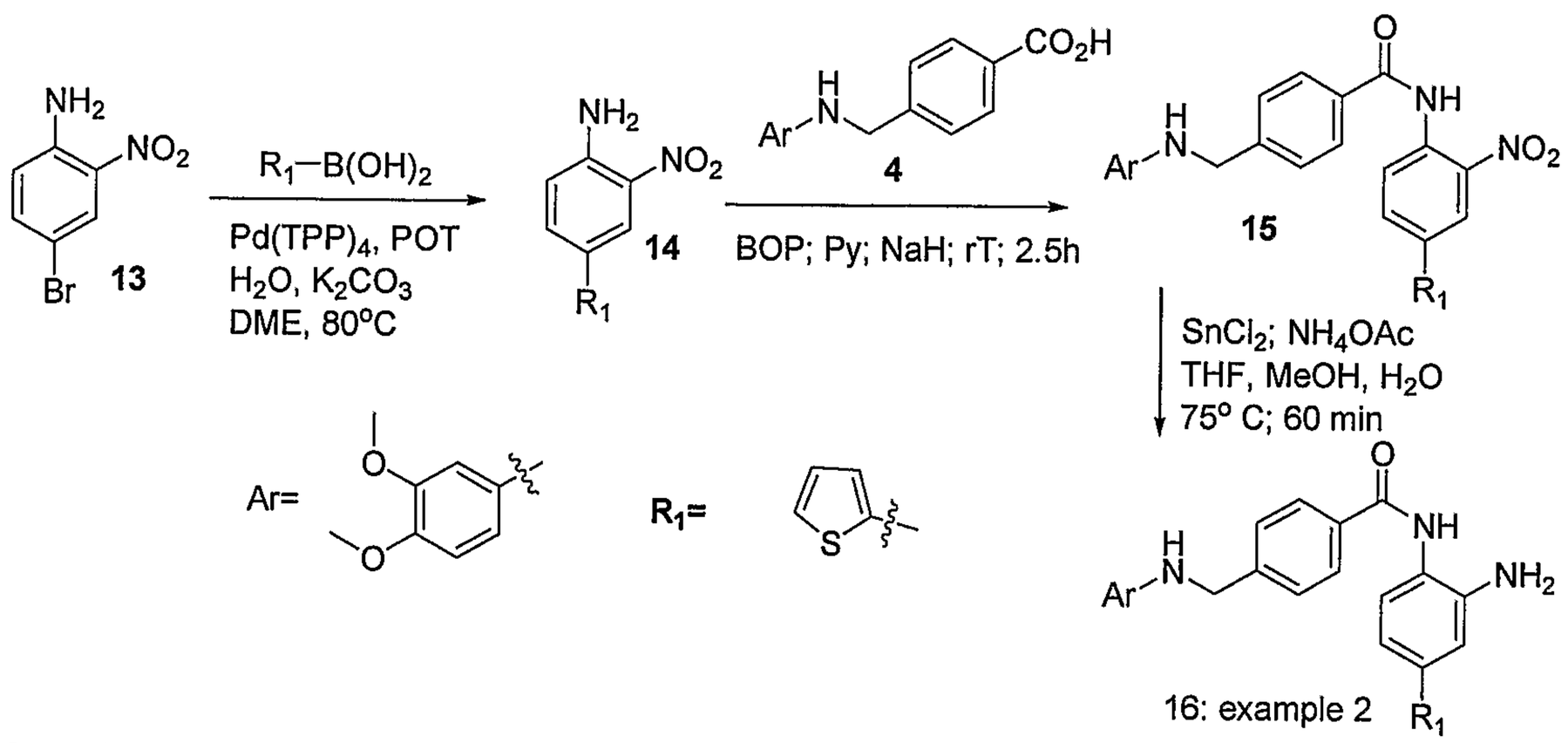
Cpd	Ex	R	Ar	Name	Characterization
7	1a	OMe		N-(2-Amino-5-thiophen-3-yl-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide	^{1}H NMR: (DMSO) δ (ppm): 9.66 (s, 1H), 7.93 (d, J = 8.4 Hz, 2H), 7.55-7.53 (m, 2H), 7.49-7.43 (m, 3H), 7.39 (dd, J = 4.7, 1.6 Hz, 1H), 7.33 (dd, J = 8.2, 2.2 Hz, 1H), 6.79 (d, J = 8.4 Hz, 1H), 6.64 (d, J = 8.6 Hz, 1H), 6.31 (d, J = 2.7 Hz, 1H), 6.00-5.75 (m, 2H), 5.01 (s, 2H), 4.30 (d, J = 6.1 Hz, 2H), 3.66 (s, 3H), 3.59 (s, 3H). MS: (calc.) 459.2; (obt.) 460.5 $(MH)^+$.
8	1b	OMe		N-(2-Amino-5-furan-3-yl-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide	^{1}H NMR: (DMSO) δ (ppm): 9.65 (s, 1H), 7.94-7.91 (m, 3H), 7.64 (s, 1H), 7.46 (d, J = 7.4 Hz, 2H), 7.36 (s, 1H), 7.21 (d, J = 7.4 Hz, 1H), 6.79-6.76 (m, 2H), 6.64 (d, J = 8.4 Hz, 1H), 6.31 (s, 1H), 6.01- 5.97 (m, 2H), 4.96 (s, 2H), 4.30 (d, J= 4.3 Hz, 2H), 3.66 (s, 3H), 3.59 (s, 3H). MS: (calc.) 443.2; (obt.) 444.5 $(MH)^+$.
9	1c	OMe		N-(4-Amino-biphenyl-3-yl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide	^{1}H NMR: (DMSO) δ (ppm): 9.66 (s, 1H), 7.93 (d, J = 8.0 Hz, 2H), 7.54-7.46 (m, 5H), 7.37 (dd, J = 7.7, 7.7 Hz, 2H), 7.31 (dd, J = 8.4, 2.3 Hz, 1H), 7.22 (dd, J = 7.2, 7.2 Hz, 1H), 6.84 (d, J = 8.4 Hz, 1H), 6.64 (d, J = 8.6 Hx, 1H), 6.31 (d, J = 2.5 Hz, 1H), 6.00-5.97 (m, 2H), 5.08 (s, 2H), 4.30 (d, J = 6.1 Hz, 2H), 3.66 (s, 3H), 3.59 (s, 3H). MS: (calc.) 453.2; (obt.) 454.5 $(MH)^+$.
10	1d	OMe		N-(2-Amino-5-benzo[b]thiophen-2-yl-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide	^{1}H NMR: (DMSO) δ (ppm): 9.67 (s, 1H), 7.94 (d, J = 8.4 Hz, 2H), 7.87 (d, J = 8.0, 1H), 7.73 (d, J = 7.6 Hz, 1H), 7.58 (d, J = 2.3 Hz, 1H), 7.55 (s, 1H), 7.48 (d, J = 8.0 Hz, 2H), 7.41 (dd, J = 8.3, 2.3 Hz, 1H), 7.32 (ddd, J = 7.4, 7.4, 1.2 Hz, 1H), 7.25 (ddd, J = 7.5, 7.5, 1.2 Hz, 1H), 6.83 (d, J = 8.4 Hz, 1H), 6.64 (d, J = 8.6 Hz, 1H), 6.32 (d, J = 2.5 Hz, 1H), 6.00-5.97 (m, 2H), 5.32 (s, 2H), 4.31 (d, J = 6.3 Hz, 2H), 3.66 (s, 3H), 3.59 (s, 3H). MS: (calc.) 509.2; (obt.) 510.5 $(MH)^+$.
11	1e	OMe		2-(4-Amino-3-{4-[(3,4-dimethoxy-phenylamino)-methyl]-benzoylamino}-phenyl)-pyrrole-1-carboxylic acid tert-butyl ester	^{1}H NMR: (DMSO) δ (ppm): 9.60 (s, 1H), 7.89 (d, J = 8.2 Hz, 2H), 7.46 (d, J = 8.2 Hz, 2H), 7.23 (dd, J = 3.3, 1.8 Hz, 1H), 7.14 (d, J = 2.0 Hz, 1H), 6.91 (dd, J = 8.2, 2.2 Hz, 1H), 6.74 (d, J = 8.2 Hz, 1H), 6.64 (d, J = 8.6 Hz, 1H), 6.31 (d, J = 2.5 Hz, 1H), 6.20 (t, J = 6.5 Hz, 1H), 6.08 (dd, J = 3.3, 1.8 Hz, 1H), 5.99-5.96 (m, 2H), 5.00 (s, 2H), 4.29 (d, J = 6.1 Hz, 2H), 3.65 (s, 3H), 3.58 (s, 3H), 1.35 (s, 9H). MS: (calc.) 542.3; (obt.) 543.5 $(MH)^+$.
12	1f	F		N-(2-Amino-5-thiophen-2-yl-phenyl)-4-[(3-fluoro-4-methoxy-phenylamino)-methyl]-benzamide	^{1}H NMR (400 MHz, DMSO d_6): 9.64 (s, 1H); 7.92 (d, 2H, J=8.2 Hz); 7.45 (d, 2H, J=8.2 Hz); 7.43 (s, 1H); 7.35 (dd, 1H, J=1.0, 5.1Hz); 7.27 (dd, 1H, J=2.2, 8.4 Hz); 7.21 (dd, 1H, J=1.2, 3.5Hz); 7.02 (dd, 1H; J=3.7, 5.1 Hz); 6.85 (t, 1H, J=8.9 Hz); 6.78 (d, 1H, J=8.2Hz); 6.40 (dd, 1H, J=2.7, 14.0Hz); 6.31-6.28 (m,1H); 6.23 (bt, 1H, J=6.2 Hz); 5.13 (s, 2H); 4.30 (d, 2H, J=6.0 Hz), 3.66 (s, 3H).

Example 2



***N*-[2-amino-4-(2-thienyl)phenyl]-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (16)**

Scheme 2



Step 1. **2-Nitro-4-thiophen-2-yl-phenylamine (14)**

[0246] Following the same procedure as described in Example 1, Step 2, but substituting compound 1 for compound 13, the title compound 14 was obtained in 89% yield.

[0247] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 8.11 (d, J=2.15, 1H); 7.73 (dd, J=2.15, 8.8, 1H); 7.59 (bs, 2H); 7.45 (dd, J=1.1, 5.4, 1H); 7.40 (dd, J=1.1, 3.8, 1H); 7.09 (m, 1H); 7.08 (dd, J=5.6, 8.8, 1H).

Step 2. **4-[(3,4-Dimethoxy-phenylamino)-methyl]-N-(2-nitro-4-thiophen-2-yl-phenyl)-benzamide (15)**

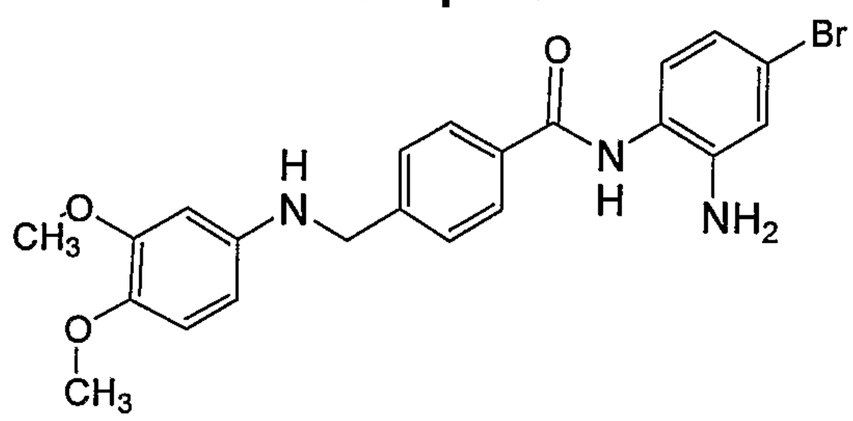
[0248] Following the same procedure as described in Example 1, Step 3, but substituting compound 3 for compound 14, the title compound was obtained in 68% yield. ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 10.7 (s, 1H); 8.19 (d, J=2.0, 1H); 8.00 (dd, J=1.7, 8.6, 1H); 7.89 (d, J=8.0, 2H); 7.80 (d, J=8.4, 1H); 7.67 (d, J=3.8, 1H); 7.64 (d, J= 5.1, 1H); 7.51 (d, J=8.0, 2H); 7.18 (t, J=3.8,

1H); 6.64 (d, J=8.6, 1H); 6.31 (d, J=2.4, 1H); 6.31-5.96 (m, 2H); 4.31 (d, J=6.1, 2H); 3.66 (s, 3H); 3.59 (s, 3H).

Step 3. *N*-**(2-Amino-4-thiophen-2-yl-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide (16)**

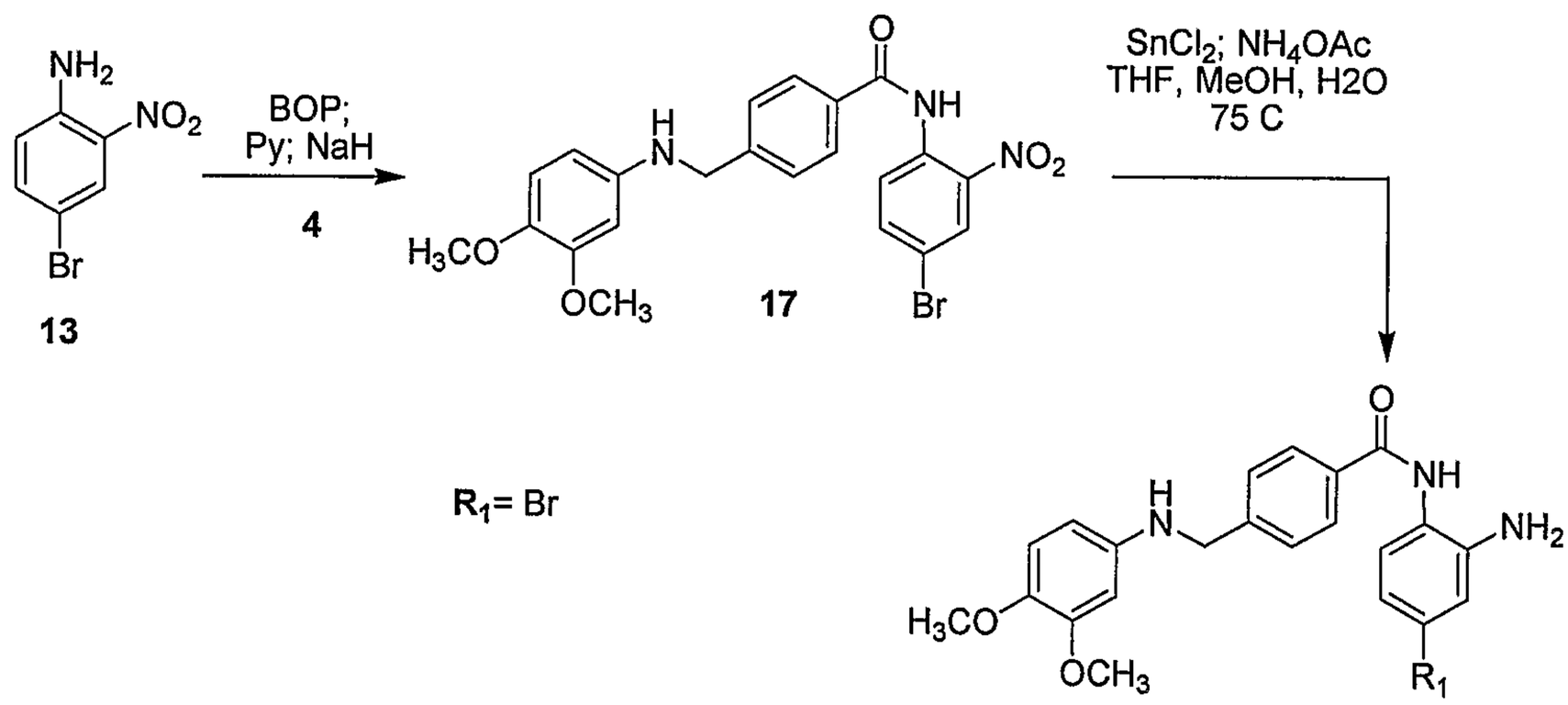
[0249] Following the same procedure as described in Example 1, Step 4, but substituting compound 5 for compound 15, the title compound was obtained in 47% yield. ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 9.59 (s, 1H); 7.90 (d, J=8.0, 2H); 7.46 (d, J=8.0, 2H); 7.45 (d, J=1.1, 1H); 7.34 (dd, J=1.1, 3.5, 1H); 7.20 (d, J=8.1, 1H); 7.09 (dd, J= 3.5, 4.9, 1H); 6.89 (dd, J=2.2, 8.1, 1H); 6.64 (d, J=8.6, 1H); 6.32 (d, J=2.5, 1H); 6.00-5.97 (m, 2H); 5.07 (bs, 2H); 4.30 (d, J=6.1, 2H); 3.66 (s, 3H); 3.59 (s, 3H).

Example 3



***N*-(2-amino-4-bromophenyl)-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (18)**

Scheme 2a



18: example 3

N-(4-Bromo-2-nitro-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide (17).

[0250] Following the same procedure as described in Example 2, Step 2, but substituting compound 14 for compound 13, the compound 17 was obtained in 92% yield. ^{1}H NMR: (400.2 MHz,

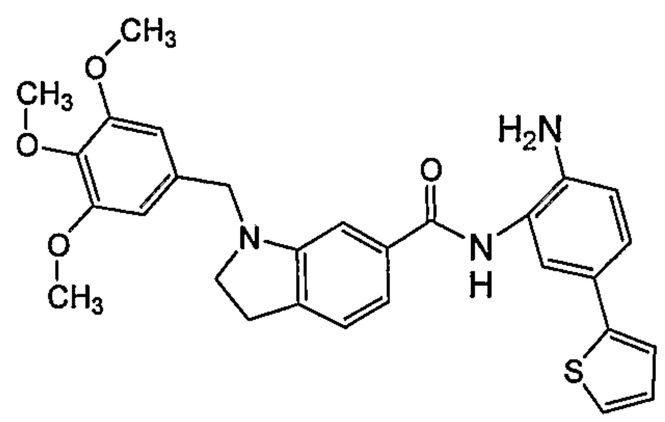
DMSO) δ (ppm): 10.72 (s, 1H); 8.17 (d, J=2.0, 1H); 7.96 (dd, J=2.0, 8.6, 1H); 7.86 (d, J=7.9, 2H); 7.69 (d, J= 8.6, 1H); 7.51 (d, J=7.9, 2H); 6.63 (d, J=8.4, 1H); 6.32 (d, J=2.0, 1H); 6.01-5.96 (m, 2H); 4.31 (d, J=5.9, 2H); 3.65 (s, 3H); 3.58 (s, 3H).

N-(2-Amino-4-bromo-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide (18)

[0251] Following the same procedures as described in Example 2, Steps 3, but substituting compound 15 for compound 17, the compound 18 was obtained in 46% yield.

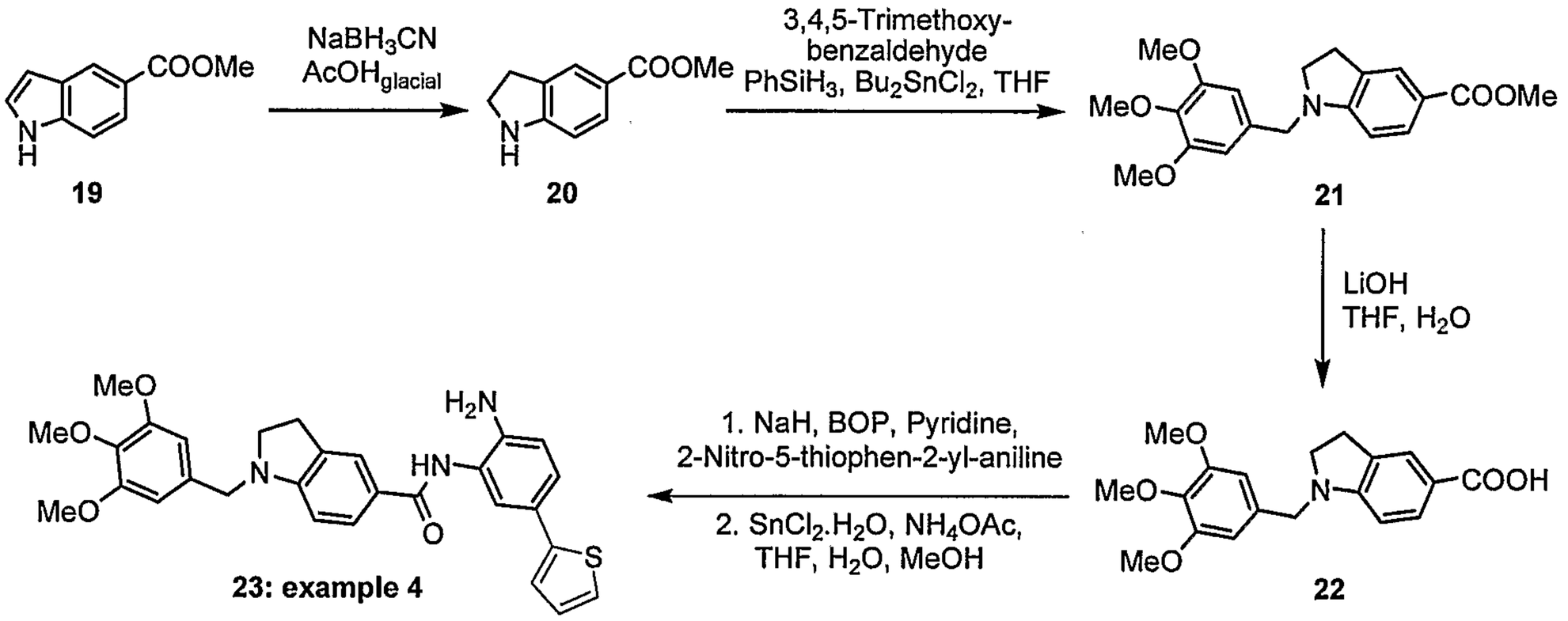
^{1}H NMR, (400.2 MHz, DMSO) δ (ppm): 9.55 (s, 1H), 7.89 (d, J = 8.2 Hz, 2H), 7.45 (d, J = 8.4 Hz, 2H), 7.07 (d, J = 8.4 Hz, 1H), 6.92 (d, J = 2.3 Hz, 1H), 6.69 (dd, J = 8.4, 2.3 Hz, 1H), 6.63 (d, J = 8.4 Hz, 1H), 6.30 (d, J = 2.5 Hz, 1H), 6.00-5.96 (m, 2H), 5.22 (s, 2H), 4.29 (d, J = 6.3 Hz, 2H), 3.65 (s, 3H), 3.58 (s, 3H). MS: (calc.) 455.1; (obt.) 456.4, 458.4 $(MH)^+$.

Example 4



***N*-[2-amino-5-(2-thienyl)phenyl]-1-(3,4,5-trimethoxybenzyl)indoline-6-carboxamide (23)**

Scheme 3



Step 1: **Methyl 2,3-Dihydro-1H-indole-5-carboxylate (20).**

[0252] To a cold solution of methyl indole-5-carboxylate (2 g, 11.4 mmol) in glacial acetic acid at 0°C (15 ml) sodium cyanoborohydride (1.075 g, 17.1 mmol) was slowly added. The mixture was

allowed to warm-up and stirred at room temperature for one more hour, cooled again to 0°C and quenched with H_2O. The pH of the resultant solution was adjusted to the value of 12 by adding aqueous NaOH, extracted with DCM, washed with brine and dried over $MgSO_4$. The dried extract was concentrated in vacuum and purified by flash chromatography (eluent 30% EtOAc in hexane) to give the title compound 20 (1.62 g, 80%) as a beige solid. ^{1}H-NMR (DMSO) δ: 2.94 (t, J = 8.6 Hz, 2H); 3.51 (dt, J = 1.2, 8.6 Hz, 2H); 3.71 (s, 3H); 6.42 (d, J = 8.0 Hz, 2H); 7.54 (m, 2H).

Step 2: **Methyl 1-(3,4,5-Trimethoxy-benzyl)-2,3-dihydro-1H-indole-5-carboxylate (21)**

[0253] To a solution of 20 (300 mg, 1.69 mmol), 3,4,5-trimethoxybenzaldehyde (365 mg, 1.86 mmol) and dibutyltin dichloride (51 mg, 0.17 mmol) in THF (8 mL) was added phenylsilane (229 μl, 1.86 mmol). The mixture was stirred overnight at room temperature under nitrogen. Additional aldehyde and phenylsilane were added and the stirring continued until starting material was consumed. THF was evaporated in vacuum and the residue was purified by flash chromatography (eluent 20% EtOAc in hexane). The compound was further purified by re-crystallization in a mixture EtOAc/hexane and finally by a second flash chromatography (eluent 20% EtOAc in hexane) to give the title compound 21 (428 mg, 71%) as a white solid. ^{1}H-NMR (DMSO) δ: 2.96 (t, J = 8.4 Hz, 2H); 3.45 (t, J = 8.7 Hz, 2H); 3.61 (s, 3H); 3.71 (s, 6H); 3.72 (s, 3H); 4.30 (s, 2H); 6.59 (s, 2H); 6.61 (d, J = 8.4 Hz, 1H), 7.54 (d, J = 1.6 Hz, 1H); 7.63 (dd, J = 1.8, 8.4 Hz, 1H).

Step 3: **1-(3,4,5-Trimethoxy-benzyl)-2,3-dihydro-1H-indole-5-carboxylic acid (22).**

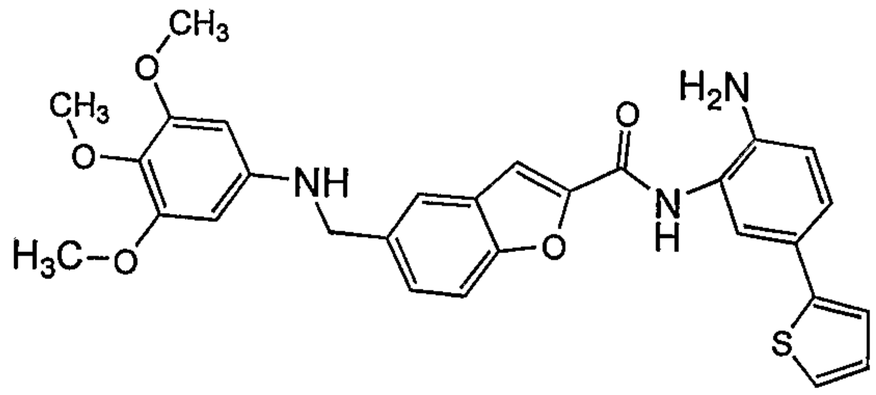
[0254] A solution of LiOH x H_2O (75 mg, 1.78 mmol) in H_2O (5ml) was added to a solution of ester 21 (426 mg, 1.19 mmol) in THF (5 ml). The mixture was stirred at room temperature overnight. THF was removed in vacuum and the remained aqueous solution was acidified to pH 1 using 1N HCl. A precipitate formed which was collected by filtration, washed with H_2O and dried to give the title compound 22 as a white solid, (320 mg, 78%). ^{1}H-NMR (DMSO) δ: 2.96 (t, J = 8.6 Hz, 2H); 3.43 (t, J = 8.6 Hz, 2H); 3.62 (s, 3H); 3.72 (s, 6H); 4.29 (s, 2H); 6.58 (s, 1H); 6.60 (s, 2H); 7.53 (s, 1H); 7.61 (d, J = 8.8 Hz, 1H).

Steps 4 and 5. **1-(3,4,5-Trimethoxy-benzyl)-2,3-dihydro-1H-indole-6-carboxylic acid (2-amino-5-thiophen-2-yl-phenyl)-amide (23)**

[0255] Following the procedures described in Example 1, steps 3 and 4, the title compound 23 was obtained as a yellow solid (294 mg, 41%). ^{1}H NMR: (DMSO) δ (ppm): 9.37 (s, 1H), 7.73 (d, J = 8.4 Hz, 1H), 7.70 (s, 1H), 7.44 (d, J = 2.0 Hz, 1H), 7.33 (d, J = 5.1 Hz, 1H), 7.25 (dd, J = 8.2, 2.0

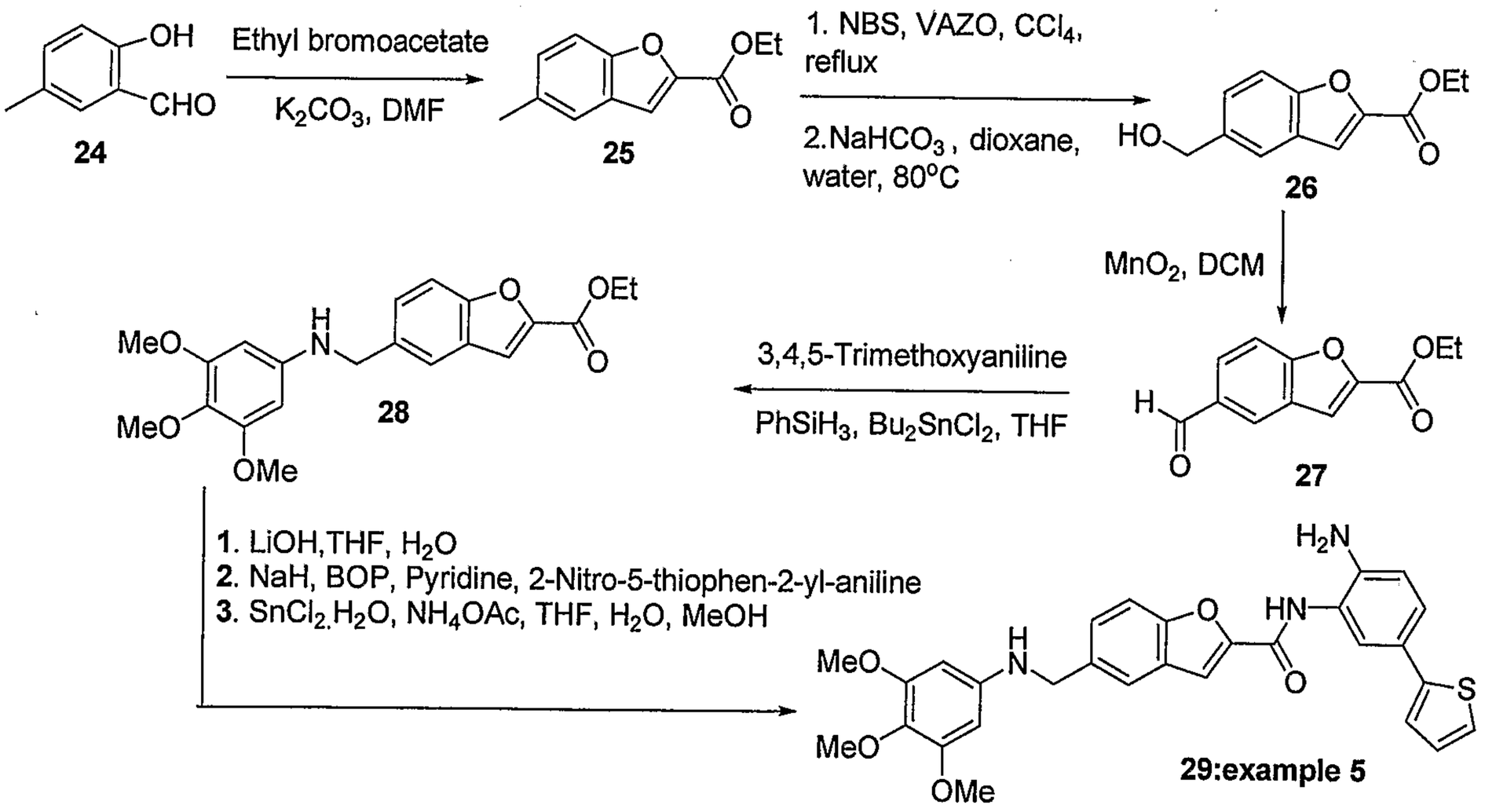
Hz, 1H), 7.22 (d, J = 3.3 Hz, 1H), 7.03 (dd, J = 4.2, 4.2 Hz, 1H), 6.78 (d, J = 8.4 Hz, 1H), 6.66 (d, J = 8.2 Hz, 1H), 6.64 (s, 2H), 5.06 (s, 2H), 4.32 (s, 2H), 3.75 (s, 6H), 3.64 (s, 3H), 3.45 (t, J = 8.3 Hz, 2H), 3.00 (t, J = 8.5 Hz, 2H). MS: (calc.) 515.2; (obt.) 513.7 $(MH)^+$.

Example 5



N-[2-amino-5-(2-thienyl)phenyl]-5-{[(3,4,5-trimethoxyphenyl)amino]methyl}-1-benzofuran-2-carboxamide (29)

Scheme 4



Step 1: **Ethyl 5-Methyl-benzofuran-2-carboxylate (25).**

[0256] To a stirred suspension of 2-hydroxy-5-methylbenzaldehyde (5 g, 36.7 mmol) and K_2CO_3 (12.7 g, 91.8 mmol) in DMF (30 mL), ethyl bromoacetate (4.07 ml, 36.7 mmol) was added drop-wise. This mixture was allowed to stir for two hours under nitrogen at room temperature, and was then heated to 80°C and stirred overnight. The reaction was quenched with H_2O to form a precipitate which was collected by filtration and purified by flash chromatography (eluent 5% EtOAc in hexane) to

give the title compound 25 (2.30 g, 31%). ^{1}H-NMR ($CDCl_3$) δ: 1.45 (t, J=7.0 Hz, 3H); 2.47 (s, 3H); 4.45 (q, J=7.0 Hz, 2H); 7.26 (m, 1H); 7.46 (m, 3H).

Steps 2-3. **5-Hydroxymethyl-benzofuran-2-carboxylic acid ethyl ester (26).**

[0257] A mixture of the ester 25 (2.26 g, 11.1 mmol), *N*-bromosuccinimide (2.37 g, 13.3 mmol) and VAZO (271 mg, 1.11 mmol) was refluxed overnight in CCl_4 (50 mL) under nitrogen. The reaction mixture was cooled to the room temperature, diluted with dichloromethahe and washed with water. The organic layer was dried over anhydrous $MgSO_4$ and concentrated in vacuum. The residue was purified by flash chromatography (eluent 5% EtOAc in hexane) to give ethyl 5-bromomethyl-benzofuran-2-carboxylate. This compound was dissolved in dioxane (20 ml) and a solution of $NaHCO_3$ (1.76 g, 20.9 mmol) in water (20 ml) was added. The reaction was stirred at 80°C during 16 h. The solvent was evaporated and the product was dissolved in EtOAc and washed with brine. The organic layer was dried over anhydrous $MgSO_4$ and concentrated in vacuum. The residue was purified by flash chromatography (eluent 20-40% EtOAc in hexane to give the title compound 26 (2.55 g, 61%) as a white solid. ^{1}H-NMR (DMSO) δ: 7.74 (d, J = 1.0 Hz, 1H), 7.71-7.70 (m, 1H), 7.65 (d, J = 8.6 Hz, 1H), 7.44 (dd, J = 8.6, 1.8 Hz,.1H), 5.31 (t, J = 5.8 Hz, 1H), 4.59 (d, J = 5.7 Hz, 2H), 4.35 (q, J=7.1 Hz, 2H); 1.34 (t, J = 7.0, 3H).

Step 4: **Ethyl 5-Formyl-benzofuran-2-carboxylate (27).**

[0258] To a solution of the compound 26 (2.53 g, 11.49 mmol) in DCM (70 ml) was added MnO_2 (9.99 g, 114.9 mmol). The reaction mixture was stirred at room temperature for 16 h and then filtered through a celite pad. The filtrate was concentrated in vacuum to give the title compound 27 (2.19 g, 87%) as a white solid. ^{1}H-NMR (DMSO) δ: 10.07 (s, 1H), 8.40-8.39 (m, 1H), 8.03 (dd, J = 8.6, 1.6 Hz, 1H), 7.93-7.92 (m, 2H), 4.38 (q, J=7.1 Hz, 2H); 1.35 (t, J = 7.0, 3H).

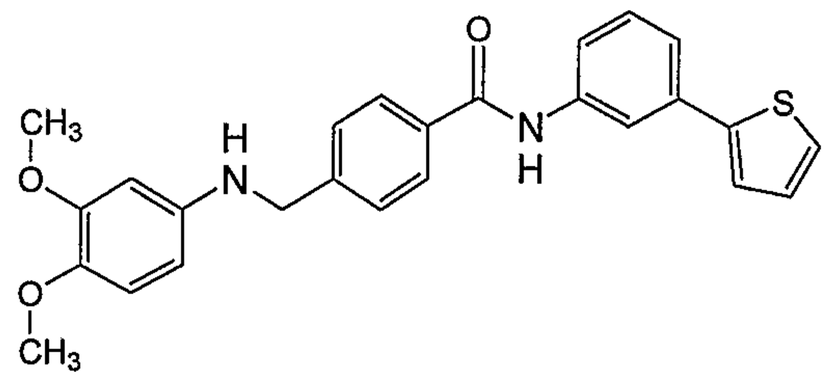
Step 5: **5-[(3,4,5-Trimethoxy-phenylamino)-methyl]-benzofuran-2-carboxylic acid ethyl ester (28).**

[0259] Following the same procedure as described in Example 4, Step 2, but substituting compound 20 and 3,4,5-trimethoxybenzaldehyde for 3,4,5-trimethoxyaniline and compound 27, the title compound was obtained in 99% yield. ^{1}H NMR: (DMSO) δ (ppm): 7.75 (d, J = 1.0 Hz, 1H), 7.73 (d, J = 1.0 Hz, 1H), 7.66 (d, J = 8.6 Hz, 1H), 7.51 (dd, J = 8.6, 1.8 Hz, 1H), 6.11 (t, J = 6.1 Hz, 1H), 5.89 (s, 2H), 4.37-4.32 (m, 4H), 3.63 (s, 6H), 3.49 (s, 3H), 1.33 (t, J = 7.0, 3H).

Steps 6-8: **5-[(3,4,5-Trimethoxy-phenylamino)-methyl]-benzofuran-2-carboxylic acid (2-amino-5-thiophen-2-yl-phenyl)-amide (29)**

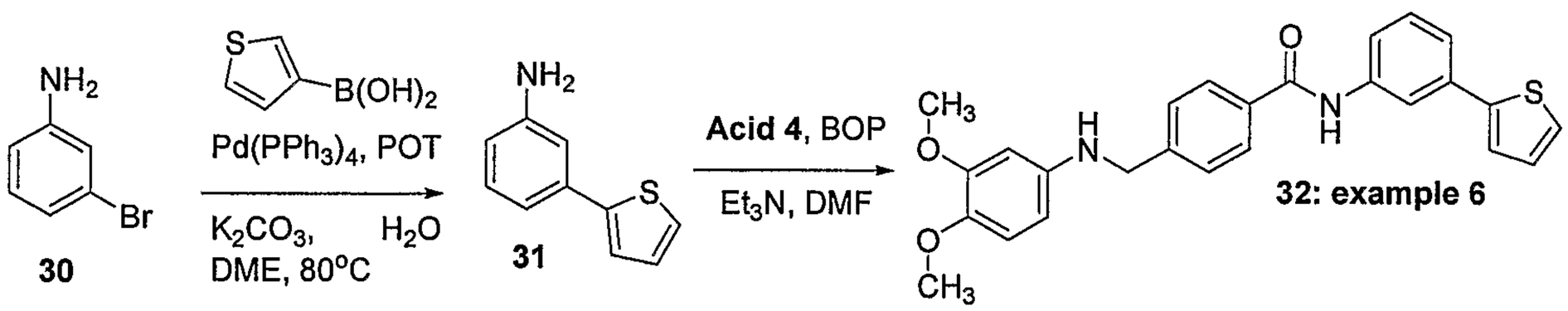
[0260] Following the same procedure as described in Example 4 step 3 and then the procedures described in Example 1, steps 3 and 4, the title compound 29 was obtained as an orange solid in 73% yield. ^{1}H NMR: (DMSO) δ (ppm): 9.92 (s, 1H), 7.77 (d, J = 1.0 Hz, 1H), 7.70 (s, 1H), 7.65 (d, J = 8.6 Hz, 1H), 7.49 (dd, J = 8.6, 1.8 Hz, 1H), 7.46 (d, J = 2.2 Hz, 1H), 7.34 (dd, J = 5.1, 1.0 Hz, 1H), 7.30 (dd, J = 8.2, 2.2 Hz, 1H), 7.23 (dd, J = 3.5, 1.2 Hz, 1H), 7.04 (dd, J = 5.1, 3.5 Hz, 1H), 6.80 (d, J = 8.4 Hz, 1H), 6.12 (t, J = 5.8 Hz, 1H), 5.91 (s, 2H), 4.35 (d, J = 5.9 Hz, 2H), 3.64 (s, 6H), 3.50 (s, 3H). MS: (calc.) 529.2; (obt.) 530.7 $(MH)^+$.

Example 6



4-{[(3,4-dimethoxyphenyl)amino]methyl}-*N*-[3-(2-thienyl)phenyl]benzamide (32)

Scheme 5



Step 1: **3-Thiophen-2-yl-phenylamine (31).**

[0261] Following the same procedure as described in Example 1 step 2, but substituting compound 2 for compound 30, the title compound 31 was obtained in 50% yield. ^{1}H NMR: (DMSO) δ (ppm): 7.45 (dd, J = 5.1, 1.2 Hz, 1H), 7.32 (dd, J = 3.7, 1.2 Hz, 1H), 7.07 (dd, J = 3.7, 1.2 Hz, 1H), 7.02 (dd, J = 7.7, 7.7 Hz, 1H), 6.81 (dd, J = 1.9, 1.9 Hz, 1H), 6.78 (ddd, J = 7.4, 1.6, 0.8 Hz, 1H), 6.48 (ddd, J = 8.0, 2.3, 1.0 Hz, 1H), 5.20 (s, 2H). MS: (calc.) 176.4; (obt.) 175.1 $(MH)^+$.

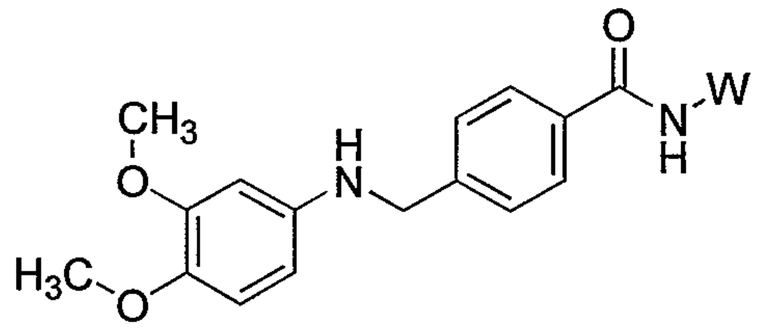
Step 2: **4-[(3,4-Dimethoxy-phenylamino)-methyl]-N-(3-thiophen-2-yl-phenyl)-benzamide (32).**

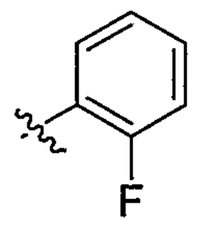
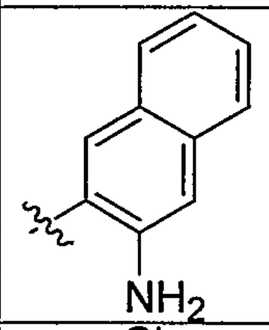
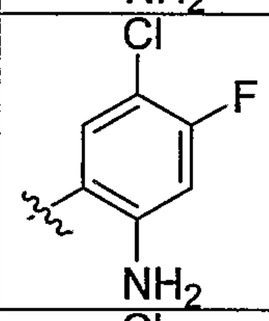
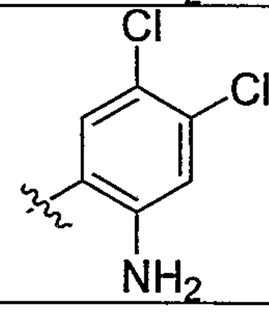
[0262] To a stirred solution of 31 (122 mg, 0.696 mmol), acid 4 (182 mg, 0.633 mmol) and BOP (308 mg, 0.696 mmol) in DMF (4 ml) was added Et_3N (265 μl, 1.90 mmol). The reaction was stirred 3 h at room temperature under nitrogen, quenched with H_2O and evaporated. The residue was extracted with ethyl acetate, washed with saturated solutions of NH_4Cl, $NaHCO_3$ and brine. The organic layer was dried over anhydrous $MgSO_4$ and concentrated in vacuum to form a material which was purified by flash chromatography (eluent 40% EtOAc in hexane) to give the title compound 32 (70 mg, 25%) as a yellow solid. ^1H NMR: (DMSO) δ (ppm): 10.25 (s, 1H), 8.09-8.08 (m, 1H), 7.73 (ddd, J = 7.6, 3.7, 3.7 Hz, 1H), 7.54 (dd, J = 5.1, 1.0 Hz, 1H), 7.49 (d, J = 8.2 Hz, 2H), 7.45 (dd, J = 3.7, 1.2 Hz, 1H), 7.42-7.32 (m, 2H), 7.13 (dd, J = 5.1, 3.7 Hz, 1H), 6.64 (d, J = 8.6 Hz, 1H), 6.31 (d, J = 2.5 Hz, 1H), 6.00-5.97 (m, 2H), 4.31 (d, J = 6.1 Hz, 2H), 3.65 (s, 3H), 3.59 (s, 3H). MS: (calc.), 444.2; (obt.) 445.5 $(MH)^+$.

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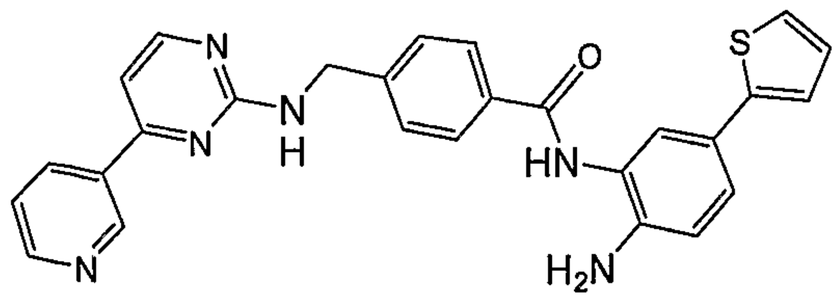
Table 3

Characterization of compounds prepared according to Scheme 5



Cpd	Example	W	Name	Characterization
33	6a		4-[(3,4-Dimethoxy-phenylamino)-methyl]-N-(2-fluoro-phenyl)-benzamide	^{1}H NMR (400 MHz, DMSO d_6): 10.07 (s, 1H); 7.98 (d, 2H, J=8.3 Hz); 7.64 (t, 1H, J=7.5 Hz); 7.55 (d, 2H, J=8.0 Hz); 7.35-7.27 (m, 3H); 6.71 (d, 1H, J=8.8 Hz); 6.38 (s, 1H); 6.05 (d, 1H, J=8.8 Hz); 5.80 (d, 1H, J=3.5 Hz); 4.36 (s, 2H), 3.71 (s, 3H); 3.65 (s, 3H).
34	6b		N-(3-Amino-naphthalen-2-yl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide	^{1}H NMR (400 MHz, DMSO d_6): 9.71 (s, 1H); 7.94 (d, 2H, J=8.2 Hz); 7.82 (s, 1H); 7.63 (d, 1H, J=7.6 Hz); 7.52 (d, 1H; J=7.82 Hz); 7.48 (d, 2H, J=8.4 Hz); 7.28-7.24 (m, 1H); 7.14-7.10 (m, 1H); 7.05 (s,1H); 6.64 (d, 1H, J=8.6 Hz); 6.32 (d, 1H, J=2.5 Hz); 6.03-5.97 (m, 2H); 5.24 (s, 2H); 4.30 (d, 2H, J=6.26 Hz), 3.65 (s, 3H); 3.58 (s, 3H).
35	6c		N-(2-Amino-5-chloro-4-fluoro-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide	^{1}H NMR (400 MHz, DMSO d_6): 9.53(s, 1H); 7.88 (d, 2H, J=8.2 Hz); 7.45 (d, 2H, J=8.4 Hz); 7.27 (d, 1H, J=8.0 Hz); 6.67(d, 1H, J=11.5Hz); 6.30 (d, 1H, J=2.5 Hz); 5.98-5.95 (m, 2H); 5.40 (s, 2H); 4.29 (d, 2H, J=6.4Hz), 3.64 (s, 3H); 3.58 (s, 3H).
36	6d		N-(2-Amino-4,5-dichloro-phenyl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide	^{1}H NMR (400 MHz, DMSO d_6): 9.53(s, 1H); 7.88 (d, 2H, J=8.0 Hz); 7.44 (d, 2H, J=8.2 Hz); 7.27 (d, 1H, J=8.0 Hz); 6.63(d, 1H, J=8.4Hz); 6.30 (d, 1H, J=2.0 Hz); 5.60-5.96 (m, 2H); 5.40 (s, 2H); 4.27 (d, 2H, J=6.0Hz), 3.65 (s, 3H); 3.57 (s, 3H).

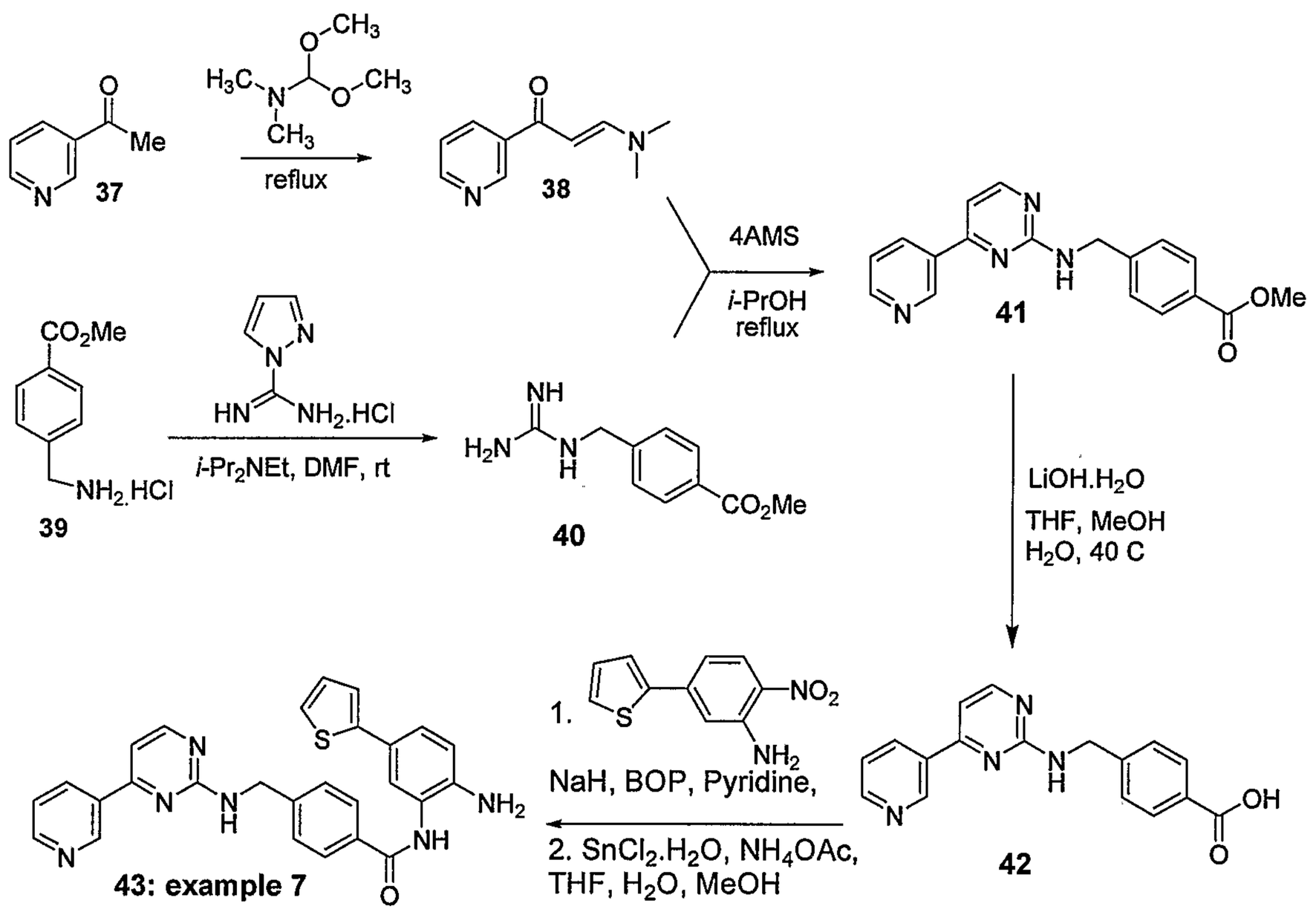
Example 7



***N*-[2-amino-5-(2-thienyl)phenyl]-4-{[(4-pyridin-3-ylpyrimidin-2-yl)amino]methyl}benzamide**

(43)

Scheme 6



Step 1: **3-Dimethylamino-1-pyridin-3-yl-propenone (38)**

[0263] A stirred solution of 3-acetylpyridine (37, 30.0 g, 247.6 mmol) and *N,N*-dimethylformamide dimethylacetal (65.8 ml, 495.2 mmol) was refluxed under nitrogen for 4h. The reaction mixture was concentrated to dryness and 50 ml of diethyl ether were added to give a brown suspension. The solid was separated by filtration, rinsed with Et_2O and dried to afford the title compound 38 (36.97 g, 85% yield) as an orange crystalline solid. ^1H NMR (400 MHz, $CDCl_3$) δ(ppm): 9.08 (d, J = 2.2 Hz, 1H), 8.66 (dd, J = 4.9, 1.4 Hz, 1H), 8.26-8.23 (m, 1H), 7.85 (d, J = 12.1 Hz, 1H), 7.40 (dd, J = 7.8, 4.9 Hz, 1H), 5.68 (d, J = 12.1 Hz, 1H), 3.20 (s, 3H), 2.97 (s, 3H).

Step 2: **Methyl (4-guanidinomethyl)benzoate (40)**

[0264] To a stirred suspension of methyl 4-aminomethyl-benzoate hydrochloride (39, 15.7 g, 77.8 mmol) and diisopropylethylamine (29.5 ml, 171.2 mmol) in DMF (85.6 ml) at room temperature under nitrogen was added pyrazole-1-carboxamidine hydrochloride (12.55 g, 85.6 mmol). After 4 h the reaction mixture as a clear solution was concentrated to dryness under vacuum and saturated aqueous solution of $NaHCO_3$ (35 ml) was added to give a suspension. The solid was separated by filtration and washed with cold water. The mother liquor was concentrated to produce additional amount of a solid material which was also collected by filtration. Both solids were combined, triturated with H_2O (50 ml), filtered off, washed with cold H_2O and diethyl ether, and dried to afford the title compound 40 (12.32 g, 77% yield) as a white crystalline solid. ^1H NMR: (400 MHz, DMSO-d_6) δ (ppm): 9.20-8.00 (m, 4H), AB system (δ_A = 7.91, δ_B = 7.39, J_{AB} = 8.2 Hz, 4H), 4.39 (bs, 2H), 3.83 (s, 3H).

Step 3: **Methyl 4-[(4-pyridin-3-yl-pyrimidin-2-ylamino)-methyl]-benzoate (41)**

[0265] To a stirred suspension of compounds 38 (0.394 g, 1.9 mmol) and 40 (0.402 g, 2.3 mmol) in isopropyl alcohol (3.8 ml) at room temperature under nitrogen were added molecular sieves (0.2 g, 4Å, powder). The reaction mixture was refluxed for 5h. MeOH (50 ml) was added, and the reaction mixture was brought to reflux again. A cloudy solution formed which was filtered through a celite pad, filtrate was concentrated to dryness and the residue was triturated with ethyl acetate (3 ml), filtered off and dried to afford the title compound 41 (0.317g, 52%) as a white crystalline solid. ^1H NMR (400 MHz, DMSO-d_6) δ (ppm): 9.17 (bs, 1H), 8.64 (m,1H), 8.38 (m, 2H), 7.98 (t, J = 6.3 Hz, 1H), 7.88 (m, 2H), 7.48 (m, 3H), 7.24 (d, J = 5.1 Hz, 1H), 4.64 (d, J = 6.1 Hz, 2H), 3.81 (s, 3H).

Step 4: **4-[(4-Pyridin-3-yl-pyrimidin-2-ylamino)-methyl]-benzoic acid (42)**

[0266] To a stirred solution of 41 (3.68 g, 11.5 mmol) in a mixture of THF (23 ml) and MeOH (23 ml) was added a solution of $LiOH.H_2O$ (1.06 g, 25.3 mmol) in water (11.5 ml) at room temperature. The reaction mixture was stirred at 40°C overnight, cooled to the room temperature, and an aqueous solution of HCl (12.8 ml, 2*N*) was added (pH ~ 4-5). The mixture was concentrated to dryness; the formed solid was triturated with water, filtered off, washed with minimum H_2O and dried to afford the title compound 42 (3.44 g, 95%) as a white solid. ^1H NMR (400 MHz, DMSO-d_6) δ(ppm): 12.83 (bs, 1H), 9.23 (bs, 1H), 8.73-8.66 (m, 1H), 8.46-8.36 [m, included at 8.42 (d, J = 5.1 Hz), 2H], 8.02 (t, J

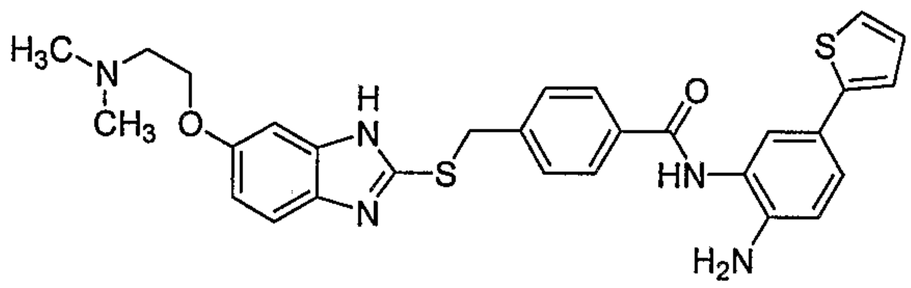
= 6.3 Hz, 1H), 7.91 (d, J = 8.2 Hz, 2H), 7.60-7.40 (m, 3H), 7.28 (d, J = 5.1 Hz, 1H), 4.67 (d, J = 6.3 Hz, 2H).

Step 5: *N*-**(2-Amino-5-thiophen-2-yl-phenyl)-4-[(4-pyridin-3-yl-pyrimidin-2-ylamino)-methyl]-benzamide (43)**

[0267] Following the same procedure as described in Example 1, Steps 3-4, but substituting compound 4 for compound 42, the title compound was obtained in 62% yield.

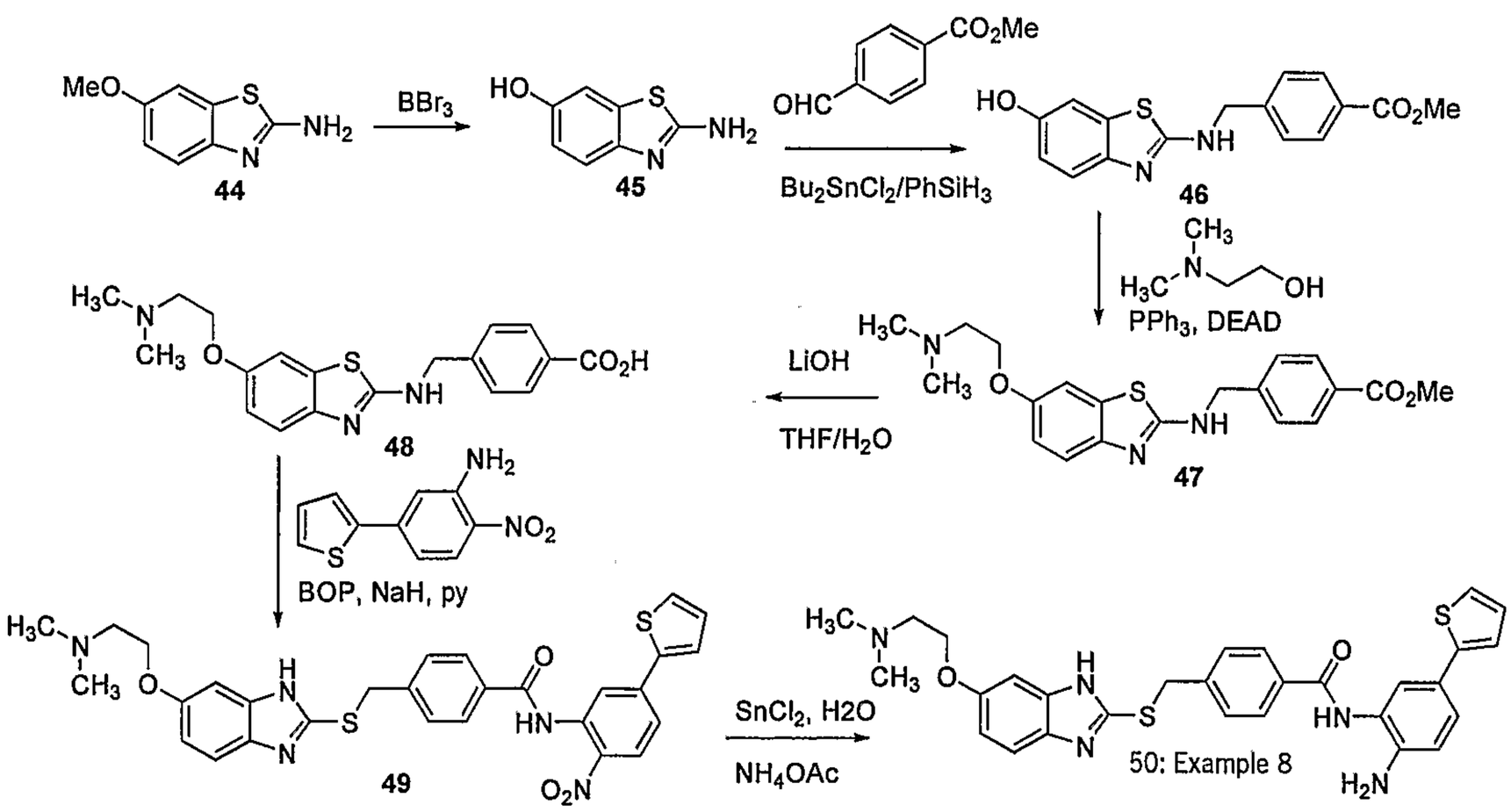
[0268] ^{1}H NMR (400 MHz, DMSO-d_6), δ (ppm): 9.65 (s, 1H), 9.22 (s, 1H), 8.66 (d, J = 3.7 Hz, 1H), 8.39 (d, J = 5.3 Hz, 2H), 8.01 (t, J = 6.5 Hz, 1H), 7.93 (d, J = 8.4 Hz, 2H), 7.53-7.44 (m, 4H), 7.32 (dd, J = 5.1, 1.2 Hz, 1H), 7.28-7.24 (m, 2H), 7.21 (dd, J = 3.7, 1.2 Hz, 1H), 6.02 (dd, J = 5.1, 3.5 Hz, 1H), 6.78 (d, J = 8.4 Hz, 1H), 5.13 (s, 2H), 4.65 (d, J= 5.7, 2H). MS: (calc.) 478.2; (obt.) 479.5 $(MH)^+$.

Example 8



4-[({6-[2-(dimethylamino)ethoxy]-1*H*-benzimidazol-2-yl}thio)methyl]-*N*-[2-nitro-5-(2-thienyl)phenyl]benzamide (50)

Scheme 7



Step 1: **2-Amino-benzothiazol-6-ol (45):**

[0269] The title compound 45 was obtained following the same procedure described in U.S. Patent Application No. 10/242,304, which is incorporated by reference in its entirety. The yield of the title compound was 49% yield. ^{1}H NMR: (CD_3OD) δ(ppm): 7.93 (d, J= 8.5 Hz, 2H), 7.50 (d, J= 8.5 Hz, 2H), 7.31 (bs, 1H), 6.86 (bs,1H), 6.76 (dd, J= 8.8, 2.47 Hz, 1H), 4.49 (s, 2H), 3.94 (s, 3H).

Step 2: **4-[(6-Hydroxy-benzothiazol-2-ylamino)-methyl]-benzoic acid methyl ester (46):**

[0270] The title compound 46 was obtained following the same procedure as for the reductive amination described in U.S. Patent Application No. 10/242,304, which is incorporated by reference in its entirety. The yield of the title compound was 92% yield. ^{1}H NMR: (Acetone-d_6) δ(ppm): 8.06 (t, J=7.9 Hz, 2H), 7.65 (d, J=8.4 Hz, 2H), 7.36 (d, J=8.8 Hz, 1H), 7.21 (d, J=2.2 Hz, 1H), 6.88 (dd, J=8.8, 2.6 Hz, 1H), 4.87 (s, 2H), 3.95 (s, 3H). m/z: 315.2 (MH^+).

Step 3: **4-{[6-(2-Dimethylamino-ethoxy)-benzothiazol-2-ylamino]-methyl}-benzoic acid methyl ester (47):**

[0271] The title compound 47 was obtained following the same procedure as for the Mitsunobu reaction described in U.S. Patent Application No. 10/242,304, which is incorporated by reference in its entirety. The yield of the title compound was 61% yield). ^{1}H NMR: (CD_3OD) δ(ppm): 7.98 (d, J=8.4 Hz, 2H), 7.48 (d, J=8.0 Hz, 2H), 7.31 (d, J=8.8 Hz, 1H), 7.22 (d, J=2.5 Hz, 1H), 6.89 (dd, J=8.8, 2.7 Hz, 1H), 4.68 (s, 2H), 4.09 (t, J=5.5 Hz, 2H), 3.88 (s, 3H), 2.77 (t, J=5.5 Hz, 2H), 2.35 (s, 6H). m/z: 386.4 (MH^+).

Step 4: **4-{[6-(2-Dimethylamino-ethoxy)-benzothiazol-2-ylamino]-methyl}-benzoic acid (48):**

[0272] The title compound 48 was obtained following the same procedure as for the ester hydrolysis described in U.S. Patent Application No. 10/242,304, which is incorporated by reference in its entirety. The yield of the title compound was 63% yield. ^{1}H NMR: (CD_3OD) δ(ppm): 8.43 (bs, 1H), 7.92 (d, J=8.0 Hz, 2H), 7.48 (d, J=8.2 Hz, 2H), 7.38 (s, 1H), 7.30 (d, J=8.4 Hz, 1H), 6.87 (d, J=9.2 Hz, 1H), 4.66 (d, J=5.1 Hz, 2H), 4.17 (t, J=4.7 Hz, 2H), 3.06 (bs, 2H), 2.54 (s, 6H). m/z: 372.4 (MH^+).

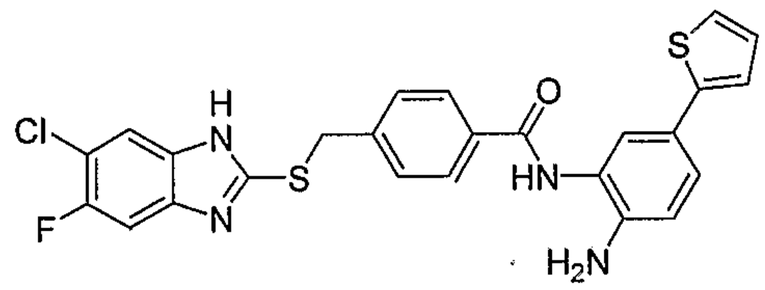
Step 5: **4-[6-(2-Dimethylamino-ethoxy)-1H-benzoimidazol-2-ylsulfanylmethyl]-N-(2-nitro-5-thiophen-2-yl-phenyl)-benzamide (49)**

[0273] The title compound 49 was obtained following the same procedure as Example 1, step 3, but substituting compound 4 for compound 48 in 83% yield. ^{1}H NMR: (DMSO-d_6) δ(ppm): 10.92 (bs, 1H), 8.26 (bs, 1H), 8.16 (s, 1H), 8.05 (d, J=9.0 Hz, 1H), 7.82 (d, J=7.4 Hz, 2H), 7.74-7.67 (m, 2H), 7.31-7.21 (m, 5H), 6.79 (d, J=8.4 Hz, 1H), 4.54 (d, J=4.7 Hz, 2H), 3.99 (bs, 2H), 2.59 (t, J=5.9 Hz, 2H), 2.20 (s, 6H).

Step 6: ***N*-[2-amino-5-(2-thienyl)phenyl]-4-[({6-[2-(dimethylamino)ethoxy]-1*H*-benzimidazol-2-yl}thio)methyl]benzamide *N*-(2-Amino-5-thiophen-2-yl-phenyl)-4-{[6-(2-dimethylamino-ethoxy)-benzothiazol-2-ylamino]-methyl}-benzamide (50)**

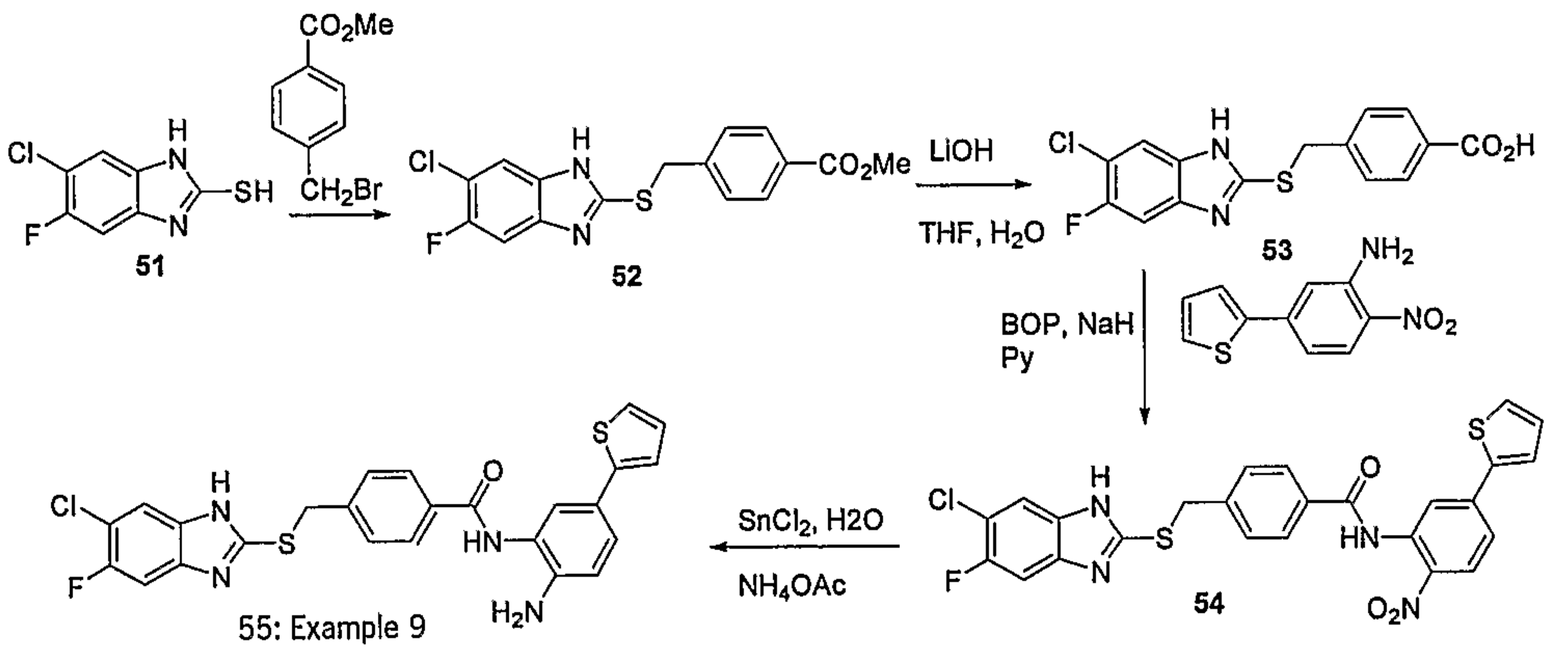
[0274] The title compound 50 was obtained following the same procedures as Example 1, step 4, but substituting compound 5 for compound 49 in 7% yield. ^{1}H NMR: (DMSO-d_6) d (ppm): 9.68 (s, 1H), 8.39 (bs, 1H), 7.95 (d, J=7.4 Hz, 2H), 7.47 (d, J=8.4 Hz, 2H), 7.44 (s, 1H), 7.32 (s, 1H), 7.27-7.21 (m, 3H), 7.02 (s, 1H), 6.80 (t, J=9.8 Hz, 2H), 5.14 (s, 2H), 5.63 (d, J=4.5 Hz, 2H), 4.05 (bs, 2H), 2.76 (bs, 2H), 2.32 (s, 6H). m/z: 544.5 (MH^+).

Example 9



N-[2-amino-5-(2-thienyl)phenyl]-4-{[(6-chloro-5-fluoro-1*H*-benzimidazol-2-yl)thio]methyl}benzamide (55)

Scheme 8



Step 1: **4-(6-Chloro-5-fluoro-1H-benzoimidazol-2-ylsulfanylmethyl)-benzoic acid methyl ester (52)**

[0275] The title compound 52 was obtained following the same procedure as for the S-alkylation described in U.S. Patent Application No. 10/242,304, which is incorporated by reference in its entirety. The yield of the title compound was 55% yield.

[0276] ^{1}H NMR: (DMSO-d_6) δ(ppm): 7.85 (d, J=8.4 Hz, 2H), 7.55 (d, J=8.4 Hz, 2H), 3.80 (s, 2H), 3.34 (s, 3H). m/z: 351.2 (MH^+).

Step 2: **4-{6-[(Pyridin-3-ylmethyl)-amino]-benzothiazol-2-ylsulfanylmethyl}-benzoic acid methyl ester (53):**

[0277] The title compound 53 was obtained following the same procedure as for the ester hydrolysis described in U.S. Patent Application No. 10/242,304, which is incorporated by reference in its entirety. The yield of the title compound was 83% yield.

[0278] ^{1}H NMR: (DMSO-d_6) δ(ppm): 7.88 (d, J=8.2 Hz, 2H), 7.67 (d, J=6.8 Hz, 1H), 7.55 (d, J=8.2 Hz, 2H), 7.53 (d, J=6.8 Hz, 1H), 4.65 (s, 2H).

Step 3: *N*-**(2-Amino-phenyl)-4-{6-[(pyridin-3-ylmethyl)-amino]-benzothiazol-2-yl sulfanylmethyl}-benzamide (54):**

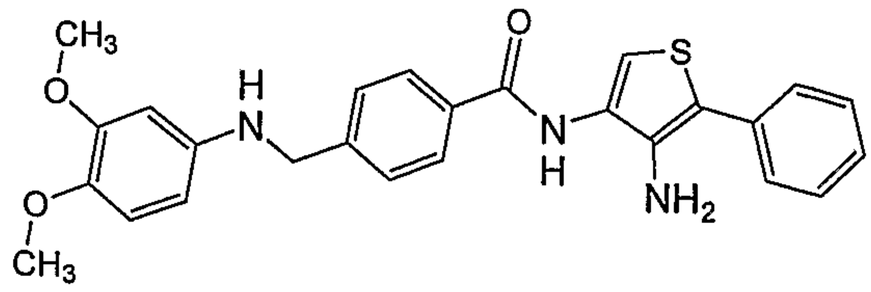
[0279] The title compound 54 was obtained following the same procedure as Example 1, step 3, but substituting compound 4 for compound 53 in 66% yield.

[0280] ^{1}H NMR: (DMSO-d_6) δ(ppm): 12.89 (bs, 1H), 10.79 (s, 1H), 8.12 (d, J=2.0 Hz, 1H), 8.05 (d, J=8.8 Hz, 2H), 7.90-7.68 (m, 3H), 7.62 (d, J=8.4 Hz, 2H), 7.48 (bs, 1H), 7.21 (dd, J=4.9, 3.7 Hz, 1H), 4.65 (s, 2H). m/z: 539.5

Step 4: *N*-**(2-Amino-5-thiophen-2-yl-phenyl)-4-(6-chloro-5-fluoro-1H-benzoimidazol-2-ylsulfanylmethyl)-benzamide (55)**

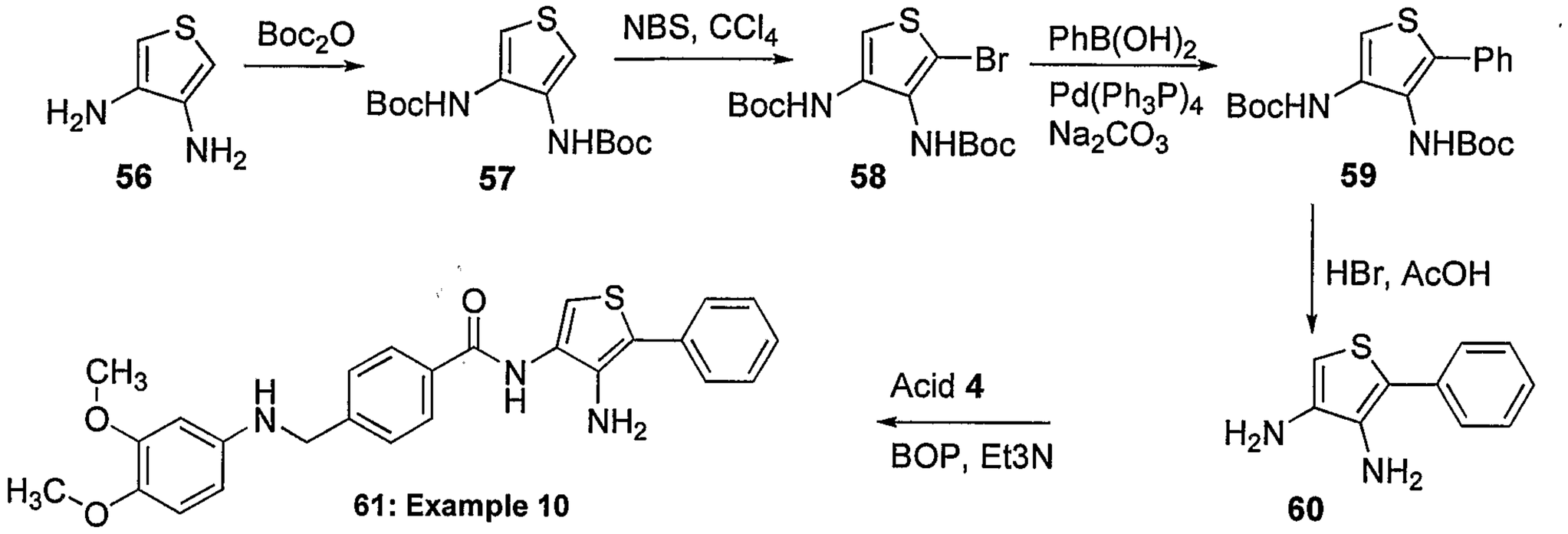
[0281] The title compound 55 was obtained following the same procedure as Example 1, step 4, but substituting compound 5 for compound 54 in 14% yield. ^{1}H NMR: (DMSO-d_6) d (ppm): 12.96 (s, 0.5H), 12.92 (s, 0.5H), 9.71 (s, 1H), 7.96 (d, J=8.0 Hz, 2H), 8.35 (s, 0.5H), 7.79 (d, J=7.0 Hz, 0.5H), 7.64 (d, J=7.0 Hz, 0.5H), 7.62 (d, J=7.8 Hz, 2H), 7.50 (s, 0.5H), 7.48 (s, 1H), 7.38 (d, J=4.9 Hz, 1H), 7.32 (d, J=8.4 Hz, 1H), 7.27 (d, J=3.1 Hz, 1H), 7.08 (t, J=3.7 Hz, 1H), 6.83 (d, J=8.4 Hz, 1H), 5.19 (s, 2H), 4.69 (d, J=3.5 Hz, 2H). m/z: 509.5

Example 10



***N*-(4-amino-5-phenyl-3-thienyl)-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (61)**

Scheme 9



Step 1: **(4-tert-Butoxycarbonylamino-thiophen-3-yl)-carbamic acid tert-butyl ester (57)**

[0282] To a vigorously stirred THF (40 mL) solution of 3,4-diaminothiophene light petroleum ether (300 mL) was added (1.00g, 8.77mmol). To this mixture a solution of di-t-butyldicarbonate (3.82g, 17.5mmol) in petroleum ether (100mL) was added over a period of 30 min. Stirring was continued for 16h and the solvents were distilled off. The residue was dissolved in DCM and washed twice with 1N HCl, dried over $MgSO_4$ and concentrated in vacuum to a ~ 20 mL volume. Hexane was slowly added with stirring and brown crystalline material precipitated out. The product was collected by filtration, washed with hexane and the mother liquor was allowed to crystallize again to yield a second crop of the product. The two crops were combined thus affording the title compound 57 (2.19g, 80% yield). This procedure is essentially as described in Brugier *et al.* Tetrahedron (1997) 30: 10331-10344, which is incorporated by reference in its entirety. ^1H NMR: ($CDCl_3$) δ(ppm): 7.14 (s, 2H), 6.66 (bs, 1H), 1.54 (s, 18H).

[0283] Neutral 3,4-diaminothiophene is obtained by dissolving 3,4-diaminothiophene dihydrochloride (Toronto Research) (2.0g, 10.7mmol) in a minimum volume of 1N aqueous HCl and make the solution basic by addition of 2N aqueous NaOH. The precipitate is extracted twice with EtOAc and the combined organic layers dried with $MgSO_4$ and concentrated (1.00g, 82% recovery).

Step 2: **(2-Bromo-4-tert-butoxycarbonylamino-thiophen-3-yl)-carbamic acid tert-butyl ester (58)**

[0284] NBS (1.22g, 6.87 mmol) was added to a solution of compound 57 (2.16g, 6.87 mmol) in CCl_4 (137 mL) at r.t. The mixture was stirred for 16h. The solid material was filtered off and the filtrate was collected and washed with water. The organic layer was dried over $MgSO_4$ and concentrated in vacuum. The residue was purified by flash chromatography with DCM as an eluent affording the title compound 58 (1.92 g, 71% yield). ^1H NMR: ($CDCl_3$) δ(ppm): 7.30 (bs, 1H), 6.00 (s, 1H), 1.45 (s, 9H), 1.43 (s, 9H). m/z: 415.4/417.4 (M+Na/M+2+Na). This procedure is essentially as described in Brugier *et al.*, *Tetrahedron*, **56**: 2985-2993 (2000), which is incorporated by reference in its entirety.

Step 3: **(4-tert-Butoxycarbonylamino-5-phenyl-thiophen-3-yl)-carbamic acid tert-butyl ester (59)**

[0285] In a flame-dried round-bottom flask, tetrakis(triphenylphosphine) palladium (59 mg, 0.051 mmol) was added to a degassed solution of compound 58 (400 mg, 1.02 mmol) in DME (5 mL). Phenylboronic acid (186 mg, 1.53 mmol), water (2.5 mL), and Na_2CO_3 (324 mg, 3.06 mmol) were successively added, degassing and purging with nitrogen between each addition. The mixture was refluxed under nitrogen atmosphere for 3 h and partitioned between Et_2O and water. The organic layer was dried over $MgSO_4$ and concentrated in vacuum. The title compound 59 (398 mg, 100% yield) was obtained as a brown oil. ^1H NMR: ($CDCl_3$) δ(ppm): 7.51-7.31 (m, 6H), 1.54 (s, 18H). m/z: 413.5 ($M+Na^+$). This procedure is essentially as described in Brugier *et al.*, *Tetrahedron*, **56**: 2985-2993 (2000), which is incorporated by reference in its entirety.

Step 4: **2-Phenyl-thiophene-3,4-diamine (60)**

[0286] To a solution of compound 59 in glacial acetic acid (102 μL) was added a 30% solution of HBr in acetic acid (102 μL). The mixture was stirred for 16h at r.t. and Et_2O (10 mL) was added. The precipitate was collected by filtration and immediately dissolved in water, neutralized by addition of 2N aqueous NaOH and the precipitate was extracted with Et_2O. The organic layer was dried over $MgSO_4$ and concentrated in vacuum affording the title compound 60 (34 mg, 69% yield). This procedure is essentially as described in Brugier *et al.*, *Tetrahedron*, **30**: 10331-10344 (1997), which is incorporated by reference in its entirety. ^1H NMR: ($CDCl_3$) δ(ppm): 7.49 (dd, J=8.4, 1.4 Hz, 2H),

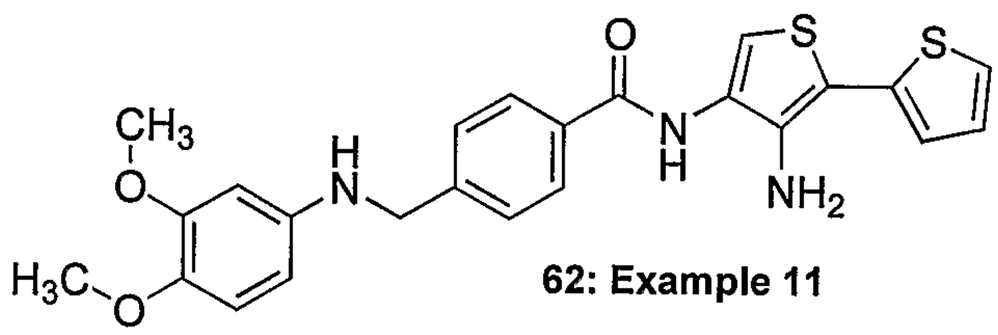
7.41 (t, J=7.6 Hz, 2H), 7.26 (dd, J=10.2, 7.2 Hz, 1H), 6.22 (s, 1H), 3.51 (bs, 4H). m/z: 191.3 (MH^+).

Step 5: ***N*-(4-Amino-5-phenyl-thiophen-3-yl)-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide (61)**

[0287] The title compound 61 was obtained following the same procedure as described in Example 6, step 2, but substituting compound 31 for compound 60 in 73% yield).

[0288] ^1H NMR: (CD_3OD) δ(ppm): 7.91 (d, J=8.2 Hz, 2H), 7.52 (d, J=8.0 Hz, 2H), 7.51 (dd, J=7.0, 1.2 Hz, 2H), 7.42 (t, J=7.4 Hz, 2H), 7.38 (s, 1H), 7.28 (tt, J=7.4, 1.8 Hz, 1H), 6.71 (d, J=8.6 Hz, 1H), 6.37 (d, J=2.7 Hz, 1H), 6.13 (dd, J=8.6, 2.5 Hz, 1H), 4.38 (s, 2H), 3.74 (s, 3H), 3.71 (s, 3H). m/z: 460.5 (MH^+).

Example 11

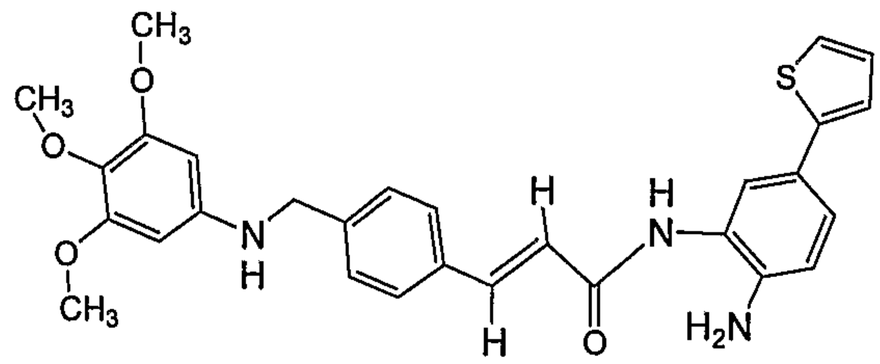


62: Example 11

***N*-(3-amin0-2,2'-bithien-4-yl)-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (62)**

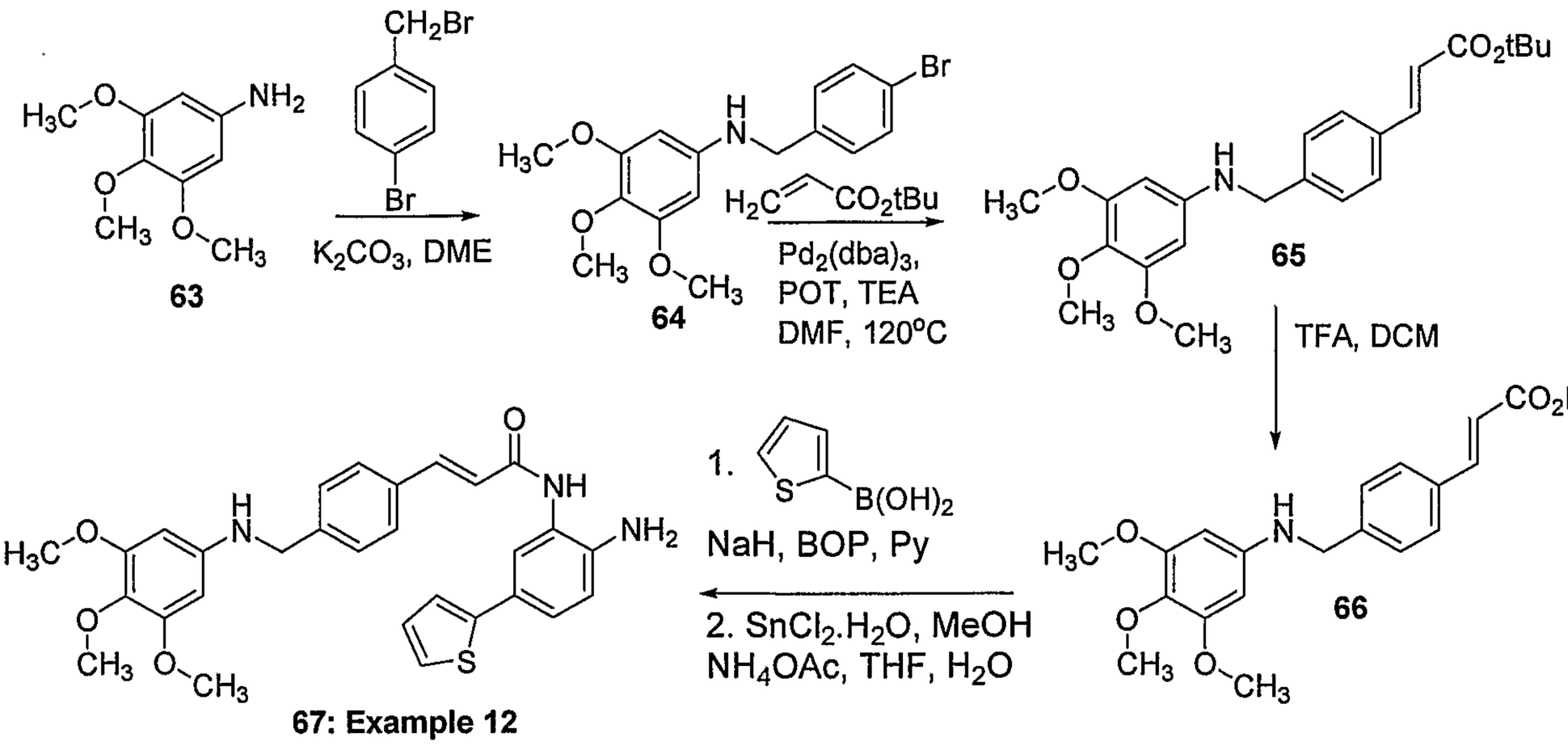
[0289] The title compound 62 was obtained following the same procedures as Example 10, substituting phenylboronic acid in the step 3 for 2-thiopheneboronic acid in 29% yield. ^1H NMR: (DMSO-d_6) δ(ppm): 7.90 (d, J=8.4 Hz, 2H), 7.52 (d, J=8.4 Hz, 2H), 7.37 (dd, J=5.1, 1.2 Hz, 1H), 7.36 (s, 1H), 7.14 (dd, J=3.7, 1.2 Hz, 1H), 7.10 (dd, J=5.1, 3.5 Hz, 1H), 6.71 (d, J=7.4 Hz, 1H), 6.36 (d, J=2.5 Hz, 1H), 4.38 (s, 2H), 3.74 (s, 3H), 3.71 (s, 3H), m/z: 466.5 (MH^+).

Example 12



trans-*N*-[2-amino-5-(2-thienyl)phenyl]-3-(4-{[(3,4,5-trimethoxyphenyl)amino]methyl}phenyl)acrylamide (67)

Scheme 10



Steps 1-3: **3-{4-[(3,4,5-Trimethoxy-phenylamino)-methyl]-phenyl}-acrylic acid (66)**

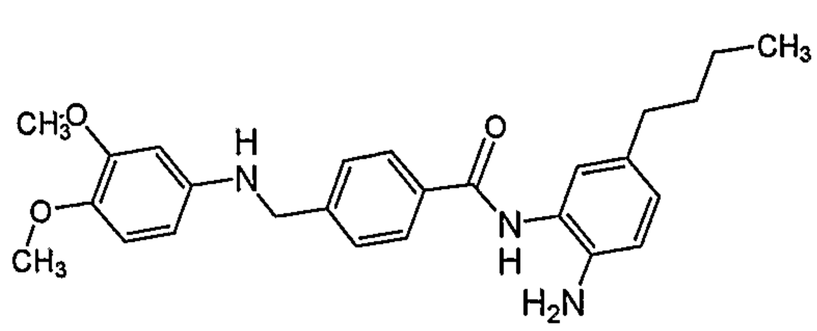
[0290] The title compound 66 and the synthetic pathway depicted in scheme 10 were described in U.S. Patent Application No. 10/242,304, which is incorporated by reference in its entirety.

Steps 4-5. *N*-**(2-Amino-5-thiophen-2-yl-phenyl)-3-{4-[(3,4,5-trimethoxy-phenylamino)-methyl]-phenyl}-acrylamide (67)**

[0291] The title compound 67 was obtained following the same procedures described in Example 1, steps 3 and 4, but substituting compound 4 for compound 66 in 32% yield.

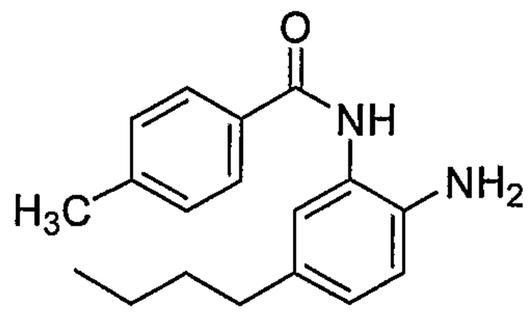
[0292] ^{1}H NMR (400 MHz, DMSO d_6): 9.40 (s, 1H); 7.67 (s, 1H); 7.56 (d, 2H, J=7.6 Hz); 7.51 (s, 1H); 7.42 (d, 2H, J=8.0 Hz); 7.33 (d, 1H, J=5.1Hz); 7.23-7.19 (m, 2H); 7.03 (dd, 1H, J=3.7, 4.9Hz); 6.85 (d, 1H, J=15.7 Hz); 6.76 (d, 1H, J=8.2Hz); 6.08 (dd, 1H; J=5.7, 6.0 Hz); 5.87 (s, 2H); 5.19 (s, 2H); 4.25 (d, 2H, J=5.9 Hz), 3.63 (s, 6H); 3.49 (s, 3H).

Example 13



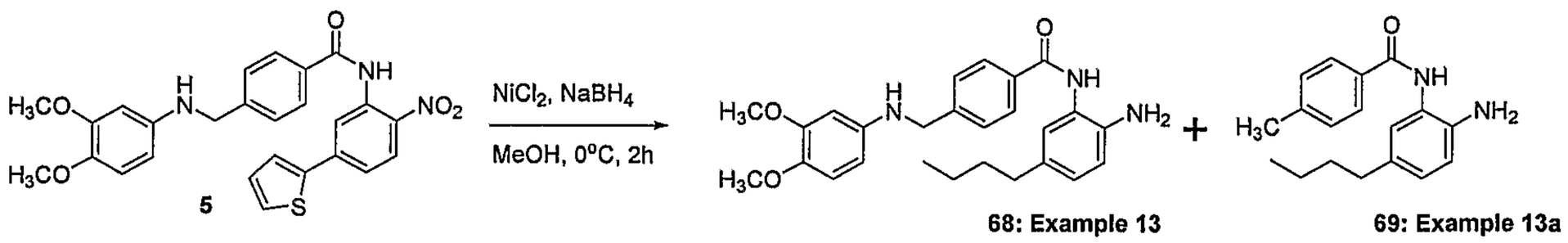
***N*-(2-amino-5-butylphenyl)-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (68) and**

Example 13a



N-(2-amino-5-butylphenyl)-4-methylbenzamide

Scheme 11

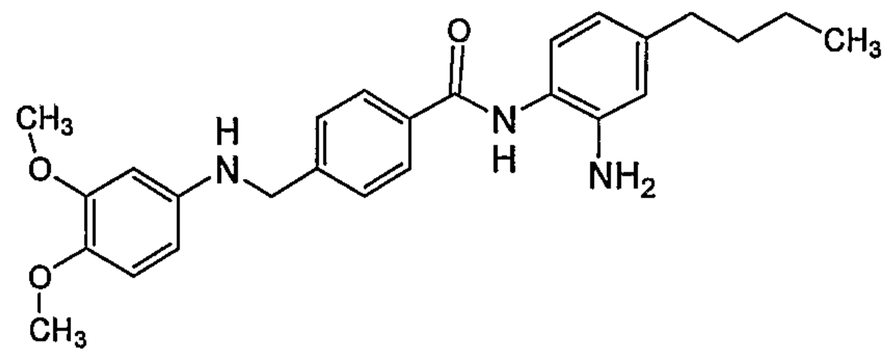


[0293] A stirred solution of nitrocompound 5 (207 mg; 0.42 mmol) and nickel(II)chloride hexahydrate (595 mg; 2.5 mmol) in methanol (6 mL) at 0°C was treated with the solid sodium borohydride (430 mg; 11.4 mmol) and the mixture stirred at the same temperature for 2h, quenched with acetone, poured into 5% NH_4OH in brine and extracted with dichloromethane. The organic layer was dried (Na_2SO_4), filtered and concentrated. After flash chromatography on a silica gel column (eluent 20% AcOEt in dichloromethane), compound 68 (62 mg; 0.143 mmol, 34%) and 69 (22 mg, 0.078 mmol, 19%) were obtained.

[0294] Compound 68: ^1H NMR: (400.2 MHz, DMSO) δ (ppm): 9.58 (s, 1H); 7.89 (d, J=8.2, 2H); 7.45 (d, J=8.2, 2H); 6.97 (s, 1H); 6.78 (dd, J=2.0; 8.2, 1H); 6.67 (d, J=8.0, 1H); 6.64 (d, J=8.6, 1H); 6.31 (d, J=2.5, 1H); 5.99-5.96 (m, 2H); 4.68 (bs, 2H); 4.29 (d, J=6.3, 2H); 3.65 (s, 3H); 3.58 (s, 3H); 2.43 (t, J=7.4, 2H); 1.49 (m, J=7.4, 2H); 1.30 (m, J=7.4, 2H); 0.89 (t, J=7.4, 3H).

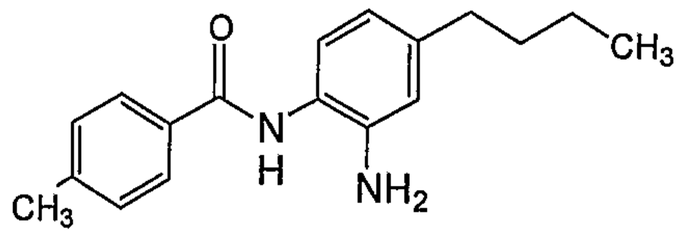
[0295] Compound 69: ^1H NMR: (400.2 MHz, DMSO) δ (ppm): 9.57 (s, 1H); 7.86 (d, J=8.1, 2H); 7.30 (d, J=8.1, 2H); 6.78 (dd, J=2.0; 8.0, 1H); 6.68 (d, J=8.0, 1H); 4.67 (bs, 2H); 2.44 (t, J=7.4, 2H); 2.38 (s, 3H); 1.49 (m, J=7.4, 2H); 1.31 (m, J=7.4, 2H); 0.89 (t, J=7.4, 3H).

Example 14



***N*-(2-amino-4-butylphenyl)-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (70) and**

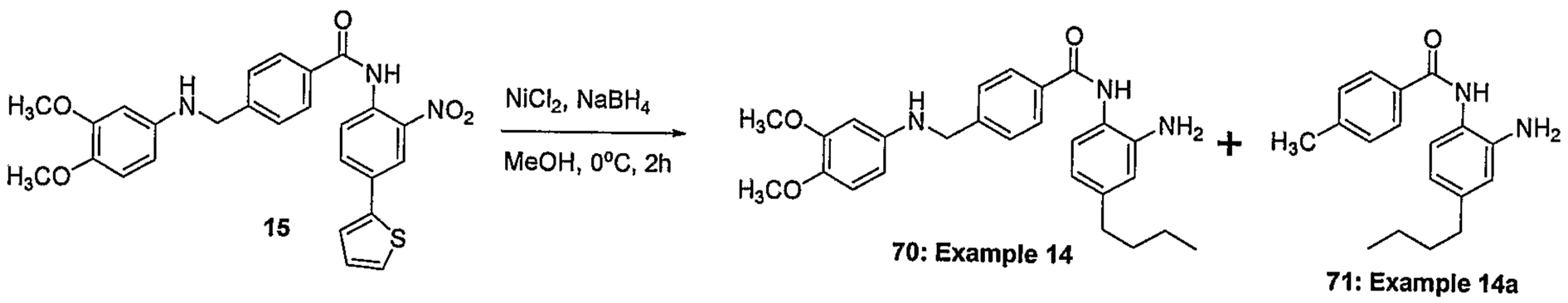
Example 14a



***N*-(2-amino-4-butylphenyl)-4-methylbenzamide (71)**

[0296] Following the same procedure as described in Example 13, but substituting the compound 5 for compound 15 in 53 and 9% yields, respectively.

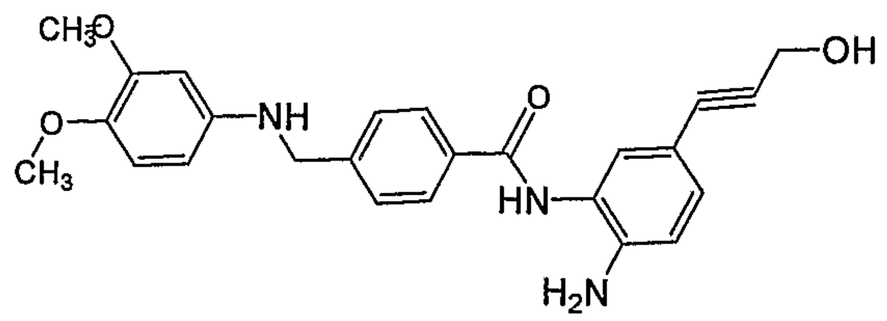
Scheme 12



[0297] Compound 70: ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 9.51 (s, 1H); 7.88 (d, J=8.4, 2H); 7.44 (d, J=8.4, 2H); 7.00 (d, J=8.3, 1H); 6.63 (d, J=8.3, 1H); 6.58 (d, J=2.0, 1H); 6.30 (d, J=2.5, 1H); 5.99-5.96 (m, 2H); 4.79 (bs, 2H); 4.29 (d, J=6.1, 2H); 3.65 (s, 3H); 3.59 (s, 3H); 2.45 (t, J=7.4, 2H); 1.52 (m, J=7.4, 2H); 1.30 (m, J=7.4, 2H); 0.90 (t, J=7.4, 3H).

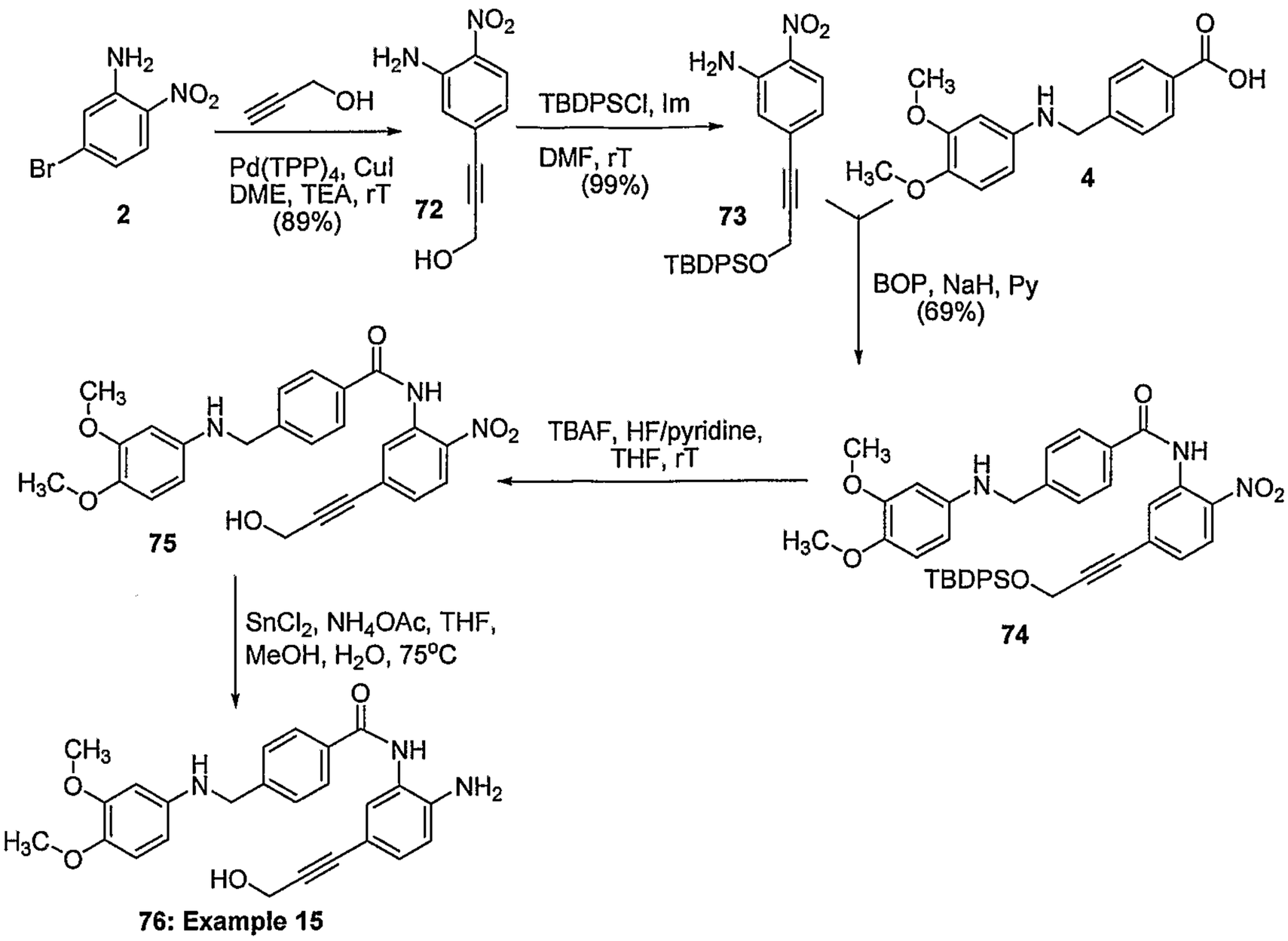
[0298] Compound 71: ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 9.51 (s, 1H); 7.85 (d, J=8.0, 2H); 7.28 (d, J=8.0, 2H); 7.01 (d, J=8.5, 1H); 6.58 (d, J=2.0, 1H); 6.40 (d, J=2.0, 8.5, 1H); 4.78 (bs, 2H); 2.45 (t, J=7.4, 2H); 2.38 (s, 3H); 1.53 (m, J=7.4, 2H); 1.31 (m, J=7.4, 2H); 0.90 (t, J=7.4, 3H).

Example 15



***N*-[2-amino-5-(3-hydroxyprop-1-yn-1-yl)phenyl]-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (76)**

Scheme 13



Step 1: **3-(3-Amino-4-nitro-phenyl)-prop-2-yn-1-ol (72)**

[0299] A suspension of bromoarene 2 (447mg g; 2.06 mmol); tetrakis(triphenylphosphine) palladium(0) (145mg, 0.12 mmol) and copper(I)iodide (143mg, 0.75mmol) in degassed ethyleneglycol dimethylether (2.5 mL) and triethylamine (1.5 mL), was stirred at room temperature under nitrogen in the dark for 10 min and then treated with neat prop-2-yn-1-ol (0.7 mL, 12 mmol) (or any other alkyne of choice, 5 eq.), and the mixture stirred under the same conditions for 48h, diluted with dichloromethane (50 mL), filtered through a celite pad and concentrated. Purification by flash chromatography (eluent 50 to 75% AcOEt in hexane) afforded compound 72 (328 mg, 83% yield).

[0300] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 7.92 (d, J=8.8, 1H); 7.46 (bs, 2H); 7.04 (d, J=1.7, 1H); 6.57 (dd, J=1.7, 8.8, 1H); 5.41 (t, J=6.1, 1H); 4.30 (d, J=6.1, 2H).

Step 2: **5-[3-(tert-Butyl-diphenyl-silanyloxy)-prop-1-ynyl]-2-nitro-phenylamine (73)**

[0301] A solution of alcohol 72 (328 mg, 1.71 mmol) and imidazole (308 mg, 4.5 mmol) in *N,N*-dimethylformamide (3 mL) was treated with neat tert-butyl-chloro-diphenyl-silane (0.5 mL, 1.9 mmol) and the solution stirred under nitrogen for 18h, diluted with ethyl acetate (300 mL), washed with 5% aqueous $KHSO_4$, then with saturated $NaHCO_3$ and finally with water, dried ($MgSO_4$), filtered and

concentrated in vacuum. The crude mixture was purified by flash chromatography (eluent 50% ether in hexane, then 50% EtOAc in dichloromethane) to give compound 73 (691 mg, 94% yield).

[0302] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 7.91 (d, J=8.8, 1H); 7.68-7-66 (m, 4H) 7.46-7.44 (m, 6H); 7.01 (d, J=1.7, 1H); 6.46 (dd, J=1.7, 8.8, 1H); 4.61 (d, 2H); 1.03 (d, 9H).

Step 3: ***N*-{5-[3-(tert-Butyl-diphenyl-silanyloxy)-prop-1-ynyl]-2-nitro-phenyl}-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide (74)**

[0303] Following the same procedure as described in Example 1, step 3, but substituting compound 3 for compound 73 title compound was obtained in 77% yield.

[0304] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 10.7 (s, 1H); 7.97 (d, J=8.6, 1H); 7.88 (d, J=8.4, 2H); 7.76 (d, J=1.8, 1H); 7.70-7-67 (m, 4H); 7.52 (d, J=8.4, 2H); 7.47-7-44 (m, 6H); 7.25 (d, J=7.4, 1H); 6.64 (d, J=8.6, 1H); 6.31 (d, J=2.8, 1H); 6.01-5.96 (m, 2H); 4.65 (s, 2H); 4.31 (d, J=6.1, 2H); 3.65 (s, 3H); 3.55 (s, 3H); 1.03 (d, 9H).

Step 4: **4-[(3,4-Dimethoxy-phenylamino)-methyl]-N-[5-(3-hydroxy-prop-1-ynyl)-2-nitro-phenyl]-benzamide (75)**

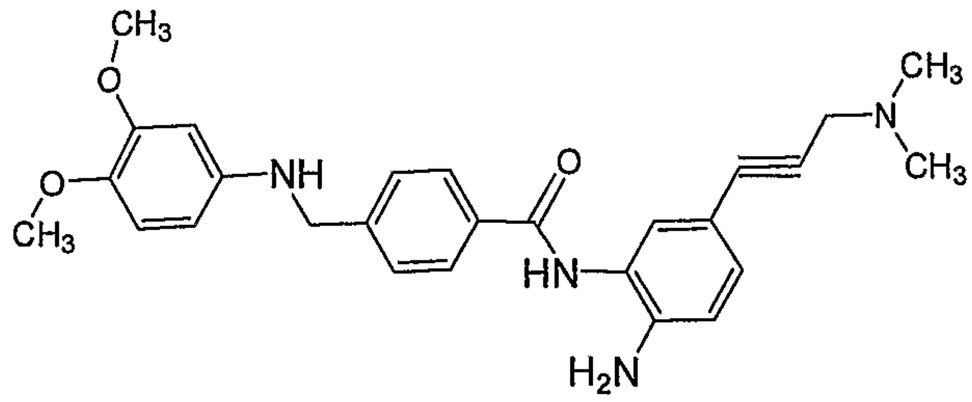
[0305] A solution of compound 74 (871 mg, 1.24 mmol) in THF (3 mL) was treated with 1.0 M solution of tetrabutylammonium fluoride in THF (2.0 mL, 2.0 mmol) followed by 70% hydrogen fluoride in pyridine (0.1 mL), and the solution stirred under nitrogen for 12h, diluted with ethyl acetate (200 mL) and washed with saturated $NaHCO_3$ (50 mL) and then with water (6x100 mL), dried (Na_2SO_4), filtered and concentrated in vacuum. The crude material (647 mg) was pure enough for the next step without further purification.

Step 5: ***N*-[2-Amino-5-(3-hydroxy-prop-1-ynyl)-phenyl]-4-[(3,4-dimethoxy-phenyl amino)-methyl]-benzamide (76)**

[0306] Following the same procedure as described in Example 1, Step 4, but substituting compound 5 for compound 75 in 52% yield.

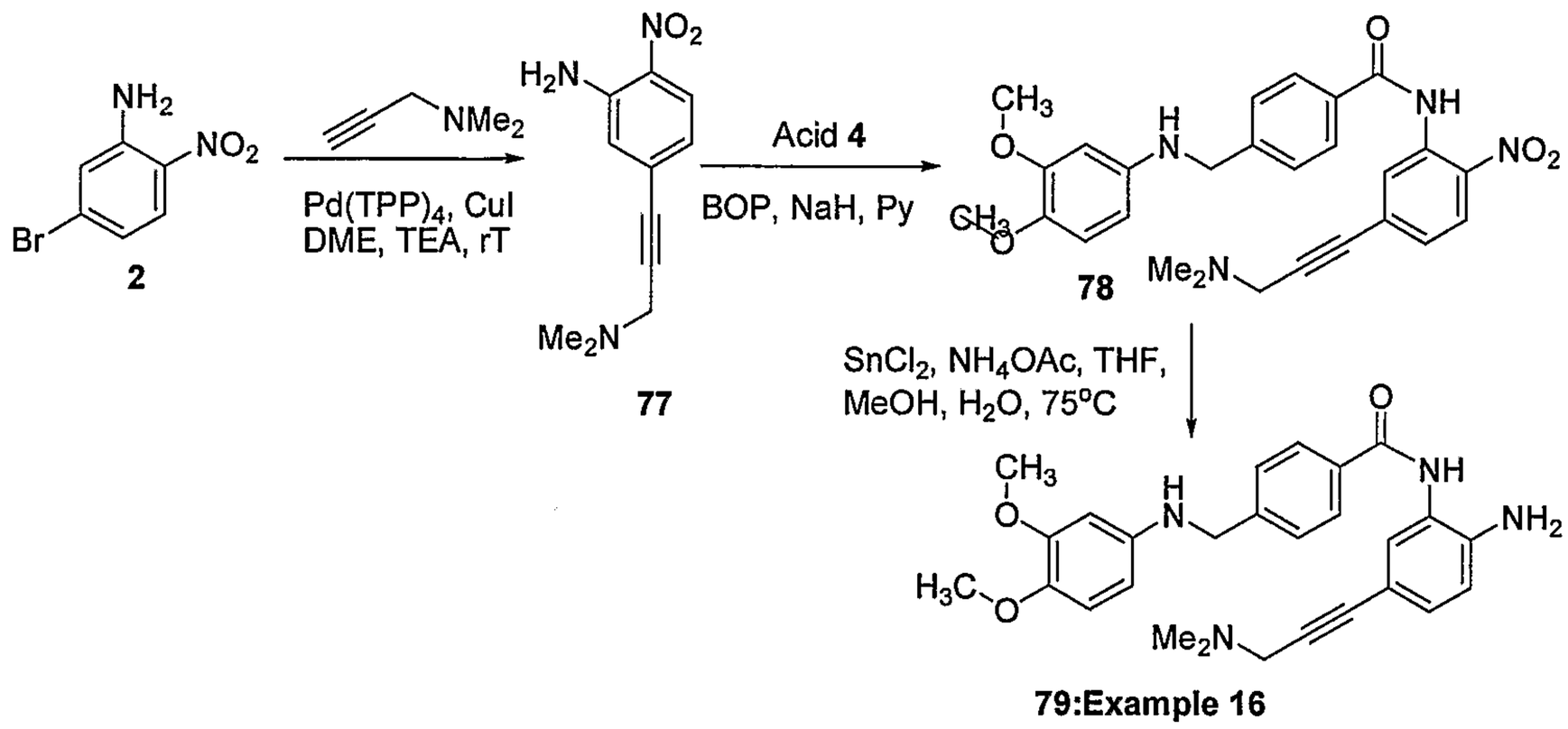
[0307] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 9.51 (s, 1H); 7.88 (d, J=8.2, 2H); 7.45 (d, J=8.2, 2H); 7.22 (d, J=1.8, 1H); 6.99 (dd, J=1.8, 8.2, 1H); 6.69 (d, J=8.4, 1H); 6.63 (d, J=8.4, 1H); 6.31 (d, J=2.3, 1H); 5.99-5.96 (m, 2H); 5.30 (s, 2H); 5.19 (d, J=5.9, 1H); 4.29 (d, J=5.9, 2H); 4.23 (d, J=5.3, 2H); 3.65 (s, 3H); 3.55 (s, 3H).

Example 16



***N*-{2-amino-5-[3-(dimethylamino)prop-1-yn-1-yl]phenyl}-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (79)**

Scheme 14



Step 1: **5-(3-Dimethylamino-prop-1-ynyl)-2-nitro-phenylamine (77)**

[0308] Following the same procedure described in Example 15, step 1 but substituting propargyl alcohol for *N,N*-dimethylpropargyl amine, the title compound was obtained in 80% yield.

[0309] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 8.02 (d, J=8.8, 1H); 6.87 (d, J=1.6, 1H); 6.69 (dd, J=1.6, 8.8, 1H); 6.18 (bs, 2H); 3.48 (s, 2H); 2.38 (s, 6H).

Step 2: **4-[(3,4-Dimethoxy-phenylamino)-methyl]-N-[5-(3-dimethylamino-prop-1-ynyl)-2-nitro-phenyl]-benzamide (78)**

[0310] Following the same procedure described in Example 15, step 3 but substituting compound 73 for compound 77, the title compound was obtained in 86% yield.

[0311] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 10.74 (s, 1H); 8.0 (d, J=8.4, 2H); 7.88 (d, J=8.4, 2H); 7.83 (d, J=1.8, 1H); 7.52 (d, J=8.4, 2H); 7.41 (dd, J=1.8, 8.4, 1H); 6.64 (d, J=8.6, 1H); 6.31

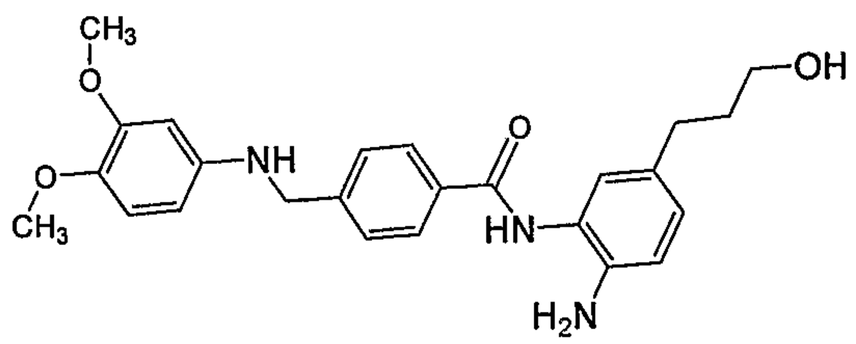
(d, J=2.6, 1H); 6.30 (d, J=6.6, 1H); 5.97 (dd, J=2.6, 8.6, 1H); 4.30 (d, J=6.6, 2H); 3.65 (s, 3H); 3.64 (s, 3H); 3.58 (s, 2H); 2.25 (s, 6H).

Step 3: ***N*-[2-Amino-5-(3-dimethylamino-prop-1-ynyl)-phenyl]-4-[(3,4-dimethoxy-phenylamino)-methyl]-benzamide (79)**

[0312] Following the same procedure described in Example 15, step 5 but substituting compound 75 for compound 78, the title compound 79 was obtained in 63% yield.

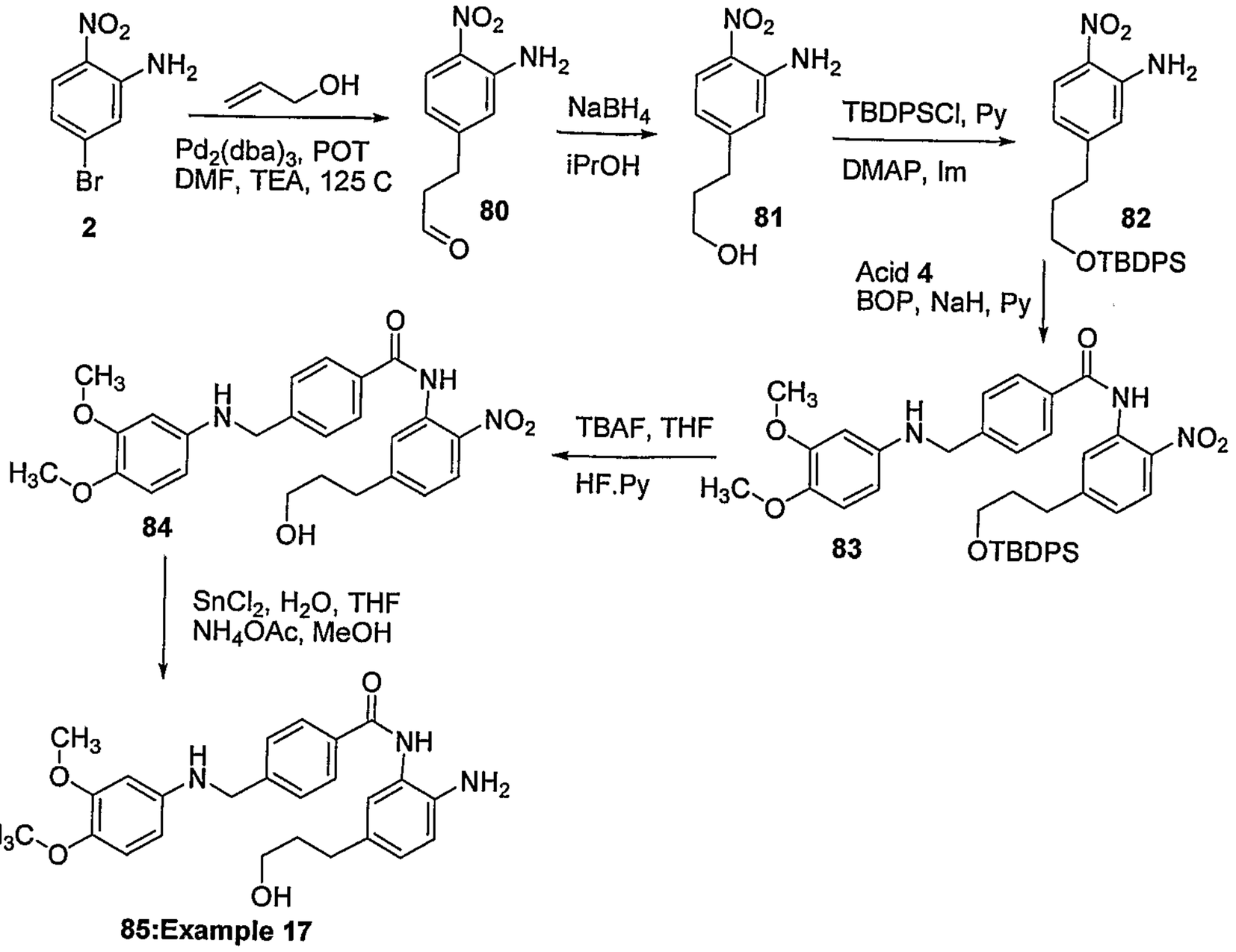
[0313] ^{1}H NMR: (400.2 MHz, DMSO) δ (ppm): 9.53 (s, 1H); 7.89 (d, J=8.2, 2H); 7.45 (d, J=8.2, 2H); 7.22 (d, J=1.8, 1H); 7.01 (dd, J=1.8, 8.2, 1H); 6.69 (d, J=8.2, 1H); 6.63 (d, J=8.2, 1H); 6.30 (d, J=2.5, 1H); 5.99-5.96 (m, 2H); 5.28 (s, 2H); 4.29 (d, J=6.1, 2H); 3.65 (s, 3H); 3.58 (s, 3H); 3.37 (s, 2H); 2.21 (s, 6H).

Example 17



***N*-[2-amino-5-(3-hydroxypropyl)phenyl]-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide (85).**

Scheme 15



Step 1: **3-(3-Amino-4-nitro-phenyl)-propionaldehyde (80).**

[0314] A solution of bromoarene 2 (1.544g, 7.11 mmol) (or any haloarene of choice); tri-o-tolyl-phosphine (280 mg; 0.9 mmol) and tri(dibenzylidene acetone)dipalladium(0) (280 mg; 0.3 mmol) in *N,N*-dimethylformamide (6 mL) and ethyl diisopropyl amine (3 mL) was treated with prop-2-en-1-ol (3 mL, 40 mmol) (or any alken-1-ol of choice, 6 eq.) and the solution was stirred at 120° C for 3h under nitrogen. The reaction mixture was concentrated under high vacuum and the residue was purified by flash chromatography (eluent 5% MeOH in dichloromethane) to afford the aldehyde 80 (253 mg, 18% yield).

[0315] ^{1}H NMR: (400.2 MHz, CDCl3) δ (ppm): 9.68 (t, J=0.8, 1H); 7.89 (d, J=8.7, 1H); 6.51 (d, J=1.6, 1H); 6.39 (dd, J=2.0, 8.7, 1H); 6.02 (bs, 2H); 2.78 (t, J=6.7, 2H); 2.69 (m, J=0.8, 6.7, 2H).

Step 2: **3-(3-Amino-4-nitro-phenyl)-propan-1-ol (81).**

[0316] A solution of aldehyde 80 (253 mg, 1.3 mmol) in tetrahydrofurane (1 mL) and propan-2-ol (2 mL) was treated with solid sodium borohydride (175 mg, 4.6 mmol) and stirred at -5° C for 15 min. Acetone (5 mL) was added, stirred at the same temperature for 10 min and then diluted with

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LA PRÉSENTE PARTIE DE CETTE DEMANDE OU CE BREVETS COMPREND PLUS D'UN TOME.

CECI EST LE TOME __1___ DE __2___

NOTE: Pour les tomes additionels, veillez contacter le Bureau Canadien des Brevets.

JUMBO APPLICATIONS / PATENTS

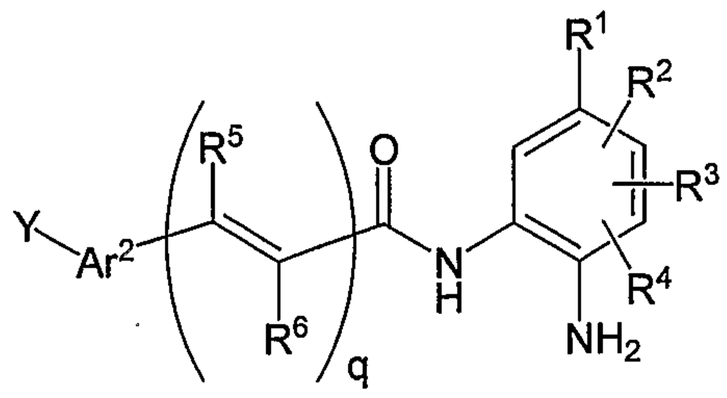
THIS SECTION OF THE APPLICATION / PATENT CONTAINS MORE THAN ONE VOLUME.

THIS IS VOLUME __1___ OF __2___

NOTE: For additional volumes please contact the Canadian Patent Office.

We claim:

1. A histone deacetylase inhibitor of formula (1):



(1)

or a pharmaceutically acceptable salt thereof, wherein

Ar^2 is a saturated or mono- or poly- unsaturated C_5-C_{14}-mono- or fused poly- cyclic hydrocarbyl, optionally containing one, two, three, or four annular heteroatoms per ring optionally substituted with one or more groups selected from C_1-C_7-alkyl, hydroxy, C_1-C_7-alkoxy, halo, and amino, provided that an annular O or S is not adjacent to another annular O or S;

R^5 and R^6 are independently selected from the group consisting of hydrogen, C_1-C_7-alkyl, aryl, and aralkyl;

R^2, R^3 and R^4 are independently selected from the group consisting of hydrogen, halogen, -NH_2, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7-alkyl-arylsulfanyl, C_1-C_7-alkyl-arylsulfinyl, C_1-C_7-alkyl-arylsulfonyl, C_1-C_7-alkyl-arylaminosulfonyl, C_1-C_7-alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

q is 0 or 1;

R^1 is a mono-, bi-, or tri-cyclic aryl or heteroaryl, each of which is optionally substituted;

Y is any pharmaceutically acceptable chemical moiety consisting of 1 to 50 atoms; and

provided that

when R^1 is *N*-imidazolyl, R^2-R^4 are H, q is 0, and Ar^2 is pyridine, Y is not Cl; and

when R^1 is *p*-aminophenyl, R^2-R^4 are H, q is 0, and Ar^2 is phenyl, Y is not H.

2. The compound according to claim 1 wherein R^1 is phenyl, naphthyl, anthracenyl, or fluorenyl.

3. The compound according to claim 1 wherein R^1 is furanyl or thienyl.

4. The compound according to claim 2 wherein R^2, R^3, and R^4 are all –H.

5. The compound according to claim 3 wherein R^2, R^3, and R^4 are all –H.

6. The compound according to claim 1 wherein Y is Cy^2-X^1- and

Cy^2 is hydrogen, cycloalkyl, aryl, heteroaryl, or heterocyclyl, each of which is optionally substituted and each of which is optionally fused to one or two aryl or heteroaryl rings, or to one or two saturated or partially unsaturated cycloalkyl or heterocyclic rings, and wherein any of the aforementioned rings are optionally substituted; and

X^1 is selected from the group consisting of a covalent bond, M^1-L^2-M^1, and L^2-M^2-L^2 wherein

L^2, at each occurrence, is independently selected from the group consisting of a chemical bond, C_0-C_4-hydrocarbyl, C_0-C_4-hydrocarbyl-(NH)-C_0-C_4-hydrocarbyl, C_0-C_4-hydrocarbyl-(S)-C_0-C_4-hydrocarbyl, and C_0-C_4-hydrocarbyl-(O)-C_0-C_4-hydrocarbyl, provided that L^2 is not a chemical bond when X^1 is M^1-L^2-M^1;

M^1, at each occurrence, is independently selected from the group consisting of -O-, -N(R^7)-, -S-, -S(O)-, $S(O)_2$-, -$S(O)_2$N(R^7)-, -N(R^7)-$S(O)_2$-, -C(O)-, -C(O)-NH-, –NH-C(O)-, -NH-C(O)-O–and -O-C(O)-NH-, -NH-C(O)-NH-,

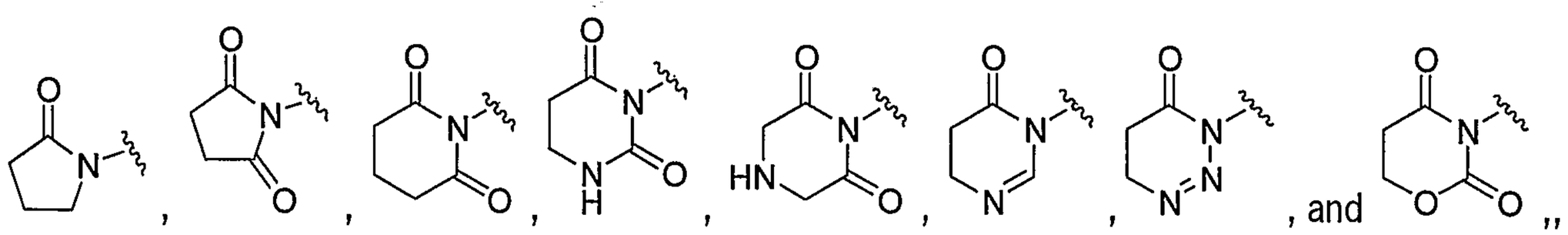
R^7 is selected from the group consisting of hydrogen, C_1-C_6-hydrocarbyl, aryl, aralkyl, acyl, C_0-C_6-hydrocarbyl-heterocyclyl, and C_0-C_6-hydrocarbyl-heteroaryl, wherein the hydrocarbyl moieties are optionally substituted with –OH, -NH_2, -N(H)CH_3, –N(CH_3)$_2$, or halo; and

M^2 is selected from the group consisting of M^1, heteroarylene, and heterocyclylene, either of which rings optionally is substituted.

7. The compound according to claim 6, wherein X^1 is selected from the group consisting of a -N(Z)-C_0-C_7-alkyl-, -O-C_0-C_7-alkyl-, -C(H)=CH-C_0-C_7-alkyl-, -S-C_0-C_7-alkyl-, or -C_1-C_7-alkyl-, wherein Z is -H or -C_1-C_7-alkyl- optionally substituted with –OH, -NH_2, or halo.

8. The compound according to claim 6, wherein X^1 is selected from methylene, aminomethyl, and thiomethyl.

9. The compound according to claim 6, wherein Cy^2 is selected from



each of which optionally is substituted and optionally is fused to one or more aryl rings.

10. The compound according to claim 6 wherein Cy^2 is aryl or heteroaryl, each optionally substituted.

11. The compound according to claim 6 wherein Cy^2 is phenyl, pyrimidinyl, benzoimidazolyl or benzothiazolyl, each of which is optionally substituted.

12. The compound according to claim 11 wherein Cy^2 has from one and three substituents independently selected from the group consisting of C_1-C_7-alkoxy, halo, di-C_1-C_7-alkylamino-C_1-C_7-alkoxy and heteroaryl.

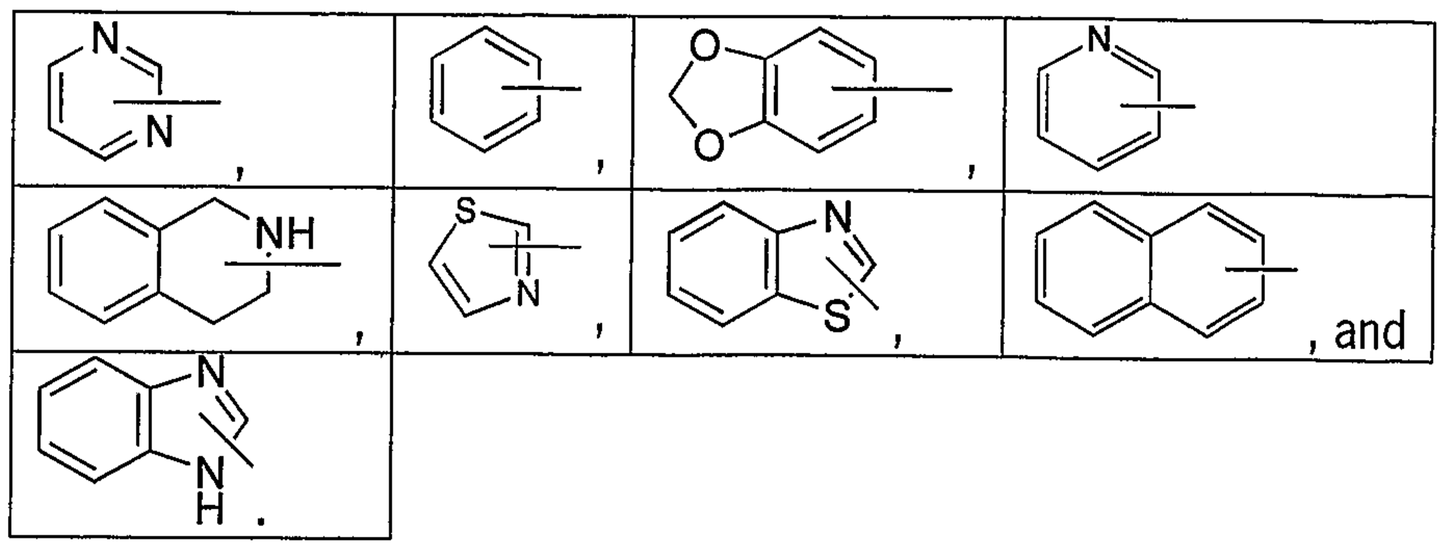
13. The compound according to claim 12 wherein the substituents are selected from methoxy, fluoro, chloro, pyridinyl and dimethylamino-ethoxy.

14. The compound according to claim 13 wherein Cy^2 is phenyl substituted with one to three CH_3O-.

15. The compound according to claim 6 wherein Y is $(V'\text{-}L^4)_t\text{-}V\text{-}L^3$-, and
L^3 is a direct bond, -C_1-C_6-hydrocarbyl, -$(C_1$-C_3-hydrocarbyl$)_{m1}$-X'-$(C_1$-C_3- hydrocarbyl$)_{m2}$, -NH-$(C_0$-C_3-hydrocarbyl), (C_1-C_3- hydrocarbyl)-NH-, or -NH-(C_1-C_3- hydrocarbyl)-NH-;
m1 and m2 are independently 0 or 1;
X' is -$N(R^{21})$-, -$C(O)N(R^{21})$-, $N(R^{21})C(O)$-, -O-, or -S-;
R^{21} is -H, V"-$(C_1$-C_6-hydrocarbyl$)_a$;
L^4 is $(C_1$-C_6-hydrocarbyl$)_a$-M-$(C_1$-C_6-hydrocarbyl$)_b$;
a and b are independently 0 or 1;
M is -NH-, -NHC(O)-, -C(O)NH-, -C(O)-, -SO_2-, -$NHSO_2$-, or -SO_2NH-
V, V', and V" are independently selected from cycloalkyl, heterocyclyl, aryl, and heteroaryl;
t is 0 or 1.

16. The compound according to claim 15 wherein Y is $V\text{-}L^3$ and
L^3 is -NH-CH- or –CH-NH-;
V is phenyl optionally substituted with from 1 to 3 moieties independently selected from halo, hydroxy, C_1-C_6-hydrocarbyl, C_1-C_6-hydrocarbyl-oxy or -thio (particularly methoxy or methylthio), wherein each of the hydrocarbyl moieties are optionally substituted with one or more moieties independently selected from halo, nitroso, amino, sulfonamido, and cyano.

17. The compound according to claim 16 wherein V is an optionally substituted ring moiety selected from:



18. The compound according to claim 6 wherein

Cy^2 is cycloalkyl, aryl, heteroaryl, or heterocyclyl, each of which optionally is substituted, and each of which optionally is fused to one or more aryl or heteroaryl rings, or to one or more saturated or partially unsaturated cycloalkyl or heterocyclic rings, each of which rings optionally is substituted, provided that when Cy^2 is a cyclic moiety having -C(O)-, -C(S)-, -S(O)-, or $-S(O)_2-$ in the ring, then Cy^2 is not additionally substituted with a group comprising an aryl or heteroaryl ring; and

X^1 is selected from the group consisting of a chemical bond, L^3, W^1-L^3, L^3-W^1, W^1-L^3-W^1, and L^3-W^1-L^3, wherein

W^1, at each occurrence, is S, O, or $N(R^9)$, where R^9 is selected from the group consisting of hydrogen, alkyl, aryl, and aralkyl; and

L^3 is C_1-C_4 alkylene, C_2-C_4 alkenylene, or C_2-C_4 alkynylene.

19. The compound according to claim 6 wherein Y is selected from:

a) A_1-L_1-B_1-, wherein A_1 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_1 is $-(CH_2)_{0-1}NH(CH_2)_{0-1}-$, -NHC(O)-, or $-NHCH_2-$; and wherein B_1 is phenyl or a covalent bond;

b) A_2-L_2-B_2-, wherein A_2 is $CH_3(C{=}CH_2)-$, optionally substituted cycloalkyl, optionally substituted alkyl, or optionally substituted aryl; wherein L_2 is $-C{\equiv}C-$; and wherein B_2 is a covalent bond;

c) A_3-L_3-B_3-, wherein A_3 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_3 is a covalent bond; and wherein B_3 is $-CH_2NH-$;

d) A_4-L_4-B_4-, wherein A_4 is an optionally substituted aryl; wherein L_4 is –$NHCH_2$-; and wherein B_4 is a thienyl group;

e) A_5-L_5-B_5-, wherein A_5 is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_5 is a covalent bond; and wherein B_5 is -SCH_2-;

f) morpholinyl-CH_2-

g) optionally substituted aryl;

h) A_6-L_6-B_6-, wherein A_6 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_6 is a covalent bond; and wherein B_6 is –$NHCH_2$-;

i) A_7-L_7-B_7-, wherein A_7 is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_7 is a covalent bond; and wherein B_7 is –CH_2-;

j) optionally substituted heteroaryl or optionally substituted heterocyclyl;

k) A_8-L_8-B_8-, wherein A_8 is optionally substituted phenyl; wherein L_8 is a covalent bond; and wherein B_8 is –O-;

l) A_9-L_9-B_9-, wherein A_9 is an optionally substituted aryl; wherein L_9 is a covalent bond; and wherein B_9 is a furan group;

m) A_{10}-L_{10}-B_{10}-, wherein A_{10} is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{10} is –$CH(CH_2CH_3)$-; and wherein B_{10} is –$NHCH_2$-;

n) A_{11}-L_{11}-B_{11}-, wherein A_{11} is an optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{11} is a covalent bond; and wherein B_{11} is –OCH_2-;

o) A_{12}-L_{12}-B_{12}-, wherein A_{12} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{12} is-NHC(O)-; and wherein B_{12} is –N(optionally substituted aryl)CH_2-;

p) A_{13}-L_{13}-B_{13}-, wherein A_{13} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{13} is a covalent bond; and wherein B_{13} is -NHC(O)-;

q) A_{14}-L_{14}-B_{14}-, wherein A_{14} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{14} is-NHC(O)(optionally substituted heteroaryl); and wherein B_{14} is –S-S-;

r) $F_3CC(O)NH$-;

s) A_{15}-L_{15}-B_{15}-, wherein A_{15} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{15} is-$(CH_2)_{0-1}$NH(optionally substituted heteroaryl)-; and wherein B_{15} is –$NHCH_2$-;

t) A_{16}-L_{16}-B_{16}-, wherein A_{16} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{16} is a covalent bond; and wherein B_{16} is –N(optionally substituted alkyl)CH_2-; and

u) A_{17}-L_{17}-B_{17}-, wherein A_{17} is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein L_{17} is a covalent bond; and wherein B_{17} is –(optionally substituted aryl-CH_2)$_2$-N-.

20. The compound according to claim 6 wherein Y is selected from:

a) D_1-E_1-F_1-, wherein D_1 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_1 is –CH_2- or a covalent bond; and wherein F_1 is a covalent bond;

b) D_2-E_2-F_2-, wherein D_2 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_2 is –$NH(CH_2)_{0-2}$-; and wherein F_2 is a covalent bond;

c) D_3-E_3-F_3-, wherein D_3 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_3 is –$(CH_2)_{0-2}$NH-; and wherein F_3 is a covalent bond;

d) D_4-E_4-F_4-, wherein D_4 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_4 is –$S(CH_2)_{0-2}$-; and wherein F_4 is a covalent bond;

e) D_5-E_5-F_5-, wherein D_5 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_5 is –$(CH_2)_{0-2}$S-; and wherein F_5 is a covalent bond; and

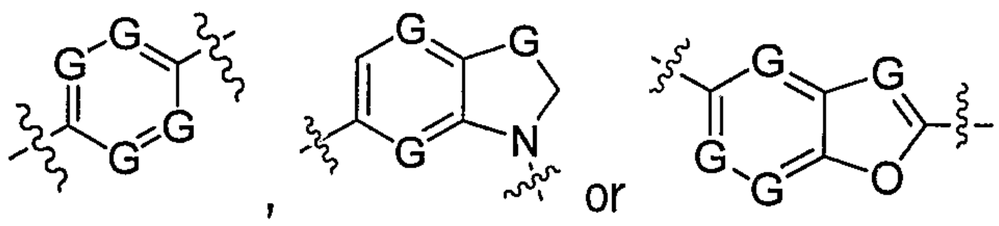
f) D_6-E_6-F_6-, wherein D_6 is an optionally substituted aryl, optionally substituted heteroaryl or optionally substituted heterocyclyl; wherein E_6 is –$NH(CH_2)_{0-2}$NH-; and wherein F_6 is a covalent bond.

21. The compound according to claim 2 wherein R^2 to R^4 are independently hydrogen, -NH_2, nitro, furanyl, chloro, fluoro, butyl, trifluoromethyl, bromo, thienyl, phenyl, -CHCHC(O)-NH_2, -C≡CCH_2-R^9 wherein R^9 is hydrogen, C_1-C_7-alkyl, hydroxy, amino, or C_1-C_7-alkoxy.

22. The compound according to claim 3 wherein R^2 to R^4 are independently hydrogen, -NH_2, nitro, furanyl, chloro, fluoro, butyl, trifluoromethyl, bromo, thienyl, phenyl, -CHCHC(O)-NH_2, -C≡CCH_2-R^9 wherein R^9 is hydrogen, C_1-C_7-alkyl, hydroxy, amino, or C_1-C_7-alkoxy.

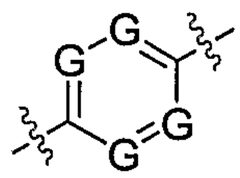
23. The compound according to claim 6 wherein q is 0 and X^1 is independently selected from the group consisting of a –NH-CH_2-, -S-CH_2- and -CH_2-.

24. The compound according to claim 1 wherein Ar^2 has the formula



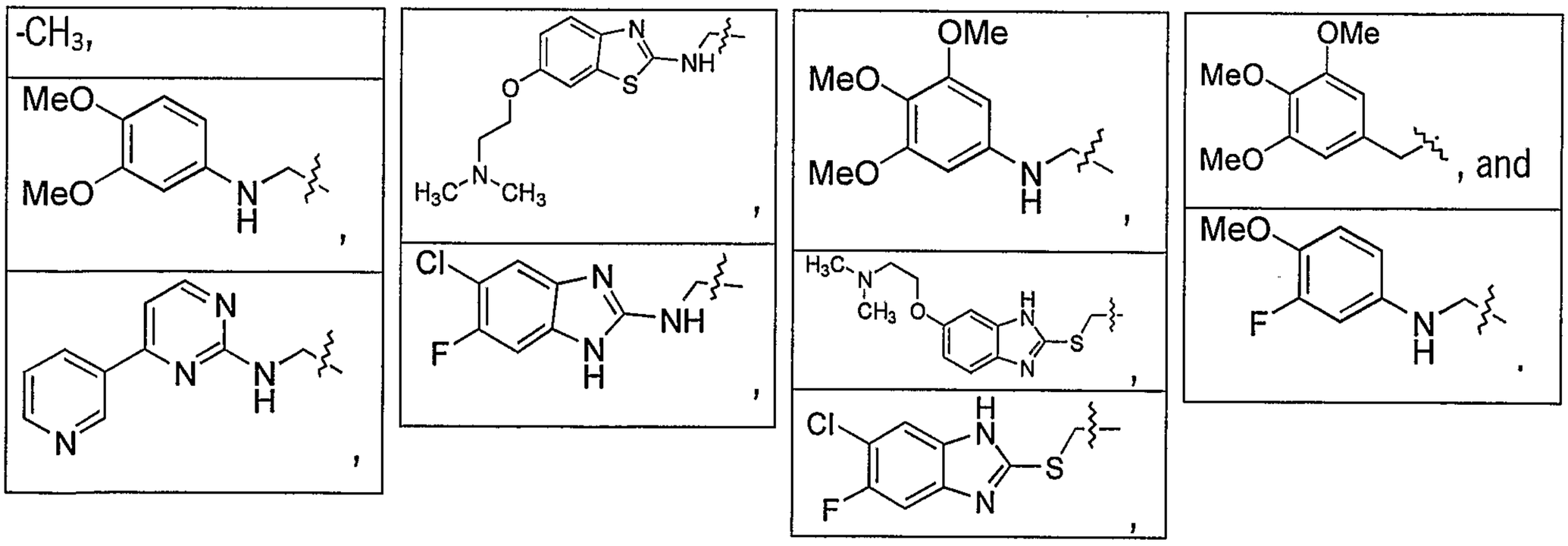
and wherein G, at each occurrence, is independently N or C, and C is optionally substituted.

25. The compound according to claim 24 wherein Ar^2 has the formula

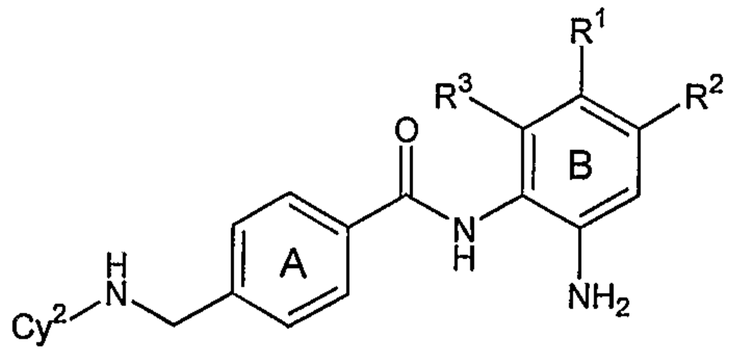


26. The compound according to claim 24 wherein Ar^2 is selected from the group consisting of phenylene, benzofuranylene and indolinylene.

27. The compound according to claim 6 wherein the moiety formed by Cy^2-X^1 is selected from:



28. The compound of claim 6 of formula (2):



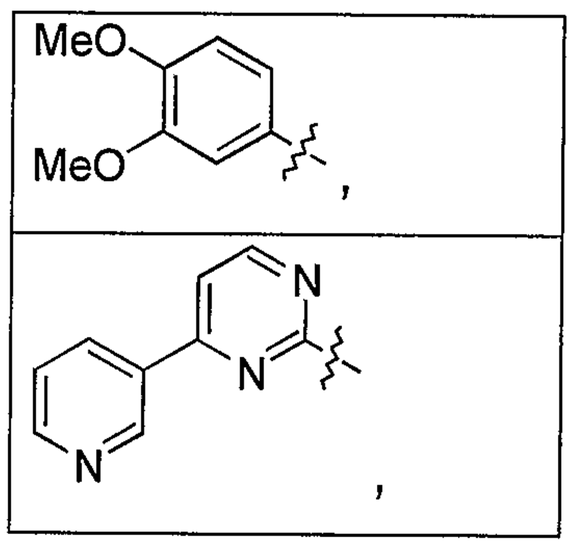
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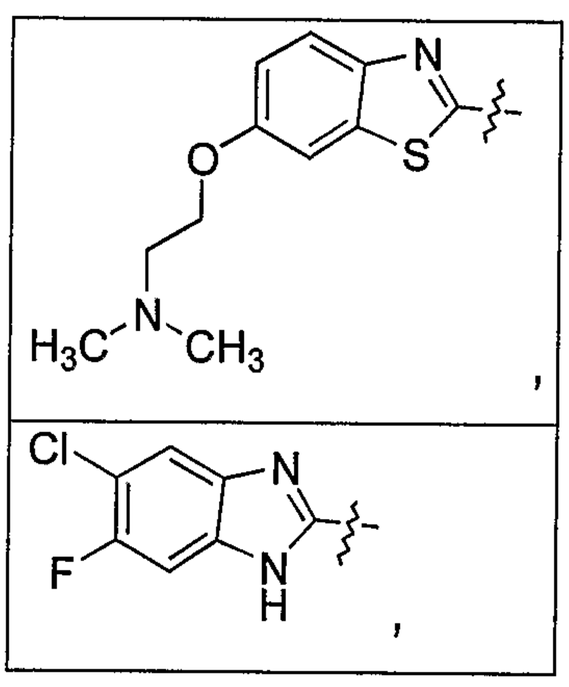
or a pharmaceutically acceptable salt thereof, wherein

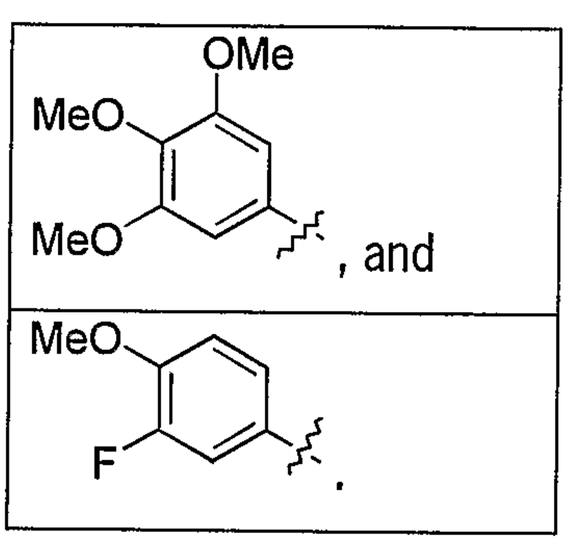
R^2 and R^3 are independently selected from the group consisting of hydrogen, trifluoromethyl, butyl, -$(CH_2)_3$-OH, chloro, fluoro, amino, phenyl, thienyl, furanyl, -CHCCHC(O)NH_2, -C≡CCH_2-OH, -C≡CCH_2-OCH_3; and

the A ring is optionally further substituted with from 1 to 3 substituents independently selected from methyl, hydroxy, methoxy, halo, and amino.

29. The compound according to claim 28 wherein Cy^2 is selected from:







30. The compound according to claim 28 wherein the A ring is not further substituted.

31. The compound according to claim 28 wherein R^2 and R^3 are -H.

32. A compound according to claim 1 selected from:

N-[2-amino-5-(2-thienyl)phenyl]-4-{[(3,4-dimethoxyphenyl)amino]methyl}benzamide;

N-[2-amino-5-(2-thienyl)phenyl]-4-{[(4-pyridin-3-ylpyrimidin-2-yl)amino]methyl}benzamide;

N-[2-amino-5-(2-thienyl)phenyl]-4-[({6-[2-(dimethylamino)ethoxy]-1*H*-benzimidazol-2-yl}thio)methyl]benzamide;

N-[2-amino-5-(2-thienyl)phenyl]-4-{[(5-chloro-6-fluoro-1*H*-benzimidazol-2-yl)amino]methyl}benzamide;

N-[2-amino-5-(2-thienyl)phenyl]-5-{[(3,4,5-trimethoxyphenyl)amino]methyl}-1-benzofuran-2-carboxamide;

N-[2-amino-5-(2-thienyl)phenyl]-1-(3,4,5-trimethoxybenzyl)indoline-6-carboxamide;

trans-*N*-[2-amino-5-(2-thienyl)phenyl]-3-(4-{[(3,4,5-trimethoxyphenyl)amino]methyl}phenyl)acrylamide;

N-[2-amino-5-(2-thienyl)phenyl]-4-{[(3-fluoro-4-methoxyphenyl)amino]methyl}benzamide;

N-[2-amino-5-(2-thienyl)phenyl]-4-{[(6-chloro-5-fluoro-1*H*-benzimidazol-2-yl)thio]methyl}benzamide;

and a pharmaceutically acceptable salt of any one or more of the foregoing.

33. A compound according to claim 1 for use in inhibting histone deacetylase.

34. A compound according to calim 1 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

35. The compound of claim 34, wherein said treatment is effected by inhibiting histone deacetylase.

36. The compound of calim 34, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

37. The compound of claim 34, wherein said cell proliferative disease is cancer.

38. The compound of claim 37, wherein said cancer is a solid tumor cancer.

39. The compound of claim 37, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

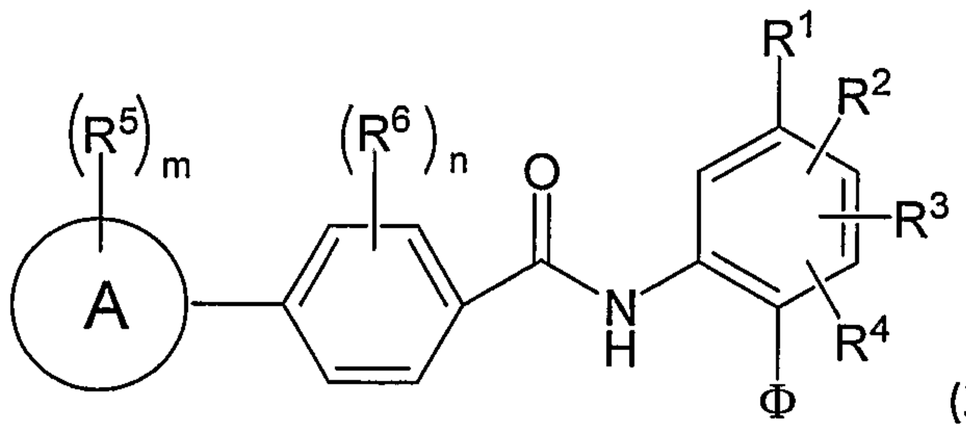
40. A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.

41. The pharmaceutical composition of claim 40 further comprising a nucleic acid level inhibitor of histone deacetylase.

42. The pharmaceutical composition of claim 41, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

43. The pharmaceutical composition of claim 42, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

44. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 1.
45. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 40.
46. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 41.
47. The method of claim 45, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
48. The method of claim 45, wherein said cell proliferative disease is cancer.
49. The method of claim 48, wherein said cancer is a solid tumor cancer.
50. The method of claim 49, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
51. The method of claim 46, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
52. The method of claim 46, wherein said cell proliferative disease is cancer.
53. The method of claim 52, wherein said cancer is a solid tumor cancer.
54. The method of claim 53, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
55. A compound of the formula



(3)

or a pharmaceutically acceptable salt or *in vivo* hydrolyzable ester or amide thereof, wherein:

Φ is $-NH_2$ or $-OH$;

ring *A* is a heterocyclyl, wherein if said heterocyclyl contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N,N*-(C_{1-6}-alky1)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N,N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkyl$S(O)_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoy1, *N,N*-(C_{1-6}-alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, or a group (B-E-); wherein R^5, including group (B-E-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkyny1, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N,N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N,N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkyl$S(O)_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl, *N,N*-(C_{1-6}-alkyl)$_2$sulphamoyl, or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and *Z* are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkyny1, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N,N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N,N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkyl$S(O)_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl or *N,N*-(C_{1-6}-alky1)$_2$sulphamoyl;

G, J and K are independently selected from C_{1-8}-alkyl, C_{1-8}-alkenyl, C_{1-8}-alkanoyl, C_{1-8}-alkylsulphonyl, C_{1-8}-alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}-alky1)carbamoyl, *N,N*-(C_{1-8}-alkyl)carbamoyl, benzyloxycarbonyl, benzoyl, phenylsulphonyl, aryl, arylC_{1-6}-alkyl or (heterocyclic group)C_{1-6}-alkyl; wherein G, J, and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or C_{16}alkyl;

Q is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N*,*N*-(C_{1-6}-alkcyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, C_{1-6}-alkoxycarbonylamino, *N*-(C_{1-6}-alkyl)sulphamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$sulphamoyl, aryl, aryloxy, aryl C_{1-6}-alkyl, arylC_{1-6}-alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, (heterocyclic group)C_{1-6}-alkoxy, or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{3-8}-cycloalkyl, C_{3-8}-cycloalkylC_{1-6}-alkyl, aryl, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, phenyl or phenylC_{1-6}-alkyl; wherein B, B' and B" is optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, S(O)$_r$, -SO_2N(R^a)-, -N(R^a)SO_2- wherein R^a and R^b are independently selected from hydrogen or C_{1-6}-alkyl optionally substituted by one or more F and r is 0-2;

D and F are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alky1, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N*,*N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alky1)carbamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alky1)sulphamoyl or *N*,*N*-(C_{1-6}-alky1)$_2$sulphamoyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 may be the same or different;

R^6 is halo;

n is 0, 1 or 2; wherein the values of R^6 are the same or different; and

R^1, R^2, R^3, and R^4 are as defined in claim 1.

56. The compound of claim 55 wherein:

Ring A is a heterocyclyl;

R^5 is halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, C_{1-6}-

alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N*,*N*-(C_{1-6}-alkyl)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alkyl)carbamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alkyl)sulphamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$sulphamoyl or a group (B-E-); wherein, B is selected from C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{3-8}-cycloalkyl, C_{3-8}-cycloalkylC_{1-6}-alkyl, phenyl, heterocyclyl, phenyl$_{1-6}$-alkyl or heterocyclylC_{1-6}-alkyl; wherein B is optionally substituted on carbon by one or more D; and wherein if said heterocyclyl contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E is -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2- wherein R^a is hydrogen or C_{1-6}-alky1 optionally substituted by one or more D and r is 0-2;

D is independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkyny1, C_{1-6}-alkoxy, C_{1-6}-alkanoyl, C_{1-6}-alkanoyloxy, *N*-(C_{1-6}-alkyl)amino, *N*,*N*-(C_{1-6}-alky1)$_2$amino, C_{1-6}-alkanoylamino, *N*-(C_{1-6}-alky1)carbamoyl, *N*,*N*-(C_{1-6}-alkyl)$_2$carbamoyl, C_{1-6}-alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}-alkoxycarbonyl, *N*-(C_{1-6}-alky1)sulphamoyl and *N*,*N*-(C_{1-6}-alkyl)$_2$sulphamoyl;

G is selected from C_{1-4}-alkyl, C_{1-4}-alkanoyl, C_{1-4}-alkylsulphonyl, C_{1-4}-alkoxycarbonyl, carbamoyl, *N*-(C_{1-4}-alkyl)carbamoyl, *N*,*N*-(C_{1-4}-alkyl)carbamoyl, benzyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 are the same or different;

R^6 is halo; and

n is 0, 1 or 2; wherein the values of R^6 are the same or different.

57. The compound of claim 56 wherein:

Ring A is a pyridyl, quinolyl, indolyl, pyrimidinyl, morpholinyl, piperidinyl, piperazinyl, pyradazinyl, pyrazinyl, thiazolyl, thienyl, thienopyrimidinyl, thienopyridinyl, purinyl, triazinyl, oxazolyl, pyrazolyl, or furanyl; wherein if Ring A contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkoxy, *N*-(C_{1-6}-alkyl)amino, aryl, aryloxy, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, or a group (B-E-); wherein R^5, including group (B-E-), is optionally substituted on carbon by

one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is hydroxy, mercapto, C_{1-6}-alkyl, C_{1-6}-alkoxy, *N*,*N*-(C_{1-6}-alkyl)$_2$amino or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from halo, nitro, cyano, hydroxy, C_{1-6}-alkoxy, *N*,*N*-(C_{1-6}-alkyl)$_2$amino or C_{1-6}-alkanoylamino;

G, J and K are independently selected from C_{1-8}-alkyl, C_{2-8}-alkenyl, C_{1-8}-alkanoyl, aryl, arylC_{1-6}-alkyl or (heterocyclic group)C_{1-6}-alkyl; wherein G, J and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen is optionally substituted by hydrogen or C_{1-6}-alkyl;

Q is cyano, hydroxy, C_{1-6}-alkoxy, C_{1-6}-alkanoyloxy, C_{1-6}-alkoxycarbonyl, C_{1-6}-alkoxycarbonylamino, aryl, aryloxy or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from C_{1-6}-alkyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{3-8}-cycloalkyl, C_{3-8}-cycloalkylC_{1-6}-alkyl, aryl, arylC_{1-6}-alkyl, heterocyclic group, (heterocyclic group)C_{1-6}-alkyl, phenyl or phenylC_{1-6}-alkyl; wherein B, B' and B" are optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^a)-, .N(R^a)C(O)O -, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2- wherein R^a and R^b are independently selected from hydrogen or C_{1-6}-alkyl optionally substituted by one or more F and r is 0-2;

D and F are independently selected from halo, C_{1-6}-alkoxy or *N*,*N*-(C_{1-6}-alkyl)$_2$amino;

m is 0, 1, 2, 3 or 4; wherein the values of R^5 are the same or different;

R^6 is fluoro or chloro; and

n is 0, 1 or 2, wherein the values of R^6 are the same or different;

58. The compound of claim 57 wherein:

Ring A is pyridin-4-yl, pyridin-3-yl, pyriclin-2-yl, quinolin-8-yl, pyrimidin-6-yl, pyrimidin-5-yl, pyrimidin-4-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, pyridazin-5-yl, pyrazin-6-yl, thiazol-2-yl, thien-2-yl, thieno[3,2d]pyrimidinyl,

thieno[3,2b]pyrimidinyl, thieno[3,2b]pyridinyl, purin-6-yl or triazin-6-yl; wherein if Ring A contains an -NH- moiety that nitrogen is optionally substituted by a group selected from K;

R^5 is a substituent on carbon and is selected from fluoro, chloro, amino, methyl, ethyl, propyl, methoxy, *N*-methylamino, *N*-ethylamino, *N*-propylamino, *N*-butylamino, phenyl, naphthylethyl, piperazin-1-yl, piperidin-1-yl, piperidin-4-yl, 2-(thiomethyl)-pyrimidin-4-yl, tetrahydrofuran-2-ylmethyl, tetrahydropyran-2-ylmethyl, 1,2,5-thiadiazol-3-ylethyl, piperidin-1-ylmethyl, pyridin-2-ylmethyl, or a group (B-B-); wherein R^5, including group (B-B-), is optionally substituted on carbon by one or more W; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by J;

W is hydroxy, methyl, ethyl, ethoxy, *N,N*-(diethyl)amino, *N,N*-(dibutyl)amino, or a group (B'-E'-); wherein W, including group (B'-E'-), is optionally substituted on carbon by one or more Y;

Y and Z are independently selected from fluoro, chloro, bromo, nitro, cyano, hydroxy, methoxy, *N,N*-(dimethyl)amino or methylcarbonylamino;

G, J and K are independently selected from methyl, ethyl, propyl, pentyl, 2-methylbutyl, butyl, acetyl, benzyl, 3-(pyrrol-1-yl)propyl or pyrrolidin-2-one-(5S)-methyl; wherein G, J and K are optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by hydrogen or methyl;

Q is cyano, hydroxy, methoxy, ethoxy, methylcarbonyloxy, methoxycarbonyl, *t*-butoxycarbonylamino, phenyl or a group (B"-E"-); wherein Q, including group (B"-E"-), is optionally substituted on carbon by one or more Z;

B, B' and B" are independently selected from methyl, ethyl, propyl, cyclohexyl, phenyl, benzyl, 1,2,3,4-tetrahydroquinolinyl, 3-morpholinopropyl, 2-morpholinoethyl, 2-pyrrolidin-1-ylethyl, 3-morpholinopropyl, 3-(4-methylpiperazin-1-yl)propyl, 2-piperidin-1-ylethyl, 3-piperidin-1-ylpropyl, pyridin-3-ylmethyl or imidazol-1-ylpropyl; wherein B, B' and B" are optionally substituted on carbon by one or more D; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen is optionally substituted by a group selected from G;

E, E' and E" are independently selected from $-N(R^a)-$, -O-, -C(O)-, -NHC(O)-, $-N(R^a)C(O)O-$; wherein

R^a is hydrogen or methyl optionally substituted by one or more F;

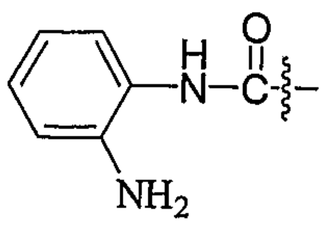
D and F are independently selected from fluoro, methoxy or ethoxy;

m is 0, 1, or 2; wherein the values of R^5 are the same or different;

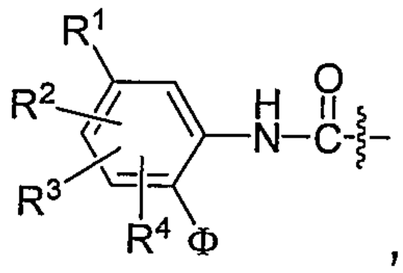
R^6 is fluoro; and

n is 0 or 1.

59. The compound of claim 55 that is selected from one of the compounds from Tables 1-8 and 13 of WO 03/087057 modified by replacing the terminal moiety:



with



, wherein Φ, R^1, R^2, R^3, and R^4 are as defined in claim 1.

60. A compound according to claim 55 for use in inhibting histone deacetylase.

61. A compound according to calim 55 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

62. The compound of claim 61, wherein said treatment is effected by inhibiting histone deacetylase.

63. The compound of calim 61, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

64. The compound of claim 61, wherein said cell proliferative disease is cancer.

65. The compound of claim 64, wherein said cancer is a solid tumor cancer.

66. The compound of claim 64, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

67. A pharmaceutical composition comprising a compound according to claim 55 and a pharmaceutically acceptable carrier.

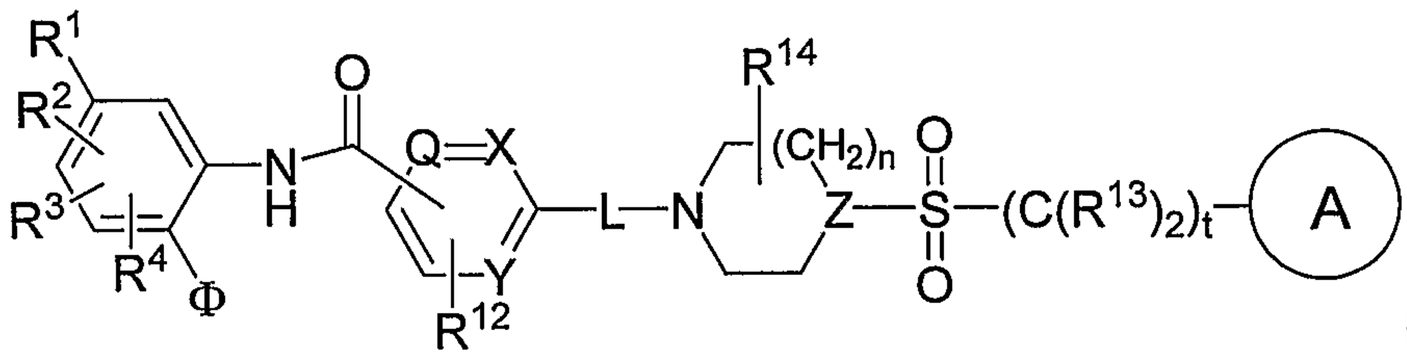
68. The pharmaceutical composition of claim 67 further comprising a nucleic acid level inhibitor of histone deacetylase.

69. The pharmaceutical composition of claim 68, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

70. The pharmaceutical composition of claim 69, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

71. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 55.

72. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 67.
73. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 68.
74. The method of claim 72, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
75. The method of claim 72, wherein said cell proliferative disease is cancer.
76. The method of claim 75, wherein said cancer is a solid tumor cancer.
77. The method of claim 76, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
78. The method of claim 73, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
79. The method of claim 73, wherein said cell proliferative disease is cancer.
80. The method of claim 77, wherein said cancer is a solid tumor cancer.
81. The method of claim 78, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
82. A compound of the formula:



(4)

the N-oxide forms, the pharmaceutically acceptable addition salts or the stereo-chemically isomeric forms thereof, wherein

Φ is $-NH_2$ or $-OH$;

n is 0,1, 2 or 3, wherein when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4, wherein when t is 0 then a direct bond is intended;

Q, X, Y, and Z are independently N or CH;

R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1;

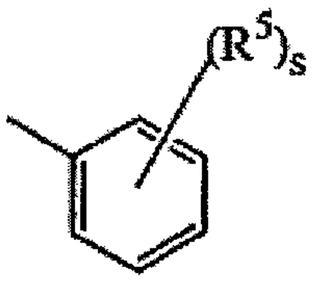
R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}-alkyl, C_{1-6}-alkyloxy, trifluoromethyl, di(C_{1-6}-alkyl)amino, hydroxyamino and naphthalenylsulfonylpyrazinyl;

-L- is a direct bond or a bivalent radical selected from C_{1-6}-alkanediyl, amino, carbonyl and aminocarbonyl;

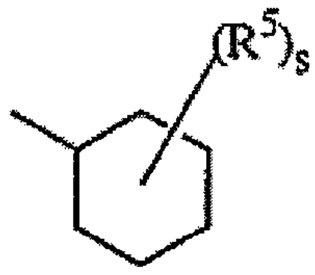
each R^{13} is a hydrogen atom, wherein when t is 2, 3, or 4 one of the R^{13} is optionally aryl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl, C_{1-6}-alkyloxy,arylC_{1-6}-alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}-alkyl, aminocarbonylC_{1-6}-alkyl, hydroxycarbonylC_{1-6}-alkyl, hydroxyaminocarbonyl, C_{1-6}-alkyloxycarbonyl, C_{1-6}-alkylaminoC_{1-6}-alkyl or di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl;

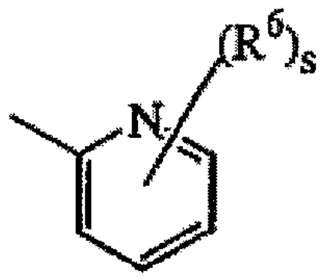
Ring A is selected from



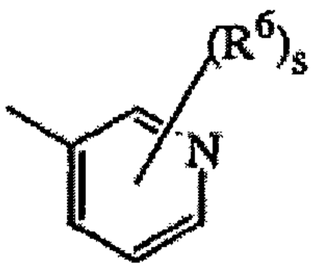
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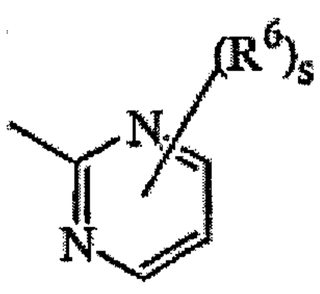
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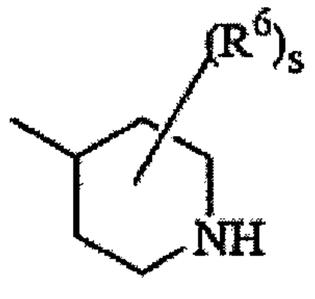
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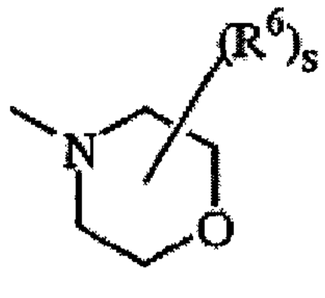
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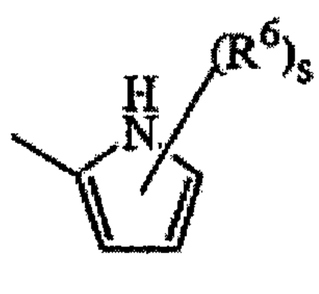
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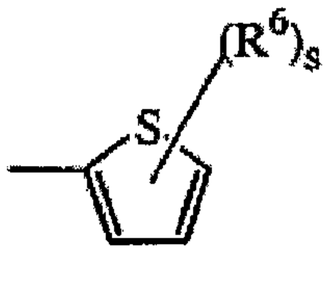
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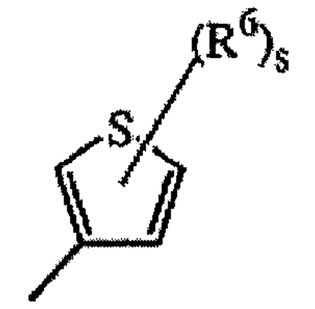
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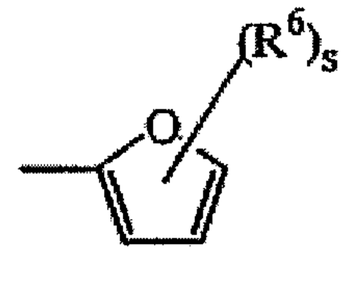
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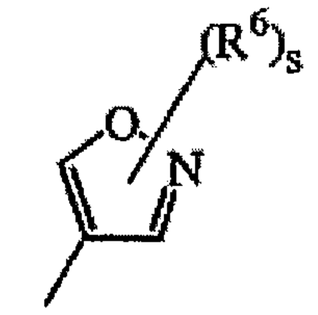
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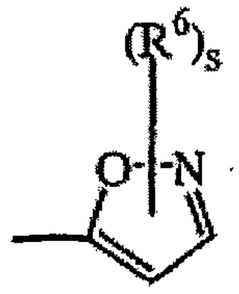
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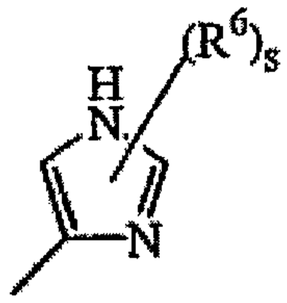
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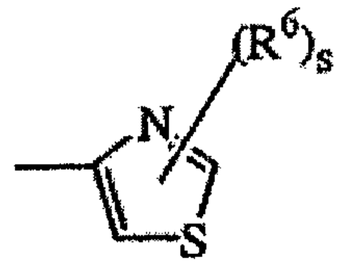
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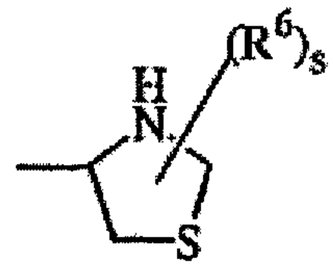
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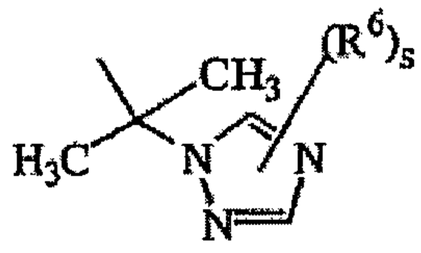
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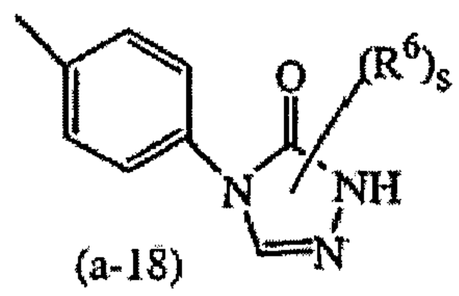
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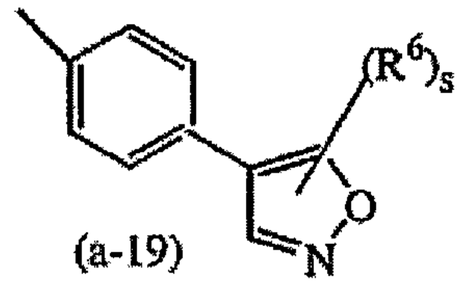
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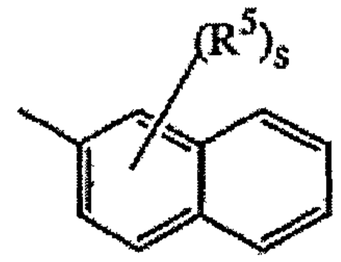
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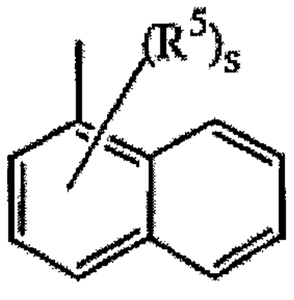
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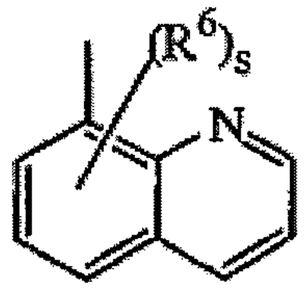
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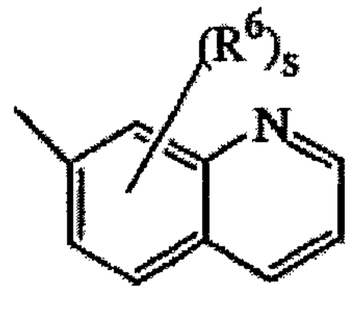
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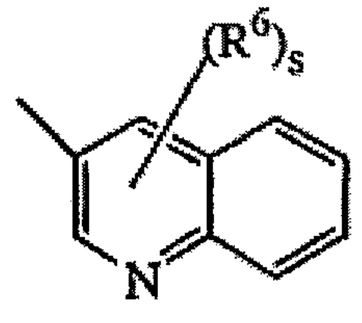
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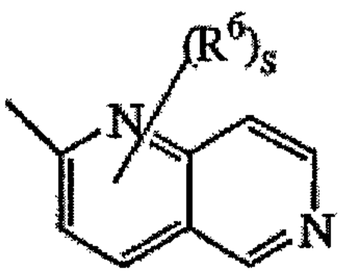
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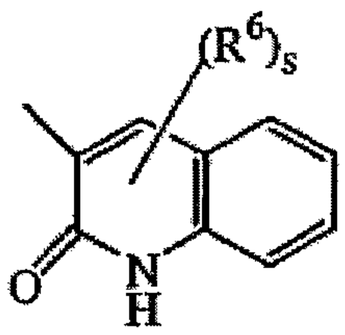
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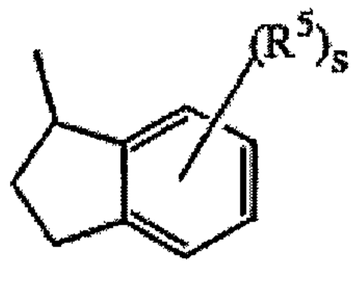
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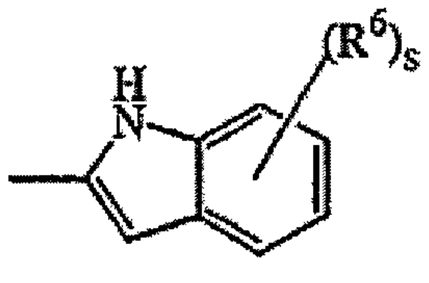
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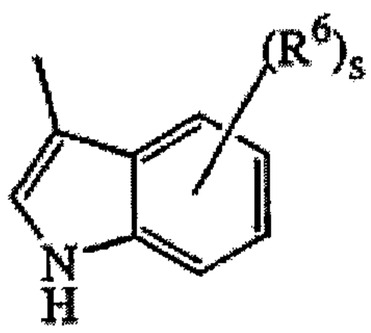
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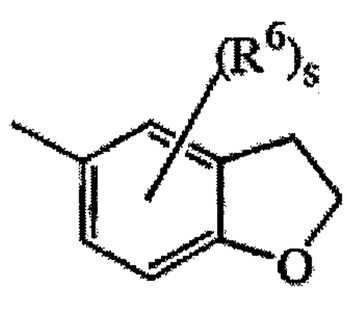
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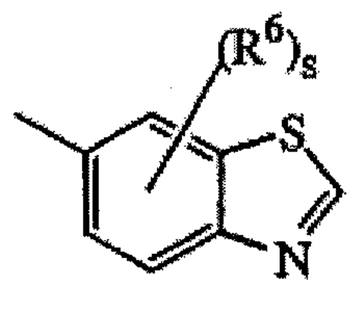
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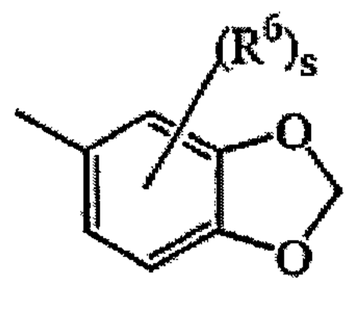
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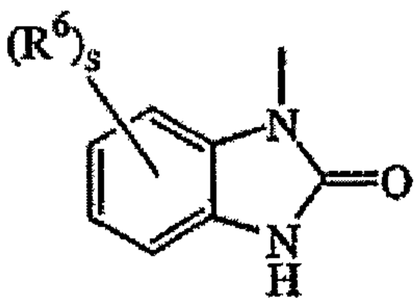
(a-30)



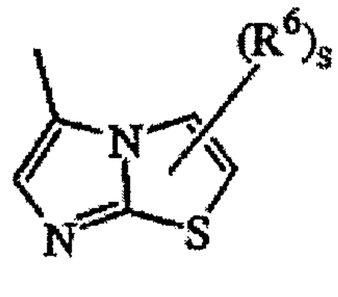
(a-31)



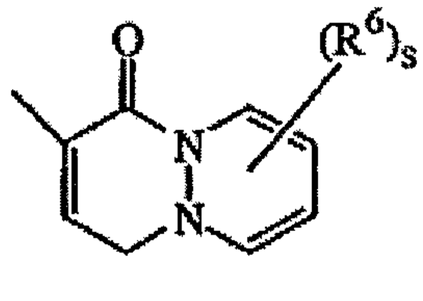
(a-32)



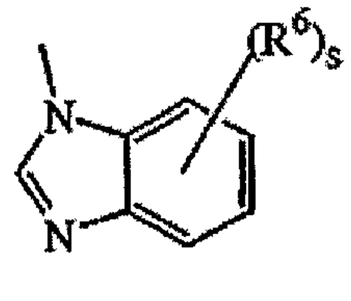
(a-33)



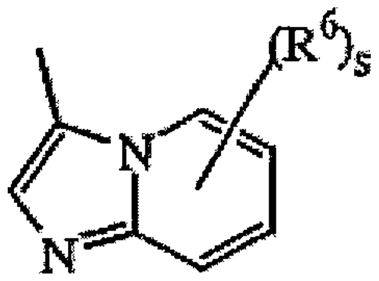
(a-34)



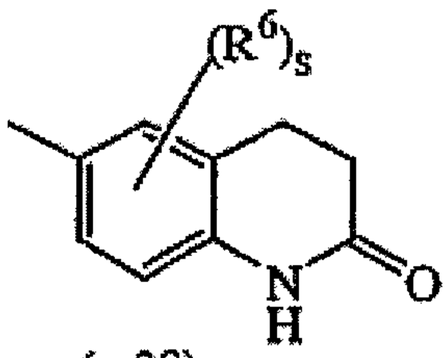
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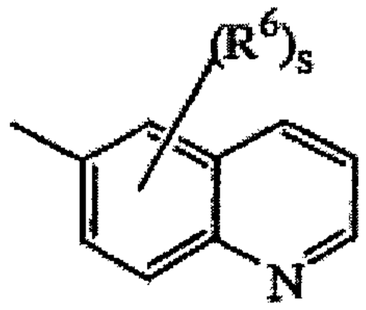
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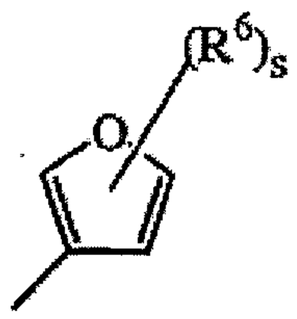
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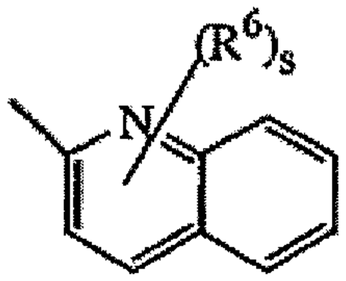
(a-38)



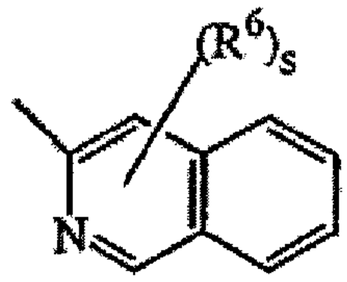
(a-39)



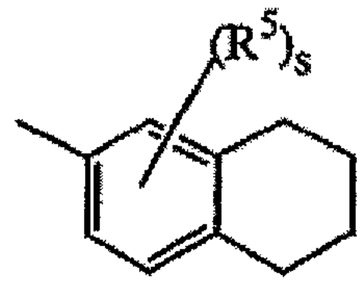
(a-40)



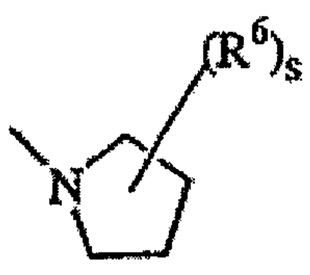
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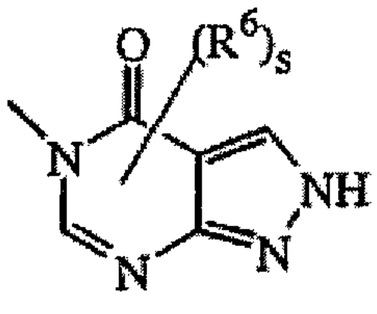
(a-42)



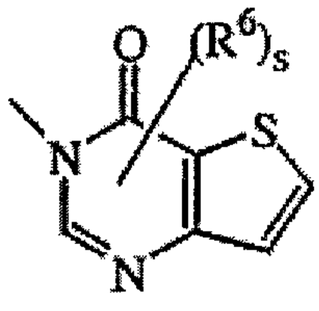
(a-43)



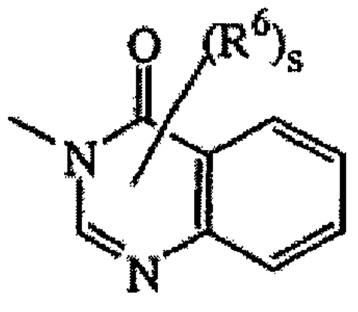
(a-44)



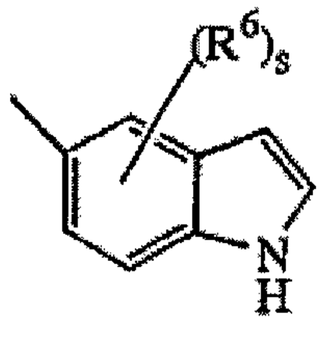
(a-45)



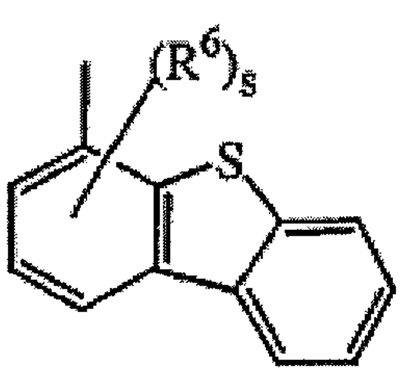
(a-46)



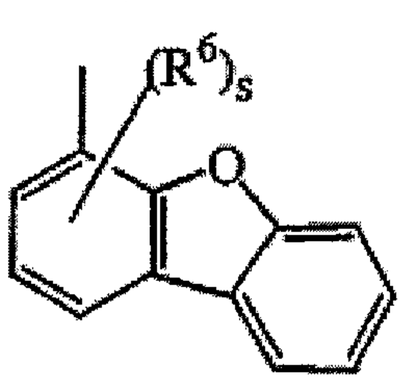
(a-47)



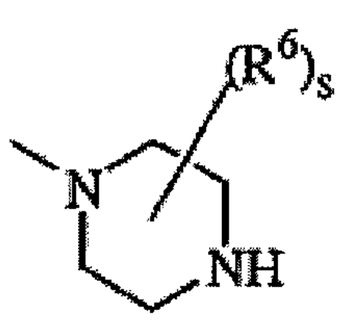
(a-48)



(a-49)



(a-50)



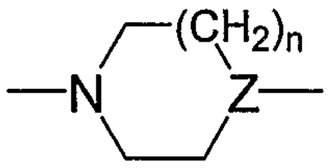
(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyl substituted with aryl and C_{3-10}-cycloalkyl; C_{1-6}-alkyloxy; C_{1-6}-alkyloxyC_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; cyanoC_{1-6}-alkyl; hydroxyC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxy; hydroxyC_{1-6}-alkylamino; aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminocarbonyl; di(hydroxyC_{1-6}-alkyl)amino; (aryl)(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylamino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylaminoC_{1-6}-alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}-alkyl; arylC_{2-6}-alkenediyl; di(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; di(C_{1-6}-alkyl)amino(C_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)amino(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; di(C_{1-6}-

alkyl)aminoC$_{1-6}$-alkyl(C$_{1-6}$-alkyl)amino; di(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl; aminosulfonylamino(C$_{1-6}$-alkyl)amino; aminosulfonylamino(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl; di(C$_{1-6}$-alkyl)aminosulfonylamino(C$_{1-6}$-alkyl)amino; di(C$_{1-6}$-alkyl)aminosulfonylamino(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl; cyano; thiophenyl; thiophenyl substituted with di(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl, di(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl, C$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkyl, hydroxyC$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkyl, hydroxyC$_{1-6}$-alkyloxyC$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkyl, di(C$_{1-6}$-alkyl)aminosulfonylpiperazinylC$_{1-6}$-alkyl, C$_{1-6}$-alkyloxypiperidinyl, C$_{1-6}$-alkyloxypiperidinylC$_{1-6}$-alkyl, morpholinylC$_{1-6}$-alkyl, hydroxyC$_{1-6}$-alkyl(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl, or di(hydroxyC$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl; furanyl; furanyl substituted with hydroxyC$_{1-6}$-alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C$_{1-6}$-alkyl; C$_{1-6}$-alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC$_{1-6}$-alkyloxy; morpholinyl; C$_{1-6}$-alkylmorpholinyl; morpholinylC$_{1-6}$-alkyloxy; morpholinylC$_{1-6}$-alkyl; morpholinylC$_{1-6}$-alkylamino; morpholinylC$_{1-6}$-alkylaminoC$_{1-6}$-alkyl; piperazinyl; C$_{1-6}$-alkylpiperazinyl; C$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkyloxy; piperazinylC$_{1-6}$-alkyl; naphthalenylsulfonylpiperazinyl; naphthalenylsulfonylpiperidinyl; naphthalenylsulfonyl; C$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkyl; C$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkylamino; C$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkylaminoC$_{1-6}$-alkyl; C$_{1-6}$-alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC$_{1-6}$-alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC$_{1-6}$-alkyl; di(C$_{1-6}$-alkyl)aminosulfonylpiperazinyl; di(C$_{1-6}$-alkyl)aminosulfonylpiperazinylC$_{1-6}$-alkyl; hydroxyC$_{1-6}$-alkylpiperazinyl; hydroxyC$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkyl; C$_{1-6}$-alkyloxyperidinyl; C$_{1-6}$-alkyloxypiperidinylC$_{1-6}$-alkyl; piperidinylaminoC$_{1-6}$-alkylamino; piperidinylaminoC$_{1-6}$-alkylaminoC$_{1-6}$-alkyl; (C$_{1-6}$-alkylpiperidinyl)(hydroxyC$_{1-6}$-alkyl)aminoC$_{1-6}$-alkylamino; (C$_{1-6}$-alkylpiperidinyl)(hydroxyC$_{1-6}$-alkyl)aminoC$_{1-6}$-alkylaminoC$_{1-6}$-alkyl; hydroxyC$_{1-6}$-alkyloxyC$_{1-6}$-alkylpiperazinyl; hydroxyC$_{1-6}$-alkyloxyC$_{1-6}$-alkylpiperazinylC$_{1-6}$-alkyl; (hydroxyC$_{1-6}$-alkyl)(C$_{1-6}$-alkyl)amino; (hydroxyC$_{1-6}$-alkyl)(C$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl; hydroxyC$_{1-6}$-alkylaminoC$_{1-6}$-alkyl; di(hydroxyC$_{1-6}$-alkyl)aminoC$_{1-6}$-alkyl; pyrrolidinylC$_{1-6}$-alkyl; pyrrolidinylC$_{1-6}$-alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C$_{1-6}$-alkyl and trihaloC$_{1-6}$-alkyl; pyridinyl; pyridinyl substituted with C$_{1-6}$-alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC$_{1-6}$-alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro,C$_{1-6}$-alkyl, C$_{1-6}$-alkyloxy, hydroxyC$_{1-4}$-alkyl, trifluoromethyl,

trifluoromethyloxy, hydroxyC_{1-4}-alkyloxy, C_{1-4}-alkylsulfonyl, C_{1-4}-alkyloxyC_{1-4}-alkyloxy, C_{1-4}-alkyloxycarbonyl,aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminocarbonyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkylaminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)amino(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)amino(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, aminosulfonylamino(C_{1-4}-alkyl)amino, aminosulfonylamino(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminosulfonylamino(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminosulfonylamino(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, cyano, piperidinylC_{1-4}-alkyloxy, pyrrolidinylC_{1-4}-alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, C_{1-4}-alkyloxypiperidinyl, C_{1-4}-alkyloxypiperdinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinyl,hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, (hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)amino, (hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(hydroxyC_{1-4}-alkyl)amino, di(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkyl, furanyl, furanyl substituted with-CH=CH-CH=CH-, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyloxy, morpholinyl, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl,morpholinylC_{1-4}-alkylamino, morpholinylC_{1-4}-alkylaminoC_{1-4}-alkyl, piperazinyl, C_{1-4}-alkylpiperazinyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkyloxy, piperazinylC_{1-4}-alkyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkylamino, C_{1-4}-alkylpiperazinylC_{1-4}-alkylaminoC_{1-6}-alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}-alkyl, piperidinylaminoC_{1-4}-alkylamino, piperidinylaminoC_{1-4}-alkylaminoC_{1-4}-alkyl, (C_{1-4}-alkylpiperidinyl)(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkylamino, (C_{1-4}-alkylpiperidinyl)(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkylaminoC_{1-4}-alkyl, pyridinylC_{1-4}-alkyloxy, hydroxyC_{1-4}-alkylamino, hydroxyC_{1-4}-alkylaminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkylamino, aminothiadiazolyl,aminosulfonylpiperazinylC_{1-4}-alkyloxy, and thiophenylC_{1-4}-alkylamino; the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with a methylene, ethylene or propylene bridge;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy, trifluoromethyl, cyano, and hydroxycarbonyl.

83. The compound of claim 82 wherein:

n is 1 or 2;

t is 0, 1 or 2;

each Z is nitrogen;

R^{12} is hydrogen, nitro, C_{1-6}-alkyloxy, trifluoromethyl, di(C_{1-6}-alkyl) amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

-L-is a direct bond or a bivalent radical selected from C_{1-6}-alkanediyl, carbonyl and aminocarbonyl;

each R^{13} is hydrogen;

R^{14} is hydrogen, hydroxyC_{1-6}-alkyl, aminocarbonyl, hydroxyaminocarbonyl or di(C_{1-6}-alkyl) aminoC_{1-6}-alkyl;

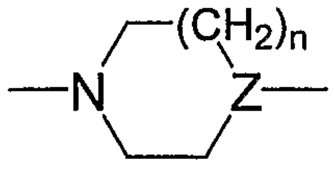
the A ring is a radical selected from (a-1), (a-7), (a-9),(a-10), (a-12), (a-14), (a-19), (a-20), (a-21), (a-22), (a-23), (a-30), (a-34), (a-49) and (a-50);

each s is independently 0,1, 2 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylsulfonyl; (aryl)(C_{1-6}-alkyl)amino; arylsulfonyl; aryloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-alkyl)amino; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl,C_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminosulfonylpiperazinylC_{1-6}-alkyl, C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl, morpholinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; oxazolyl; pyrrolyl; pyrazolyl; pyridinyl; pyridinyl substituted withC_{1-6}-alkyloxy; quinolinyl; indolyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, di (hydroxyC_{1-4}-

alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl, and C_{1-4}-alkylpiperazinylC_{1-4}-alkyl, and

the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with a methylene bridge.

84. The compound of claim 83 wherein:

t is 0 or 2;

R^{12} is hydrogen;

-L-is a direct bond;

R^{14} is hydrogen;

the A ring is a radical selected from (a-1), (a-9), (a-19), (a-20), (a-21), (a-22), (a-23), (a-49) and (a-50); and

each R^5 and R^6 is independently selected from hydrogen; halo; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-alky)amino; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, C_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl, C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl, morpholinylC_{1-6}-alkyl, hydroxyC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; oxazolyl; pyrazolyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy; quinolinyl; indolyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, di(hydroxyC_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl pyrrolidinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl, and C_{1-4}-alkylpiperazinylC_{1-4}-alkyl.

85. The compound of claim 83 wherein:

n is 1;

t is 0;

R^{12} is hydrogen;

-L-is a direct bond;

R^{14} is hydrogen;

the A ring is a radical selected from (a-1) and (a-20);

each s is independently 0 or 1; and

each R^5 and R^6 is independently selected from hydrogen; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl or C_{1-6}-alkylpiperazinylC_{1-6}-alkyl; furanyl; phenyl; and phenyl substituted with one substituents independently selected from di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyl(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkyloxy and C_{1-4}-alkylpiperazinylC_{1-4}-alkyl.

86. The compound of claim 82 wherein L is a direct bond and R^{12} is H.

87. The compound of claim 82 wherein:

t is 0;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}-alkyl, C_{1-6}-alkyloxy, trifluoromethyl or di(C_{1-6}-alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}-alkanediyl, amino, and carbonyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl, C_{1-6}-alkyloxy, arylC_{1-6}-alkyl, aminocarbonyl, aminoC_{1-6}-alkyl, C_{1-6}-alkylaminoC_{1-6}-alkyl or di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl;

the A ring is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) and (a-51);

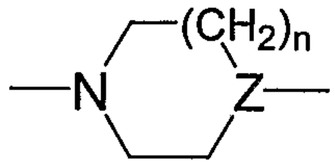
each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; hydroxyC_{1-6}-alkyl; aryloxy; di(C_{1-6}-alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}-alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}-alkyl; C_{1-6}-alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}-alkylmorpholinyl; piperazinyl; C_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkylpiperazinyl; C_{1-6}-alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}-alky and trihaloC_{1-6}-alkyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy, aryloxy or aryl;

pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy, or trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkyloxycarbonyl; C_{1-6}-alkylsulfonyl; hydroxyC_{1-6}-alkyl; aryloxy; di(C_{1-6}-alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}-alkyl, C_{1-6}-alkyloxy, and trifluoromethyl, and

the central moiety



is optionally bridged (*i.e.*, forming a bicyclic moiety) with an ethylene bridge.

88. The compound of claim 82 wherein:

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}-alkyl, C_{1-6}-alkyloxy, trifluoromethyl, hydroxyamino or naphthalenylsulfonylpyrazinyl;

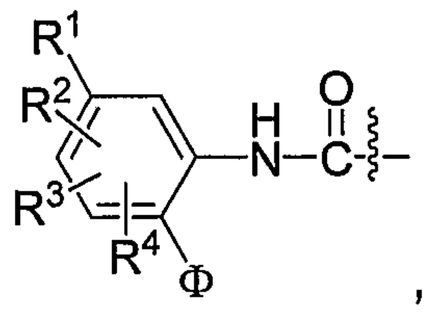
R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyloxy, arylC_{1-6}-alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}-alkyl, aminocrbonylC_{1-6}-alkyl, hydroxycarbonylC_{1-6}-alkyl, hydroxyaminocarbonyl, C_{1-6}-alkyloxycarbonyl, C_{1-6}-alkylaminoC_{1-6}-alkyl or di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl;

the A ring is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-43) and (a-44); and

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}-alkyl; trihaloC_{1-6}-alkyloxy; C_{1-6}-alkyl; C_{1-6}-alkyloxy; C_{1-6}-alkyloxyC_{1-6}-alkyloxy; C_{1-6}-alkylcarbonyl; C_{1-6}-alkylsulfonyl; cyanoC_{1-6}-alkyl; hydroxyC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxy; hydroxyC_{1-6}-alkylamino; aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminocarbonyl; di(hydroxyC_{1-6}-alkyl)amino; di(C_{1-6}-alkyl)aminoC_{1-6}-alkyloxy; di(C_{1-6}-alkyl)aminoC_{1-6}-alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}-alkenediyl; di(C_{1-6}-alkyl)amino; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, di(C_{1-6}-alkyl)aminoC_{1-6}-alkyl, C_{1-6}-alkylpiperazinylC_{1-6}-alkyl or di(hydroxyC_{1-6}-alkyl)aminoC_{1-6}-alkyl; furanyl; imidazolyl; C_{1-6}-alkyltriazolyl; tetrazolyl; piperidinylC_{1-6}-alkyloxy; morpholinyl; C_{1-6}-

alkylmorpholinyl; morpholinylC_{1-6}-alkyloxy; morpholinylC_{1-6}-alkyl; C_{1-6}-alkylpiperazinylC_{1-6}-alkyloxy; C_{1-6}-alkylpiperazinylC_{1-6}-alkyl; C_{1-6}-alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}-alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}-alkyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinyl; di(C_{1-6}-alkyl)aminosulfonylpiperazinylC_{1-6}-alkyl; hydroxyC_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl; C_{1-6}-alkyloxypiperidinyl; C_{1-6}-alkyloxypiperidinylC_{1-6}-alkyl; hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinyl; hydroxyC_{1-6}-alkyloxyC_{1-6}-alkylpiperazinylC_{1-6}-alkyl; (hydroxyC_{1-6}-alkyl)(C_{1-6}-alkyl)amino; (hydroxyC_{1-6}-alkyl)(C_{1-6}-alkyl)aminoC_{1-6}-alkyl; pyrrolidinylC_{1-6}-alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}-alky) or trihaloC_{1-6}-alkyl; pyridinyl; pyridinyl substituted with C_{1-6}-alkyloxy or aryl; pyrimidinyl; quinolinyl; phenyl; and phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}-alkyl, C_{1-6}-alkyloxy, hydroxyC_{1-4}-alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}-alkoxy, C_{1-4}-alkyloxyC_{1-4}-alkoxy, aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)aminoC_{1-4}-alkyloxy, di(C_{1-4}-alkyl)amino, piperidinylC_{1-4}-alkyloxy, pyrrolidinylC_{1-4}-alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}-alkyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinyl, di(C_{1-4}-alkyl)aminosulfonylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkylpiperazinyl, hydroxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, C_{1-4}-alkyloxypiperidinyl, C_{1-4}-alkoxypiperidinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyloxyC_{1-4}-alkylpiperazinyl, hyroxyC_{1-4}-alkoxyC_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)amino, (hydroxyC_{1-4}-alkyl)(C_{1-4}-alkyl)aminoC_{1-4}-alkyl, pyrrolidinylC_{1-4}-alkoxy, morpholinylC_{1-4}-alkyloxy, morpholinylC_{1-4}-alkyl, C_{1-4}-alkylpiperazinylC_{1-4}-alkoxy, C_{1-4}-alkylpiperazinylC_{1-4}-alkyl, hydroxyC_{1-4}-alkylamino, di(hydroxyC_{1-4}-alkyl)amino, di(C_{1-4}-alkyl)aminoC_{1-4}-alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}-alkyloxy, and thiophenylC_{1-4}-alkylamino.

89. The compound of claim 82 that is selected from one of the compounds of pages 21 and 22 and Table F-1 of WO 03/076422 wherein the terminal hydroxamic acid moiety (HO-NH-C(O)-) is replaced with



,

wherein Φ, R^1, R^2, R^3, and R^4 are as defined in claim 1.

90. A compound according to claim 82 for use in inhibting histone deacetylase.
91. A compound according to calim 82 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.
92. The compound of claim 91, wherein said treatment is effected by inhibiting histone deacetylase.
93. The compound of calim 91, wherein said cell proliferative disease is a neoplastic cell proliferative disease.
94. The compound of claim 91, wherein said cell proliferative disease is cancer.
95. The compound of claim 94, wherein said cancer is a solid tumor cancer.
96. The compound of claim 94, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.
97. A pharmaceutical composition comprising a compound according to claim 82 and a pharmaceutically acceptable carrier.
98. The pharmaceutical composition of claim 97 further comprising a nucleic acid level inhibitor of histone deacetylase.
99. The pharmaceutical composition of claim 98, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.
100. The pharmaceutical composition of claim 99, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.
101. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 82.
102. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 97.
103. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising

administering to said individual a treatment effective amount of the pharmaceutical composition of claim 98.

104. The method of claim 102, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

105. The method of claim 102, wherein said cell proliferative disease is cancer.

106. The method of claim 102, wherein said cancer is a solid tumor cancer.

107. The method of claim 106, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

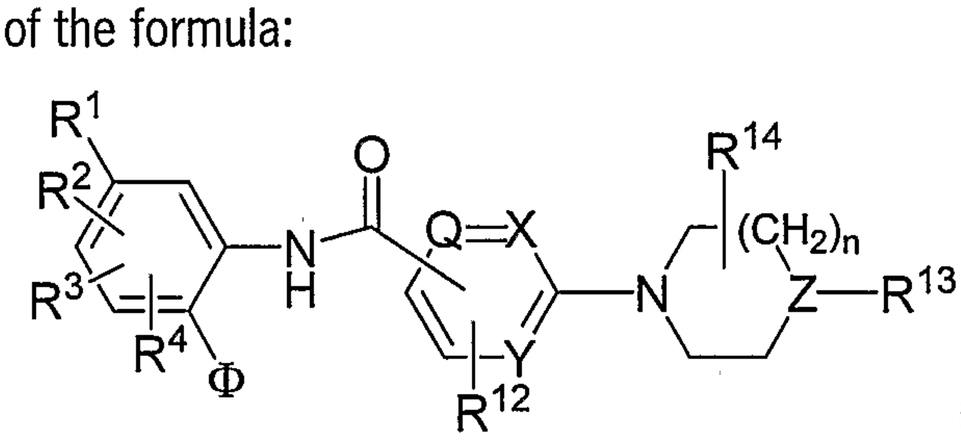
108. The method of claim 103, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

109. The method of claim 103, wherein said cell proliferative disease is cancer.

110. The method of claim 109, wherein said cancer is a solid tumor cancer.

111. The method of claim 110, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

112. A compound of the formula:



(5)

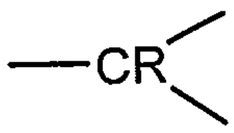
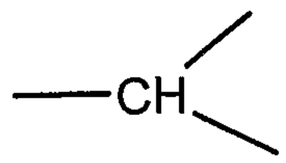
or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in paragraph claim 1;

R^2, R^3, and R^4 are as defined in paragraph claim 1;

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or ;

Y is nitrogen or ;

Z is nitrogen or ;

R is selected from the group consisting of hydrogen, halogen, -NH_2, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, arylaminosulfonylamino, aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, arylaminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl

wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, hydroxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, or morpholinylC_{1-4}alkyl; thiophenyl; or thiophenyl substituted with di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, pyrrolidinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl or morpholinylC_{1-4}alkyloxy.

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

when R^{13} & R^{14} are present on the same carbon atom, R^{13} & R^{14} together may form a bivalent radical of formula

-C(O)-NH-CH_2-NR^{10}- (a-1)

wherein R^{10} is hydrogen or aryl;

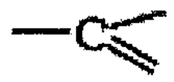
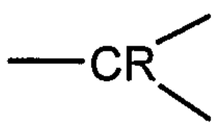
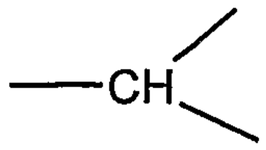
when R^{13} & R^{14} are present on adjacent carbon atoms, R^{13} & R^{14} together may form a bivalent radical of formula

=CH-CH=CH-CH= (b-1);

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

113. The compound of claim 112 wherein:

n is 0 or1;

Q is  ,  , or  ;

R^{12} is hydrogen or nitro;

R^{13} is C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, C_{1-6}alkylaminocarbonyl, aminosulfonyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl;

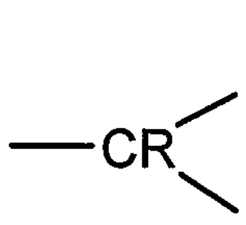
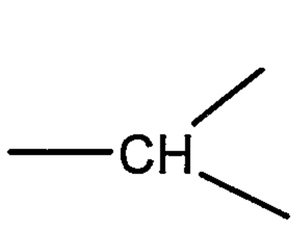
R^{14} is hydrogen;

when R^{13} & R^{14} are present on the same carbon atom R^{13} & R^{14} together may form a bivalent radical of formula (a-1) wherein R^{10} is aryl;

when R^{13} & R^{14} are present on adjacent carbon atoms R^{13} & R^{14} together may form a bivalent radical of formula (b-1).

114. The compound of claim 112 wherein:

n is 1;

Q is ,  , or  ;

Z is nitrogen;

R^{12} is hydrogen;

R^{13} is naphtalenylcarbonyl, C_{1-12}alkylsulfonyl or di(aryl)C_{1-6}alkylcarbonyl;

R^{14} is hydrogen.

115. The compound of claim 112 wherein R^{12} is H.

116. The compound of claim 112 wherein:

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl or pyridinylcarbonyl wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy; or thiophenyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl.

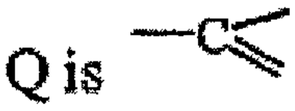
117. The compound of claim 112 wherein:

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

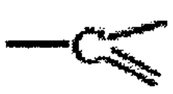
R^{13} is hydrogen, C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, -C(O)phenylR^9, C_{1-6}alkylaminocarbonyl, aminosulfonyl, arylaminosulfonyl, aminosulfonylamino, di(C_{1-6}alkyl)aminosulfonylamino, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl or pyridinylcarbonyl wherein each R^9 is independently selected from phenyl; phenyl substituted with one, two or three substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy; or thiophenyl; and

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl.

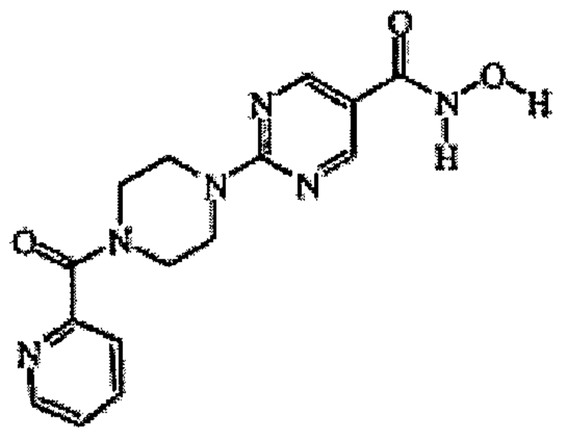
118. The compound of claim 112 wherein:

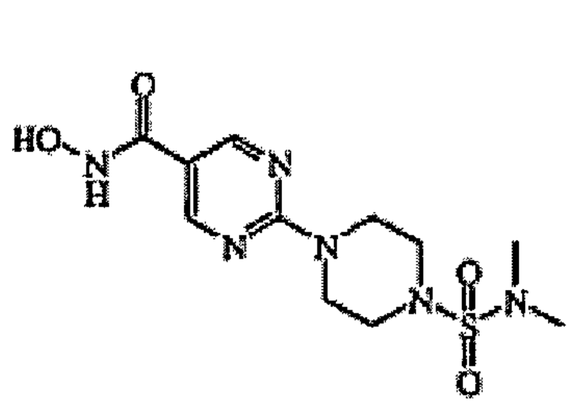
n is 0 or 1; Q is  ; or -NHC(O)C_{1-6}alkanediylSH; R^{12} is hydrogen or nitro: R^{13} is C_{1-6}alkyl, arylC_{2-6}alkenediyl, furanylcarbonyl, naphtalenylcarbonyl, C_{1-6}alkylaminocarbonyl aminosulfonyl, di(C_{1-6}alkyl)aminosulfonylaminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-12}alkylsulfonyl, di(C_{1-6}alkyl)aminosulfonyl, trihaloC_{1-6}alkylsulfonyl, di(aryl)C_{1-6}alkylcarbonyl, thiophenylC_{1-6}alkylcarbonyl, pyridinylcarbonyl or arylC_{1-6}alkylcarbonyl; R^{14} is hydrogen; when R^{13} and R^{14} are present on the same carbon atom R^{13} & R^{14} together may form a bivalent radical of formula (a-1) wherein R^{10} is aryl; or when R^{13} & R^{14} are present on adjacent carbon atoms R^{13} & R^{14} together may form a bivalent radical of formula (b-1).

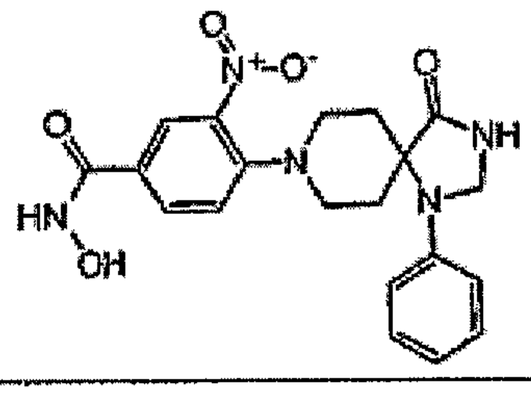
119. The compound of claim 112 wherein:

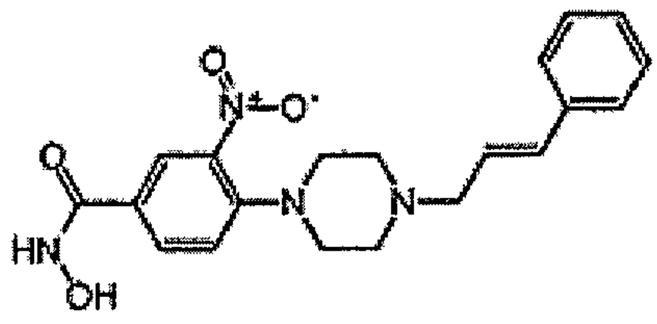
n is 1; Q is  ; Z is nitrogen; R^{12} is hydrogen; R^{13} is naphthalenylcarbonyl, C_{1-12}alkylsulfonyl or di(aryl)C_{1-6}alkylcarbonyl; and R^{14} is hydrogen.

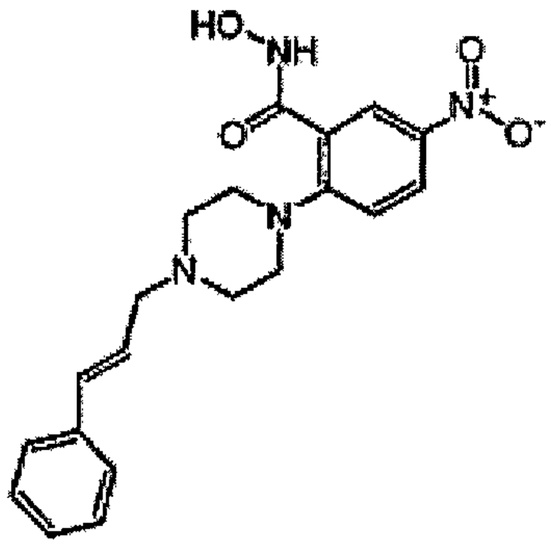
120. The compound of claim 112 that is selected from one of

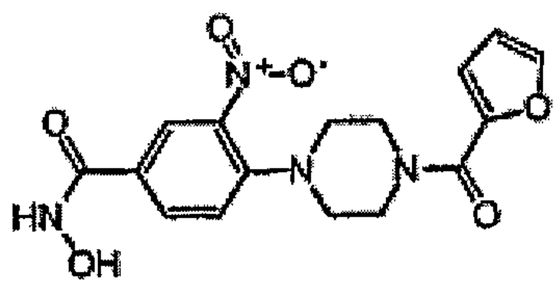


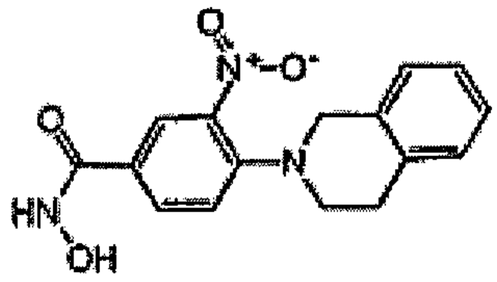


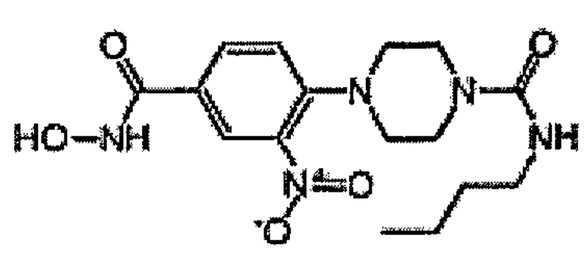


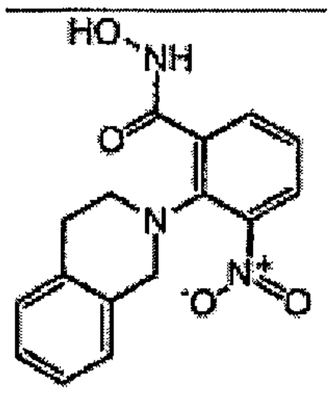


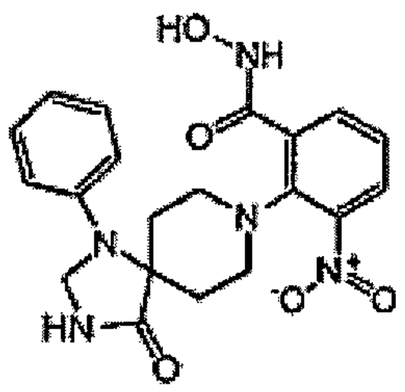


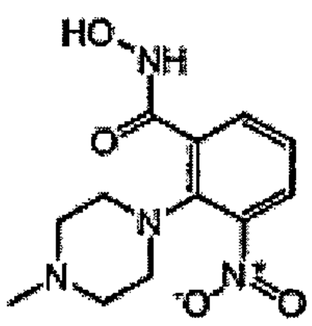


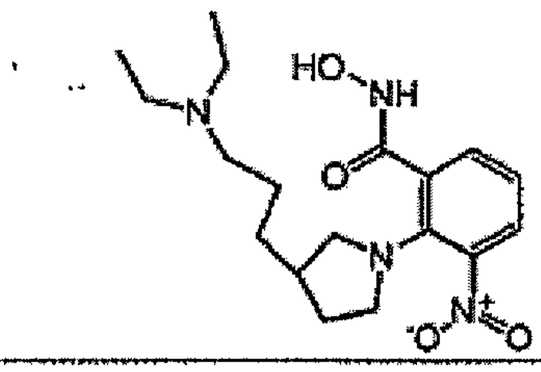


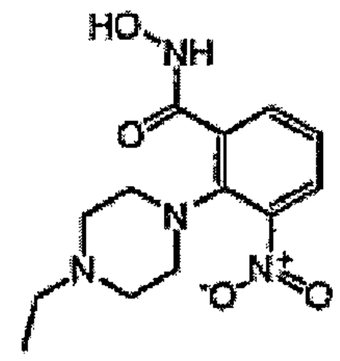


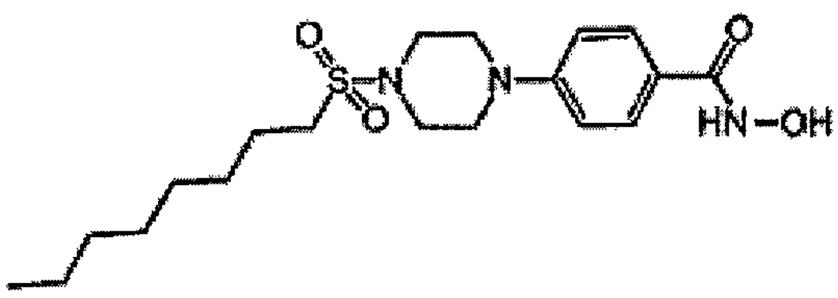


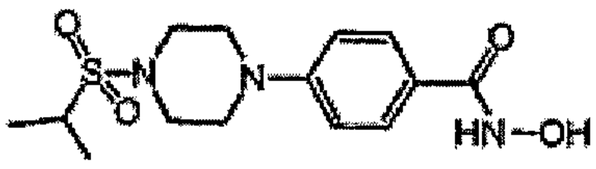


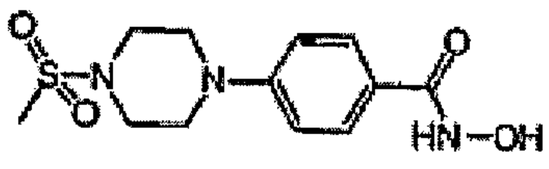


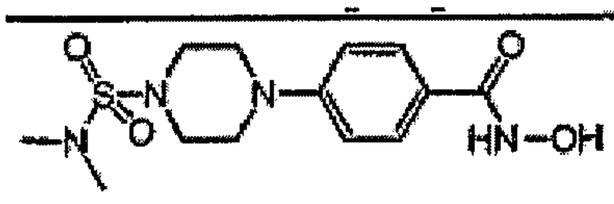


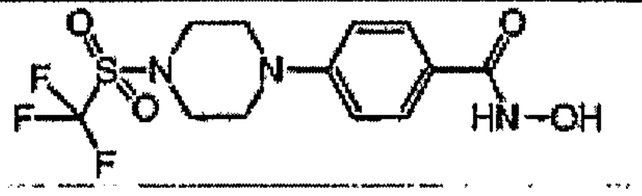


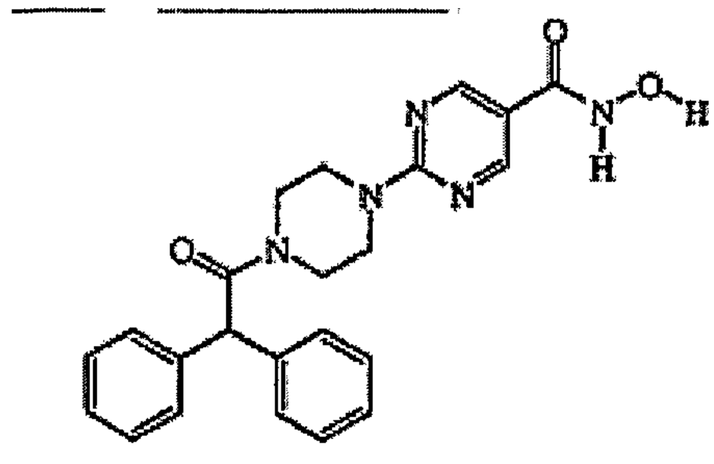


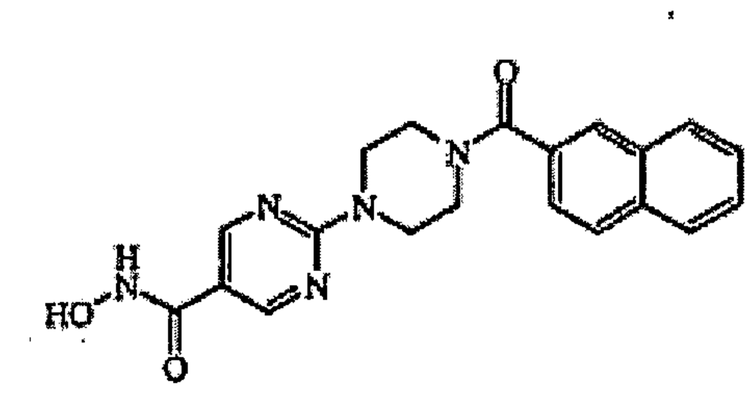


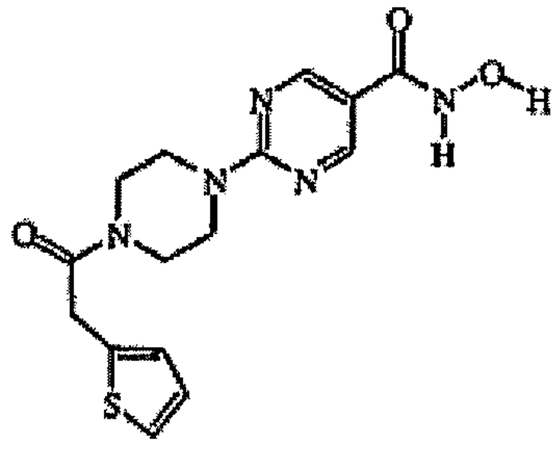


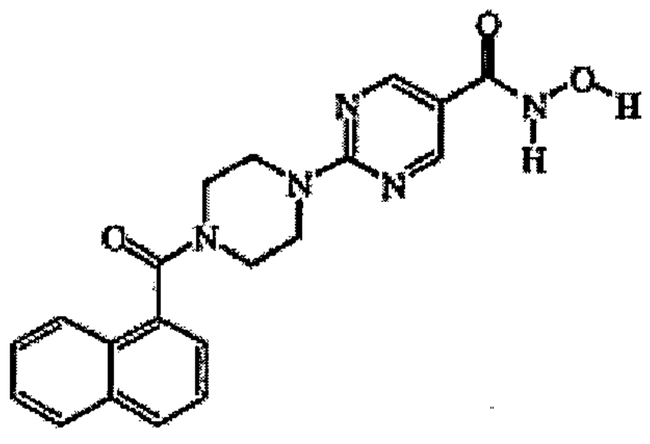


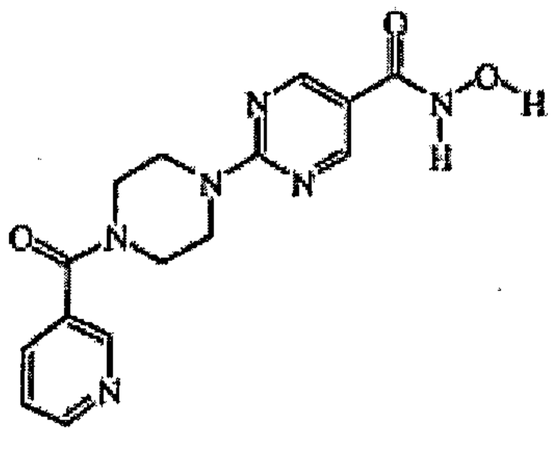


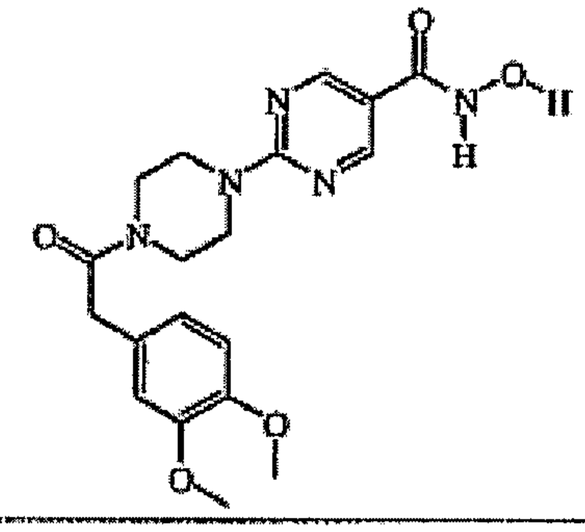




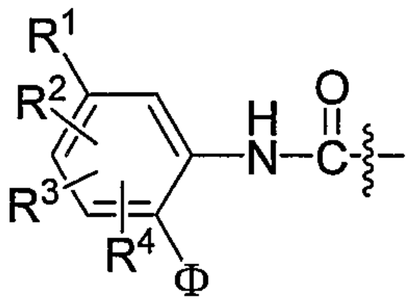








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

121. A compound according to claim 112 for use in inhibting histone deacetylase.

122. A compound according to calim 112 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

123. The compound of claim 122, wherein said treatment is effected by inhibiting histone deacetylase.

124. The compound of calim 122, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

125. The compound of claim 122, wherein said cell proliferative disease is cancer.

126. The compound of claim 125, wherein said cancer is a solid tumor cancer.

127. The compound of claim 125, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

128. A pharmaceutical composition comprising a compound according to claim 112 and a pharmaceutically acceptable carrier.

129. The pharmaceutical composition of claim 128 further comprising a nucleic acid level inhibitor of histone deacetylase.

130. The pharmaceutical composition of claim 129, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

131 The pharmaceutical composition of claim 130, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

132. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 112.

133. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 128.

134. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 129.

135. The method of claim 133, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

136. The method of claim 133, wherein said cell proliferative disease is cancer.

137. The method of claim 136, wherein said cancer is a solid tumor cancer.

138. The method of claim 137, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

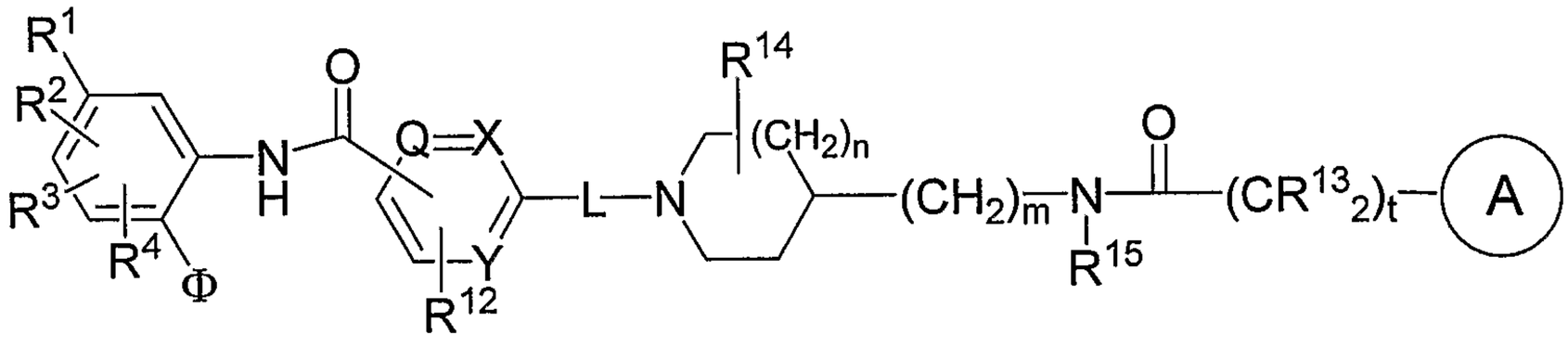
139. The method of claim 134, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

140. The method of claim 134, wherein said cell proliferative disease is cancer.

141. The method of claim 140, wherein said cancer is a solid tumor cancer.

142. The method of claim 141, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

143. A compound of the formula:



(6)

or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

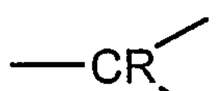
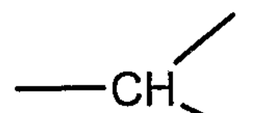
R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1;

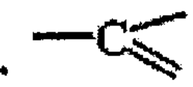
n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

m is 0 or 1 and when m is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or ;

Y is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, -NH_2, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino, carbonyl or aminocarbonyl;

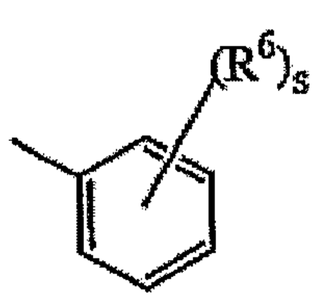
each R^{13} is independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

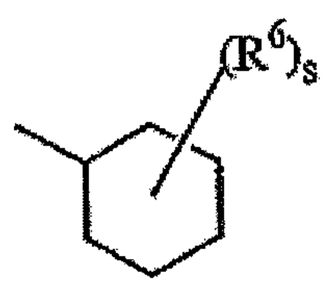
R^{15} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;



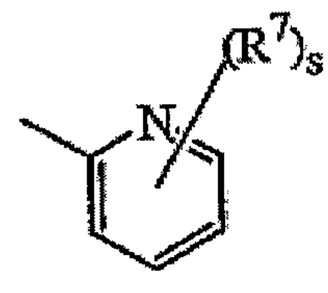
is a radical selected from



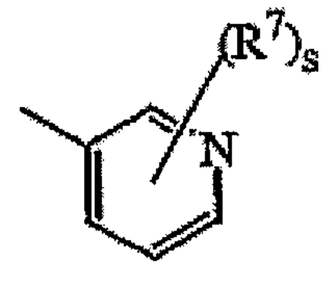
(a-1)



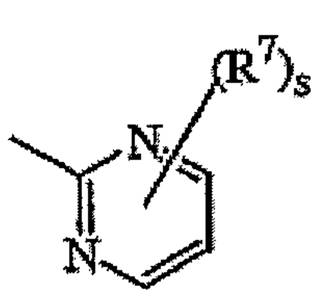
(a-2)



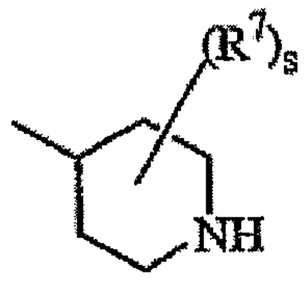
(a-3)



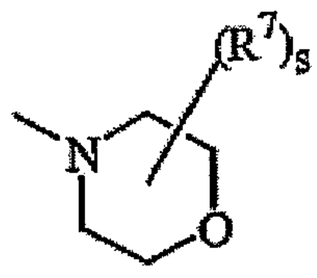
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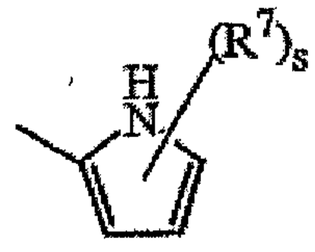
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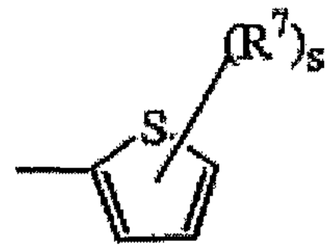
(a-6)



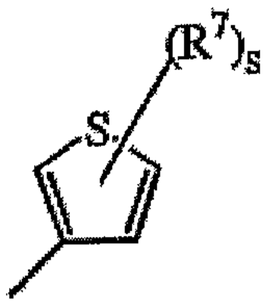
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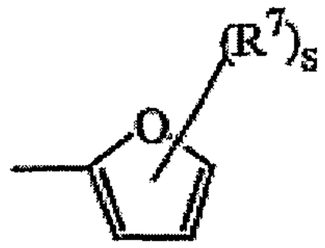
(a-8)



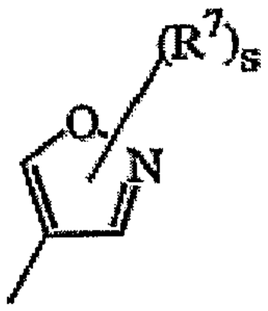
(a-9)



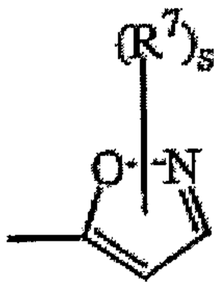
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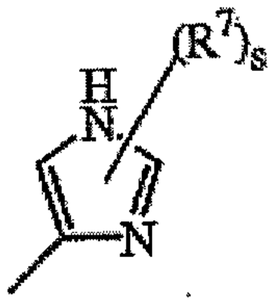
(a-11)



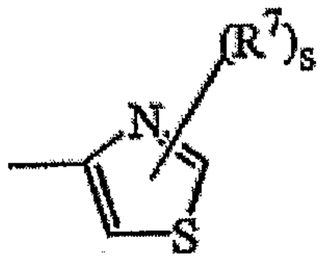
(a-12)



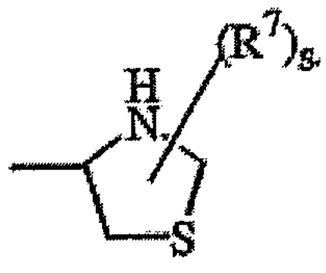
(a-13)



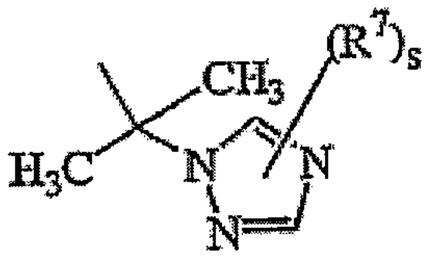
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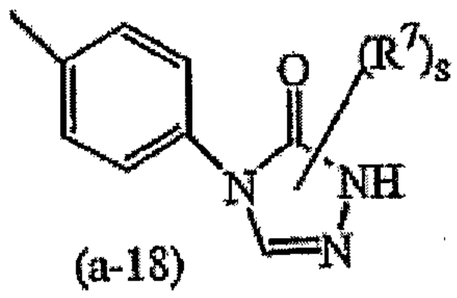
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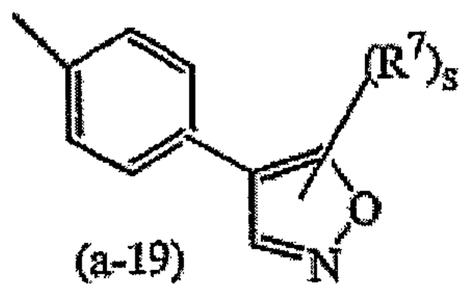
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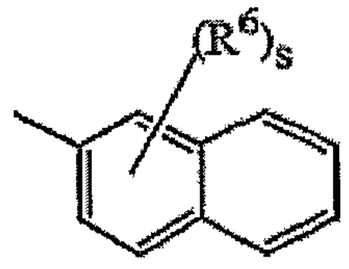
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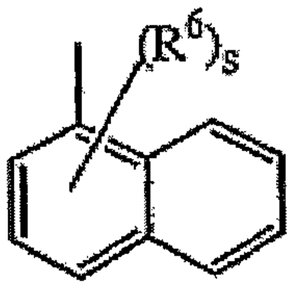
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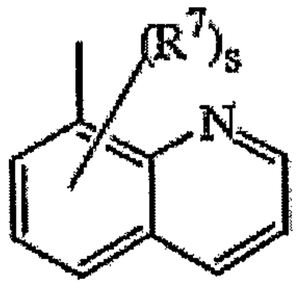
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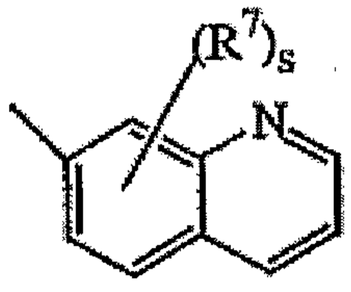
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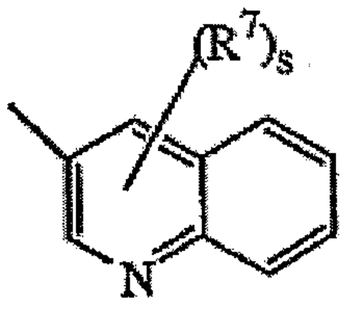
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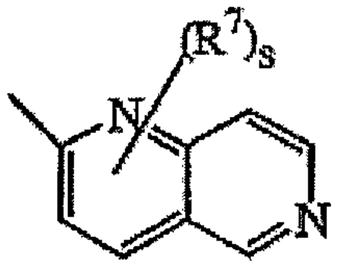
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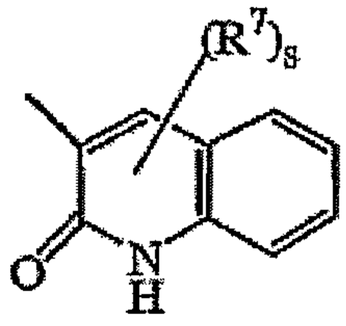
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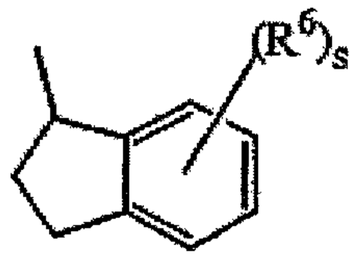
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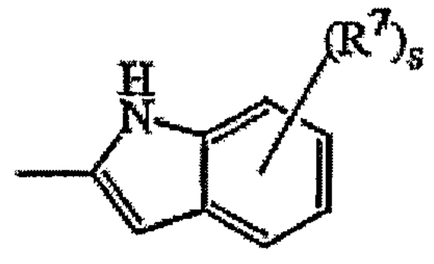
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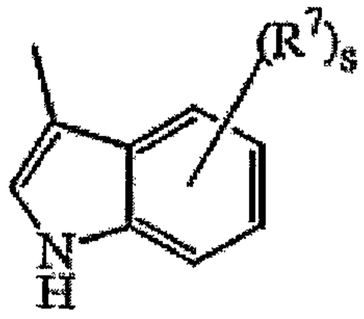
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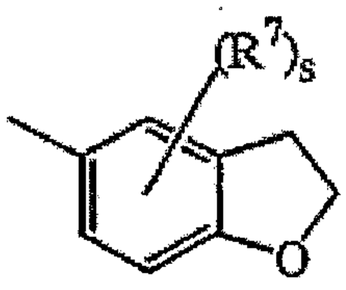
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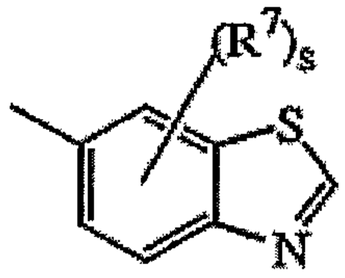
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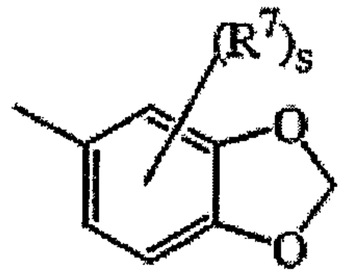
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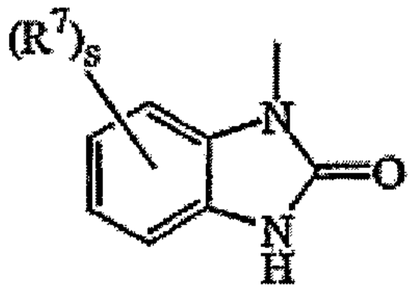
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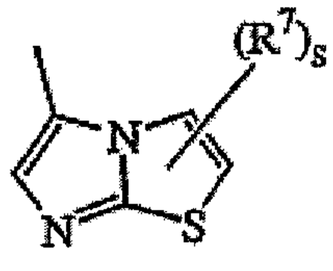
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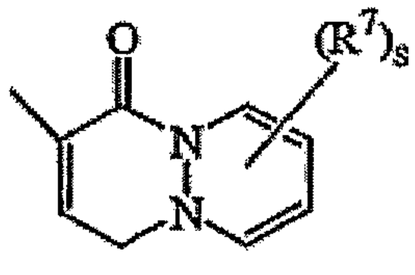
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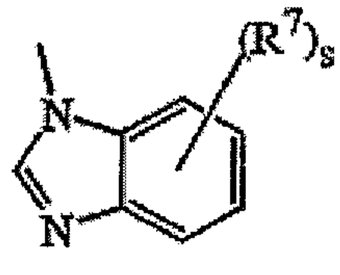
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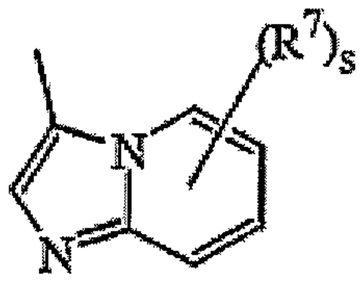
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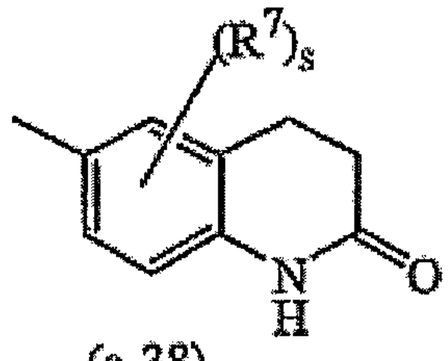
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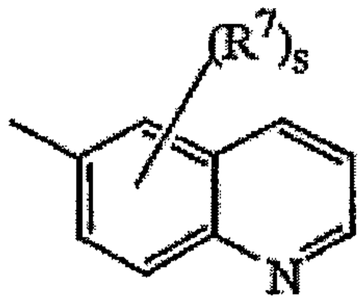
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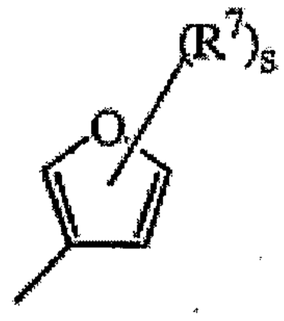
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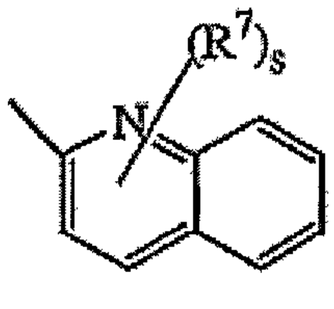
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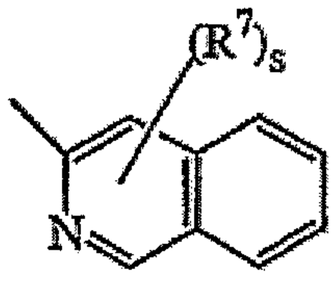
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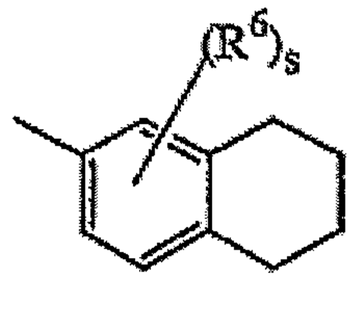
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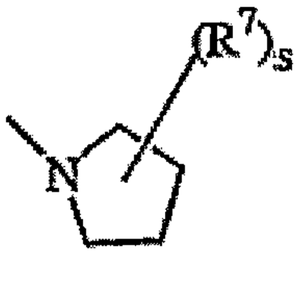
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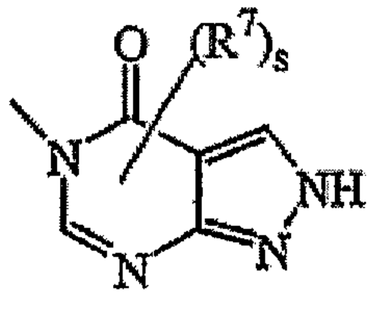
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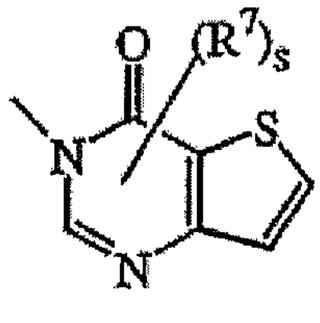
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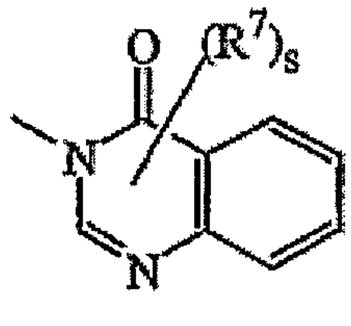
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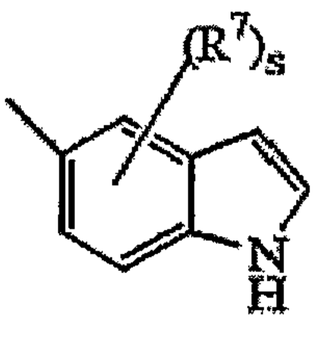
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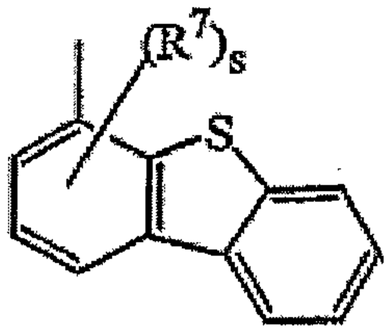
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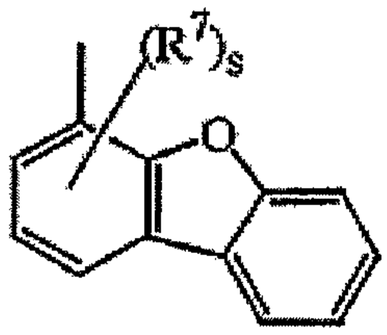
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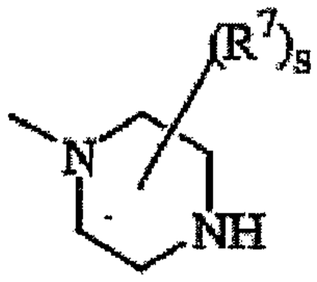
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl;

di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino;

di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl;

aminosulfonylamino(C_{1-6}alkyl)amino;

aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl;

di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino;

di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl,

di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents

independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino,

di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy; aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^6 and R^7 can be placed on the nitrogen in replacement of the hydrogen;

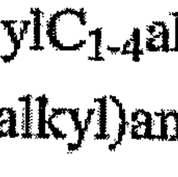
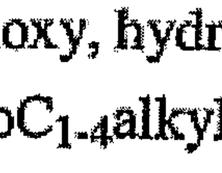
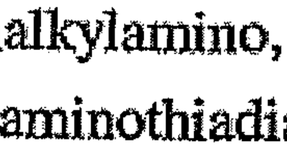
aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

144. The compound of claim 143 wherein:

n is 1;

m is 0 or 1;

t is 0,1 or 2;

Q is  ,  , or  ;

R^{12} is hydrogen or C_{1-6}alkyl;

-L- is a direct bond;

R^{14} is hydrogen;

R^{15} is hydrogen;

 is a radical selected from (a-1), (a-20), (a-25), (a-27), (a-28), (a-29), (a-41) or (a-42);

each s is independently 0, 1, 2 or 3;

each R^6 is independently selected from hydrogen, halo, C_{1-6}alkyl or C_{1-6}alkyloxy.

145. The compound of claim 143 wherein:

R^{15}

R^5 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

—(A) is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl;

pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

146. The compound of claim 143 wherein:

t = 0;

m = 0;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino or carbonyl;

R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^{15} is hydrogen;



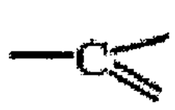
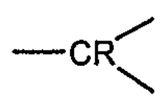
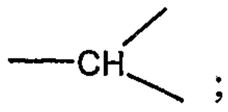
is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^7 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

147. The compound of claim 143 wherein:

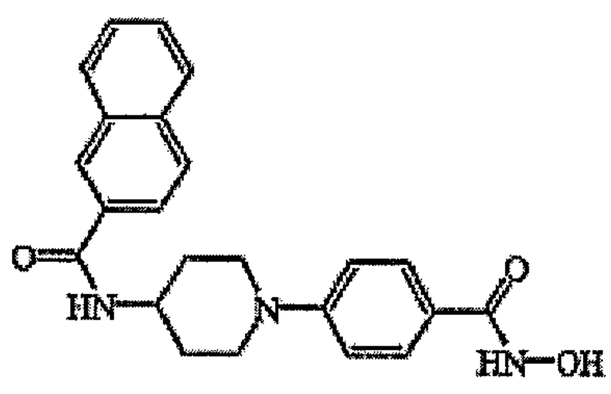
n is 1; m is 0 or 1; t is 0, 1 or 2; Q is  ,  , or  ;

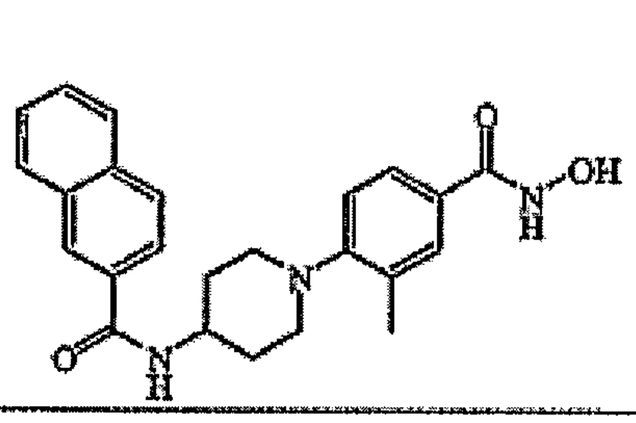
R^{12} is hydrogen; -L- is a direct bond;

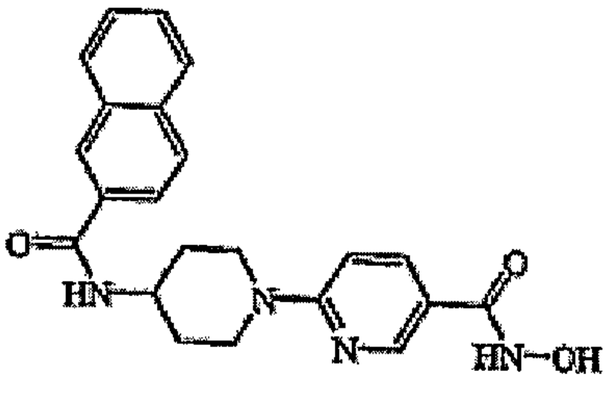
R^{14} and R^{15} are H;

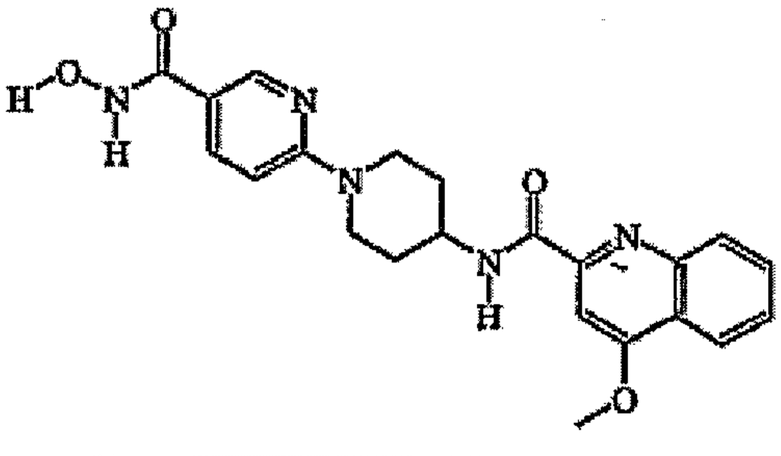
 is a radical selected from (a-1), (a-20), (a-27), (a-28), (a-29), (a-41) or (a-42); each s is independently 0, 1 or 2; and each R^6 is independently selected from hydrogen, halo, C_{1-6}alkyl or C_{1-6}alkyloxy.

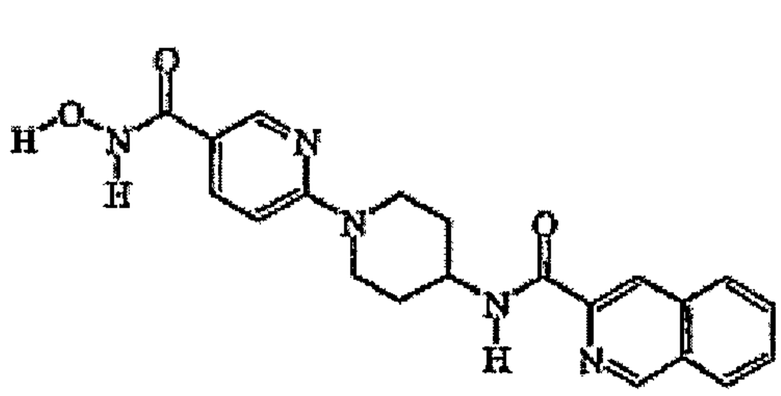
148. The compound of claim 143 that is selected from one of

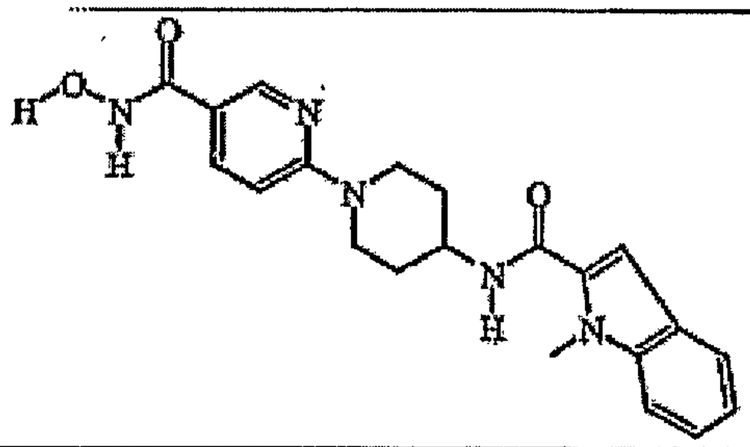


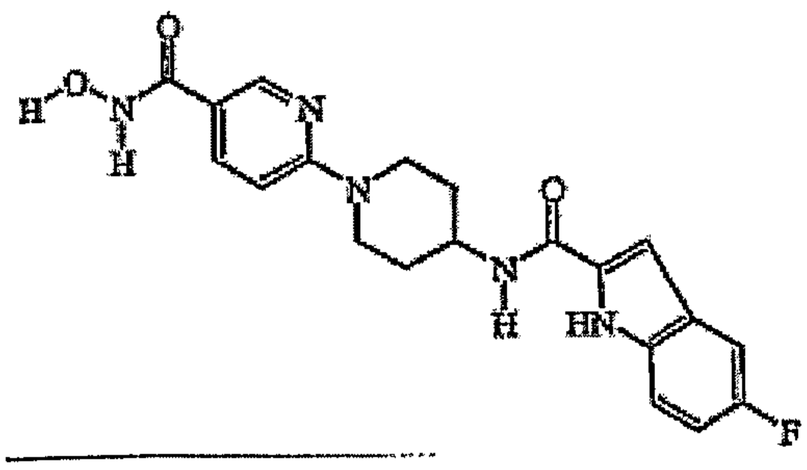


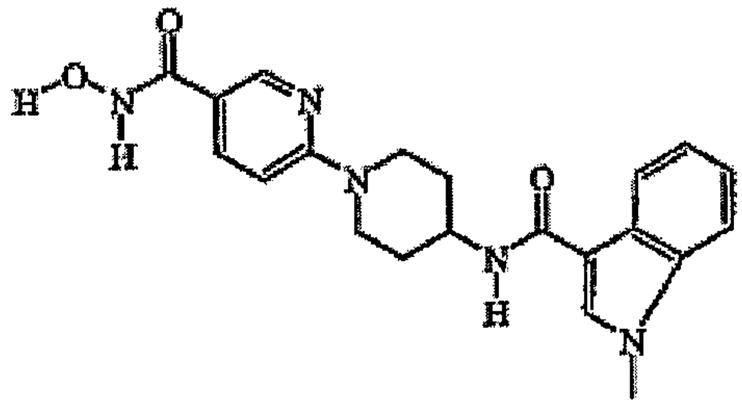


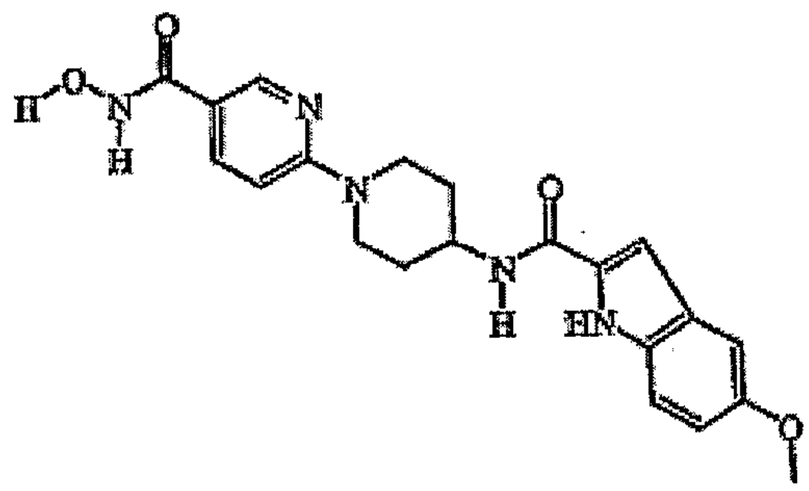


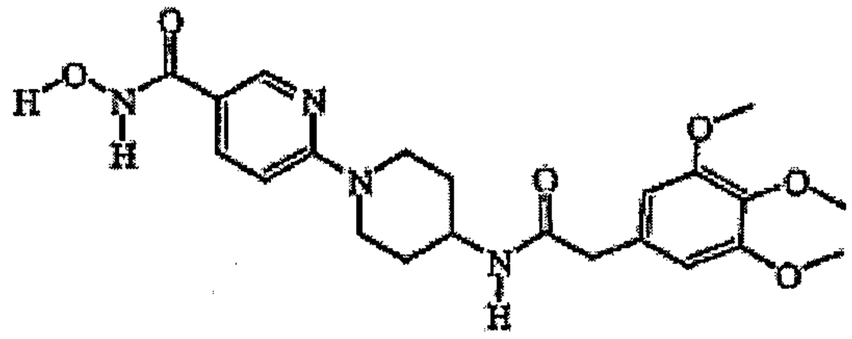


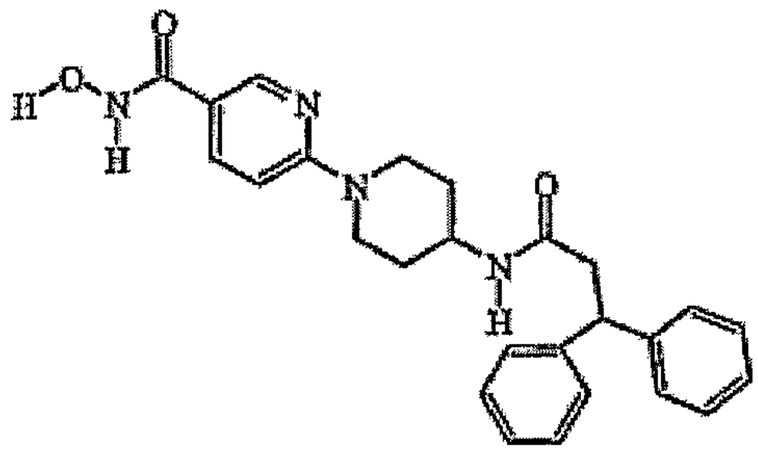


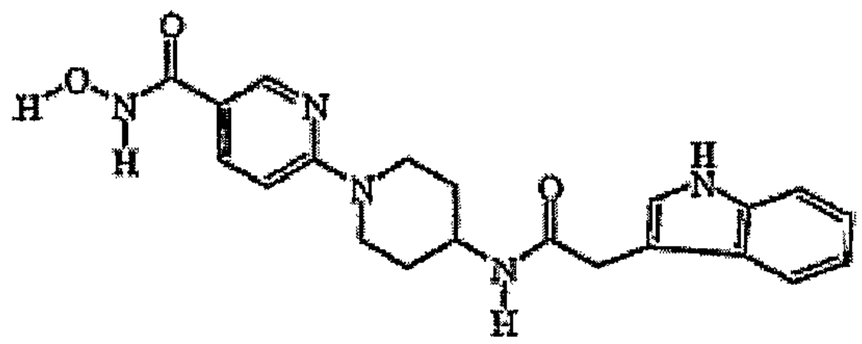




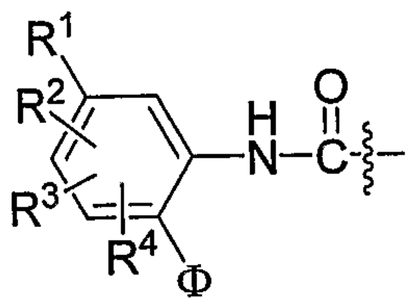








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim1.

149. The compound of claim 143 wherein R^1, R^2, R^3, and R^4 are all H.

150. A compound according to claim 143 for use in inhibting histone deacetylase.

151. A compound according to calim 143 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

152. The compound of claim 151, wherein said treatment is effected by inhibiting histone deacetylase.

153. The compound of calim 151, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

154. The compound of claim 151, wherein said cell proliferative disease is cancer.

155. The compound of claim 154, wherein said cancer is a solid tumor cancer.

156. The compound of claim 154, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

157. A pharmaceutical composition comprising a compound according to claim 143 and a pharmaceutically acceptable carrier.

158. The pharmaceutical composition of claim 157 further comprising a nucleic acid level inhibitor of histone deacetylase.

159. The pharmaceutical composition of claim 158, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

160. The pharmaceutical composition of claim 159, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

161. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 143.

162. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 157

163. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 158.

164. The method of claim 162, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

165. The method of claim 162, wherein said cell proliferative disease is cancer.

166. The method of claim 165, wherein said cancer is a solid tumor cancer.

167. The method of claim 166, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

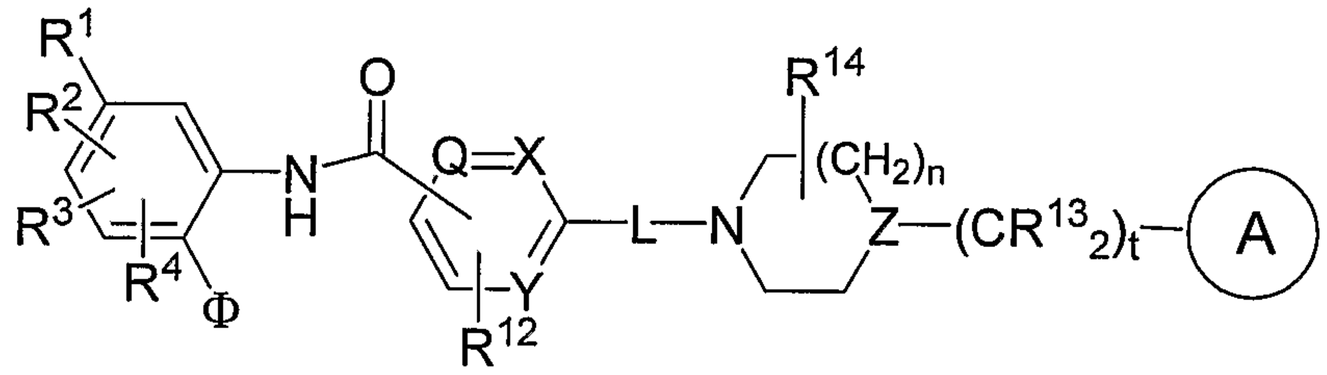
168. The method of claim 163, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

169. The method of claim 163, wherein said cell proliferative disease is cancer.

170. The method of claim 169, wherein said cancer is a solid tumor cancer.

171. The method of claim 170, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

172. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

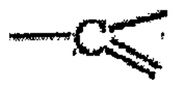
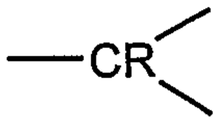
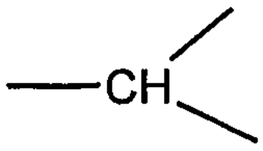
Φ is $-NH_2$ or $-OH$;

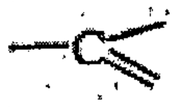
R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1;

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, -NH_2, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

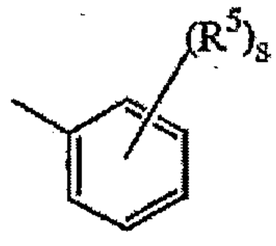
-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkyloxy, amino, carbonyl or aminocarbonyl;

each R^{13} independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

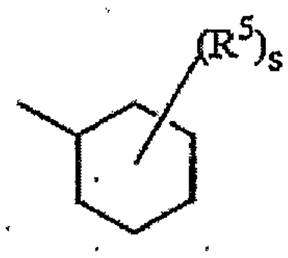
R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;



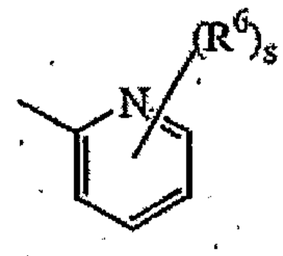
is a radical selected from



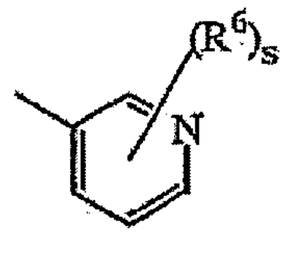
(a-1)



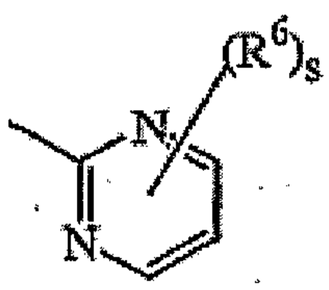
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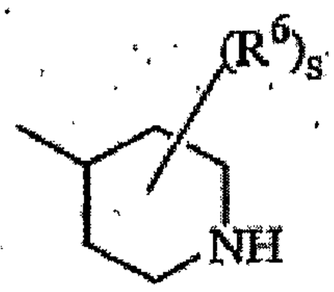
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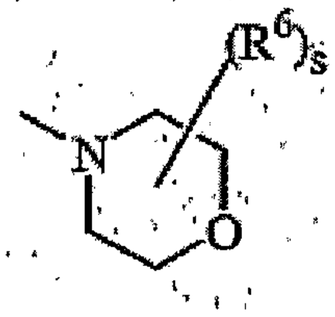
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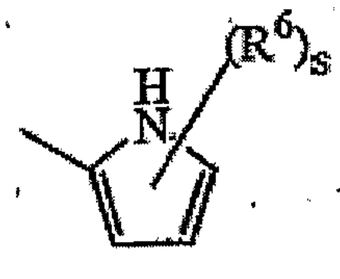
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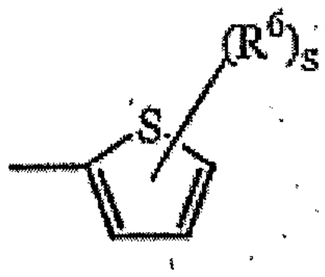
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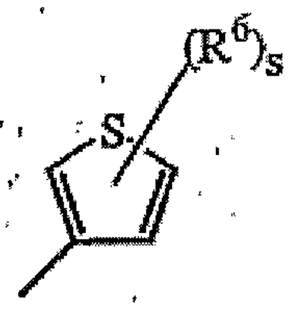
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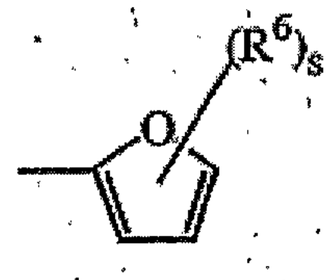
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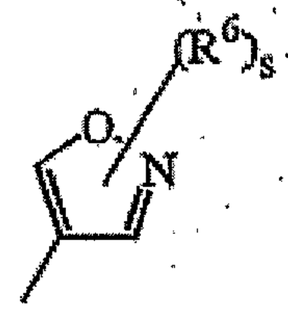
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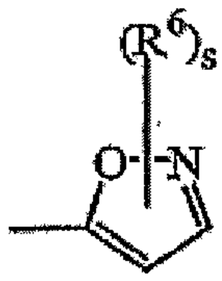
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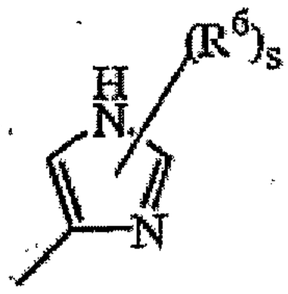
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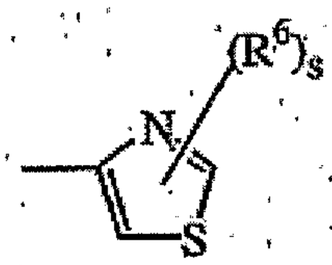
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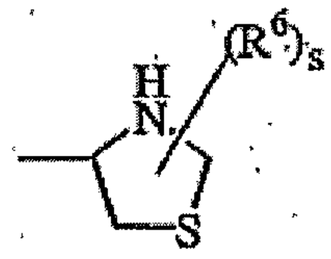
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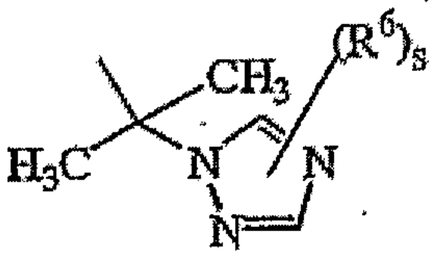
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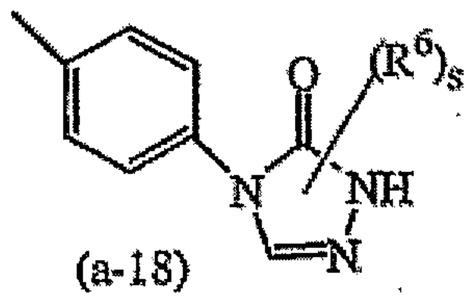
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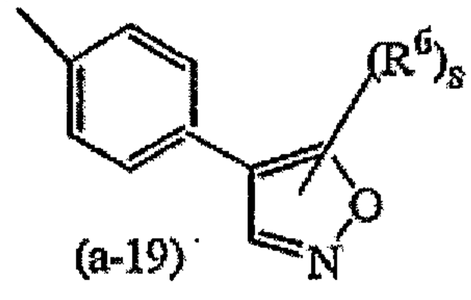
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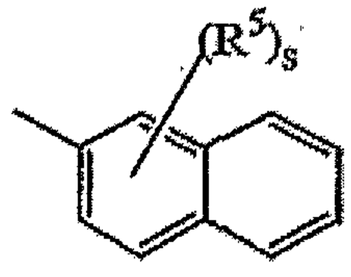
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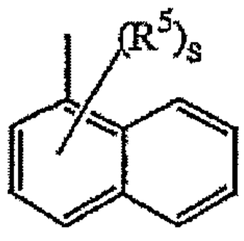
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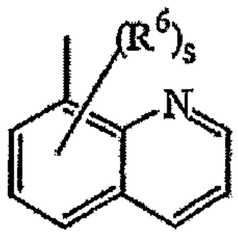
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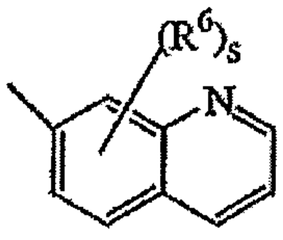
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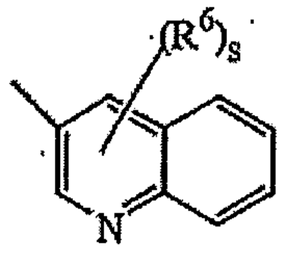
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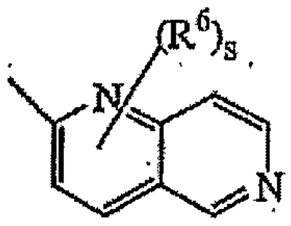
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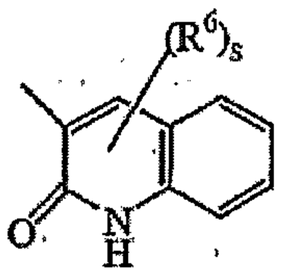
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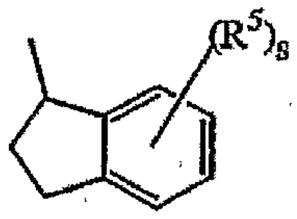
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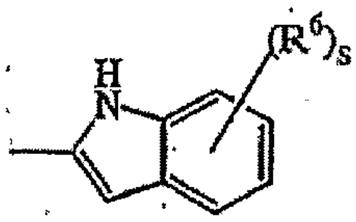
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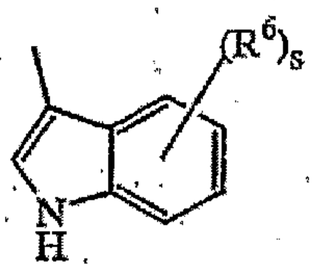
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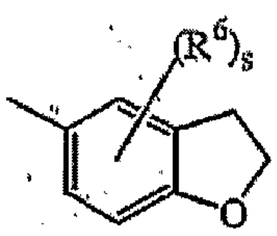
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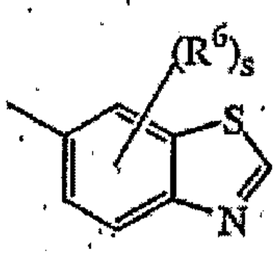
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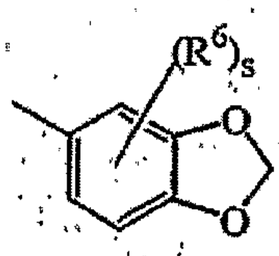
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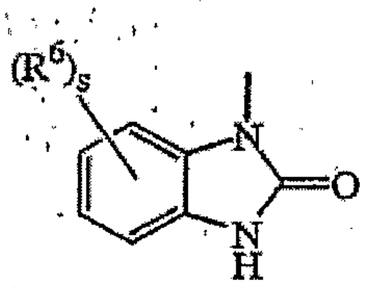
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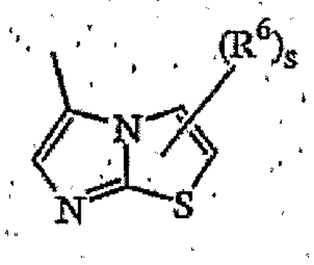
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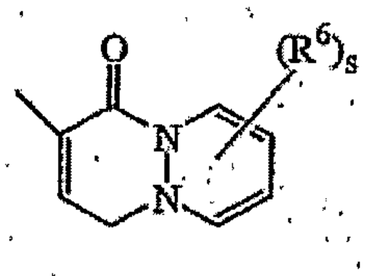
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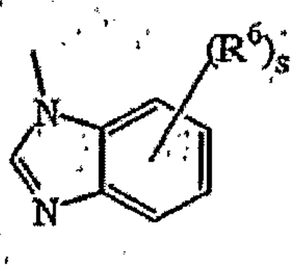
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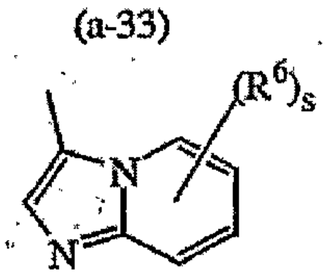
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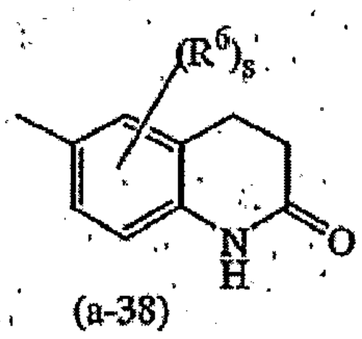
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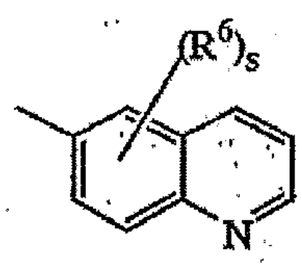
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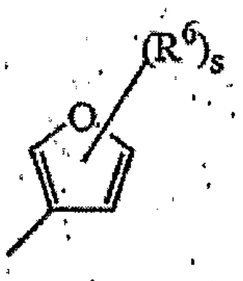
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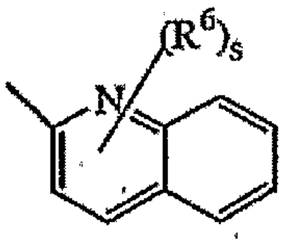
(a-38)



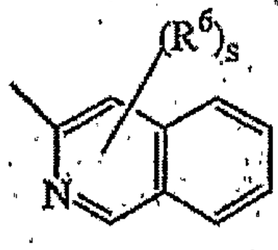
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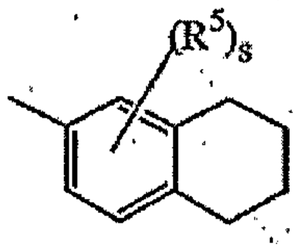
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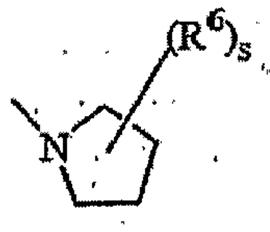
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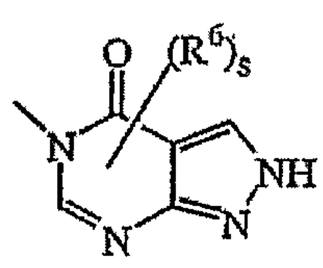
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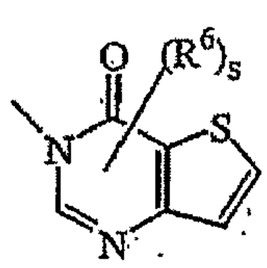
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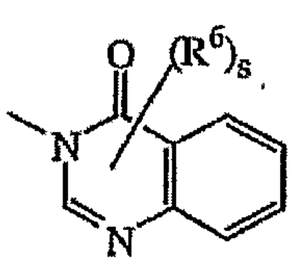
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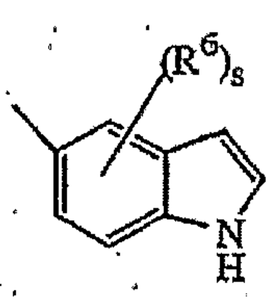
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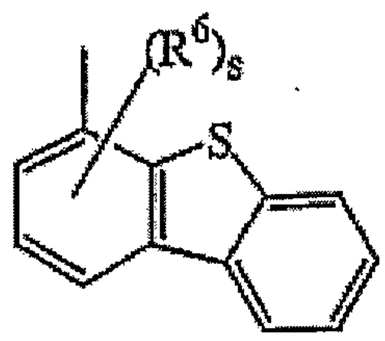
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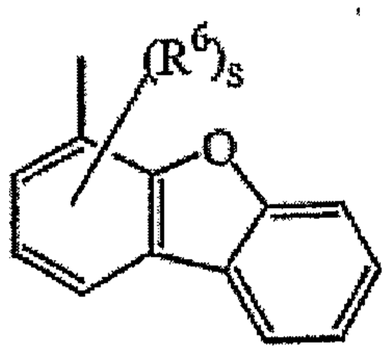
(a-47)



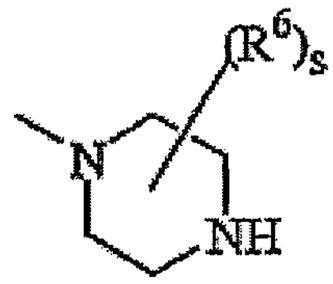
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino;

di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl;

hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl,

C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy,

hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

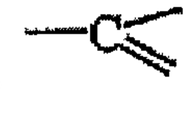
each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

173. The compound of claim 172 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 172 wherein:

n is 1 or 2;

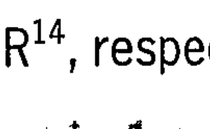
t is 0, 1, 2 or 4;

Q is  ;

R^2 is hydrogen or nitro;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl;

R^4 is hydrogen;


is a radical selected from (a-1),(a-2), (a-3), (a-5), (a-6), (a-11), (a-18), (a-20), (a-21), (a-32), (a-33), (a-47) or (a-51);

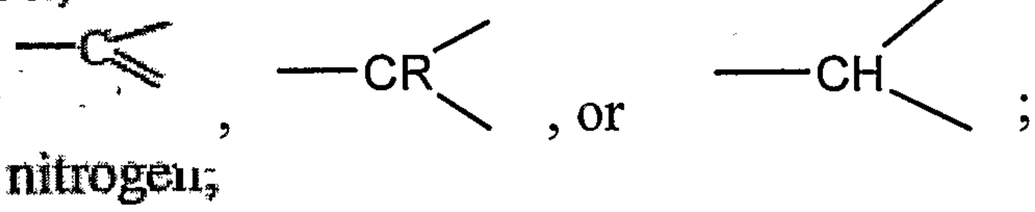
each s is independently 0, 1, 2, or 4;

each R^5 and R^6 are independently selected from hydrogen; halo; trihaloC_{1-6}alkyl; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; benzofuranyl; naphtalenylsulfonyl; pyridinyl substituted with aryloxy; phenyl; or phenyl substituted with one substituent independently selected from hydroxyC_{1-4}alkyl or morpholinylC_{1-4}alkyl.

174. The compound of claim 170 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 172 wherein:

n is 1;

t is 0, 1 or 2;

Q is 
;

X is nitrogen;

Y is nitrogen;

R^2 is hydrogen;

-L- is a direct bond;

each R^3 independently represents a hydrogen atom;

R^4 is hydrogen;


is a radical selected from (a-6), (a-11), (a-20), (a-47) or (a-51);

each s is independently 0, 1, or 4;

each R^5 and R^6 are independently selected from hydrogen; C_{1-6}alkyl; C_{1-6}alkyloxy; naphtalenylsulfonyl; or phenyl substituted with hydroxyC_{1-4}alkyl or morpholinylC_{1-4}alkyl.

175. The compound of claim 172 wherein L is a direct bond.

176. The compound of claim 172 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 172 wherein :

t is 1, 2, 3, or 4;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

-L- is a direct bond or a bivalent radical selected from C_{1-6}alkanediyl, C_{1-6}alkanediyloxy, amino or carbonyl;

R^4 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

—(A) is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) and (a-51);

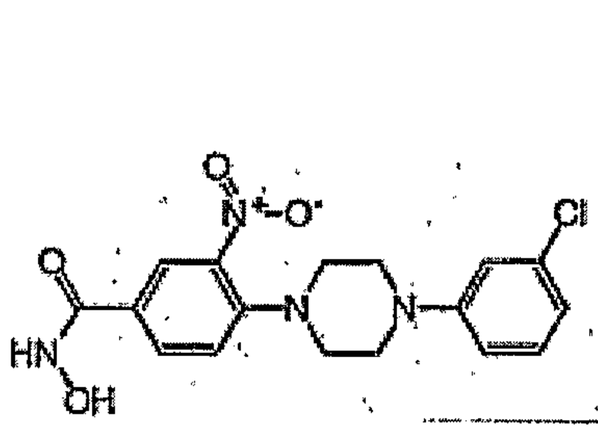
each s is independently 0, 1, 2, 3 or 4;

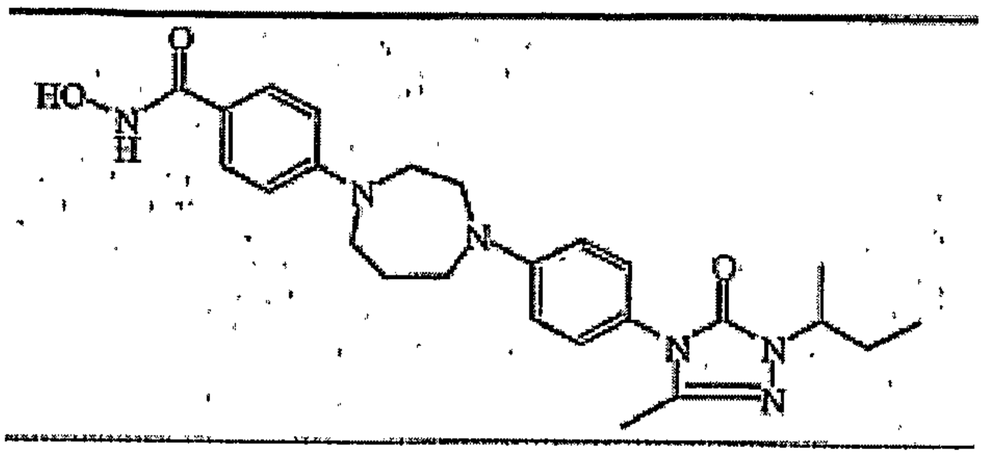
R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

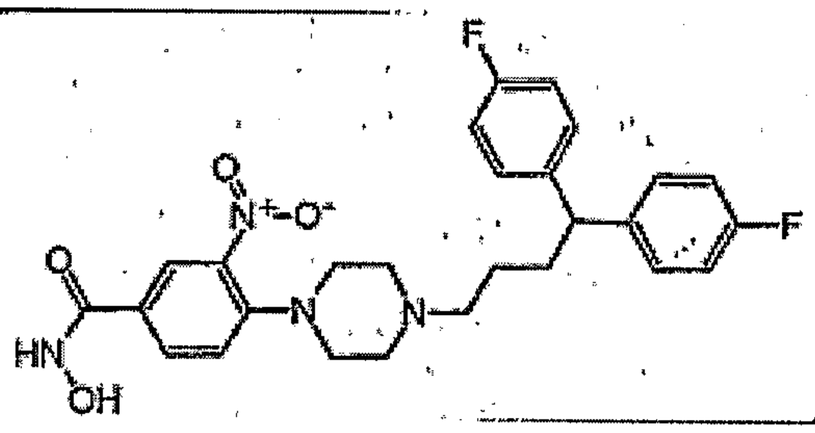
R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl;

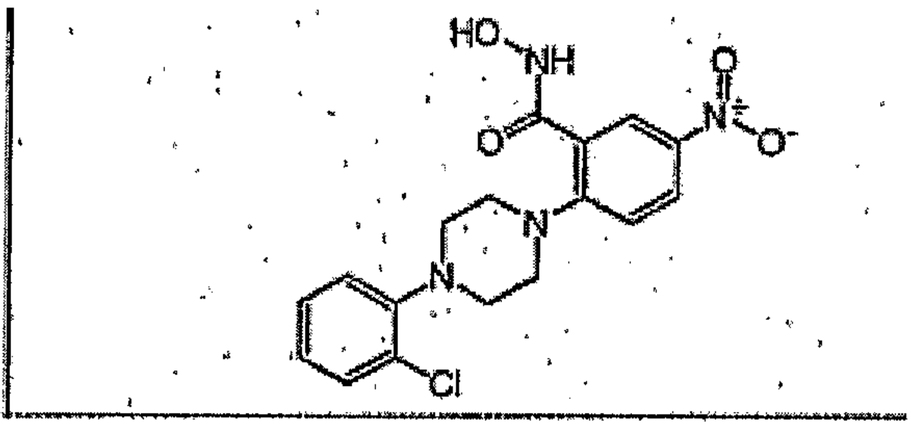
C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

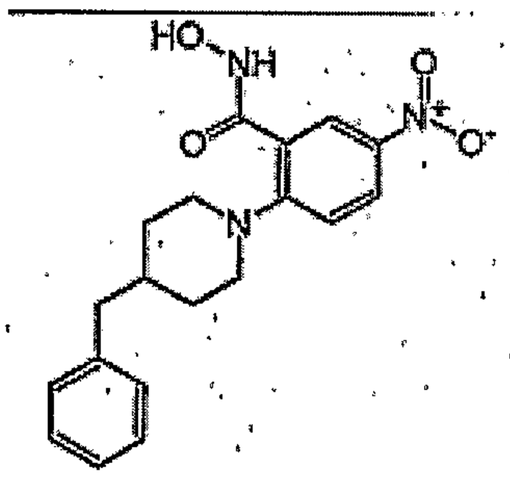
177. The compound of claim 172 that is selected from one of

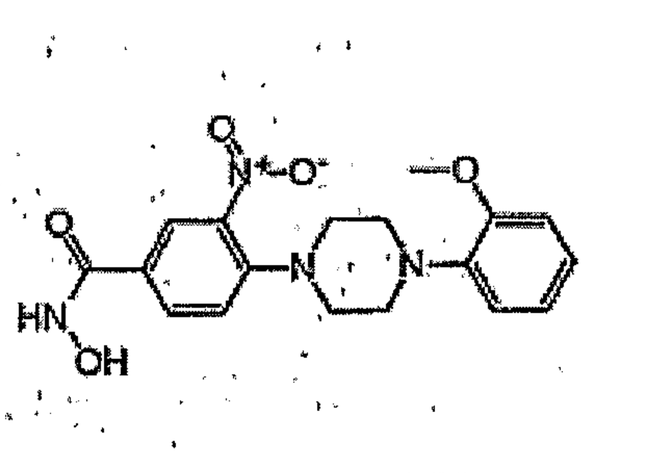


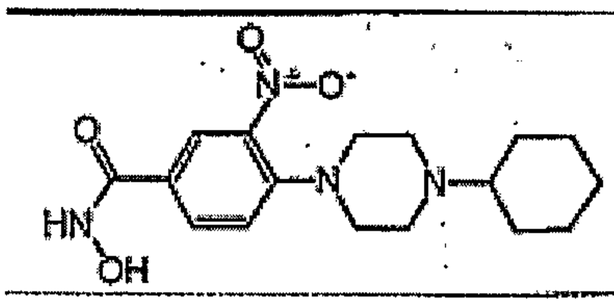


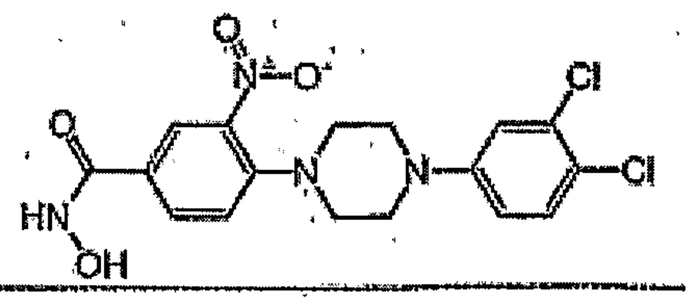


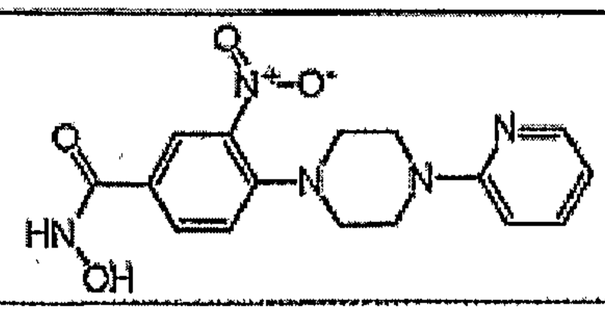


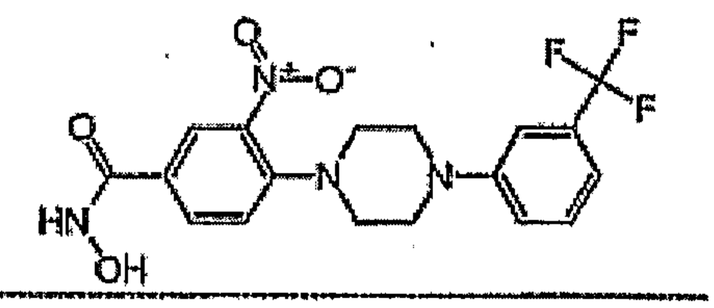


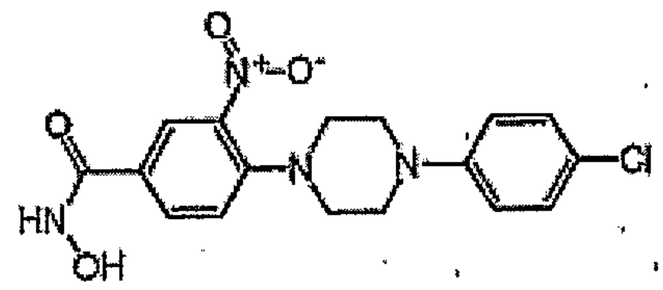


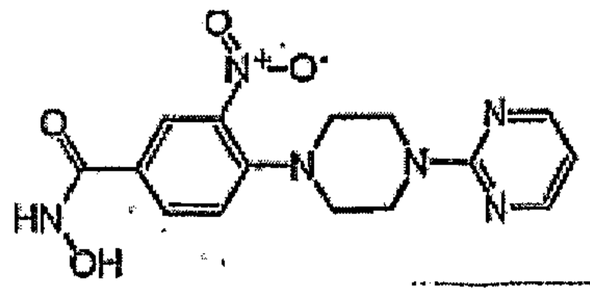


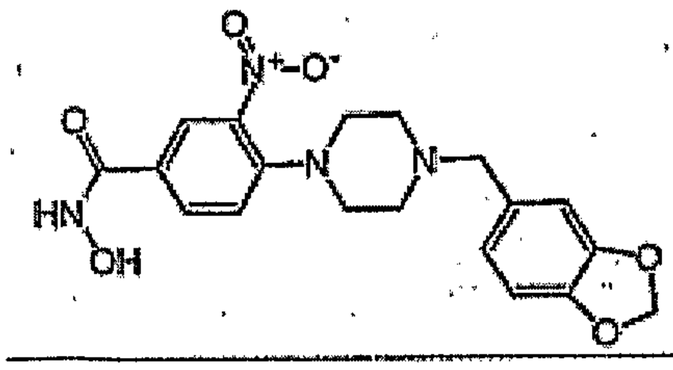


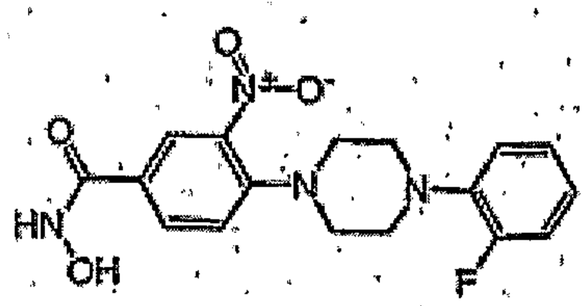


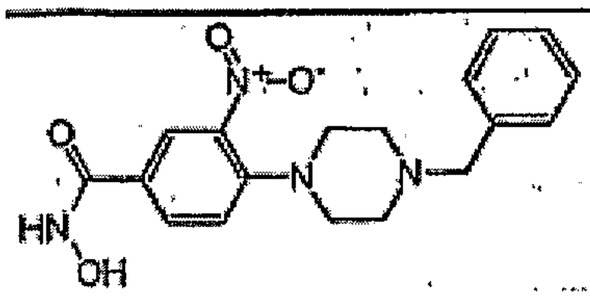


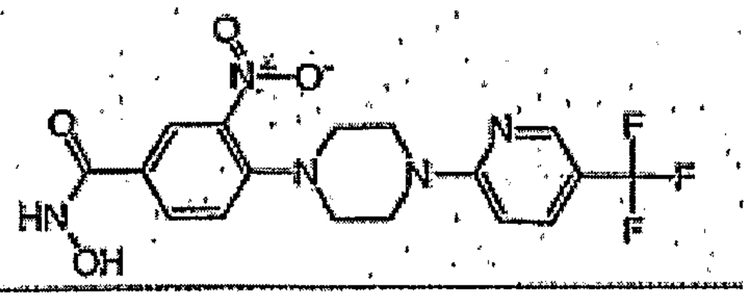


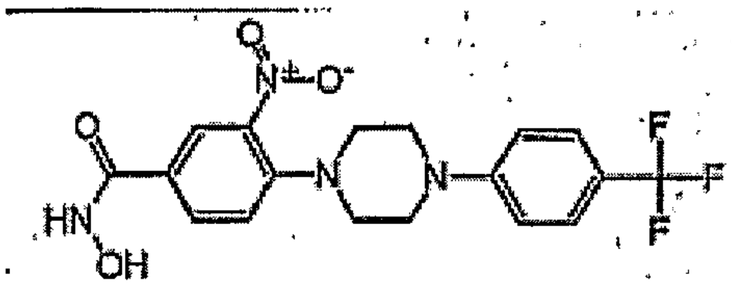


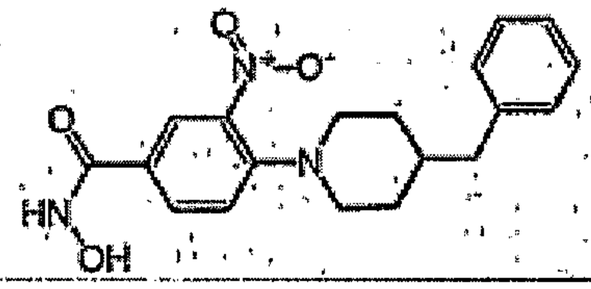


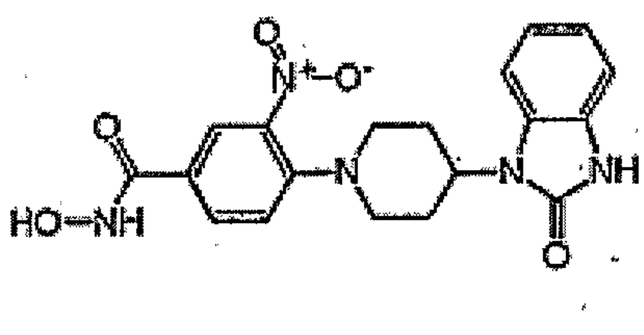


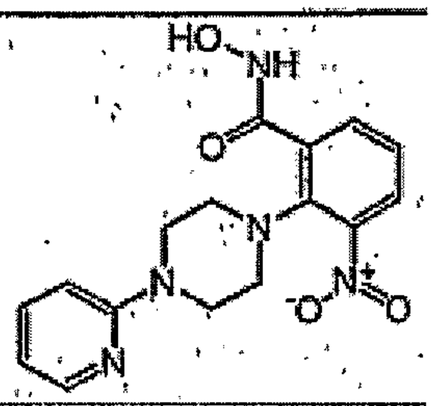


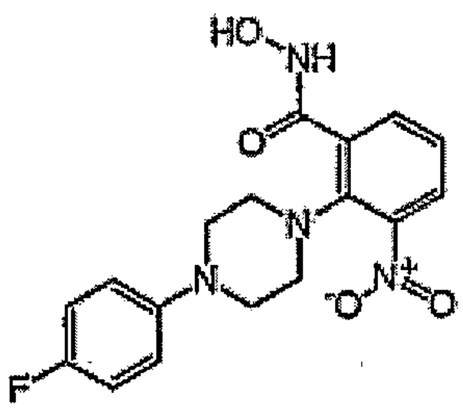


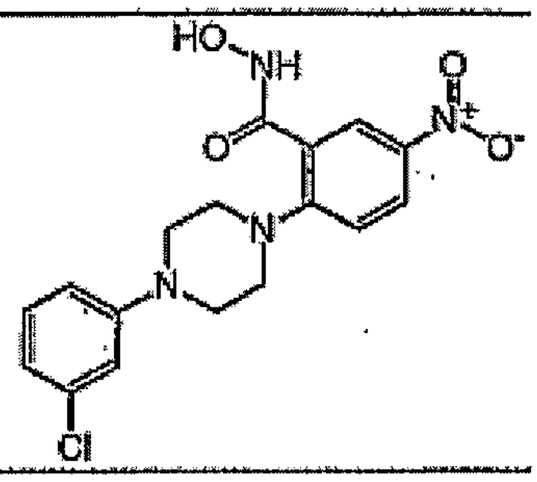


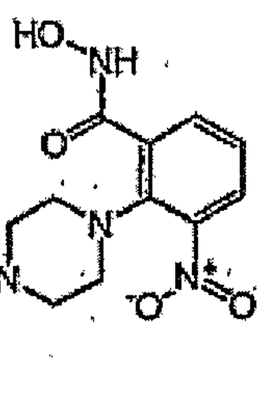


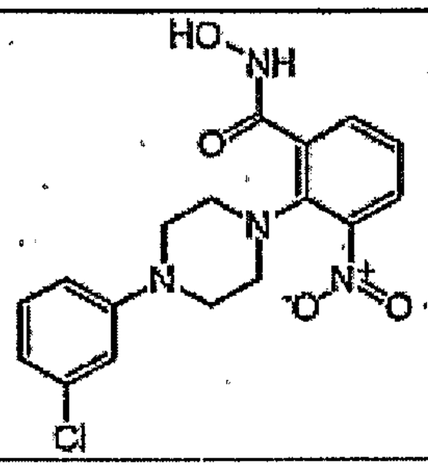


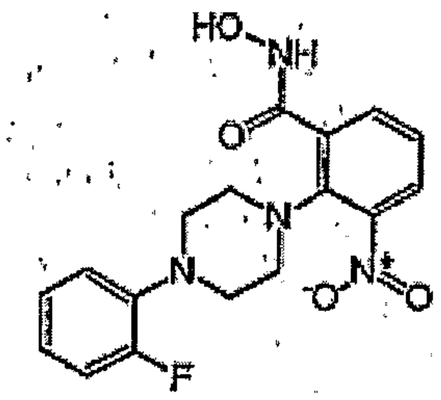


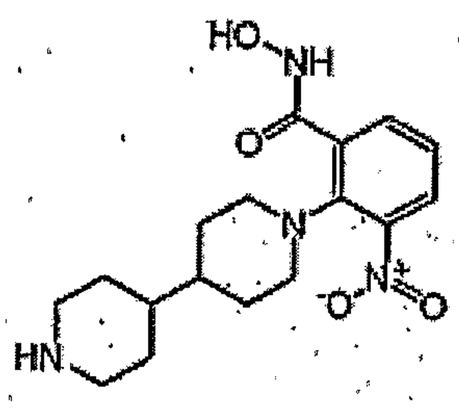


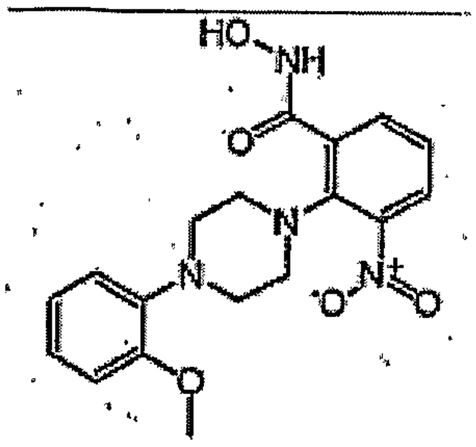


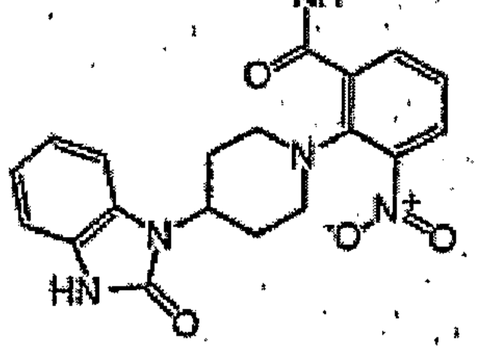


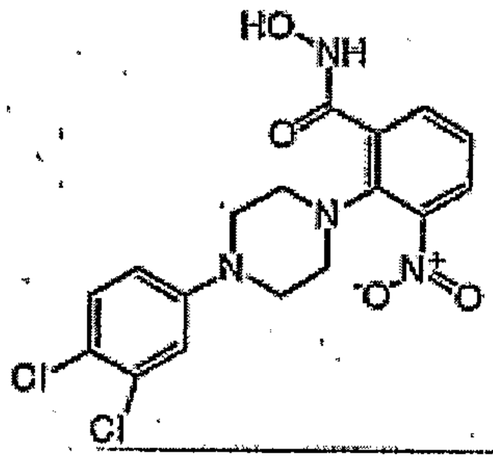


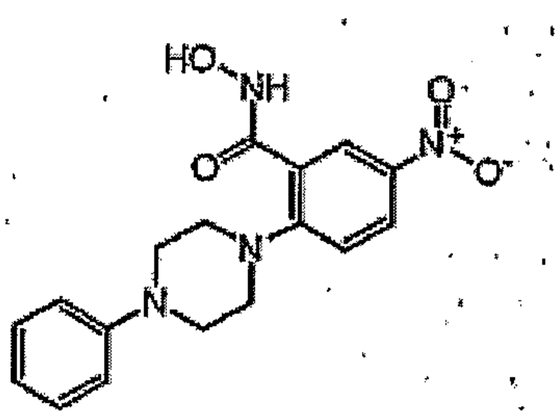


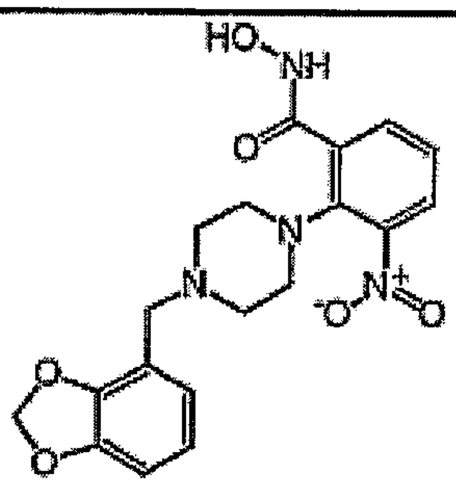


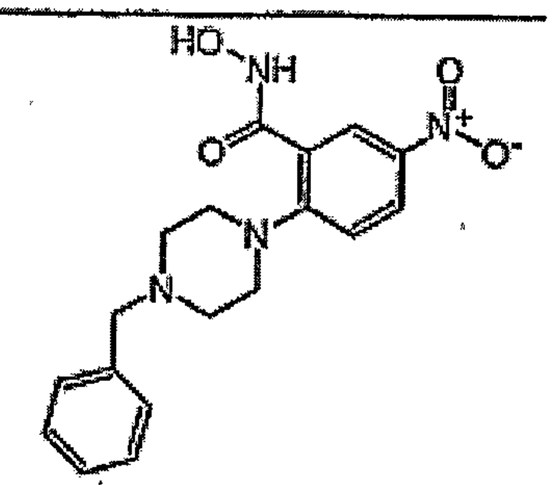


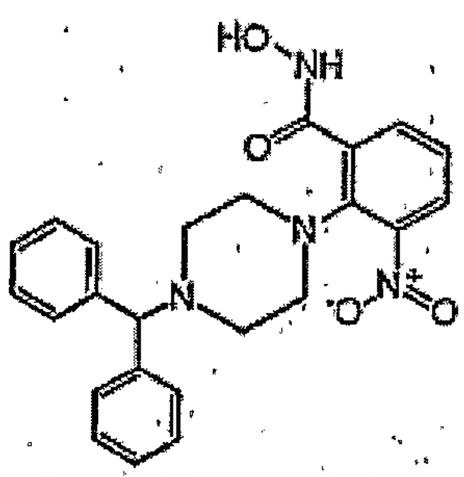


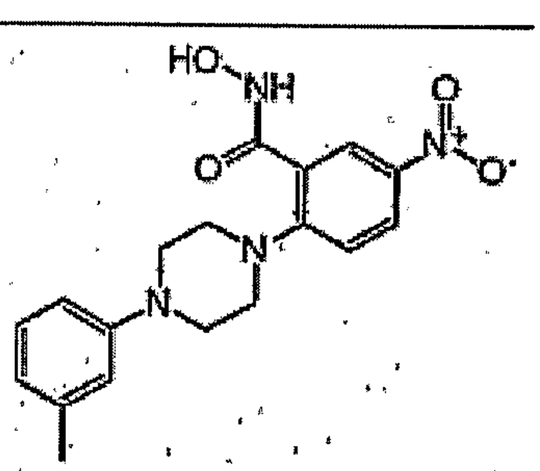


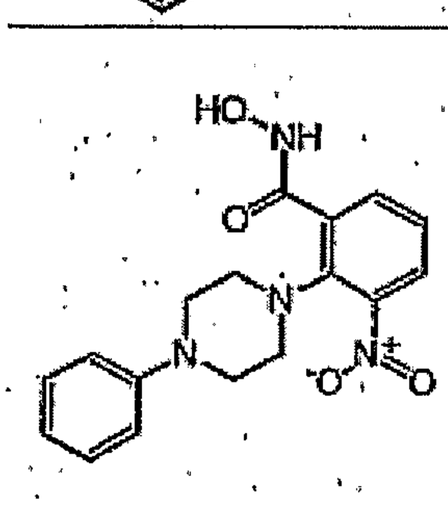


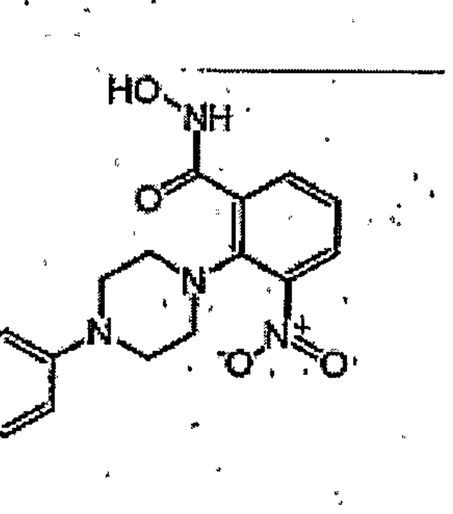


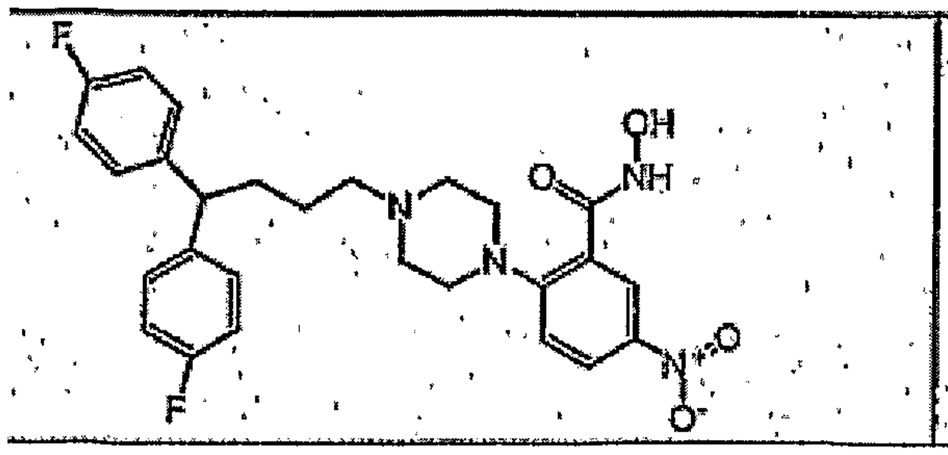


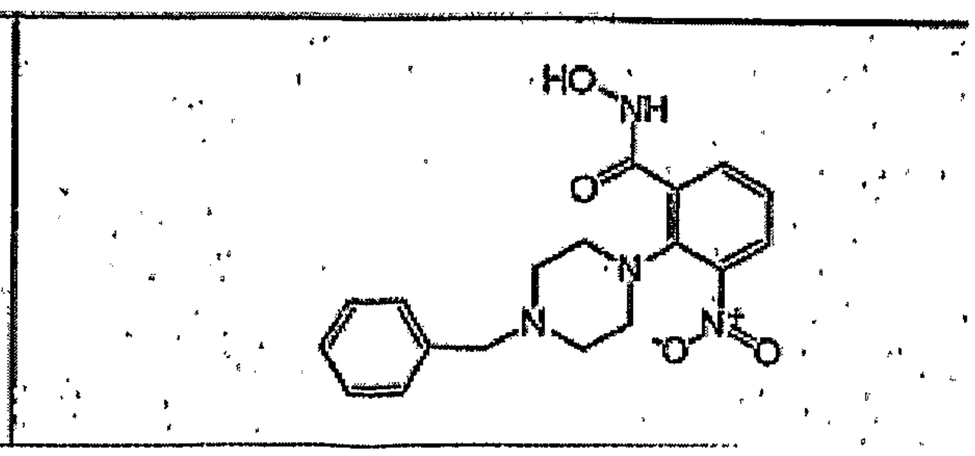


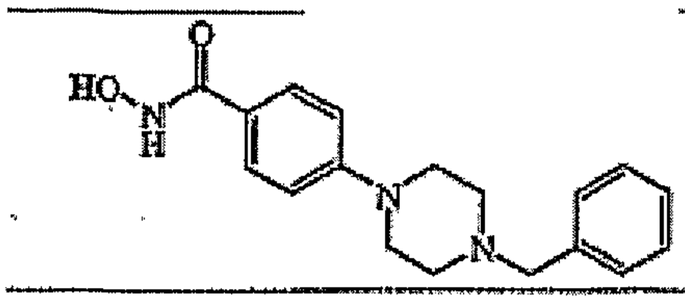


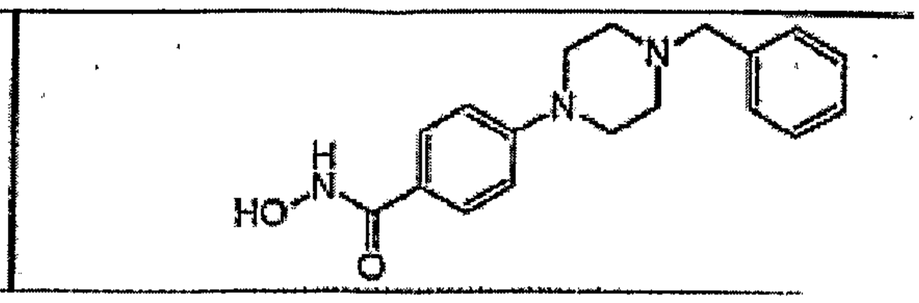


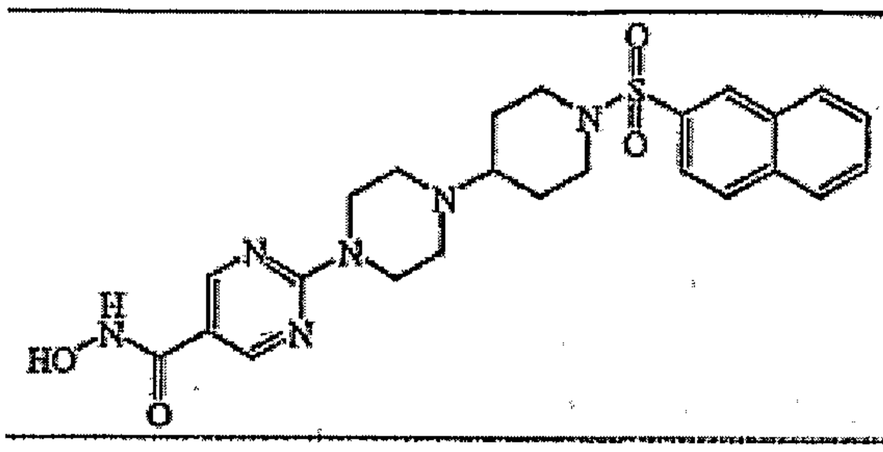


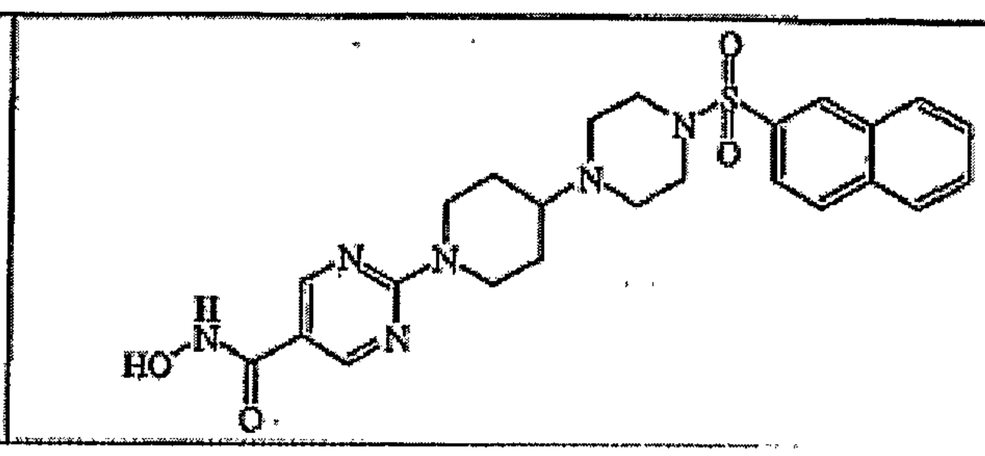


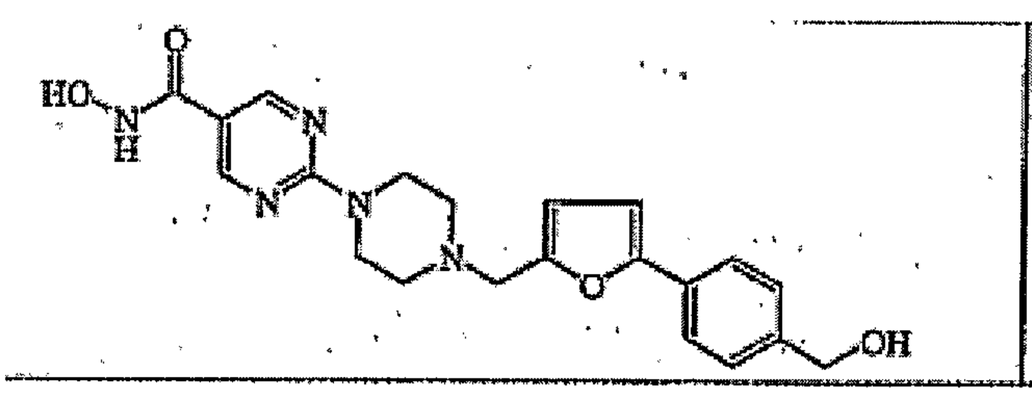


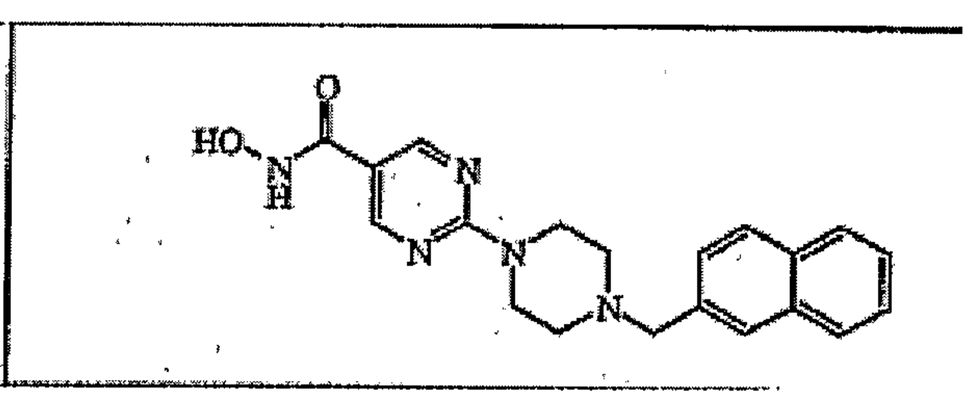


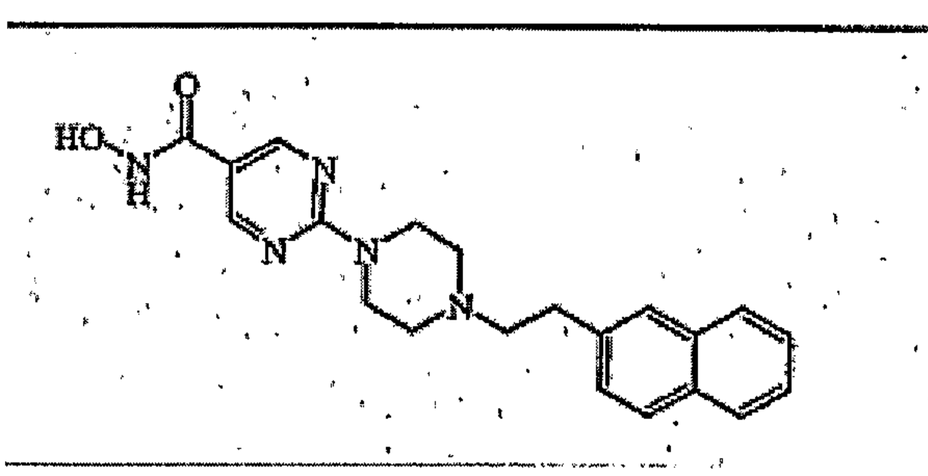


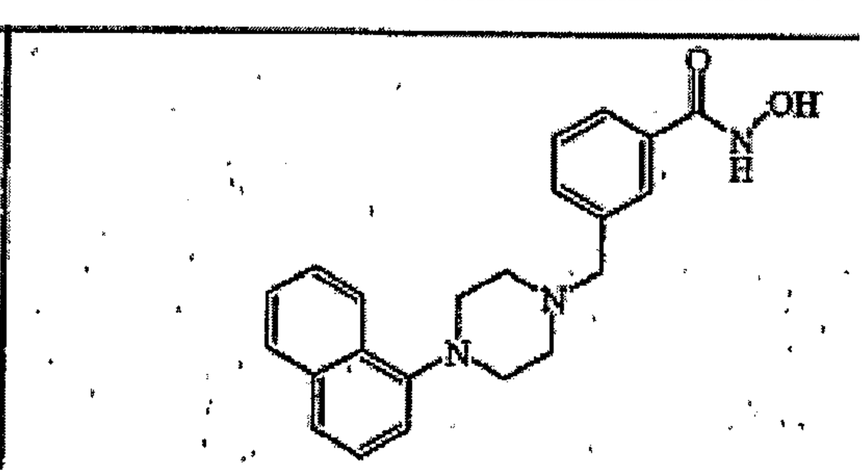


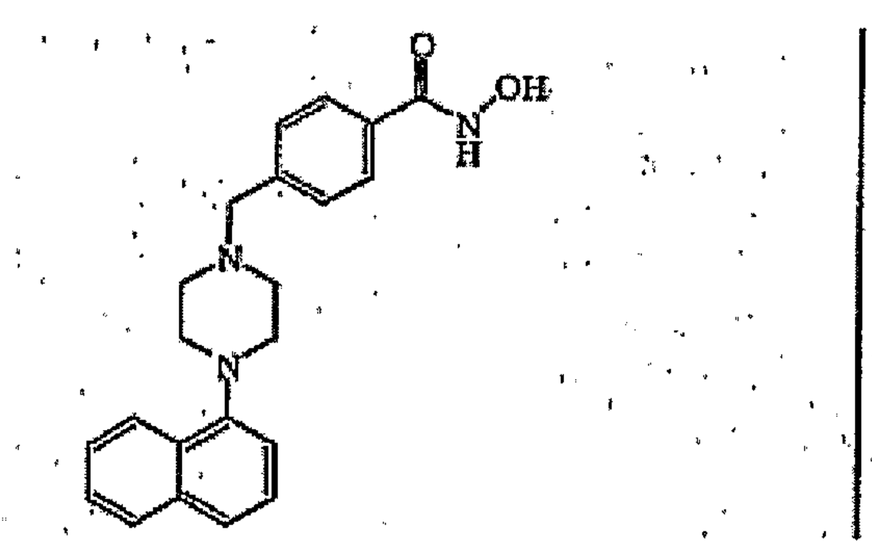


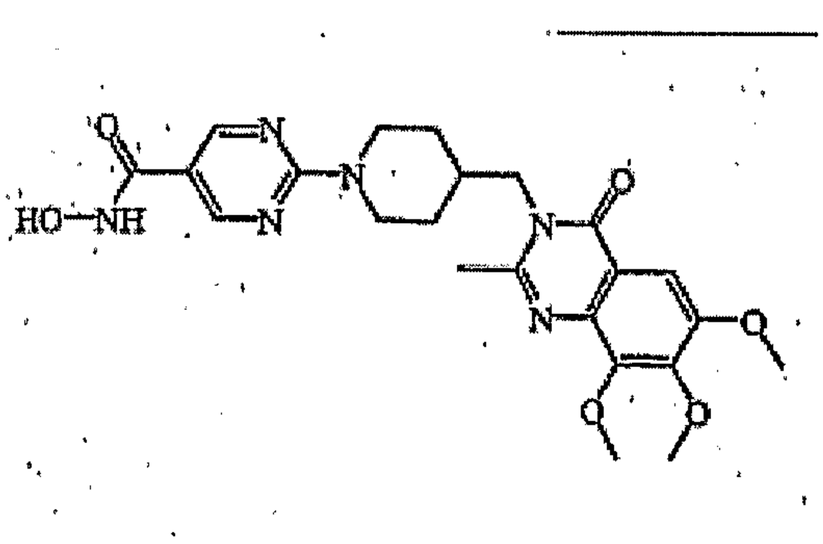


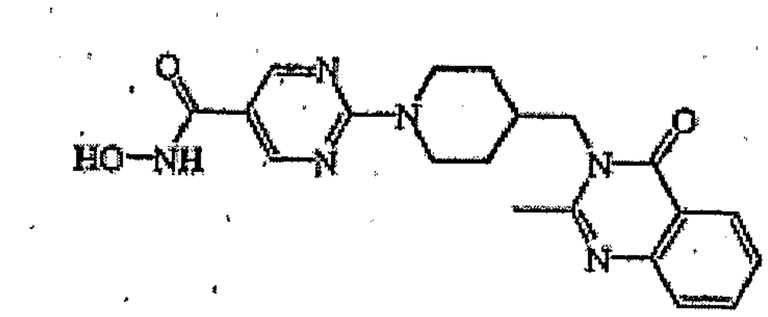


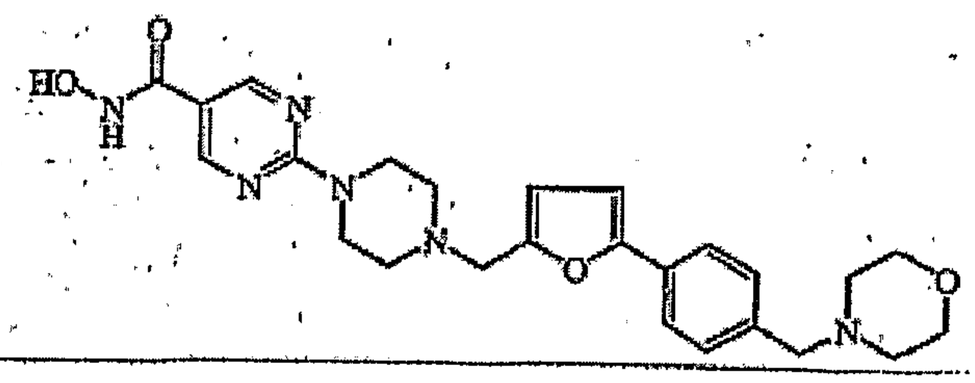


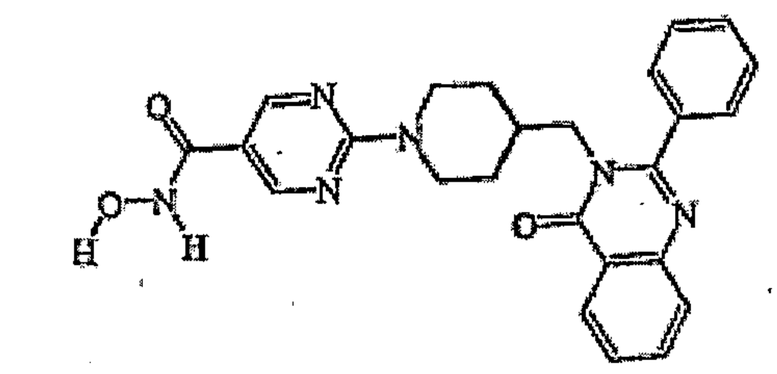


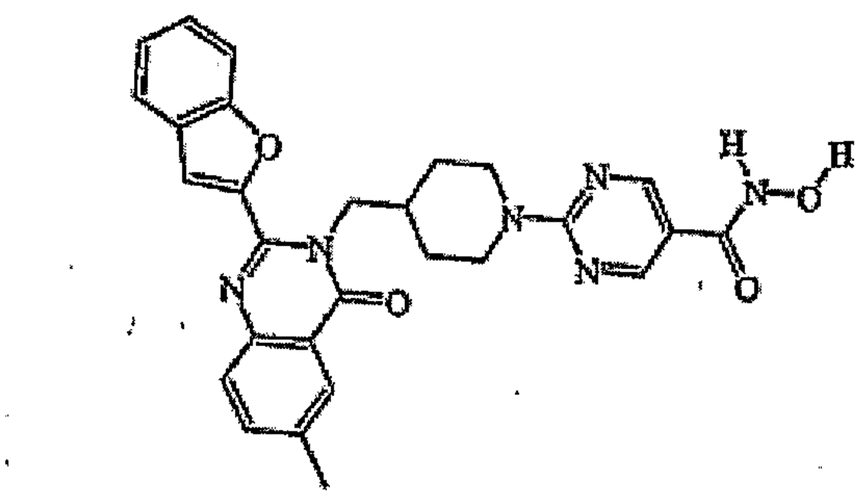


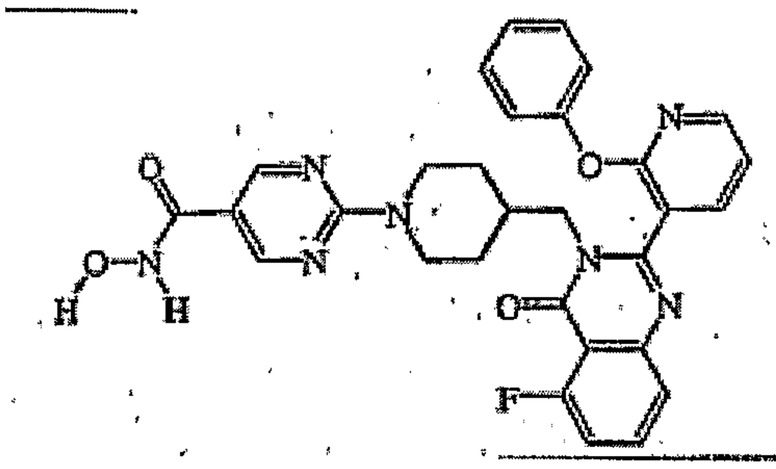


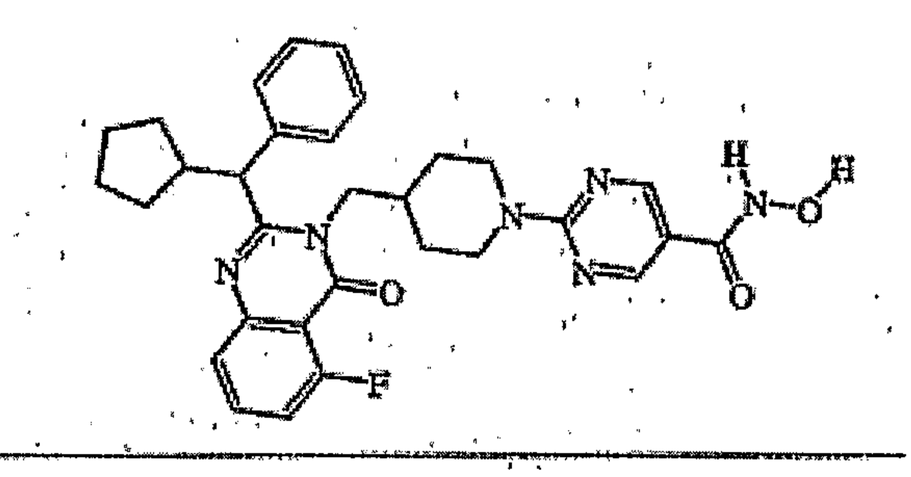




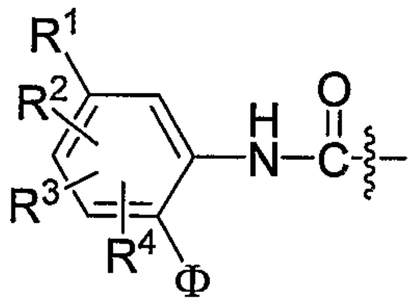








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

178. The compound of claim 172 wherein R^1, R^2, R^3, and R^4 are all H.

179. A compound according to claim 172 for use in inhibting histone deacetylase.

180. A compound according to calim 172 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

181. The compound of claim 180, wherein said treatment is effected by inhibiting histone deacetylase.

182. The compound of calim 180, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

183. The compound of claim 180, wherein said cell proliferative disease is cancer.

184. The compound of claim 183, wherein said cancer is a solid tumor cancer.

185. The compound of claim 183, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

186. A pharmaceutical composition comprising a compound according to claim 172 and a pharmaceutically acceptable carrier.

187. The pharmaceutical composition of claim 186 further comprising a nucleic acid level inhibitor of histone deacetylase.

188. The pharmaceutical composition of claim 187, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

189. The pharmaceutical composition of claim 188, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

190. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 172.

191. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 186.

192. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 187.

193. The method of claim 191, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

194. The method of claim 191, wherein said cell proliferative disease is cancer.

195. The method of claim 194, wherein said cancer is a solid tumor cancer.

196. The method of claim 195, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

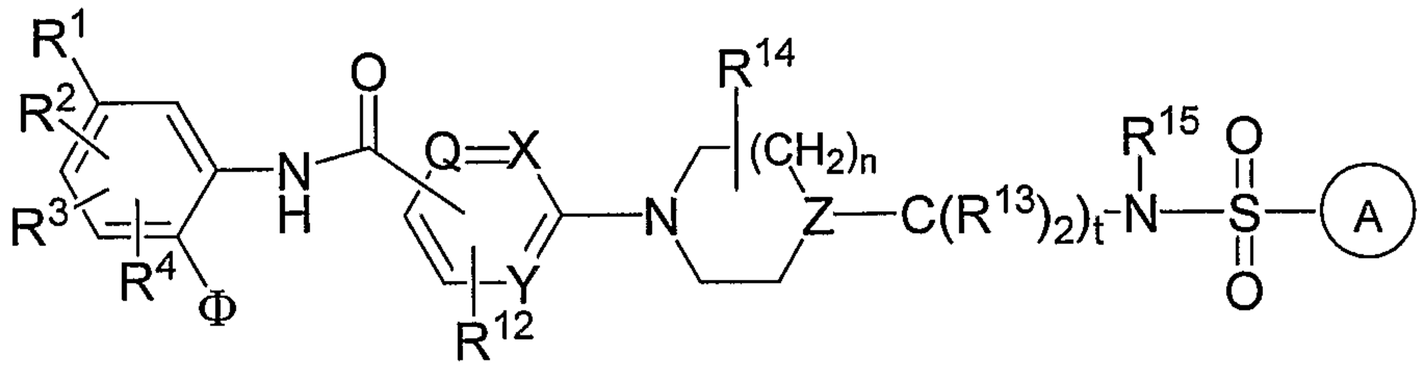
197. The method of claim 192, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

198. The method of claim 192, wherein said cell proliferative disease is cancer.

199. The method of claim 198, wherein said cancer is a solid tumor cancer.

200. The method of claim 199, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

201. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

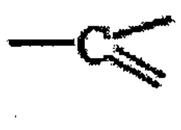
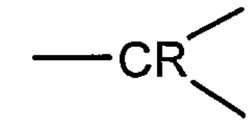
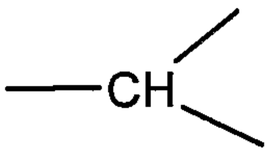
Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in claim 1;

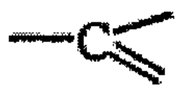
R^2, R^3, and R^4 are as defined in claim1;

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-

arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

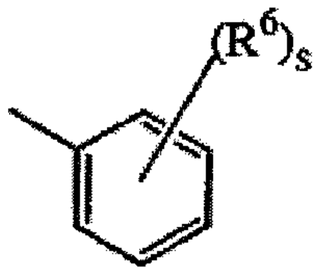
each R^{12} ıydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

each R^{13} independently represents a hydrogen atom and one hydrogen atom can be replaced by a substituent selected from aryl;

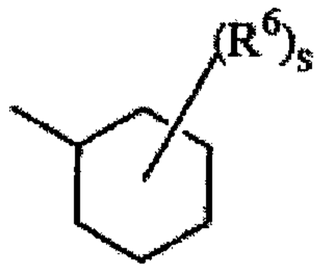
R^{14} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^{15} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;

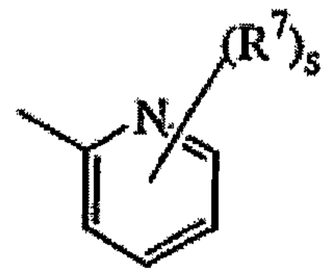
—(A) is a radical selected from



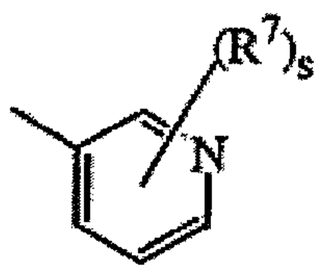
(a-1)



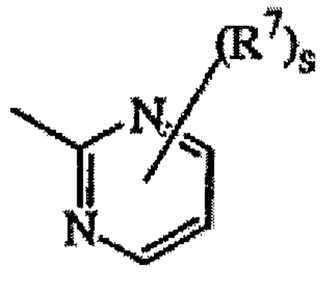
(a-2)



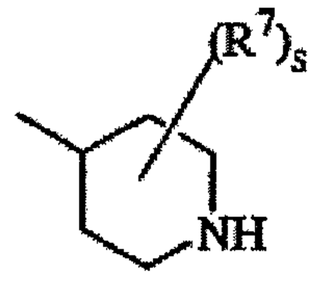
(a-3)



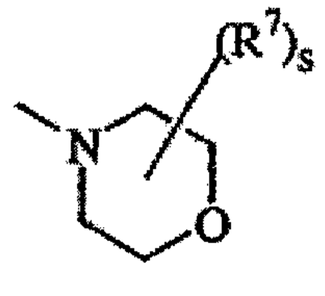
(a-4)



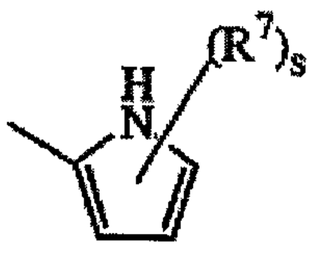
(a-5)



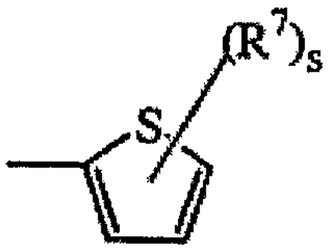
(a-6)



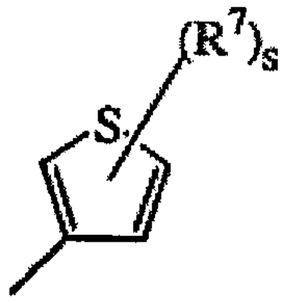
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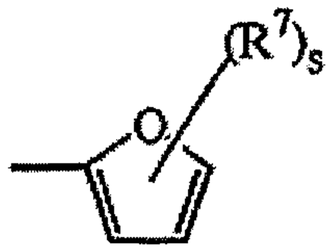
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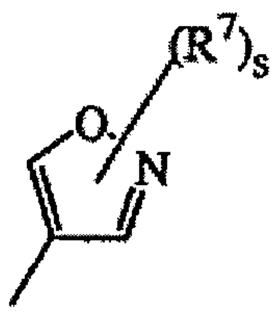
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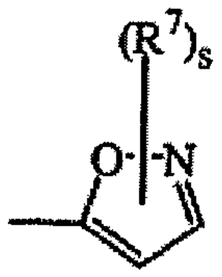
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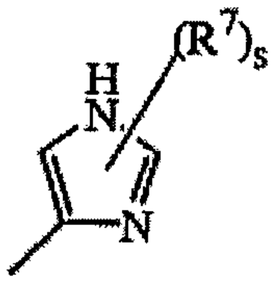
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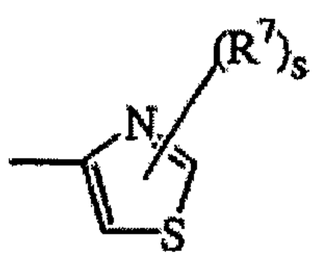
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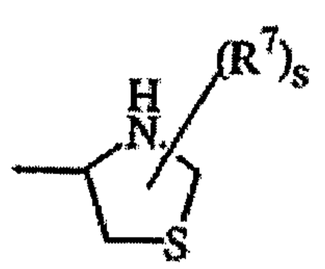
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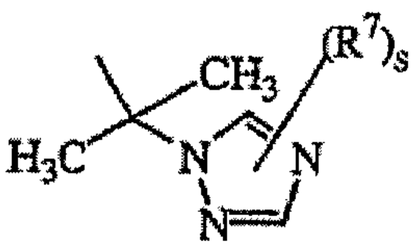
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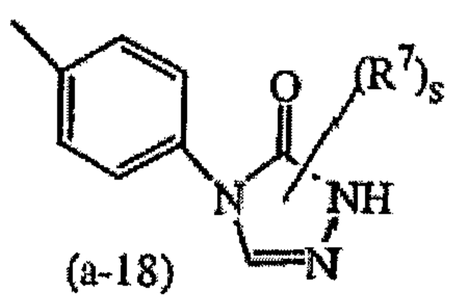
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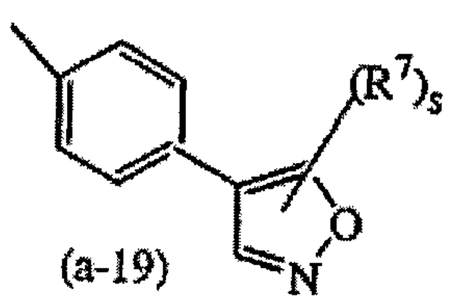
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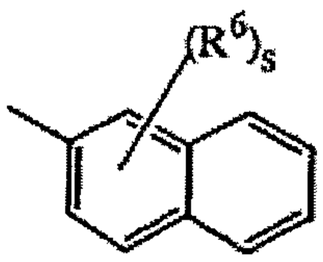
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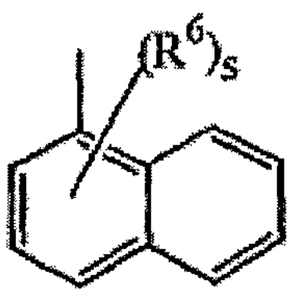
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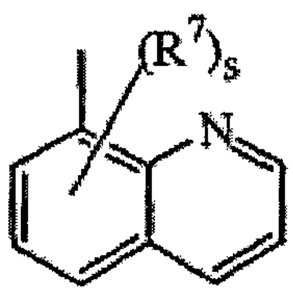
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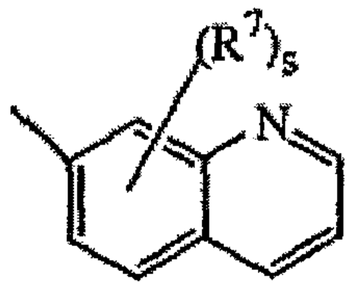
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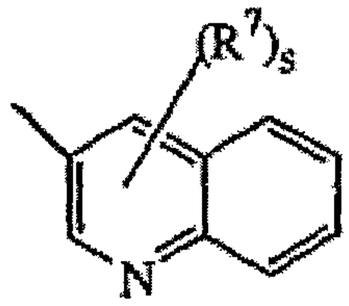
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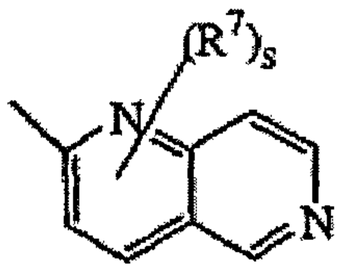
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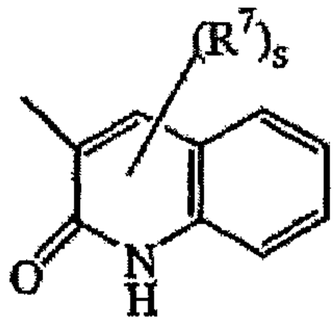
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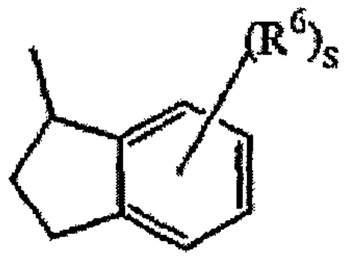
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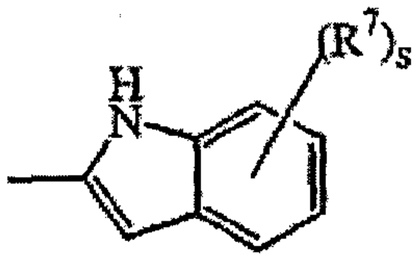
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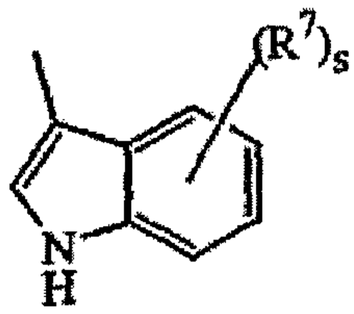
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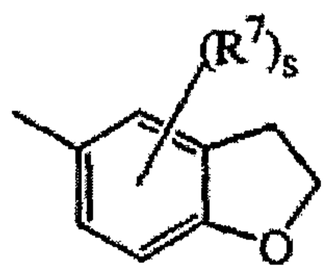
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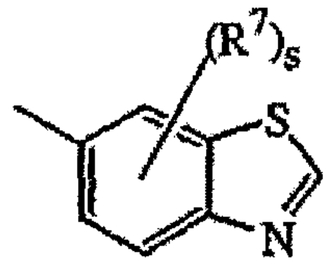
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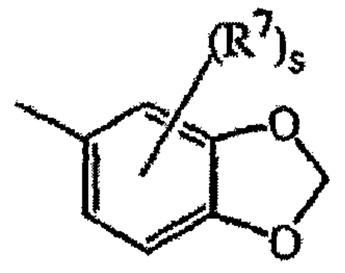
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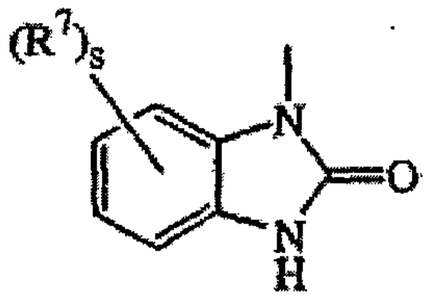
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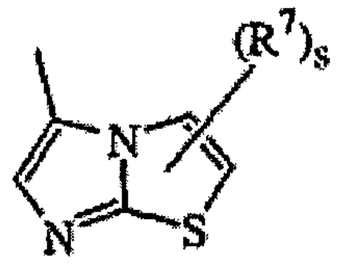
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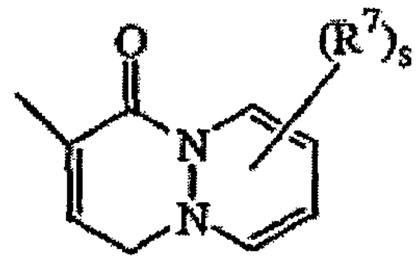
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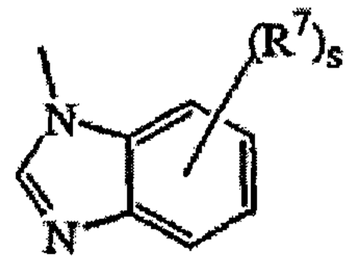
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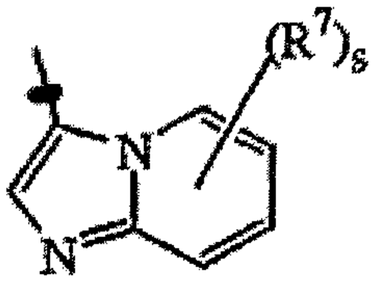
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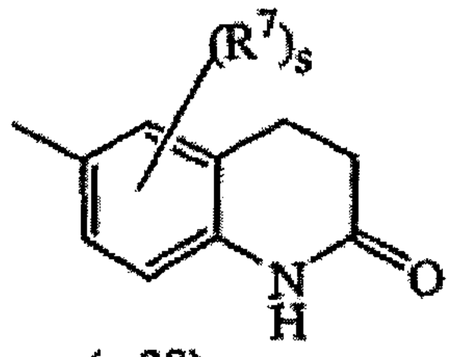
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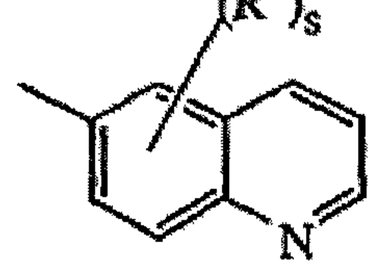
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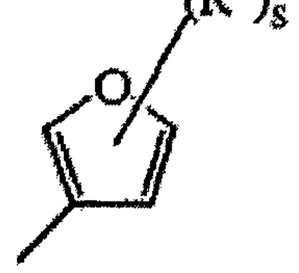
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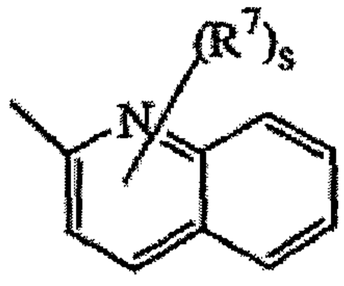
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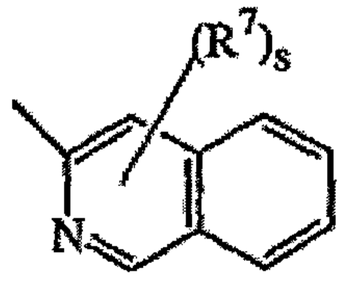
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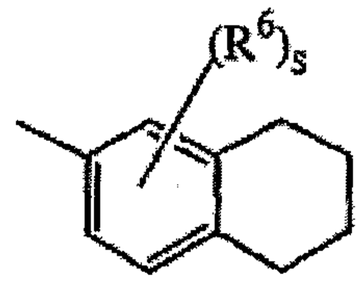
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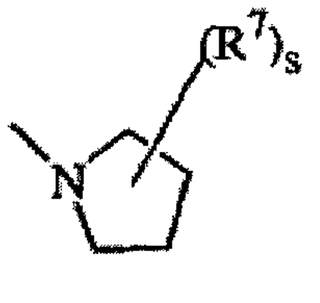
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(a-42)



(a-43)



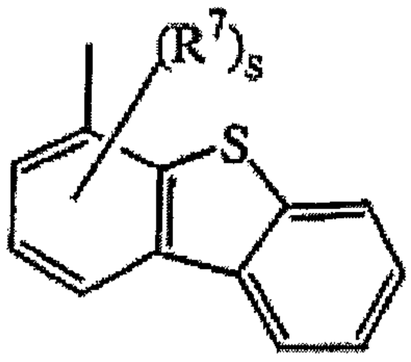
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(a-45)

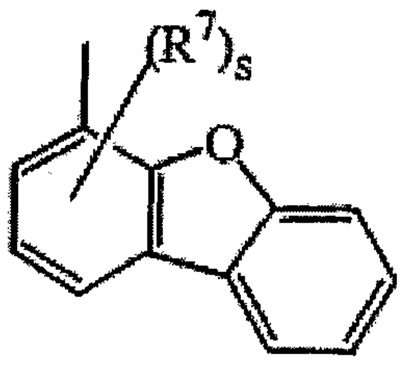
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(a-47)

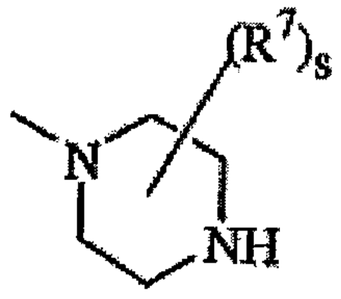
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl;

thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl,

hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl,
hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl,
di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl,
C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl,
hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl;

C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy,

hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl,

di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl,

di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl,

(hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

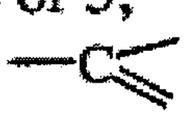
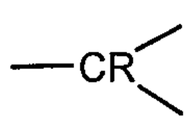
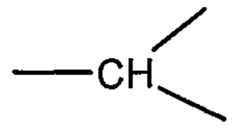
each R^6 and R^7 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

202. The compound of claim 201 wherein each of R^2, R^3, R^4 and R^5 corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in claim 201 wherein:

n is 0, 1 or 2;

t is 0, 1, 2 or 3;

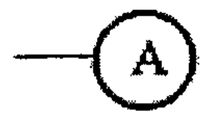
Q is  ,  , or  ;

R^2 is hydrogen, C_{1-6}alkyl or naphtalenylsulfonylpyrazinyl;

each R^3 independently represents a hydrogen atom;

R^4 is hydrogen, hydroxy, hydroxyC_{1-6}alkyl or C_{1-6}alkyloxy;

R^5 is hydrogen, C_{1-6}alkyl, hydroxyC_{1-6}alkyl or C_{1-6}alkyloxyC_{1-6}alkyl;

 is a radical selected from (a-1), (a-7) or (a-20);

each s is independently 0 or 1;

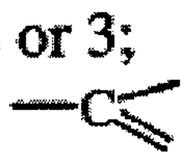
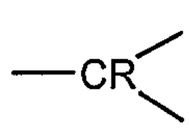
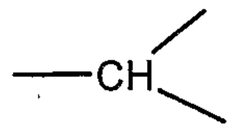
each R^6 is independently selected from hydrogen; thiophenyl; furanyl; benzofuranyl; phenyl; or phenyl substituted with one substituents independently selected from C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, C_{1-4}alkylsulfonyl or di(C_{1-4}alkyl)amino;

each R^7 is independently selected from hydrogen.

203. The compound of claim 201 wherein each of R^2, R^3, R^4 and R^5 corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, claim 201 wherein:

n is 1 or 2;

t is 0, 1, 2 or 3;

Q is  ,  , or  ;

R^2 is hydrogen or C_{1-6}alkyl;

each R^3 independently represents a hydrogen atom;

R^4 is hydrogen;

R^5 is hydrogen or C_{1-6}alkyloxyC_{1-6}alkyl;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

each R^6 is independently selected from hydrogen; thiophenyl; furanyl; benzofuranyl; phenyl; or phenyl substituted with one substituents independently selected from C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl or di(C_{1-4}alkyl)amino.

204. The compound of claim 201 wherein R^{12} is H.

205. The compound of claim 201 wherein each of R^2, R^3, R^4 and R^5 corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in claim 201 wherein:

t is 0;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^4 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^5 is hydrogen



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^7 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl;

C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

206. The compound of claim 201 wherein each of R^2, R^3, R^4 and R^5 corresponds to R^{12}, R^{13}, R^{14}, and R^{15}, respectively, in claim 201 wherein:

R^5 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alky or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

(A) is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8) (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

l) each R^6 and R^7 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl;

cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl;

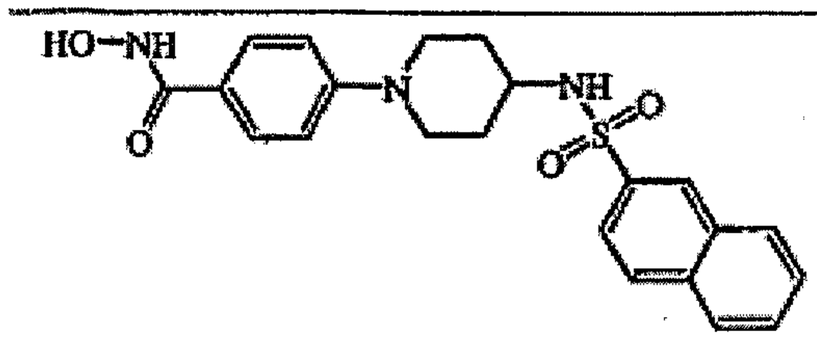
imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl;

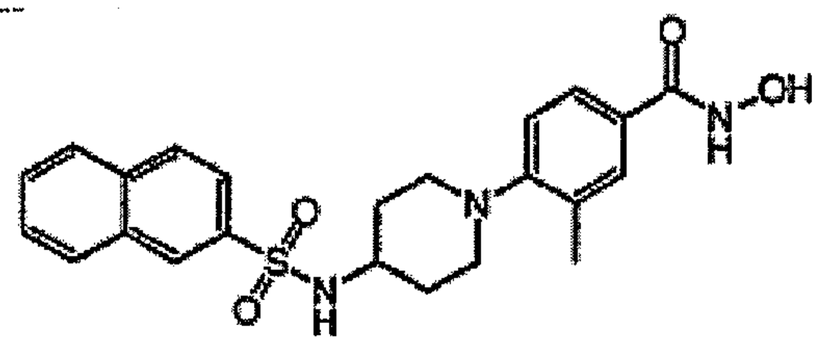
(hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl,

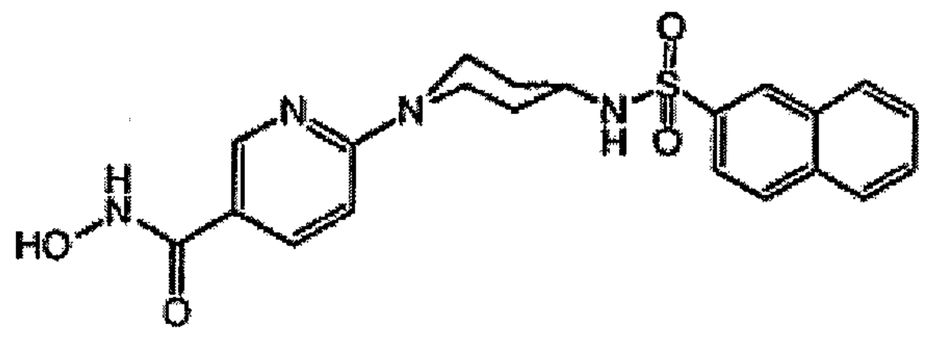
hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy,

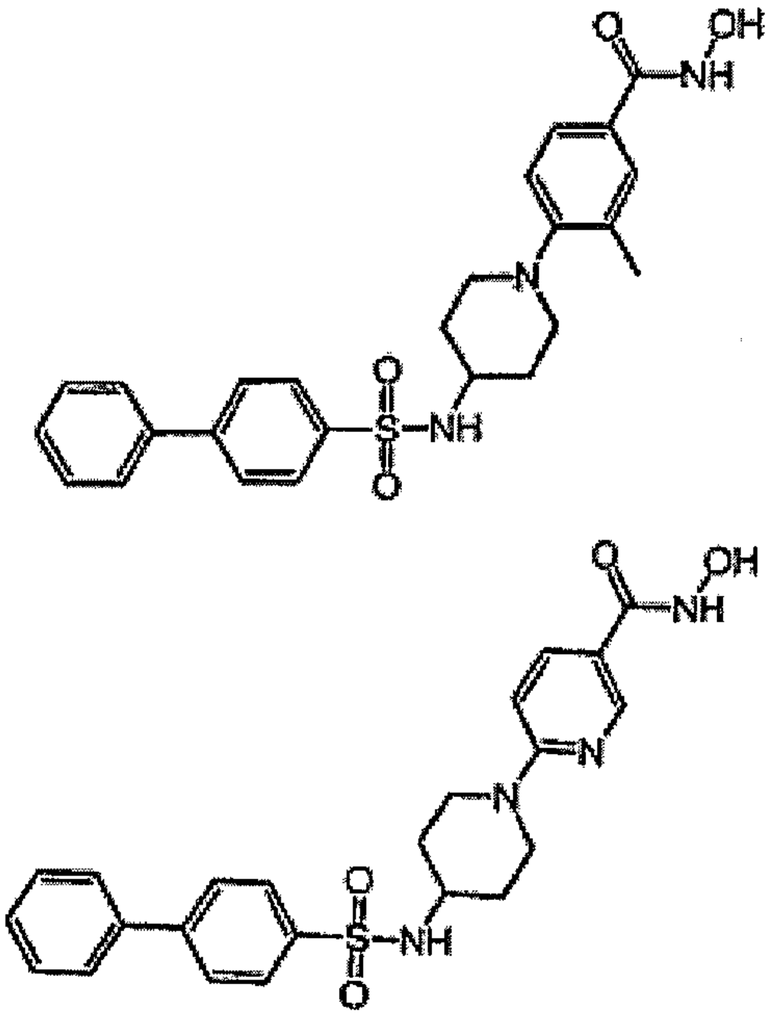
C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

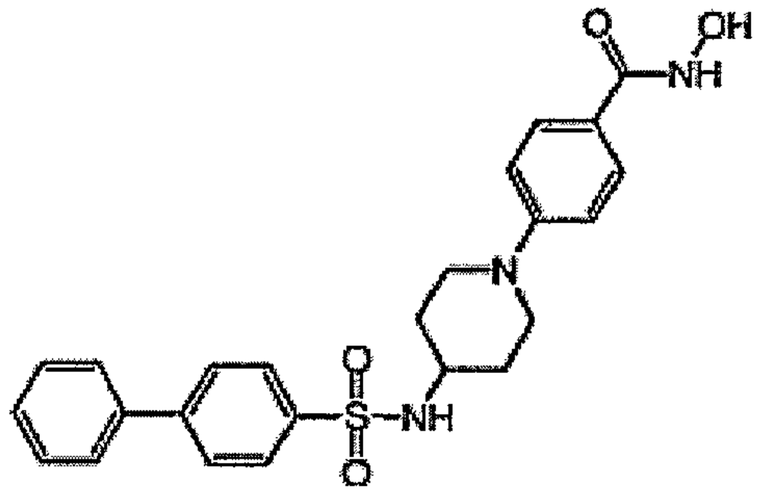
207. The compound of claim 201 that is selected from one of

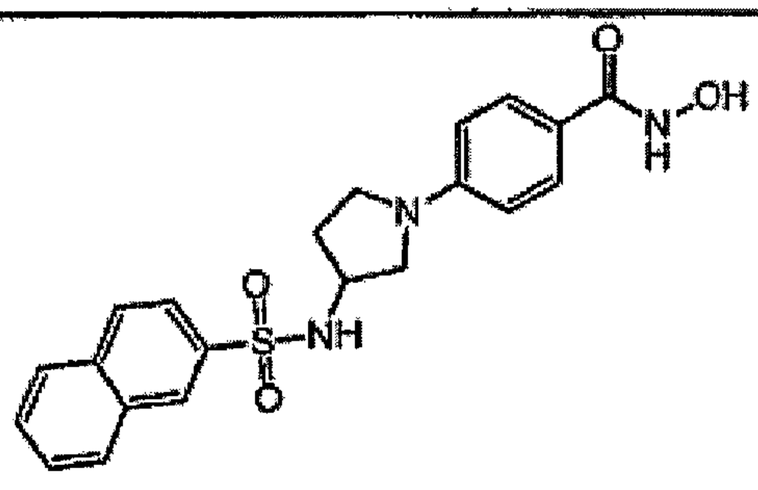


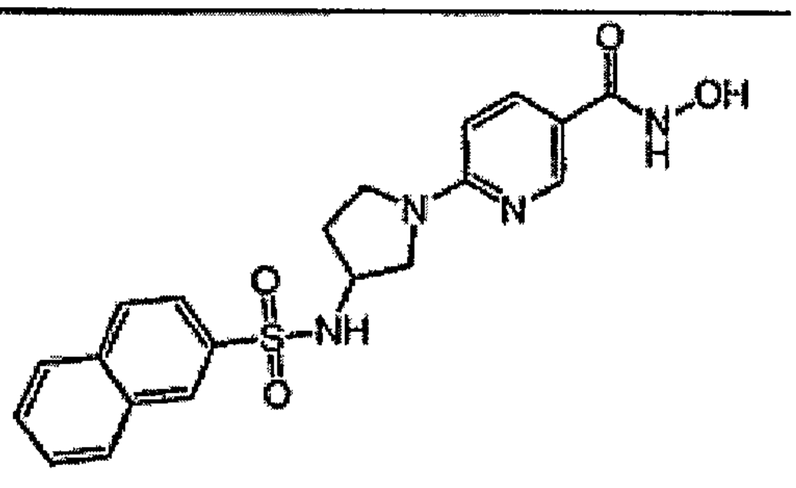


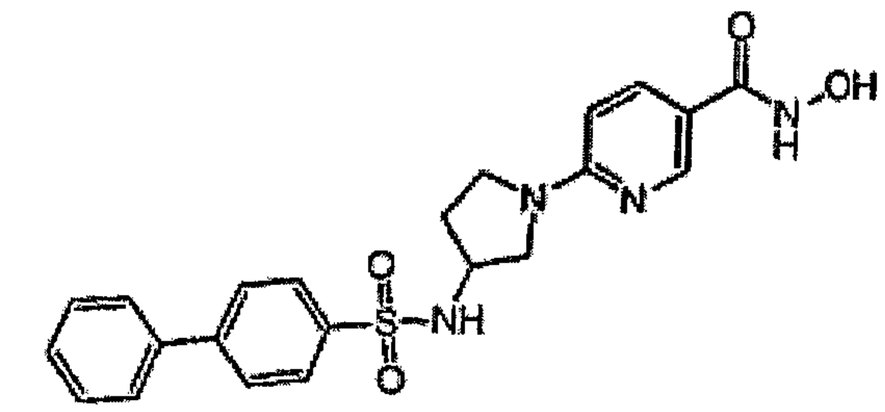


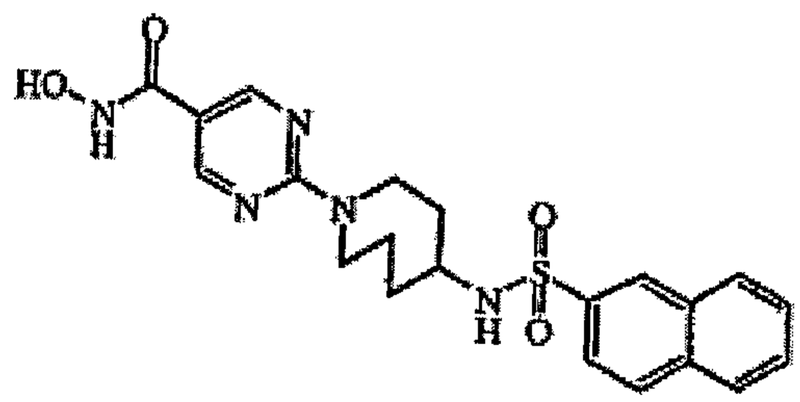


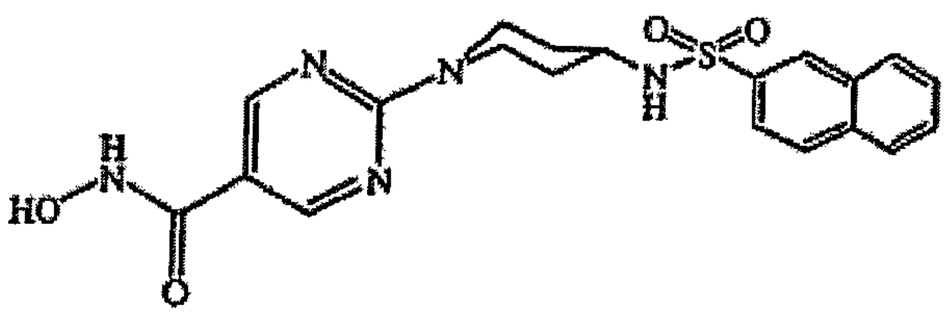


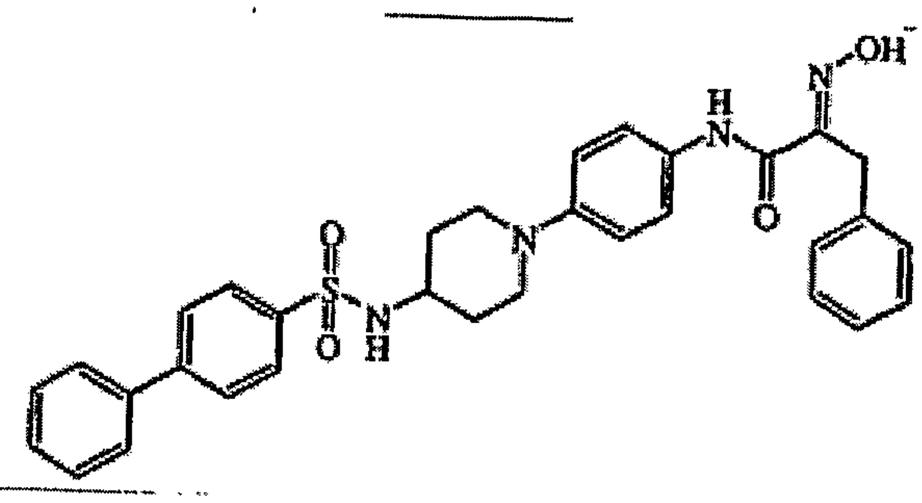


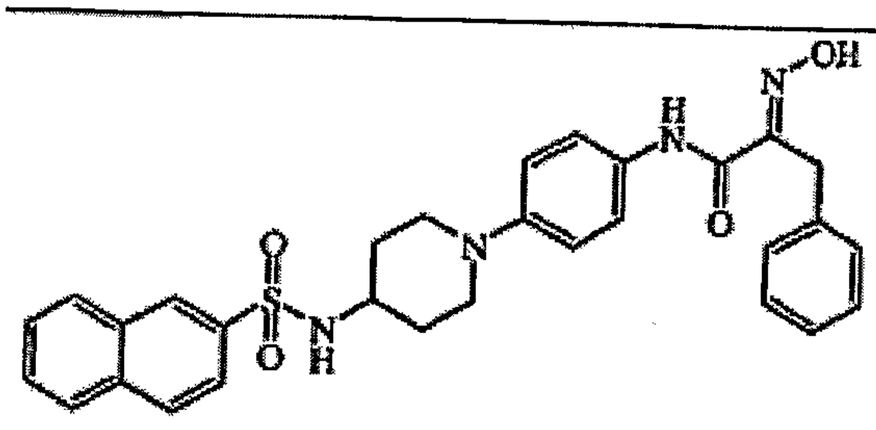


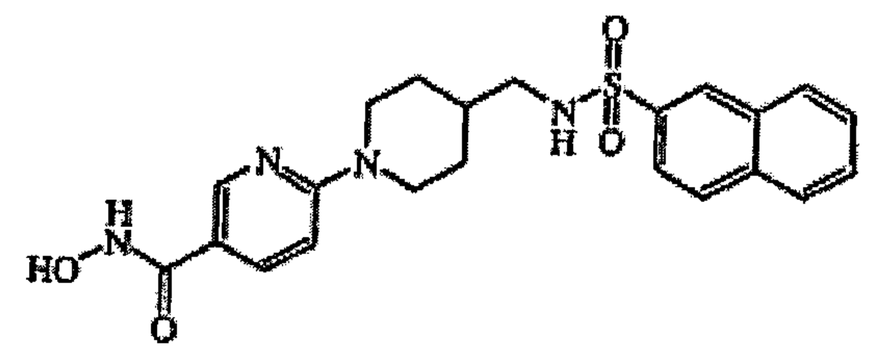


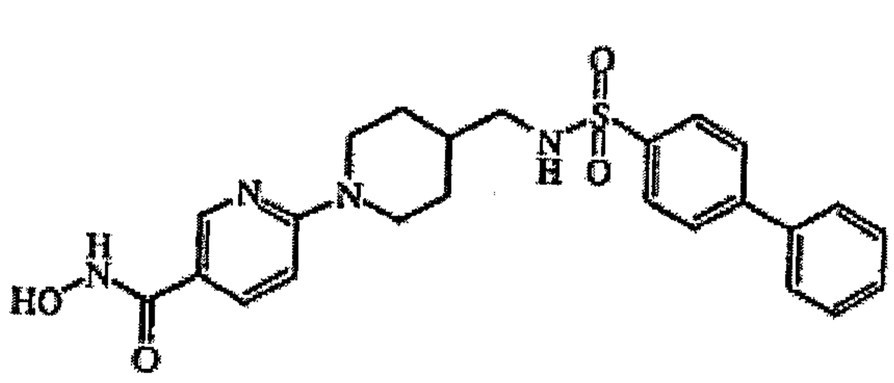


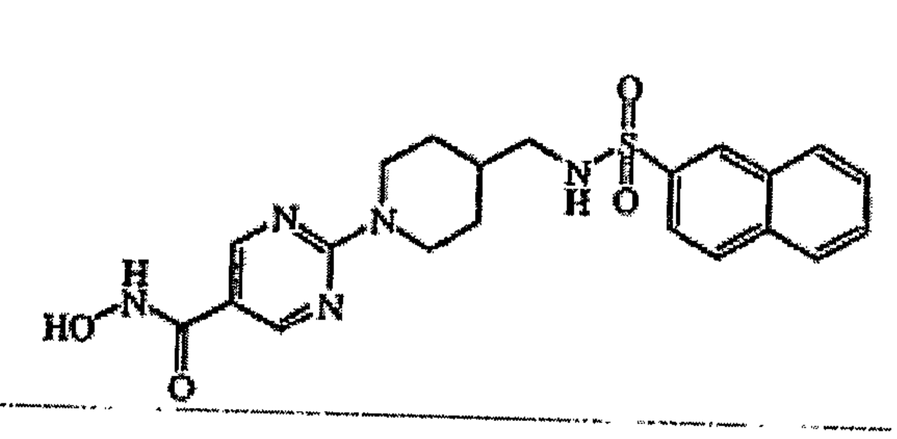


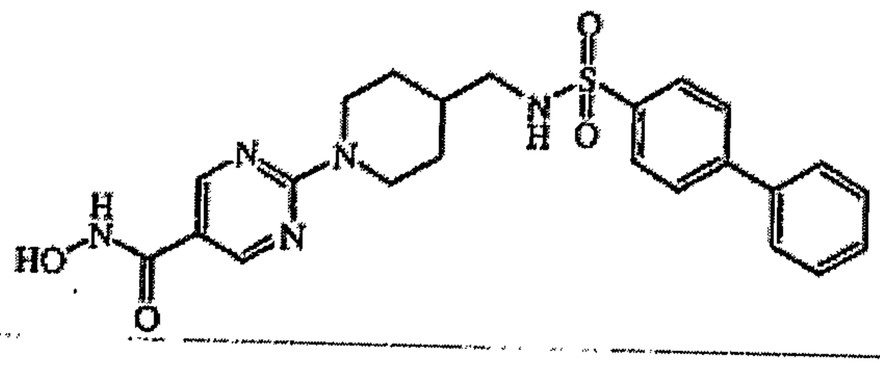


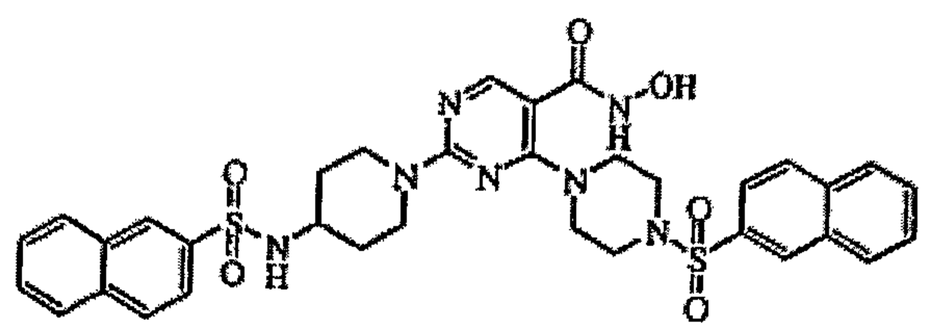


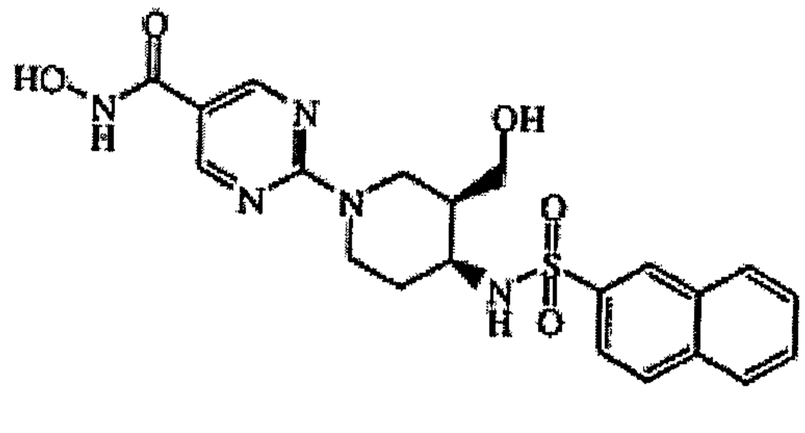


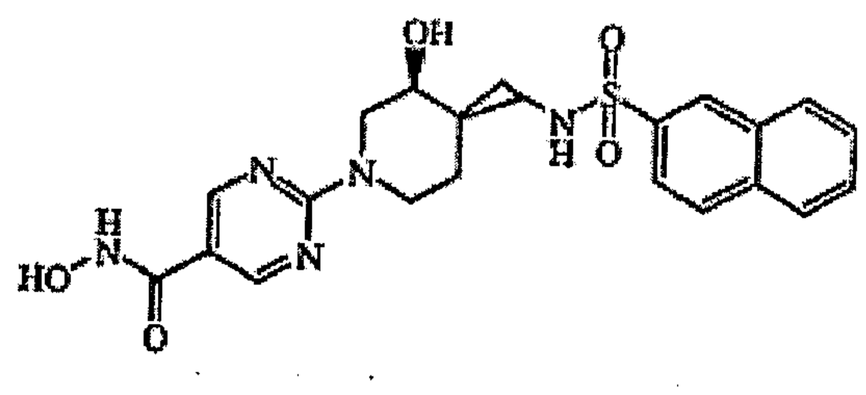


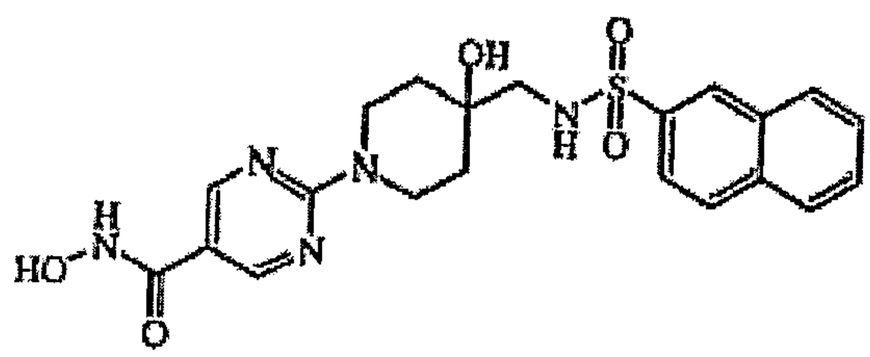


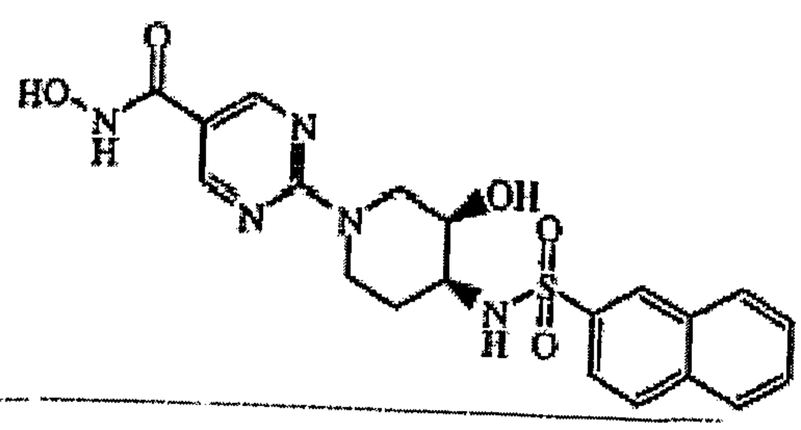


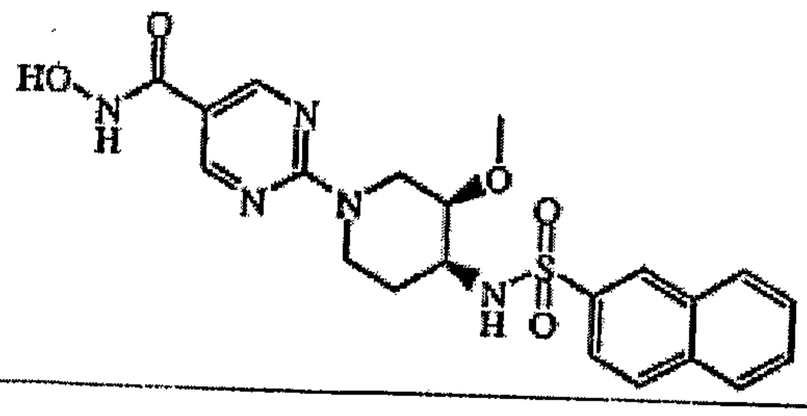


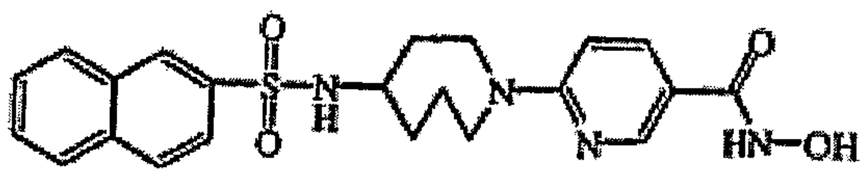


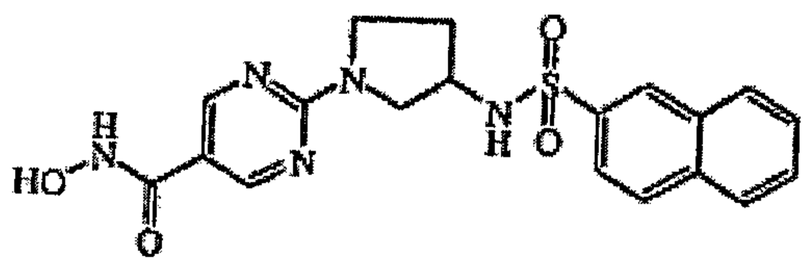


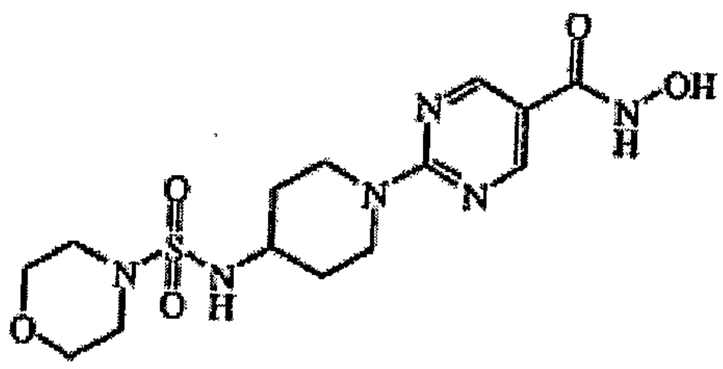


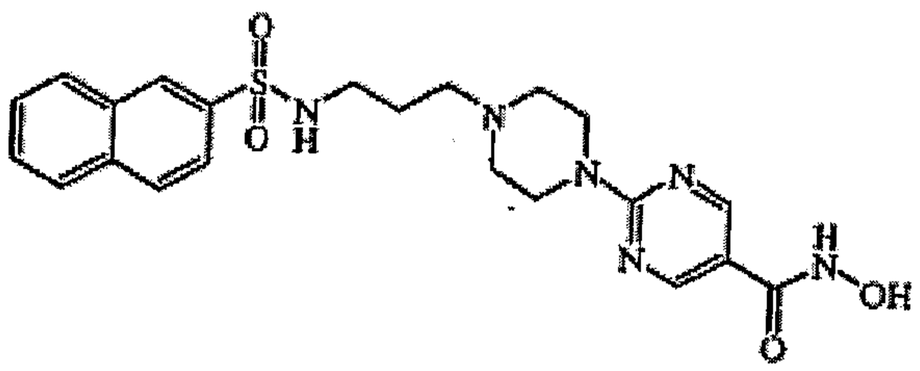


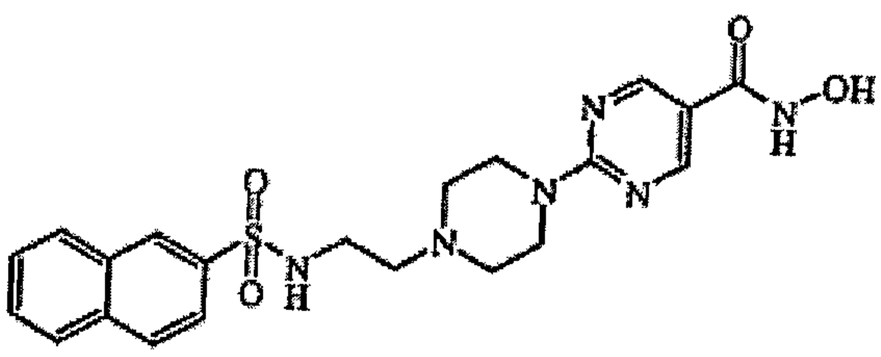


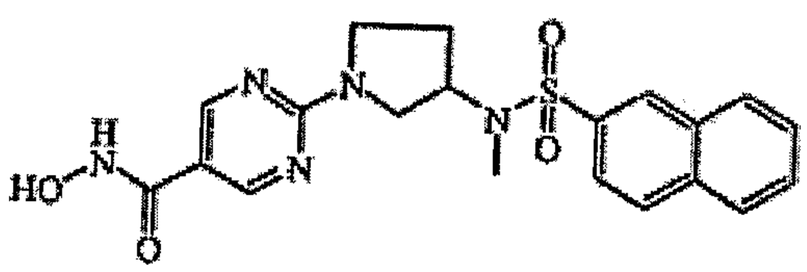


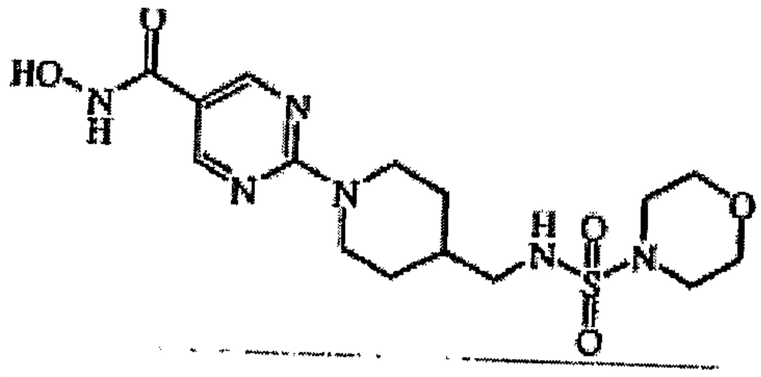


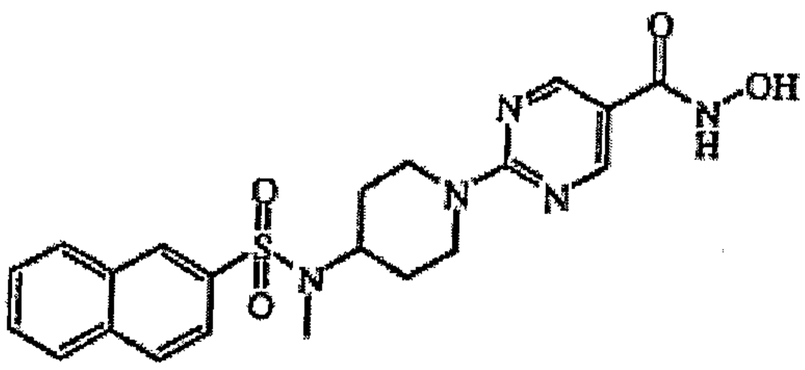


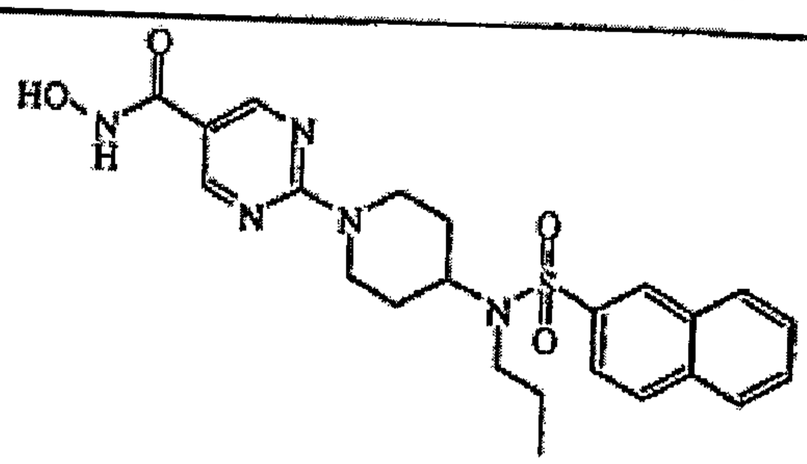


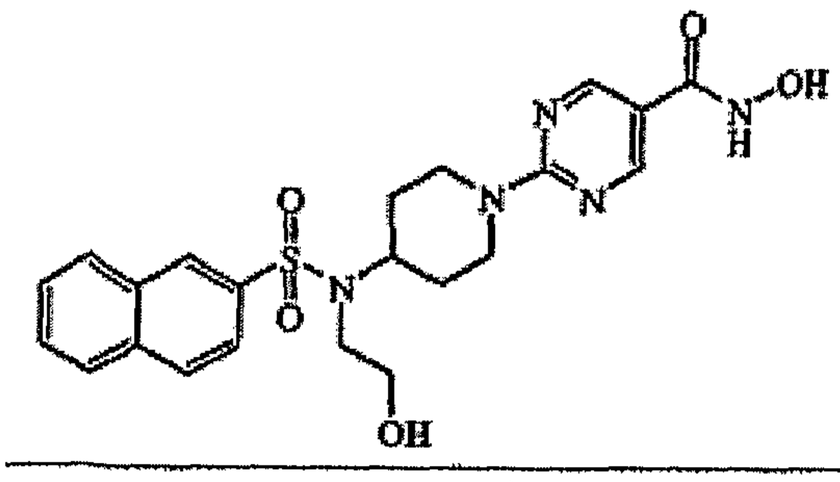


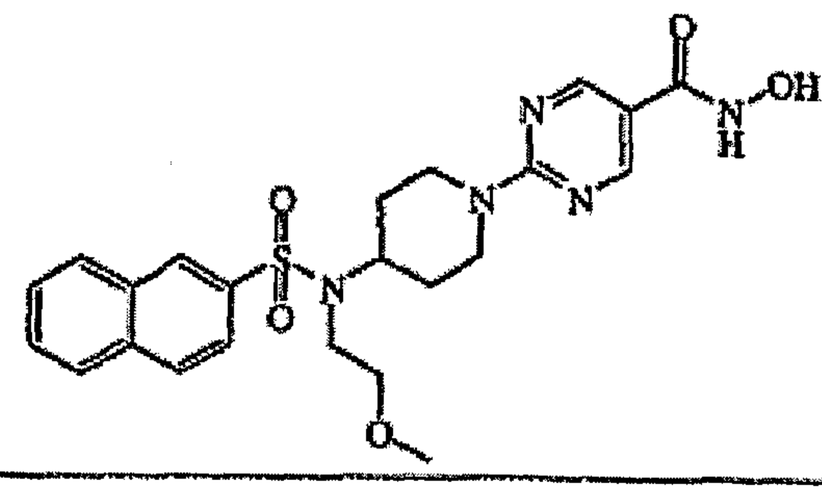


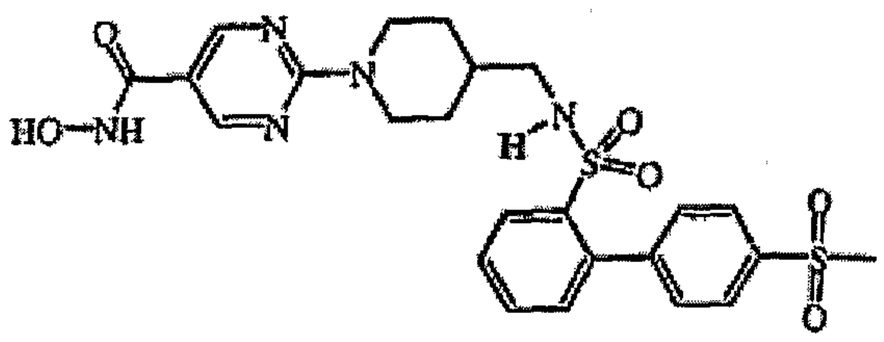


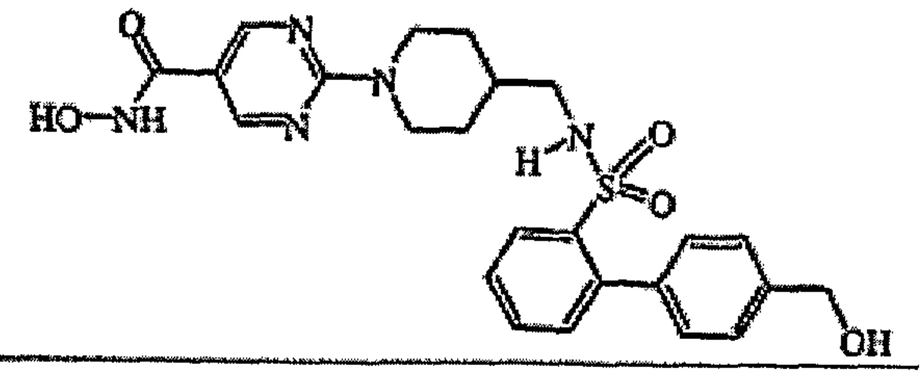


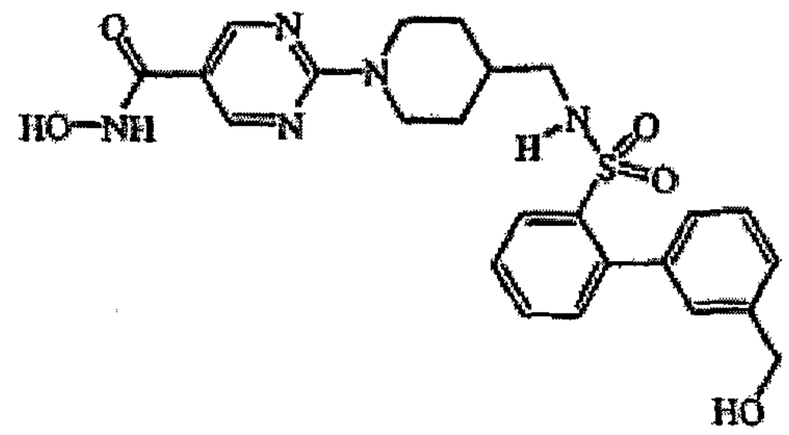


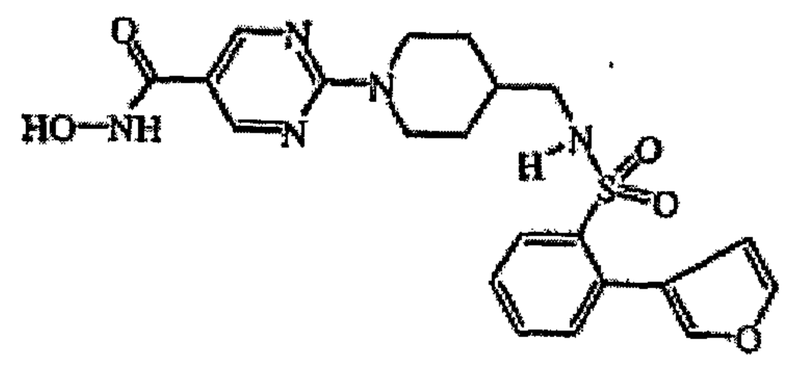


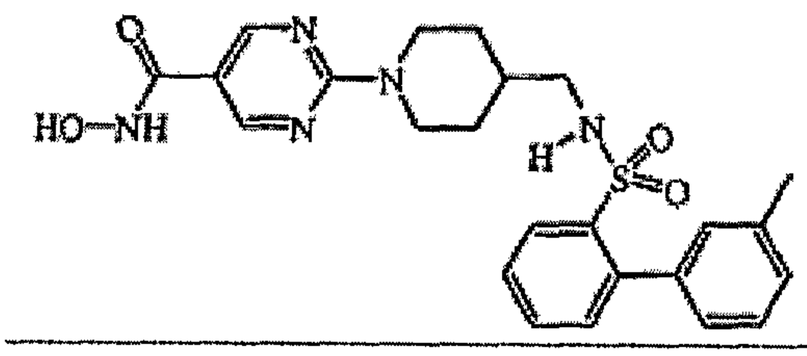


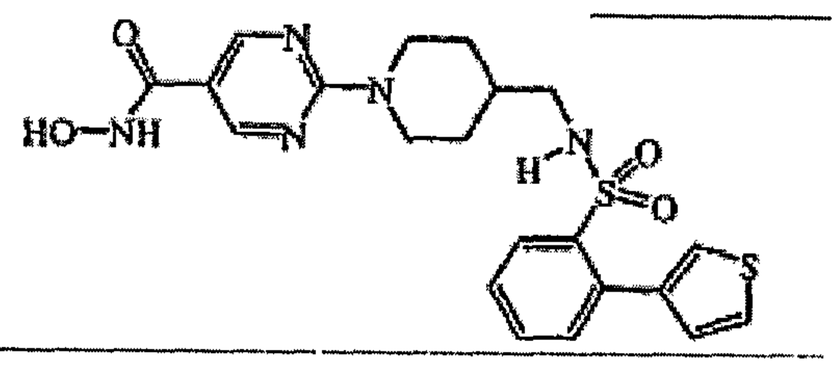


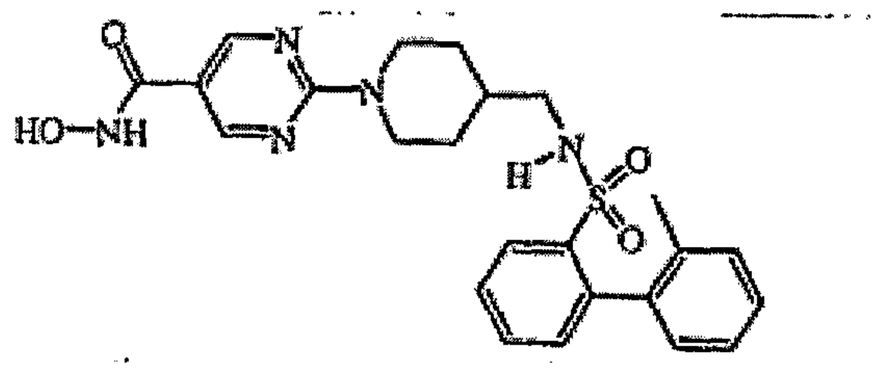


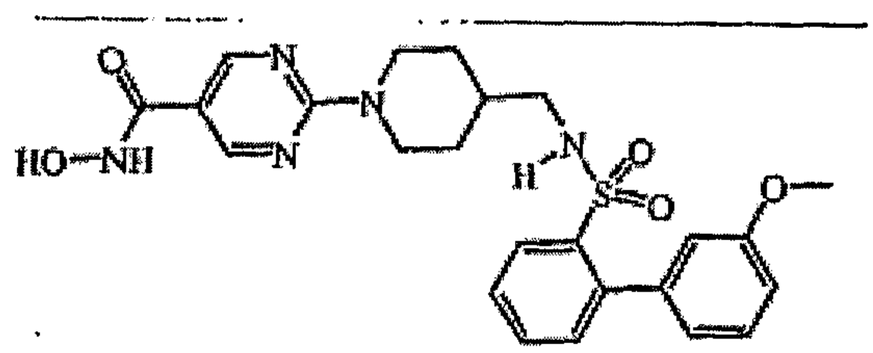


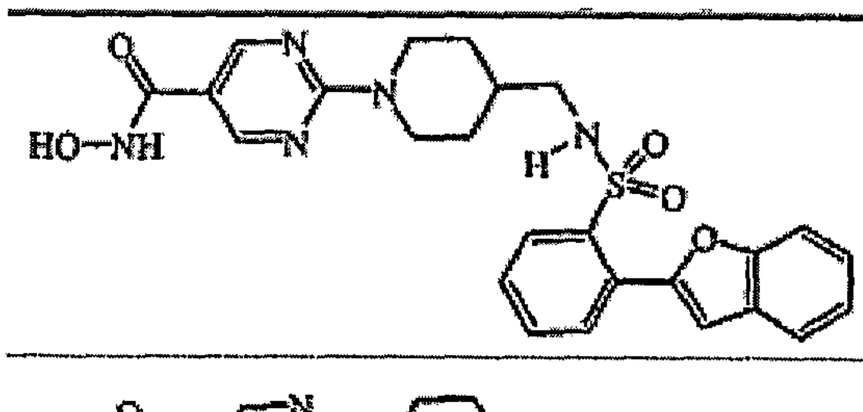


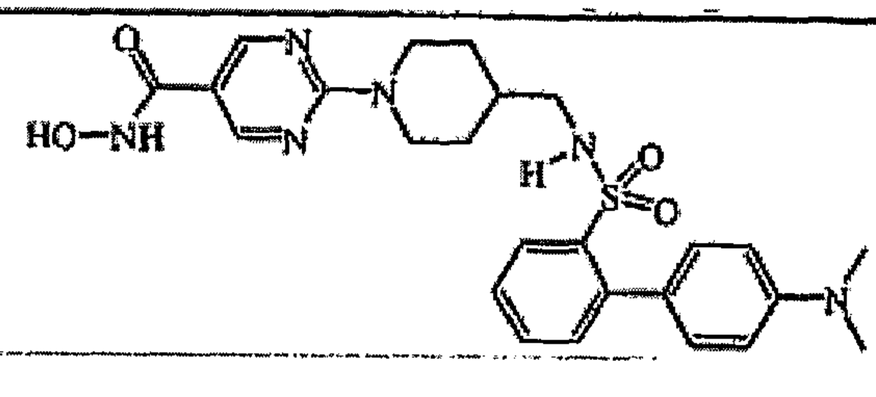


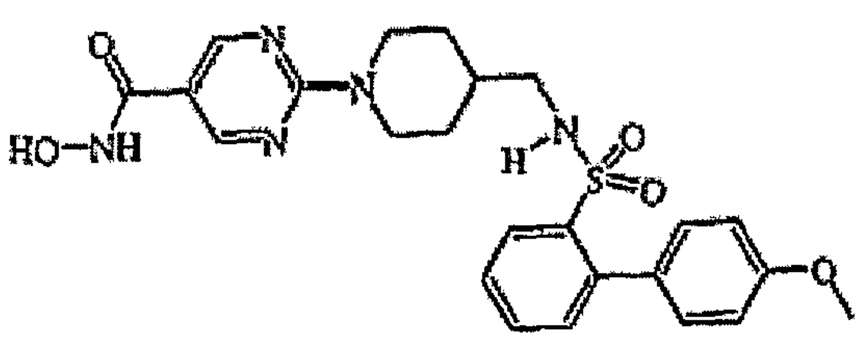




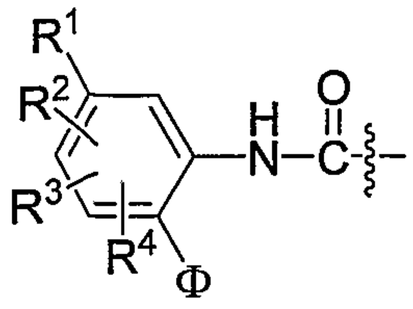








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

208. A compound according to claim 201 for use in inhibting histone deacetylase.

209. A compound according to calim 201 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

210. The compound of claim 209, wherein said treatment is effected by inhibiting histone deacetylase.

211. The compound of calim 209, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

212. The compound of claim 209, wherein said cell proliferative disease is cancer.

213. The compound of claim 212, wherein said cancer is a solid tumor cancer.

214. The compound of claim 212, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

215. A pharmaceutical composition comprising a compound according to claim 201 and a pharmaceutically acceptable carrier.

216. The pharmaceutical composition of claim 215 further comprising a nucleic acid level inhibitor of histone deacetylase.

217. The pharmaceutical composition of claim 216, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

218. The pharmaceutical composition of claim 217, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

219. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 201.

220. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 215.

221. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 216.

222. The method of claim 220, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

223. The method of claim 220, wherein said cell proliferative disease is cancer.

224. The method of claim 223, wherein said cancer is a solid tumor cancer.

225. The method of claim 224, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

226. The method of claim 221, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

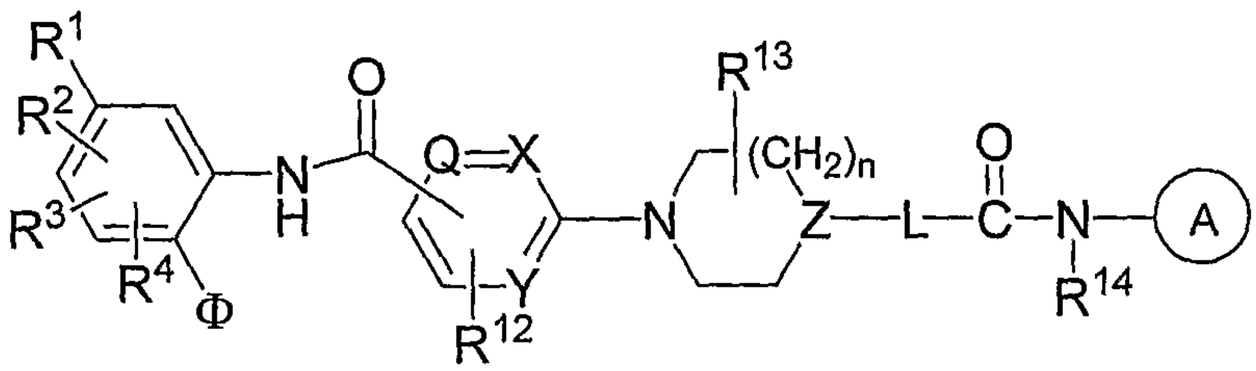
227. The method of claim 221, wherein said cell proliferative disease is cancer.

228. The method of claim 227, wherein said cancer is a solid tumor cancer.

229. The method of claim 228, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

230. The compound of claim 201 wherein R^2, R^3, and R^4 are all H.

231. A compound of the formula:



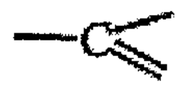
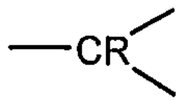
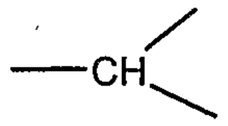
or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

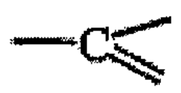
R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1;

n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

Z is nitrogen or  ;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

R^{12} is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, di(C_{1-6}alkyl)amino, hydroxyamino or naphtalenylsulfonylpyrazinyl;

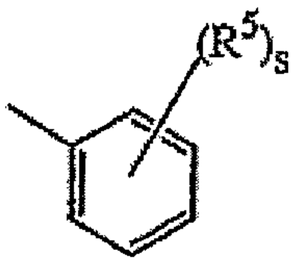
R^{13} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

when Z is equal to nitrogen, then -L- is a direct bond;

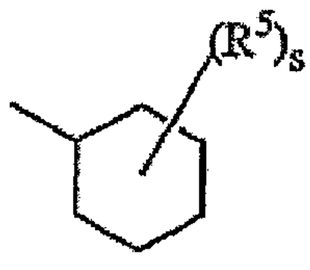
when Z is equal to  , then –L- is –NH- or the bivalent radical -C_{1-6}alkanediylNH-;

R^{14} is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl or aryl;

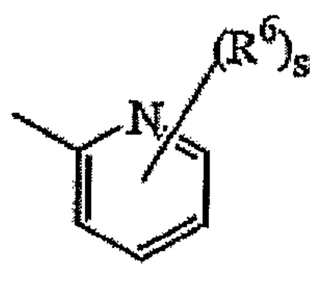
 is a radical selected from



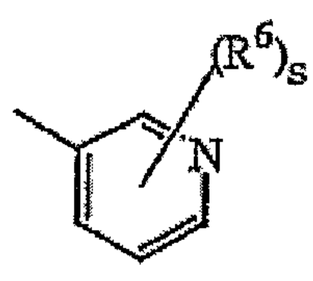
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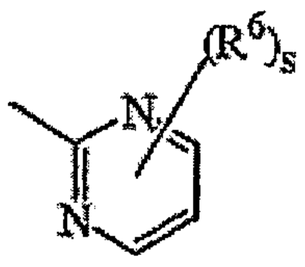
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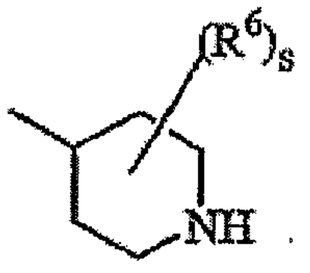
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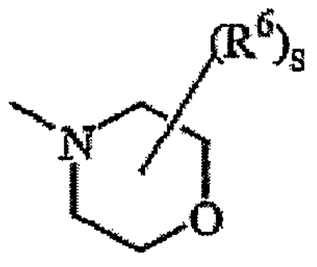
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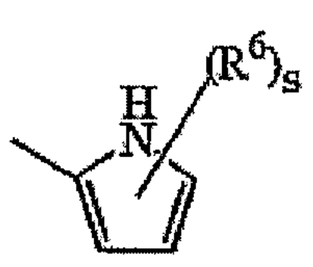
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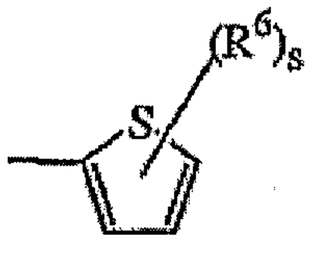
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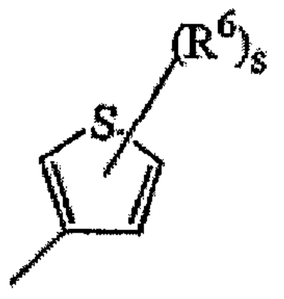
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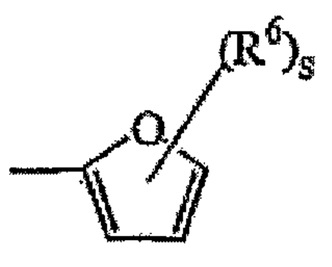
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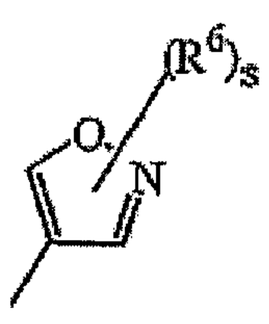
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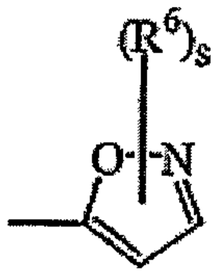
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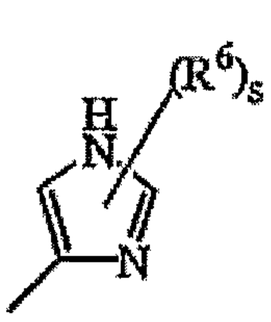
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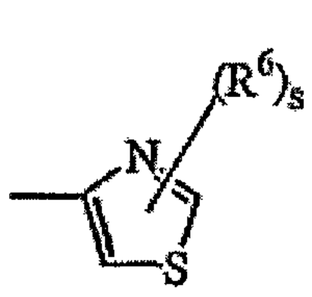
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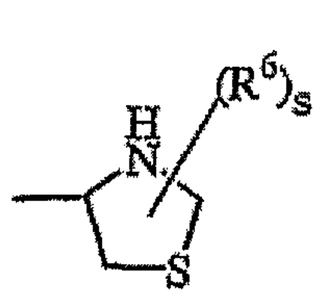
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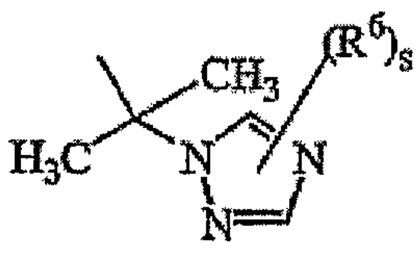
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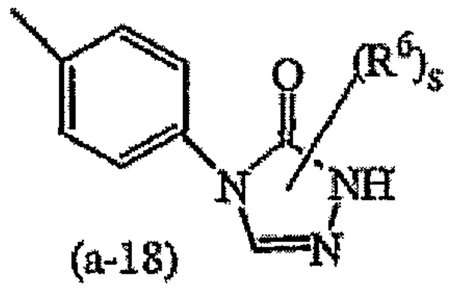
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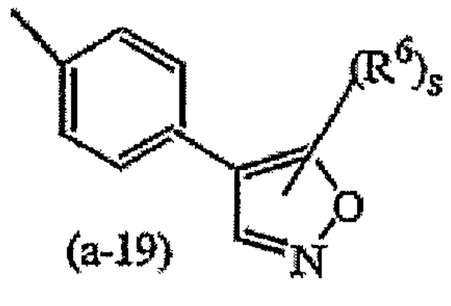
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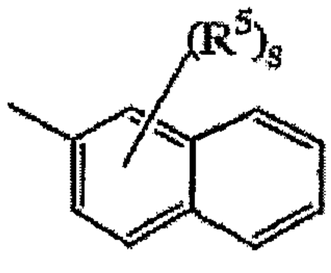
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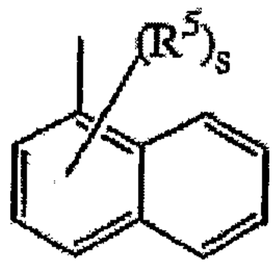
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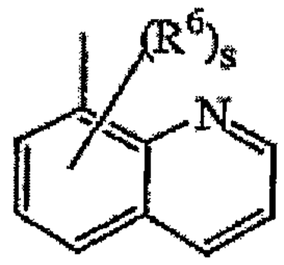
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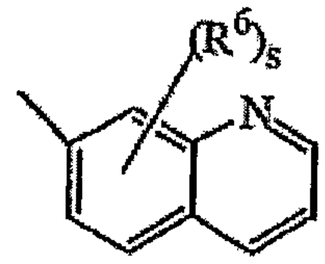
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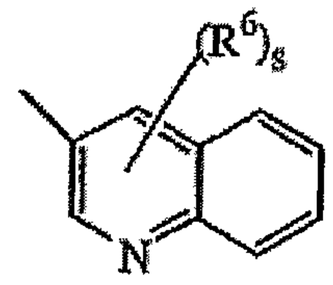
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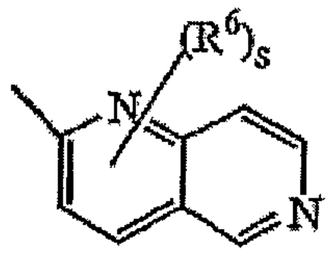
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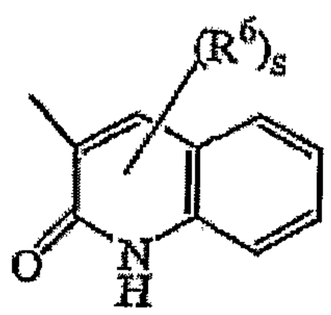
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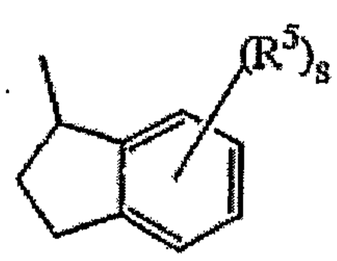
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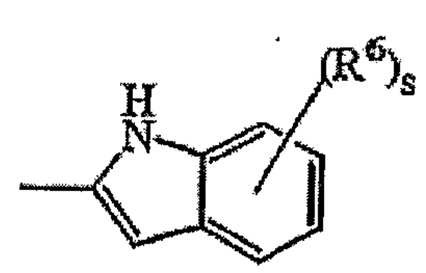
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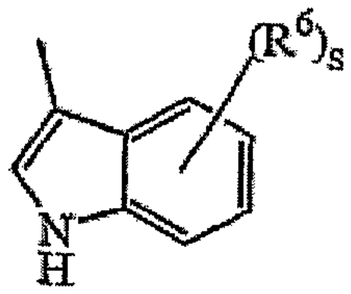
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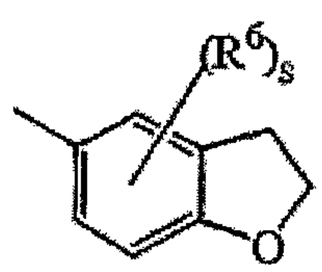
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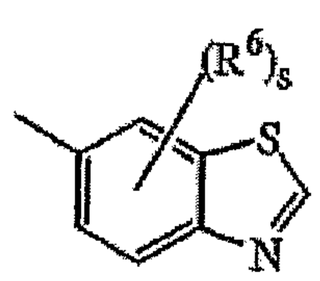
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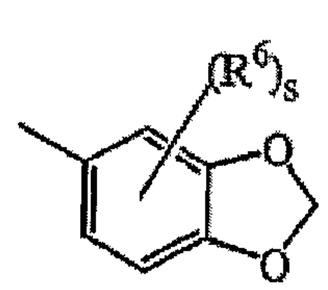
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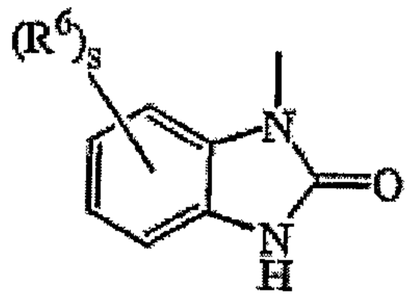
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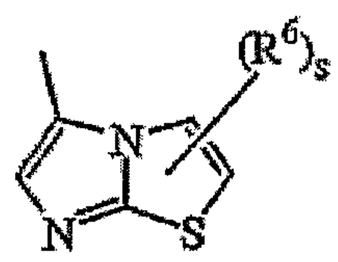
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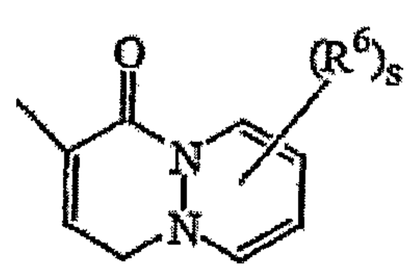
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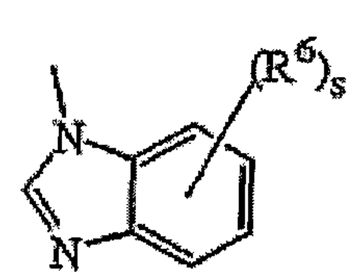
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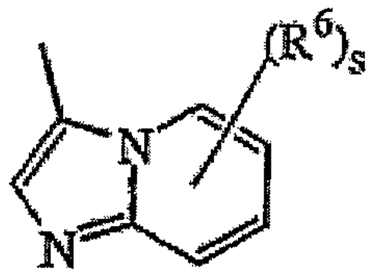
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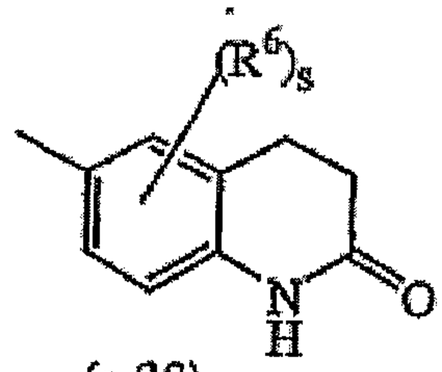
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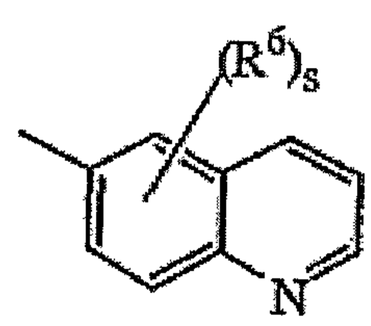
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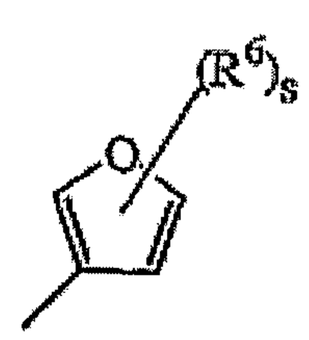
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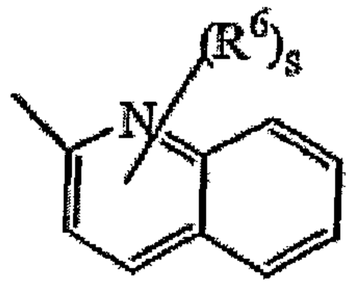
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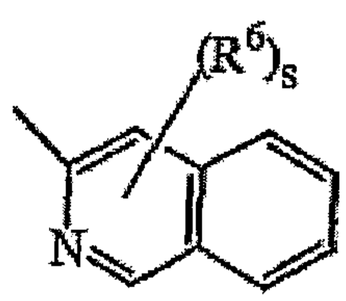
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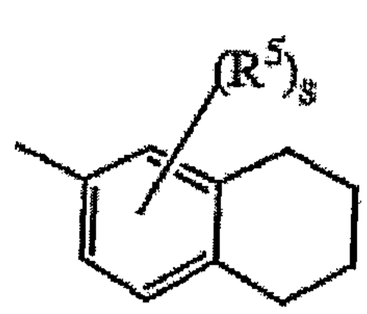
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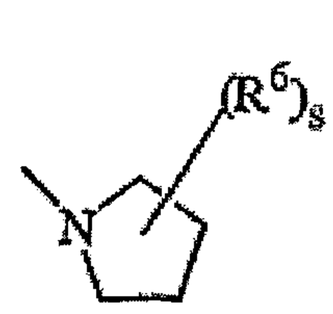
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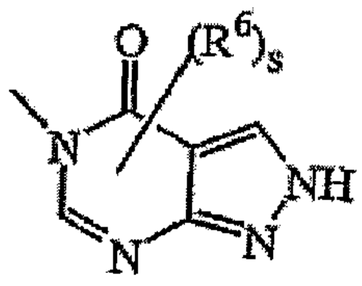
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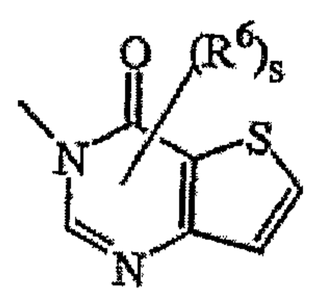
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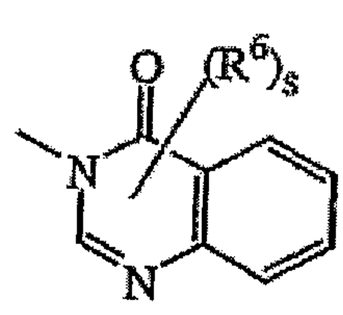
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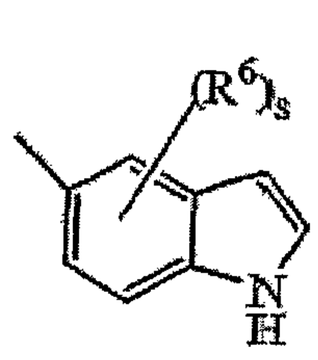
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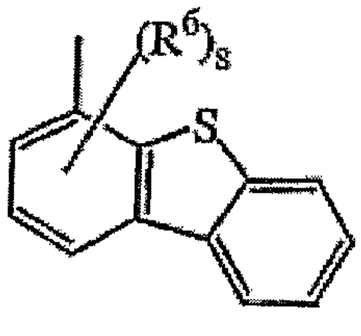
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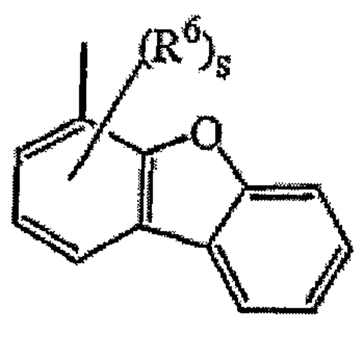
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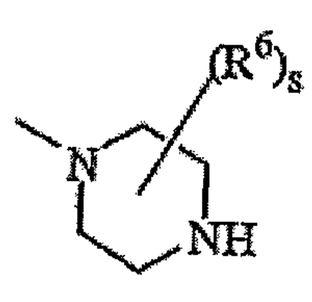
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl;

di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl;

oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy;

morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl;

C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfony C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy,

C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl,

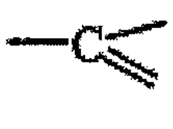
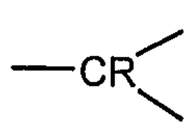
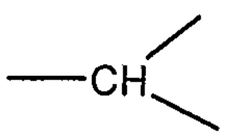
C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

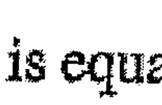
232. The compound of claim 231 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 231 wherein:

n is 1;

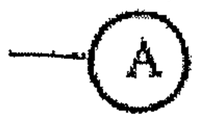
Q is  ,  , or  ;

R^2 is hydrogen or nitro;

R^3 is hydrogen;

when Z is equal to  , then –L- is the bivalent radical -C_{1-6}alkanediylNH-;

R^4 is hydrogen, C_{1-6}alkyl or aryl;

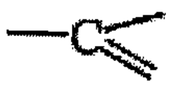
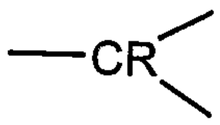
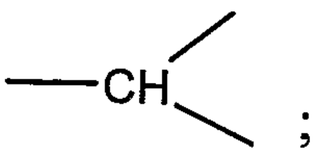
 is a radical selected from (a-1) or (a-21);

each s is independently 0, 1 or 2;

each R^5 is independently selected from hydrogen; halo; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; aryloxy; cyano or phenyl.

233. The compound of claim 231 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 231 wherein:

n is 1;

Q is  ,  , or  ;

each X is nitrogen;

each Y is nitrogen;

R^2 is hydrogen;

R^3 is hydrogen;

when Z is equal to  , then –L- is the bivalent radical -C_{1-6}alkanediylNH-;

R^4 is hydrogen, C_{1-6}alkyl or aryl;

 is the radical (a-1);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

234. The compound of claim 231 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 231 wherein:

each Z is N;

R^2 is hydrogen, halo, hydroxy, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl or di(C_{1-6}alkyl)amino;

R^3 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

R^4 is hydrogen;



is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

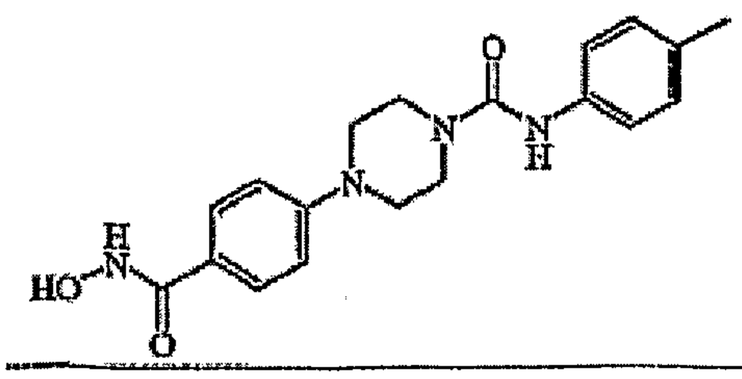
each s is independently 0, 1, 2, 3 or 4;

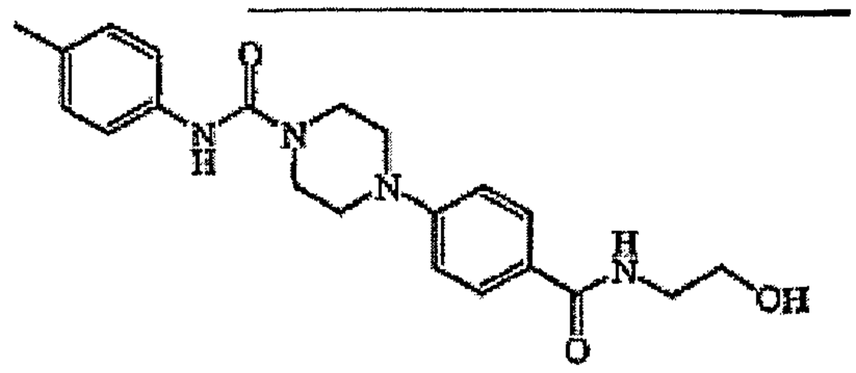
R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl;

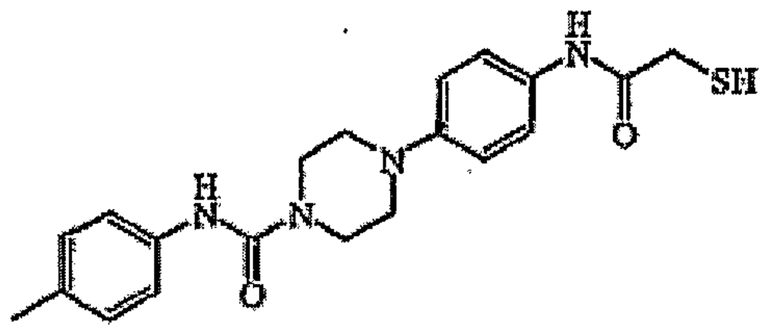
hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazolyl; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

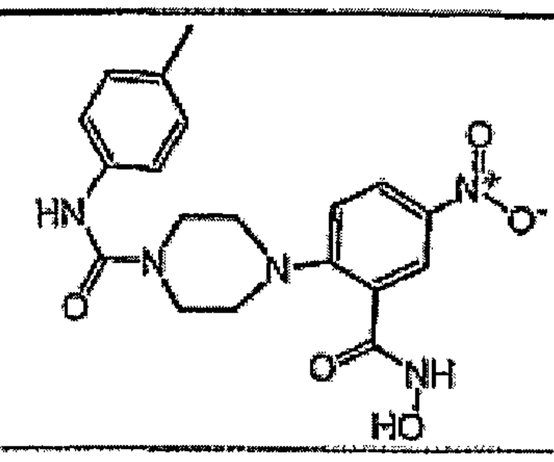
R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

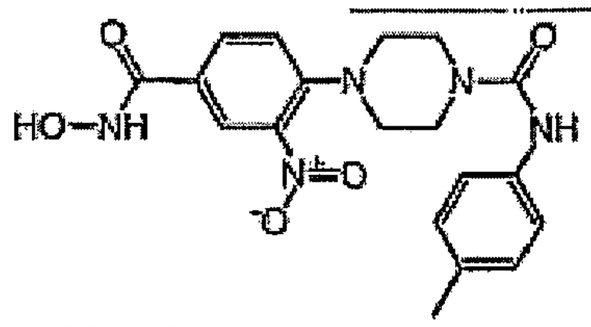
235. The compound of claim 231 that is selected from one of

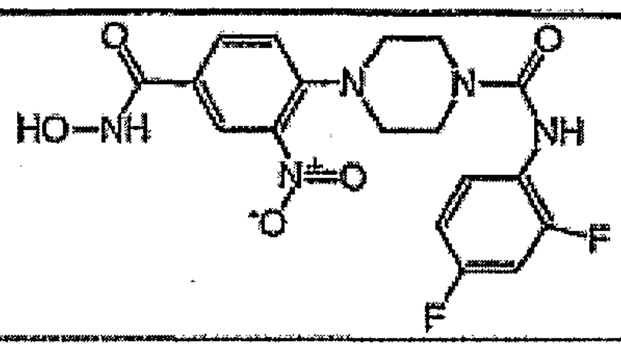


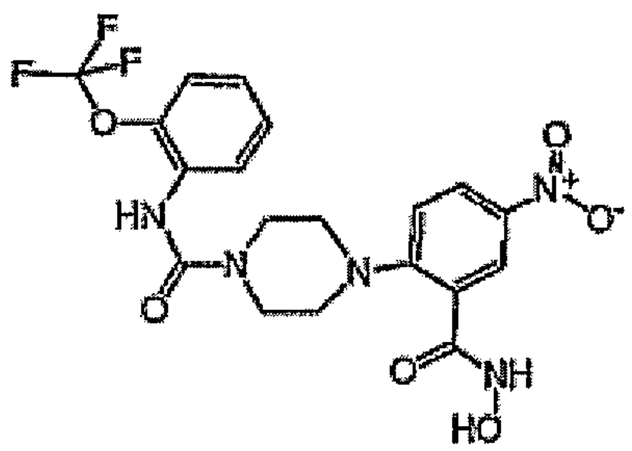


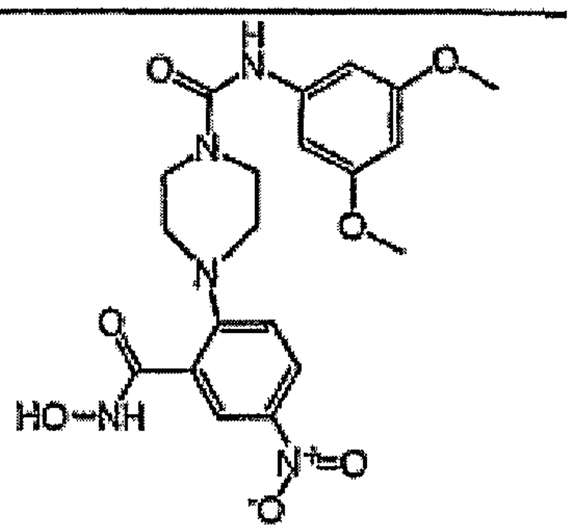


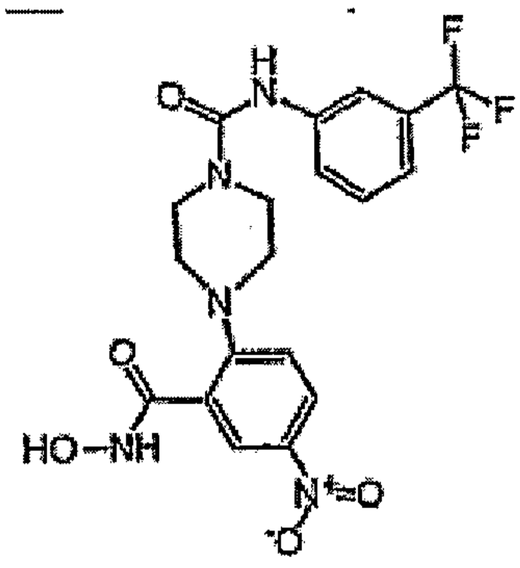


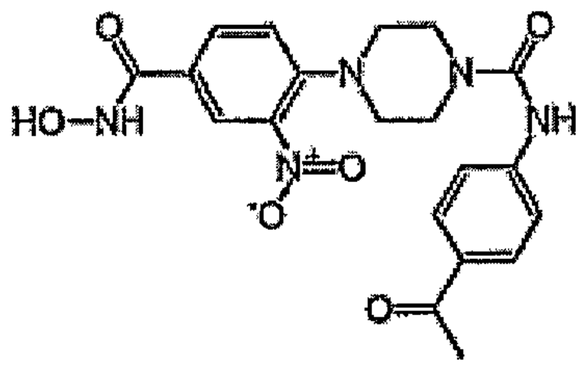


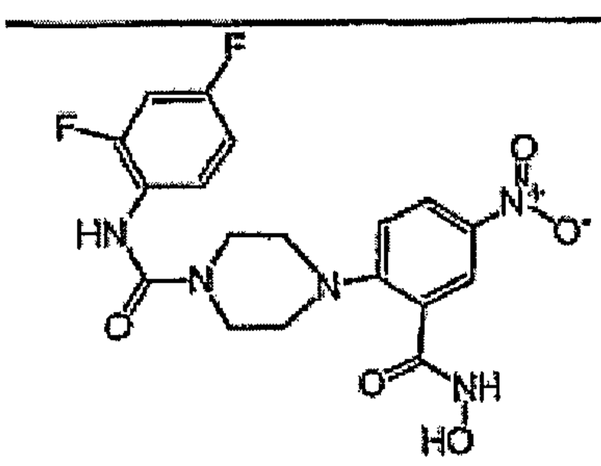


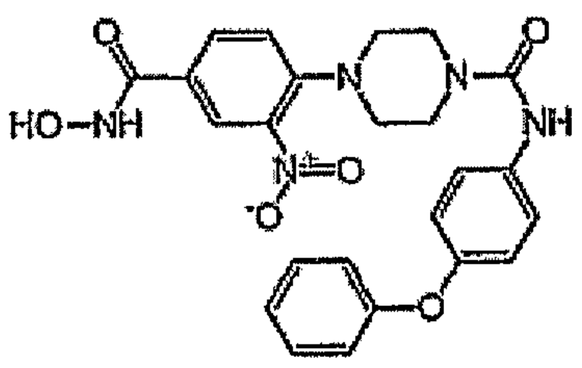


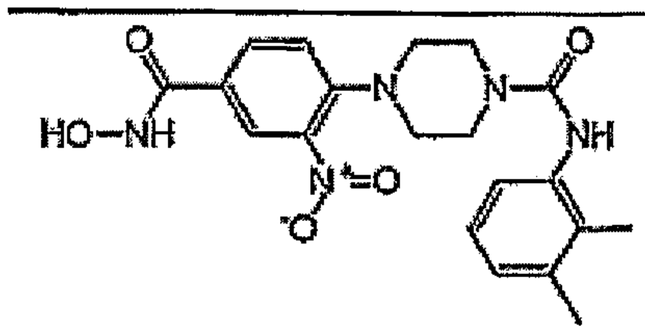


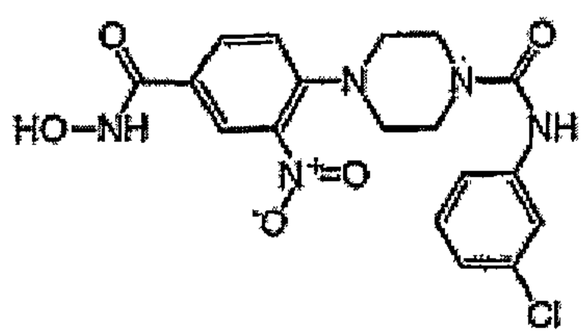


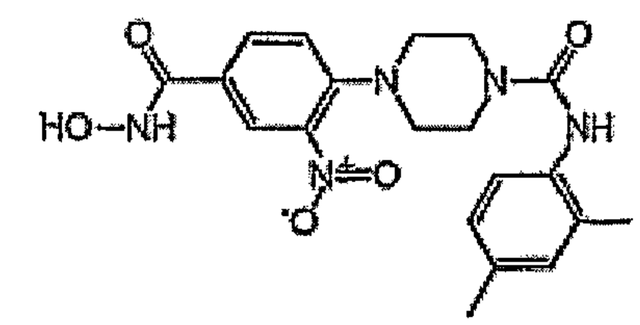


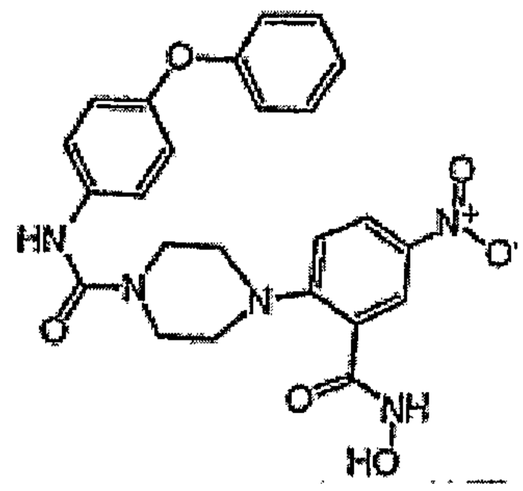


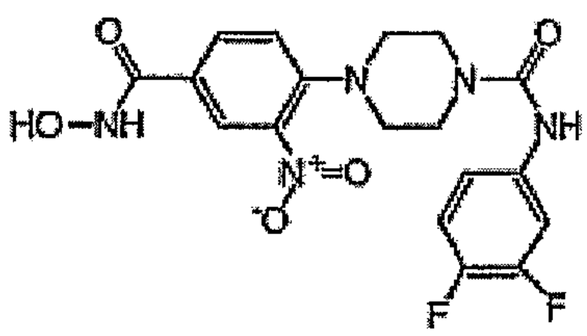


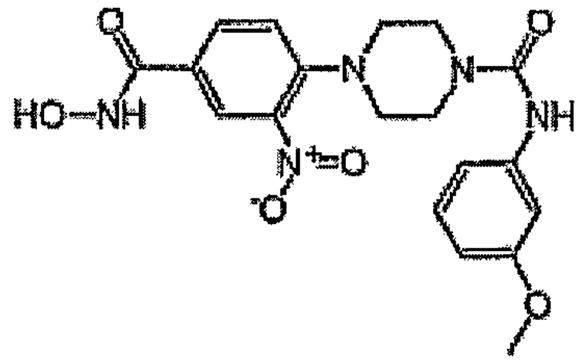


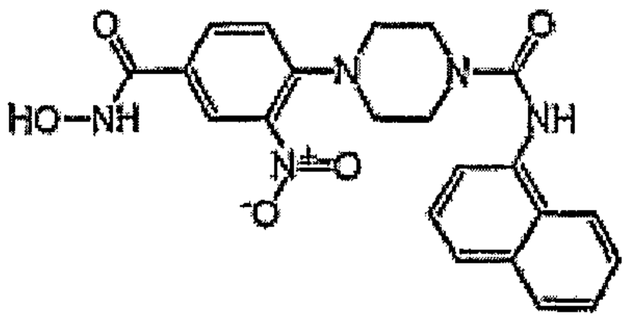


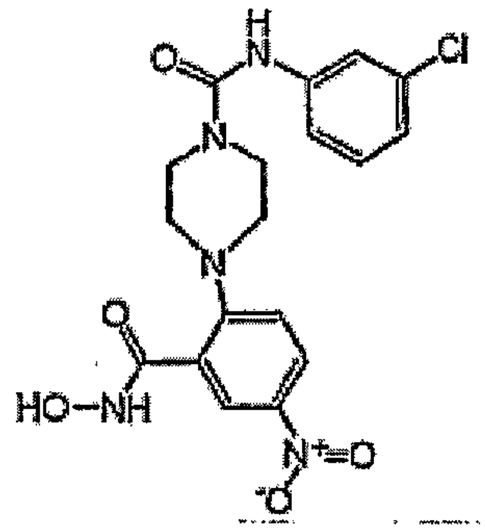


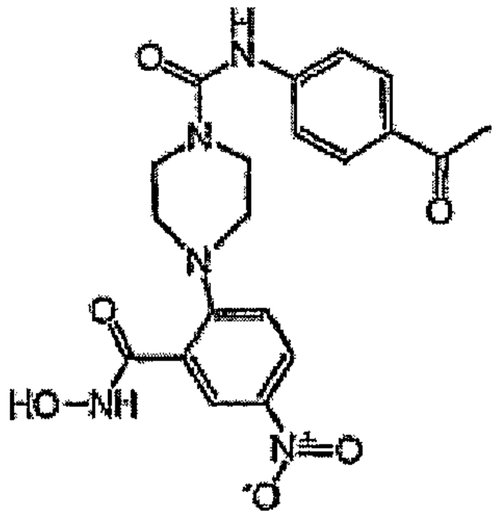


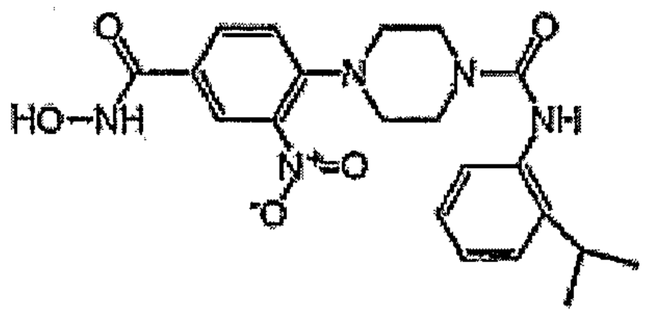


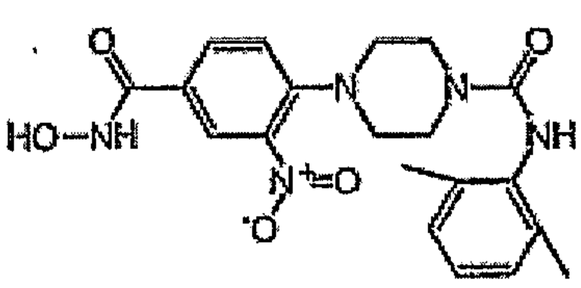


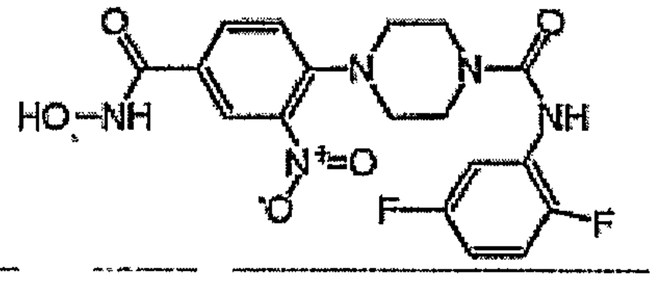


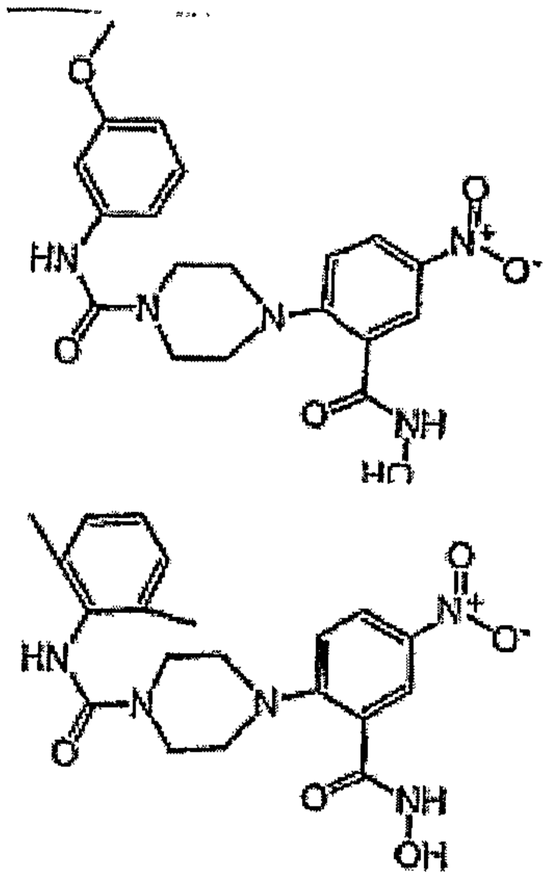


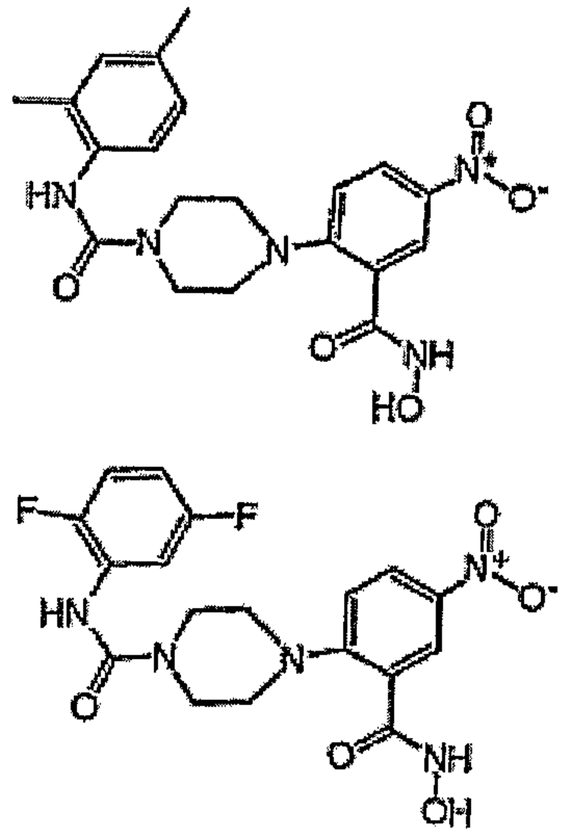


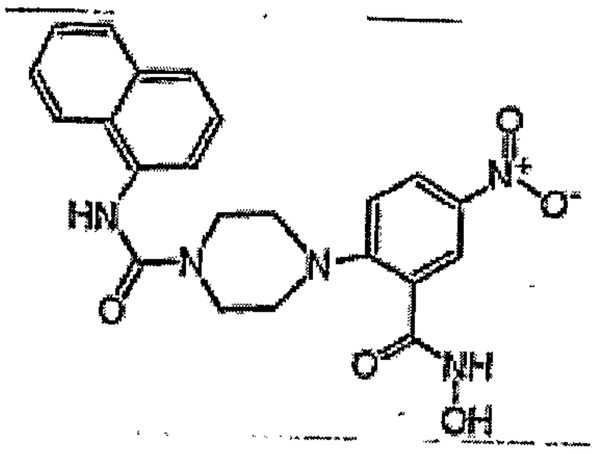


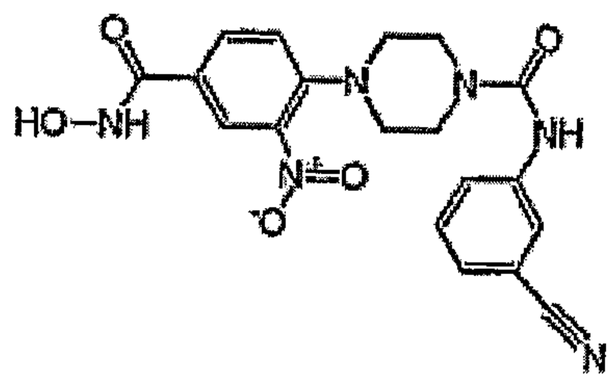


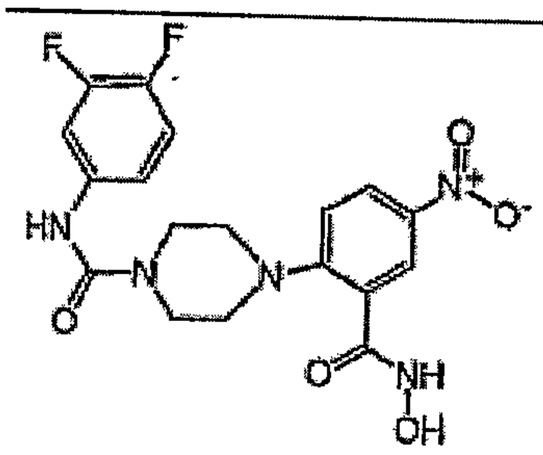


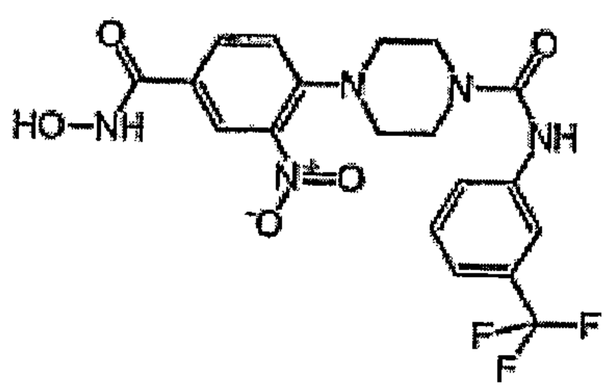


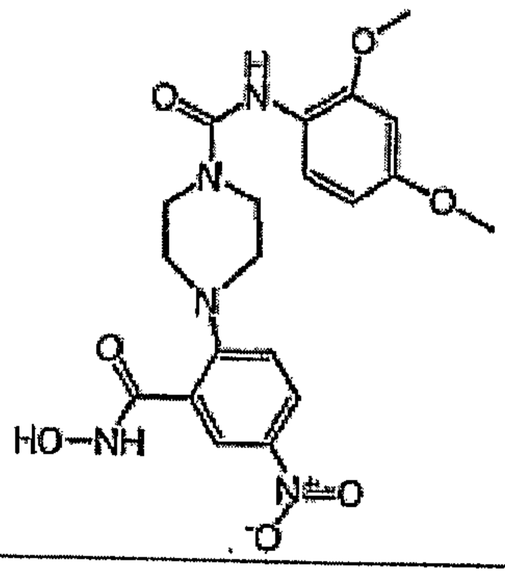


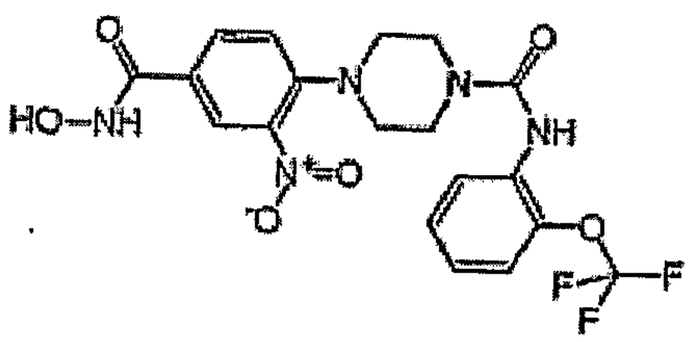


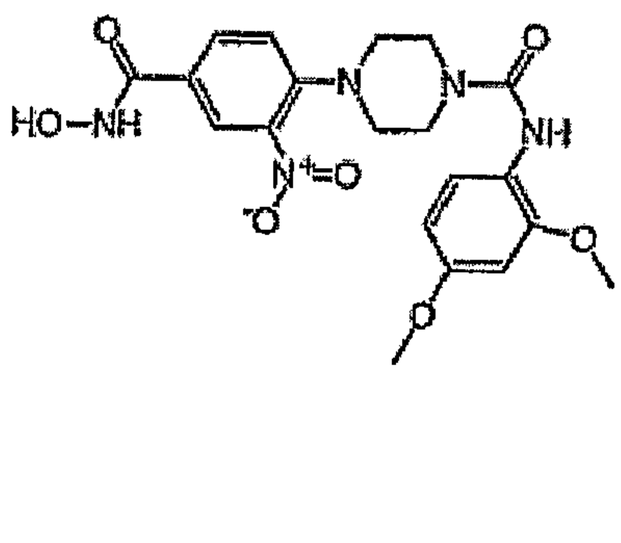


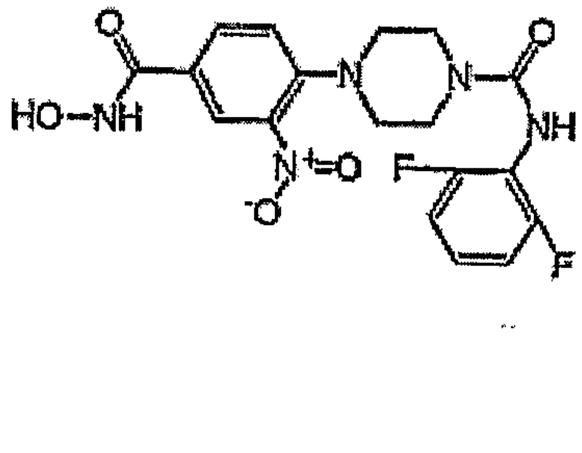


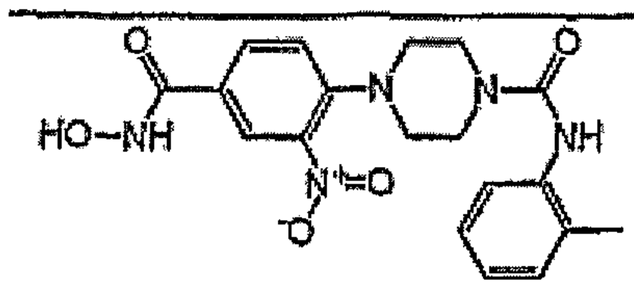


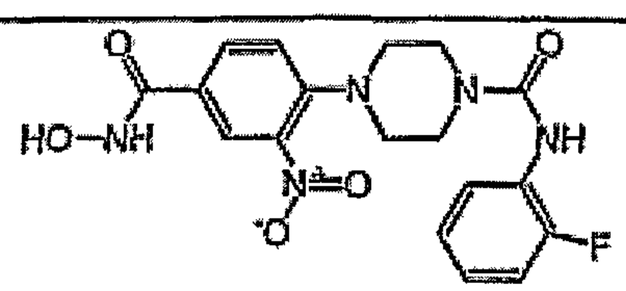


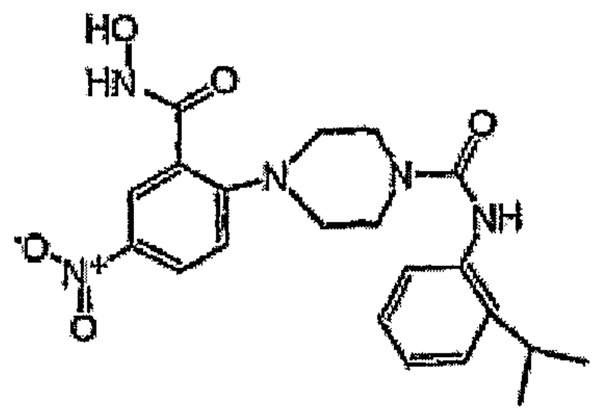


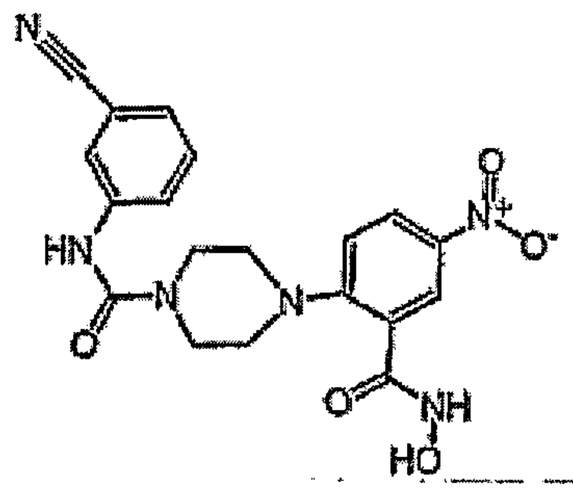


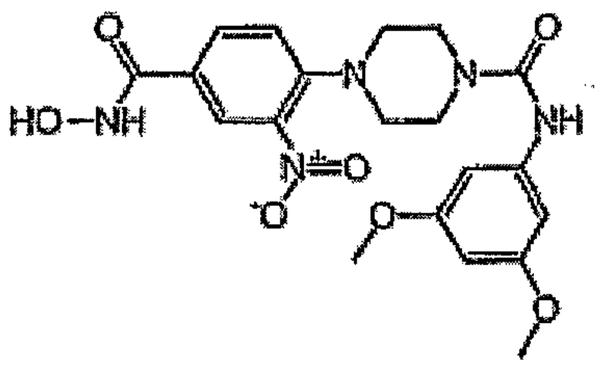


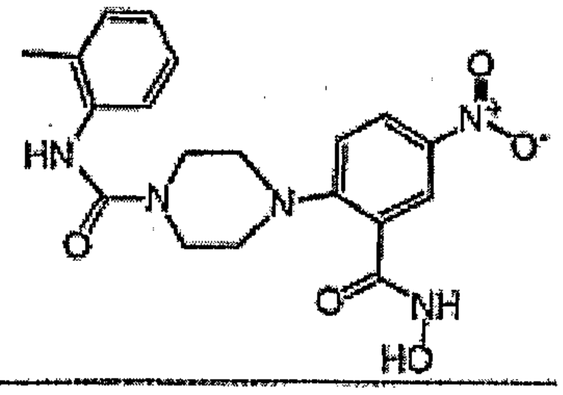


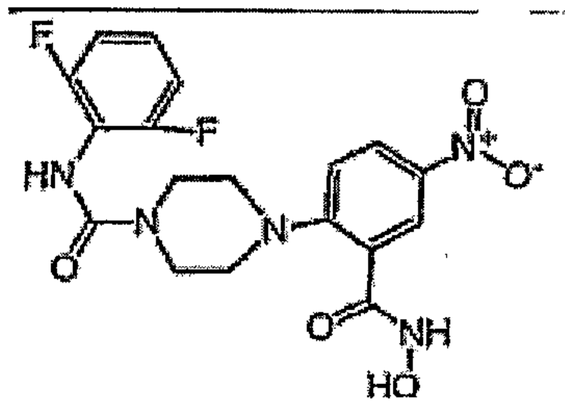


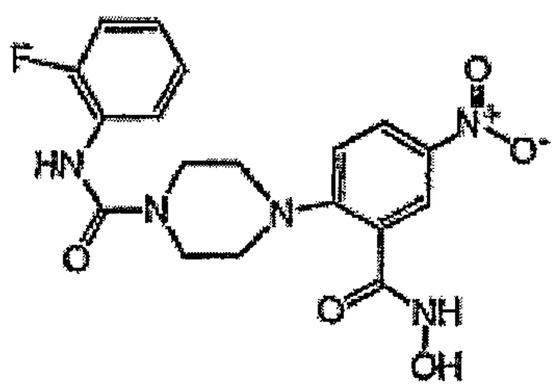


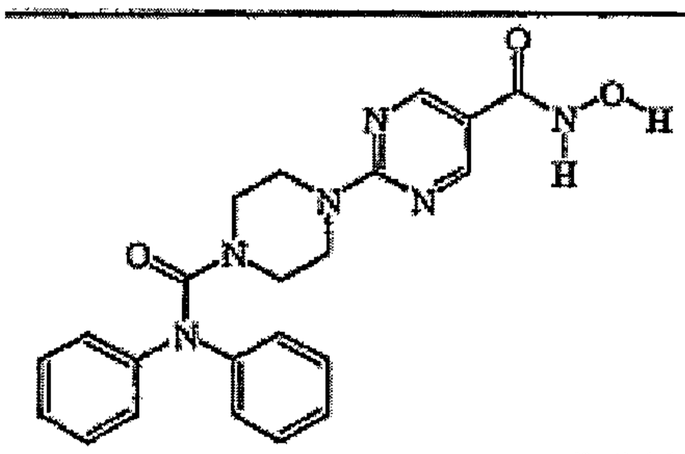


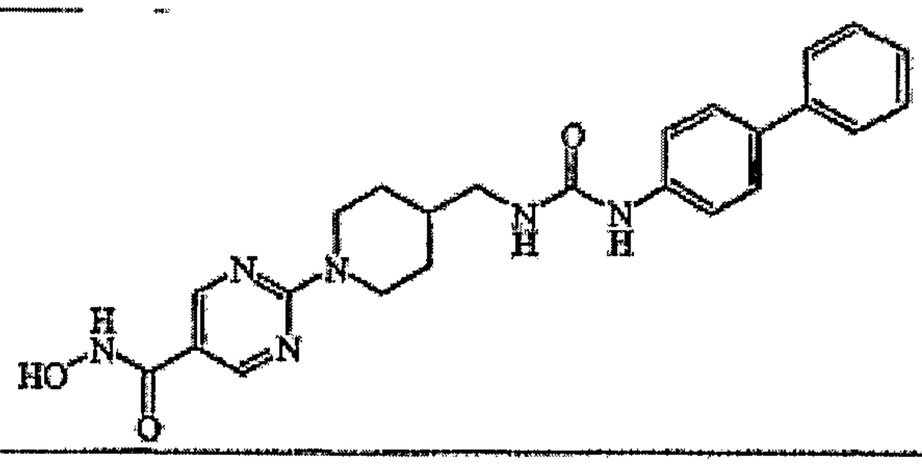


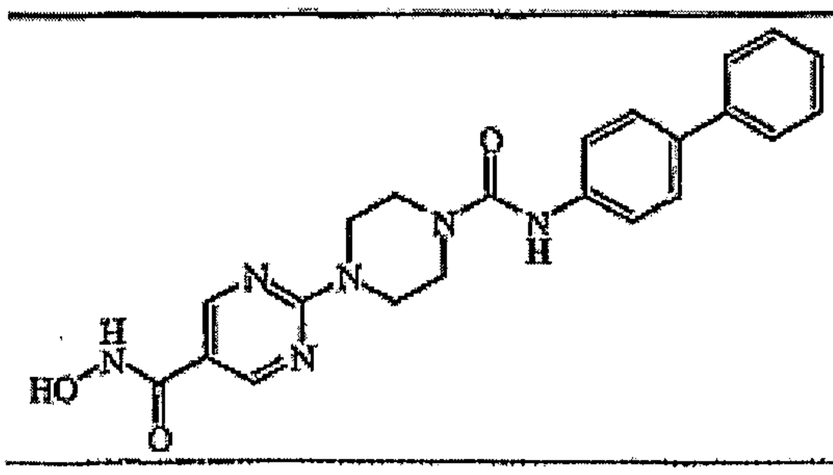


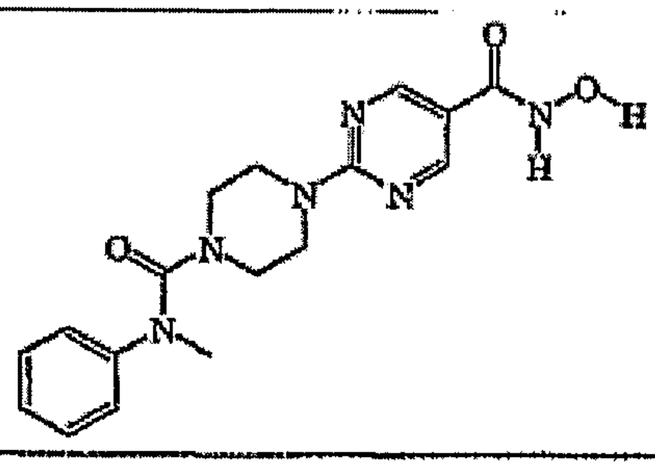




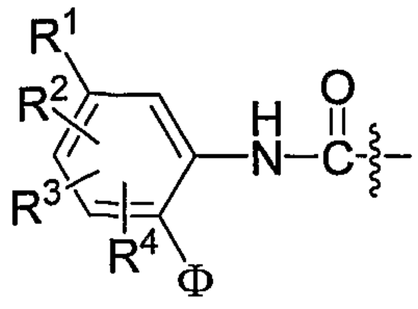








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

236. The compound of claim 231 wherein R^1, R^2, R^3, and R^4 are all H.

237. A compound according to claim 231 for use in inhibting histone deacetylase.

238. A compound according to calim 231 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

239. The compound of claim 238, wherein said treatment is effected by inhibiting histone deacetylase.

240. The compound of calim 238, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

241. The compound of claim 238, wherein said cell proliferative disease is cancer.

242. The compound of claim 241, wherein said cancer is a solid tumor cancer.

243. The compound of claim 241, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

244. A pharmaceutical composition comprising a compound according to claim 231 and a pharmaceutically acceptable carrier.

245. The pharmaceutical composition of claim 244 further comprising a nucleic acid level inhibitor of histone deacetylase.

246. The pharmaceutical composition of claim 245, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

247. The pharmaceutical composition of claim 246, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

248. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 231.

249. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 244.

250. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 245.

251. The method of claim 249, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

252. The method of claim 249, wherein said cell proliferative disease is cancer.

253. The method of claim 252, wherein said cancer is a solid tumor cancer.

254. The method of claim 253, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

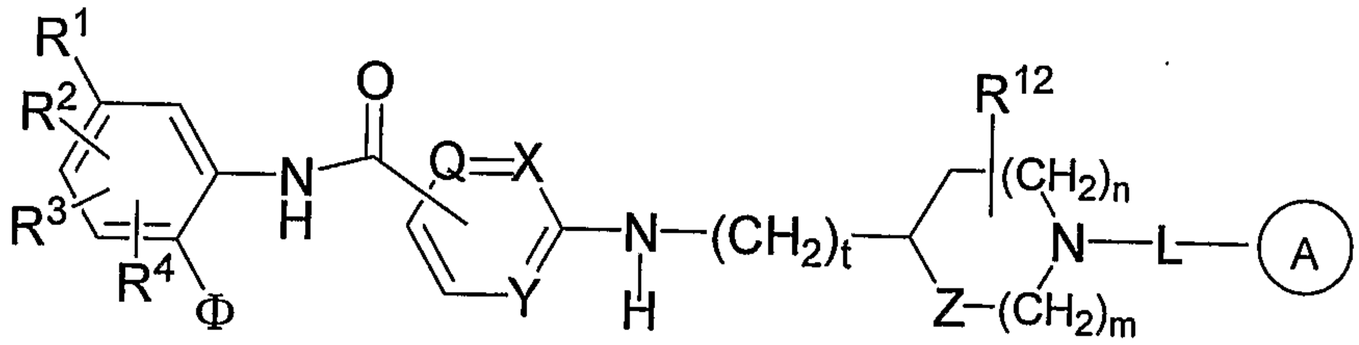
255. The method of claim 250, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

256. The method of claim 250, wherein said cell proliferative disease is cancer.

257. The method of claim 256, wherein said cancer is a solid tumor cancer.

258. The method of claim 257, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

259. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

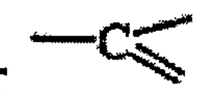
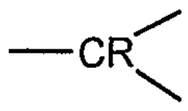
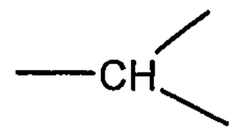
R^1 is H or as defined in claim 1

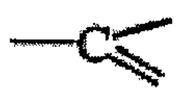
R^2, R^3, and R^4 are as defined in claim1;

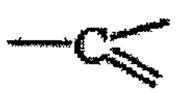
n is 0, 1, 2 or 3 and when n is 0 then a direct bond is intended;

m is 0, 1, 2 or 3 and when m is 0 then a direct bond is intended;

t is 0 or 1 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or  ;

Y is nitrogen or  ;

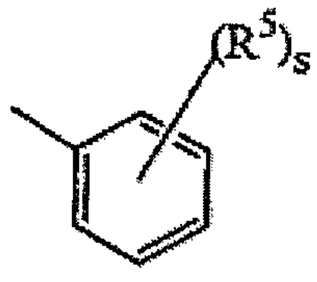
Z is $-CH_2-$ or $-O-$;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

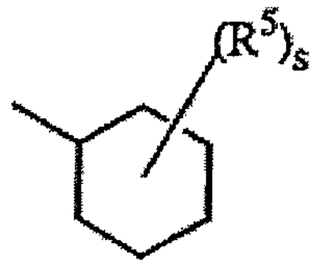
R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from C_{1-6}alkanediyl, carbonyl, sulfonyl, or C_{1-6}alkanediyl substituted with phenyl;

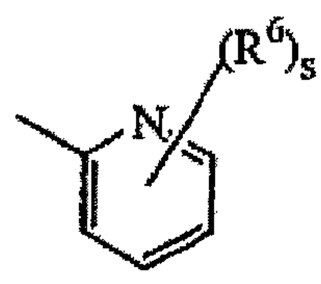
 is a radical selected from



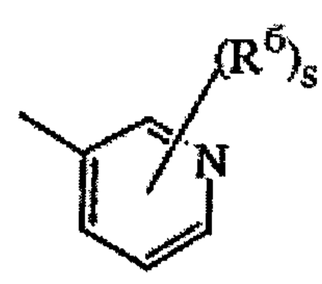
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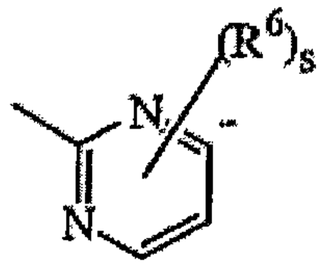
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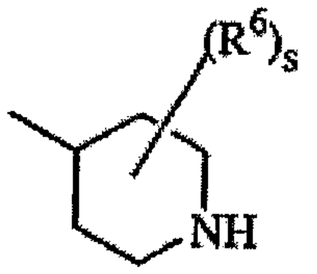
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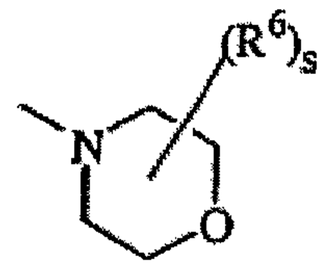
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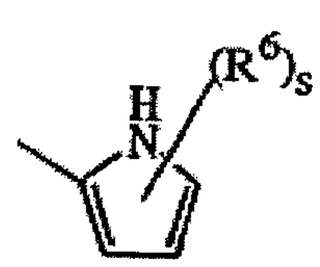
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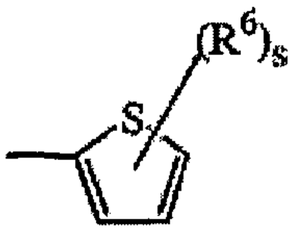
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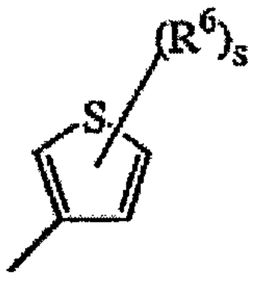
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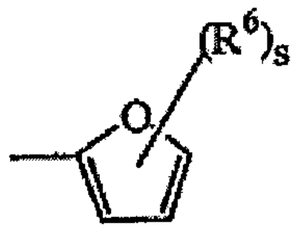
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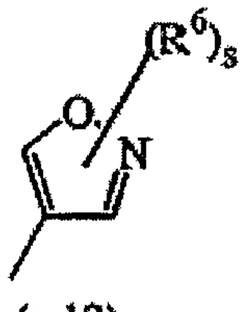
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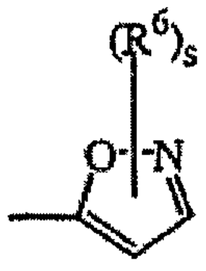
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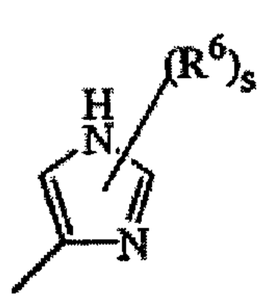
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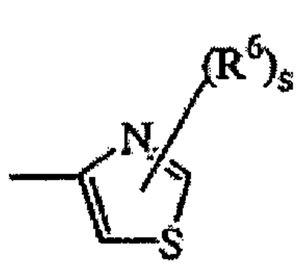
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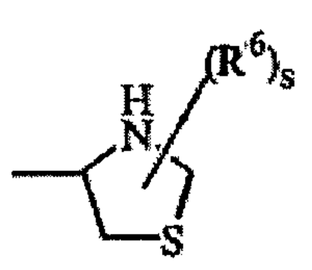
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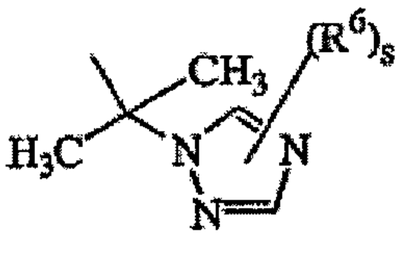
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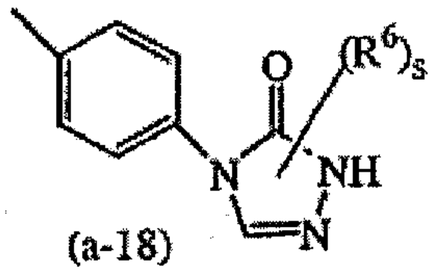
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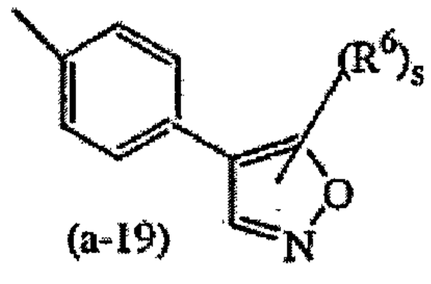
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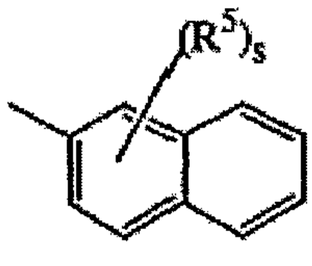
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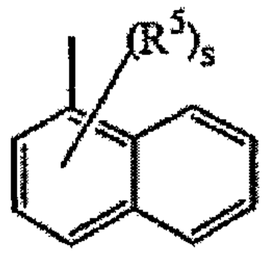
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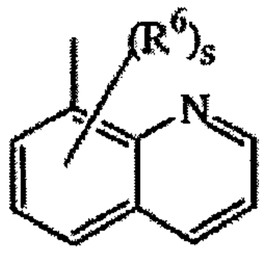
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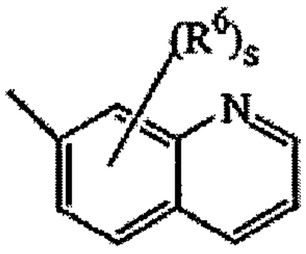
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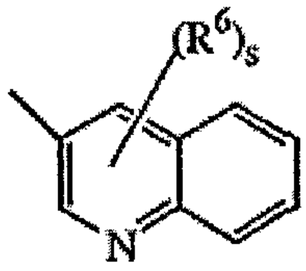
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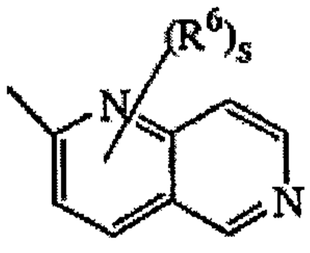
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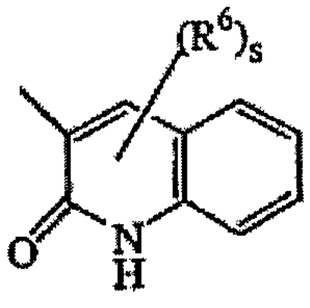
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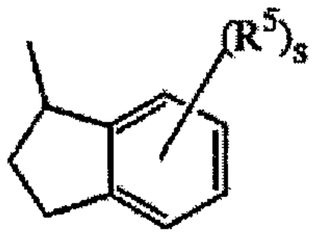
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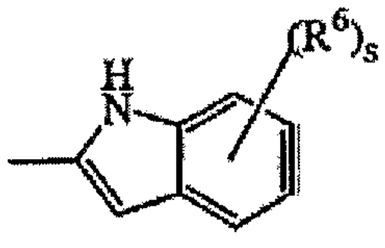
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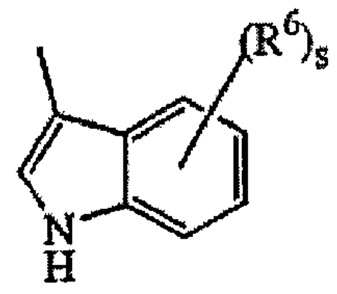
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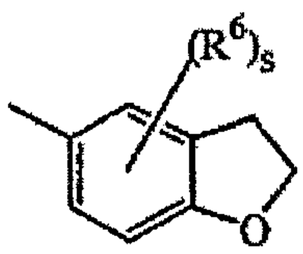
(a-27)



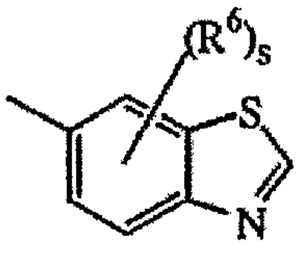
(a-28)



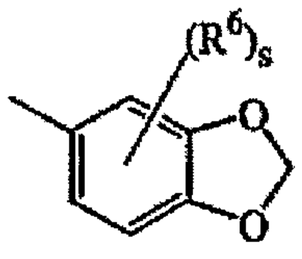
(a-29)



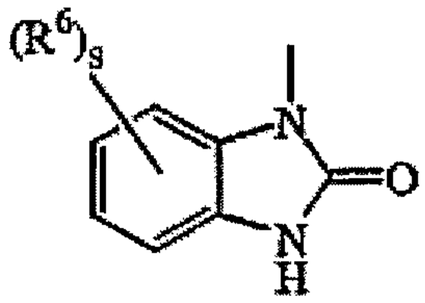
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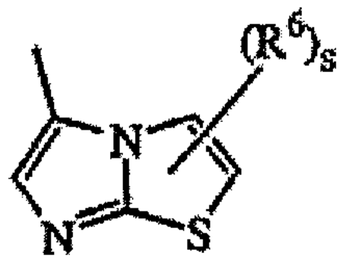
(a-31)



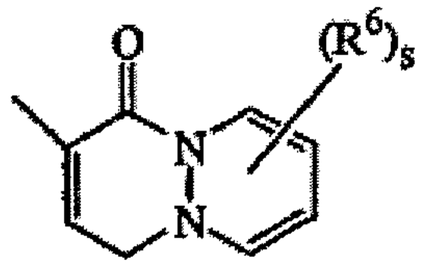
(a-32)



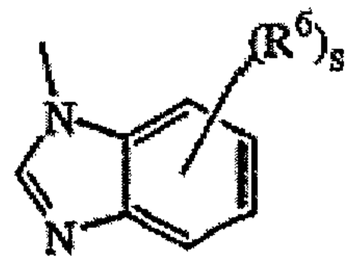
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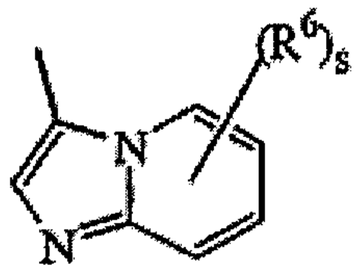
(a-34)



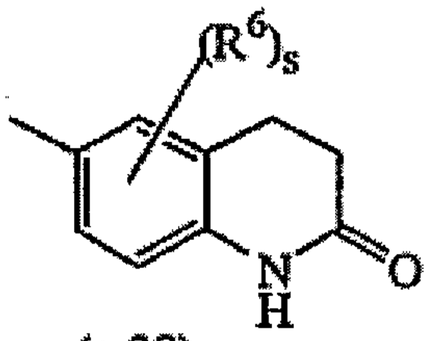
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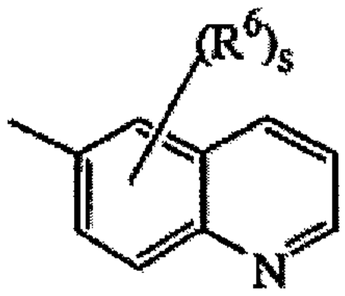
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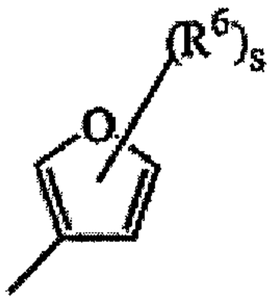
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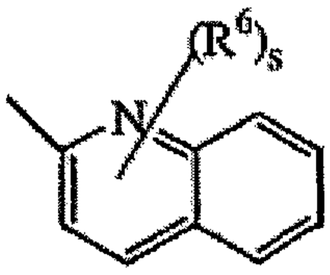
(a-38)



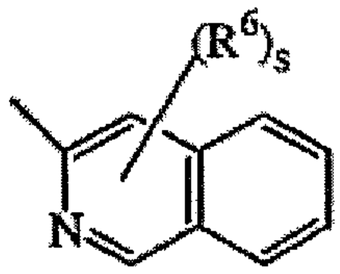
(a-39)



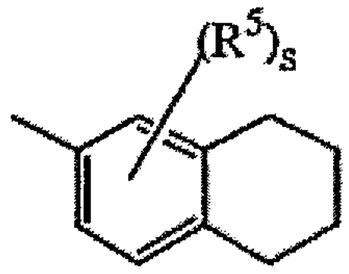
(a-40)



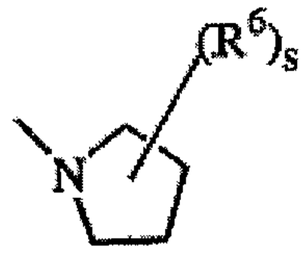
(a-41)



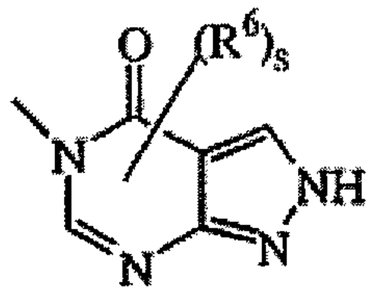
(a-42)



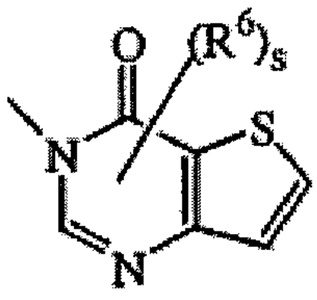
(a-43)



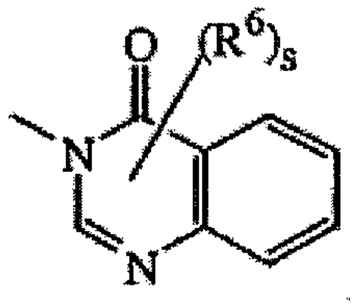
(a-44)



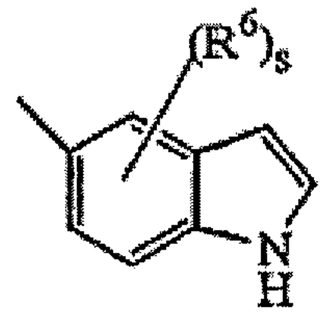
(a-45)



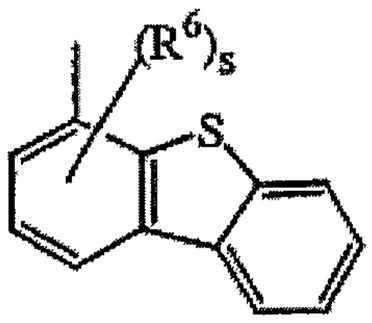
(a-46)



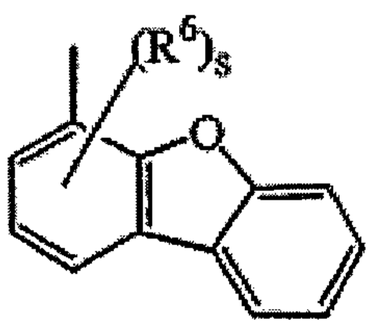
(a-47)



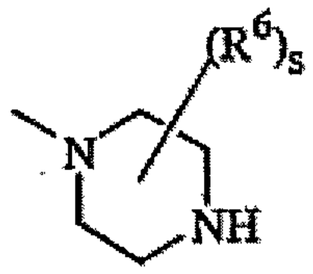
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl;

hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino;

C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl;

pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indolyl; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino,

di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl, morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy,

hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

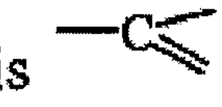
each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

260. The compound of claim 259 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 259 wherein:

n is 0, 1 or 2;

m is 0, 1 or 2;

each Q is  ;

each X is nitrogen;

R^2 is hydrogen;

-L- is a bivalent radical selected from carbonyl, sulfonyl, or C_{1-6}alkanediyl substituted with phenyl;

 is a radical selected from (a-1), (a-20) or (a-43);

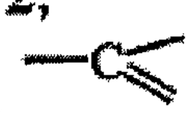
each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

261. The compound of claim 259 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 259 wherein:

n is 0, 1 or 2;

m is 1 or 2;

Q is  ;

X is nitrogen;

R^2 is hydrogen;

-L- is a bivalent radical selected from carbonyl or sulfonyl;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

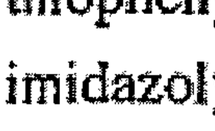
each R^5 is independently selected from hydrogen or aryl.

262. The compound of claim 259 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 259 wherein:

t is 0;

R^2 is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from C_{1-6}alkanediyl, carbonyl or sulfonyl;

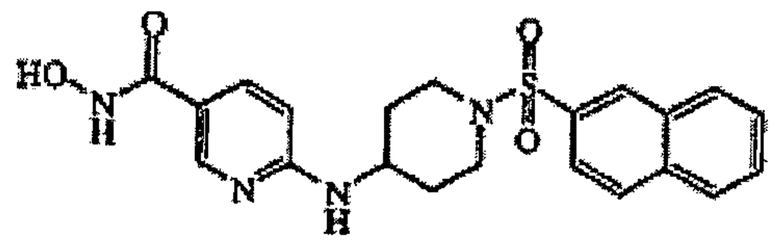

is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

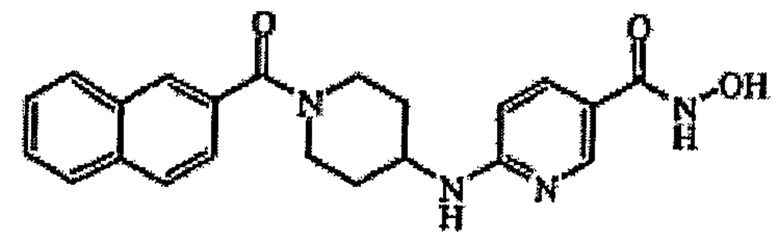
each s is independently 0, 1, 2, 3 or 4;

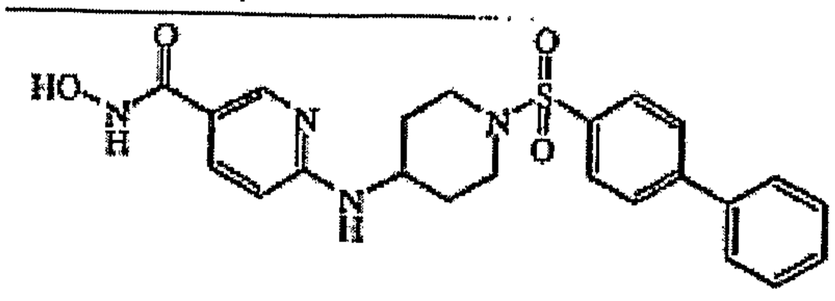
R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

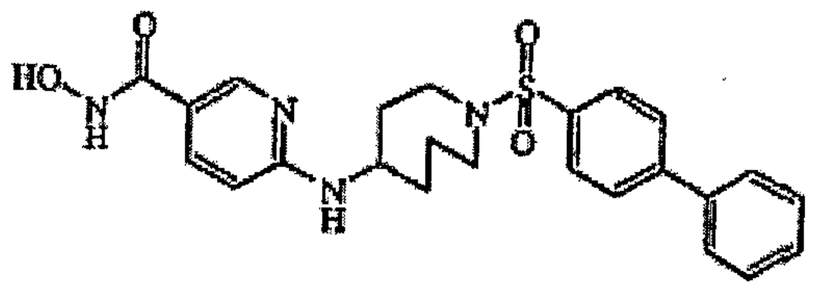
R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

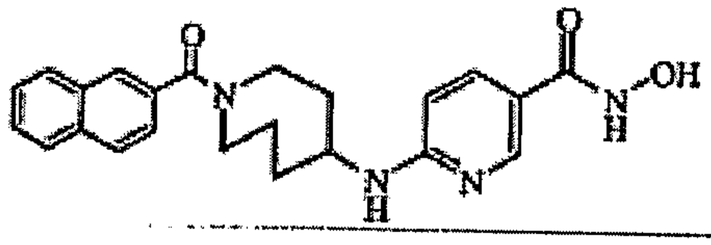
263. The compound of claim 259 that is selected from one of

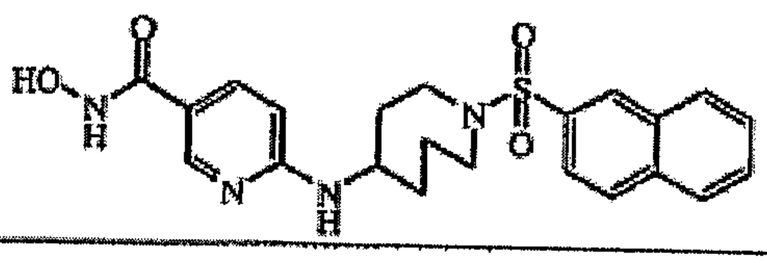


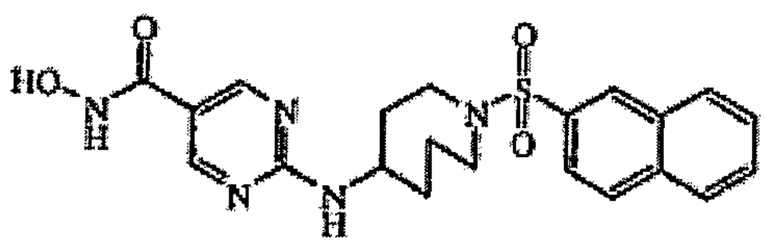


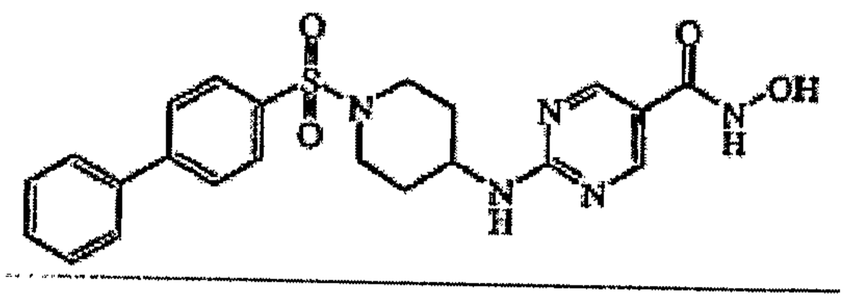


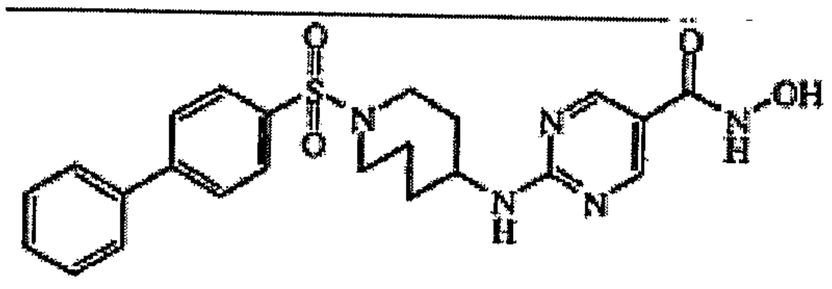


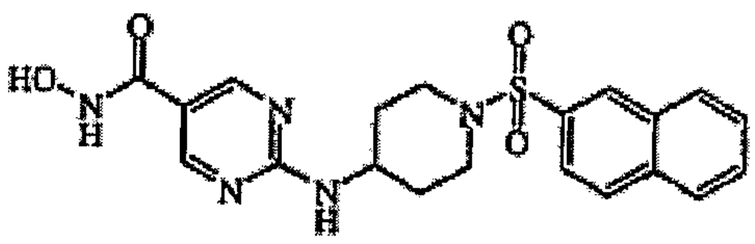


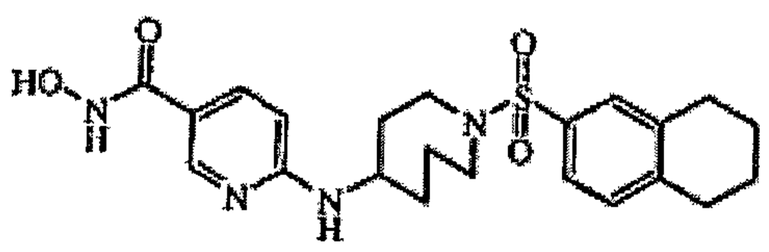


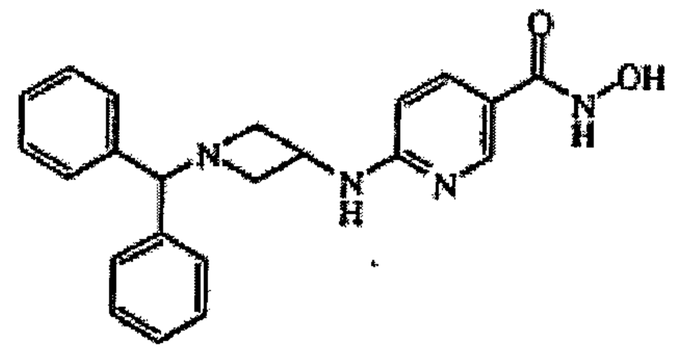


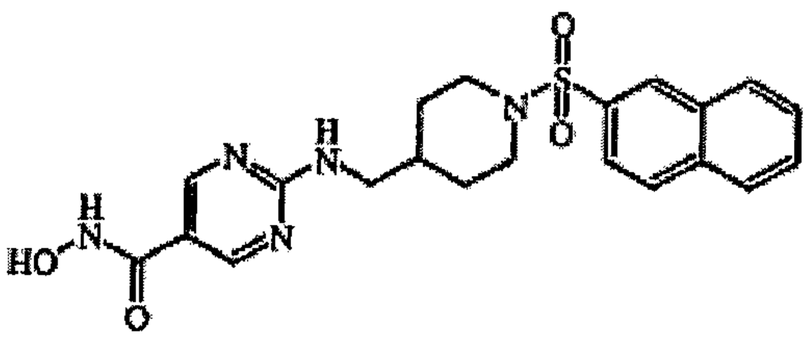


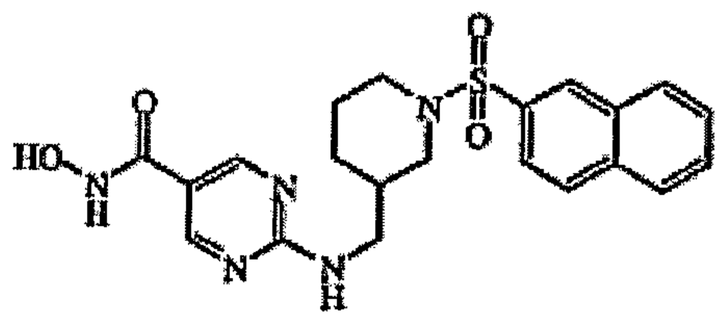


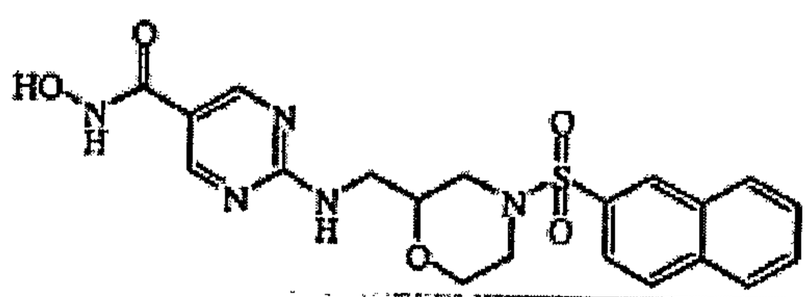




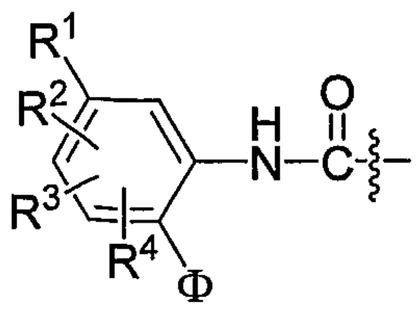








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

264. The compound of claim 259 R^1, R^2, R^3, and R^4 are all H.

265. A compound according to claim 259 for use in inhibting histone deacetylase.

266. A compound according to calim 259 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

267. The compound of claim 266, wherein said treatment is effected by inhibiting histone deacetylase.

268. The compound of calim 266, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

269. The compound of claim 266, wherein said cell proliferative disease is cancer.

270. The compound of claim 269, wherein said cancer is a solid tumor cancer.

271. The compound of claim 269, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

272. A pharmaceutical composition comprising a compound according to claim 259 and a pharmaceutically acceptable carrier.

273. The pharmaceutical composition of claim 272 further comprising a nucleic acid level inhibitor of histone deacetylase.

274. The pharmaceutical composition of claim 273, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

275. The pharmaceutical composition of claim 274, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

276. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 259.

277. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 272.

278. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 273.

279. The method of claim 277, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

280. The method of claim 277, wherein said cell proliferative disease is cancer.

281. The method of claim 280, wherein said cancer is a solid tumor cancer.

282. The method of claim 281, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

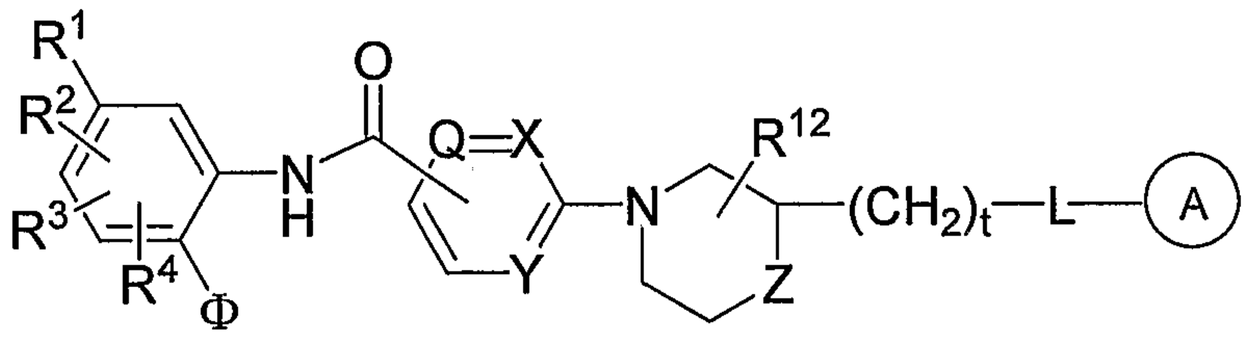
283. The method of claim 278, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

284. The method of claim 278, wherein said cell proliferative disease is cancer.

285. The method of claim 284, wherein said cancer is a solid tumor cancer.

286. The method of claim 285, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

287. A compound of the formula:



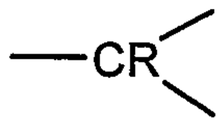
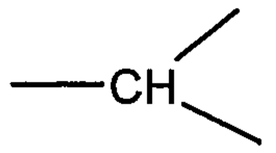
or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in claim1;

R^2, R^3, and R^4 are as defined in claim 1;

t is 0, 1, 2, 3 or 4 and when t is 0 then a direct bond is intended;

Q is nitrogen or  ,  , or  ;

X is nitrogen or ;

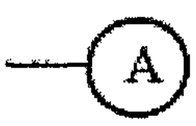
Y is nitrogen or ;

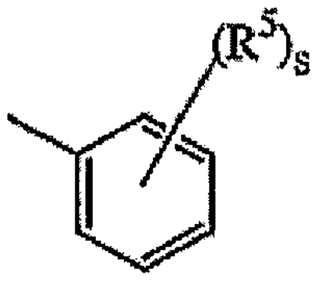
Z is –NH-, –O- or $–CH_2$-;

R is selected from the group consisting of hydrogen, halogen, $-NH_2$, nitro, hydroxy, aryl, heterocyclyl, C_3-C_8-cycloalkyl, heteroaryl, C_1-C_7-akyl, haloalkyl, C_1-C_7-alkenyl, C_1-C_7-alkynyl, C_1-C_7-acyl, C_1-C_7-alkyl-aryloxy, C_1-C_7–alkyl-arylsulfanyl, C_1-C_7–alkyl-arylsulfinyl, C_1-C_7–alkyl-arylsulfonyl, C_1-C_7–alkyl-arylaminosulfonyl, C_1-C_7–alkyl-arylamine, C_1-C_7-alkynyl-C(O)-amine, C_1-C_7-alkenyl-C(O)-amine, C_1-C_7-alkynyl-R^9, C_1-C_7-alkenyl-R^9 wherein R^9 is hydrogen , hydroxy, amino, C_1-C_7-alkyl or C_1-C_7-alkoxy;

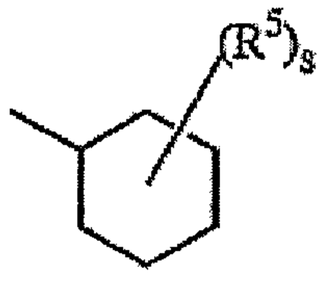
R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, hydroxycarbonyl, aminoC_{1-6}alkyl, aminocarbonylC_{1-6}alkyl, hydroxycarbonylC_{1-6}alkyl, hydroxyaminocarbonyl, C_{1-6}alkyloxycarbonyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from $–NR^9C(O)$-, $-NR^9SO_2$- or $-NR^9CH_2$- wherein R^9 is hydrogen, C_{1-6}alkyl, C_{3-10}cycloalkyl, hydroxyC_{1-6}alkyl, C_{1-6}alkyloxyC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

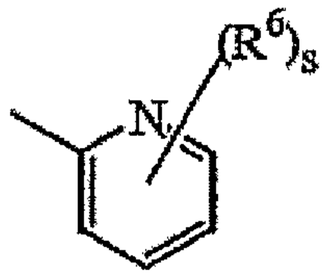
 is a radical selected from



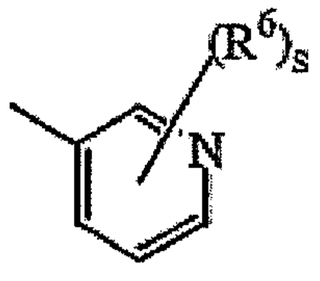
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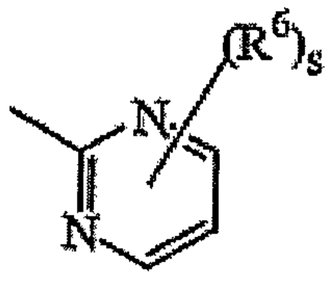
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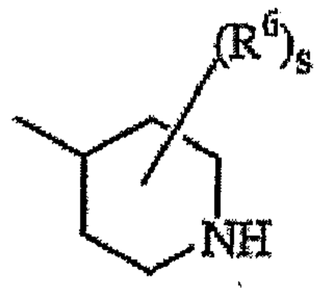
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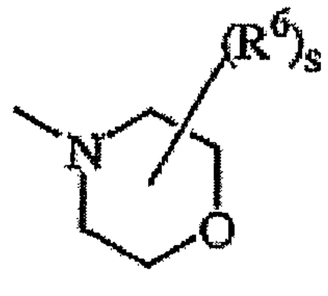
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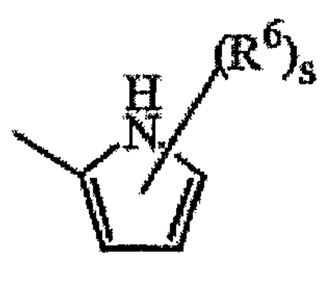
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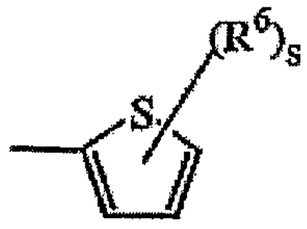
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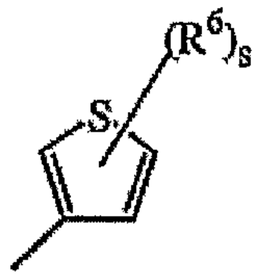
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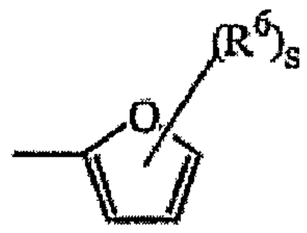
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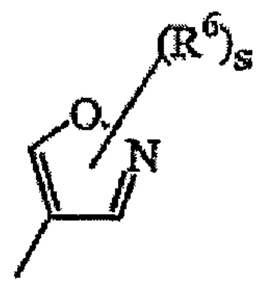
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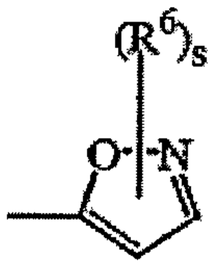
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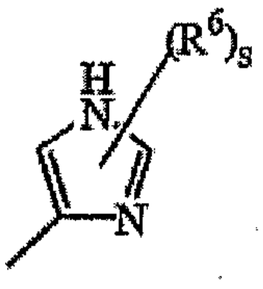
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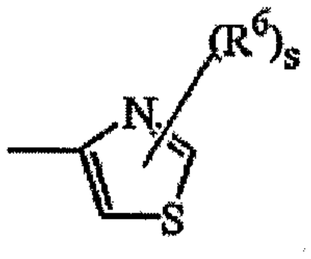
(a-12)



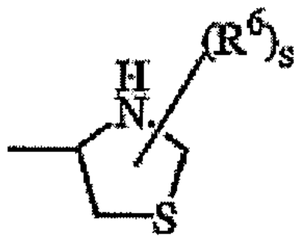
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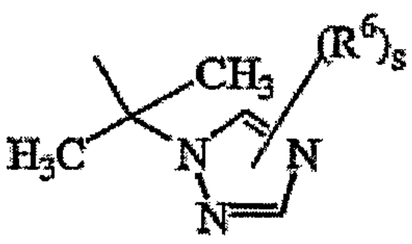
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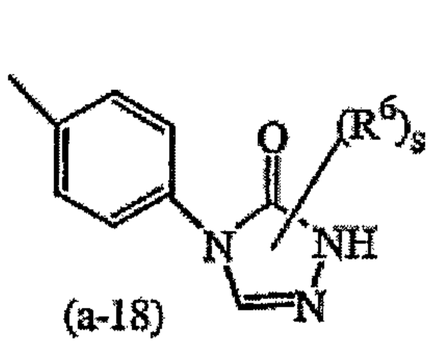
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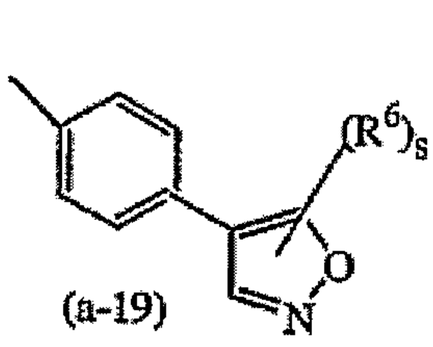
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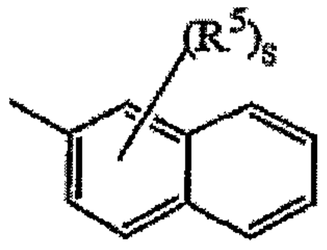
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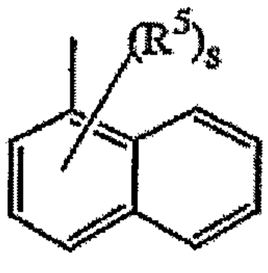
(a-18)



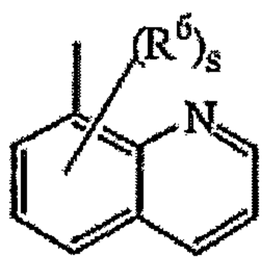
(a-19)



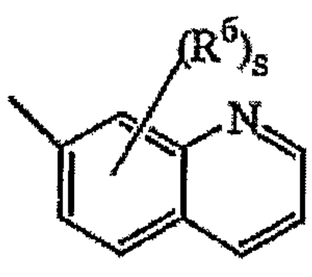
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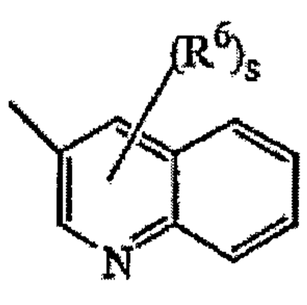
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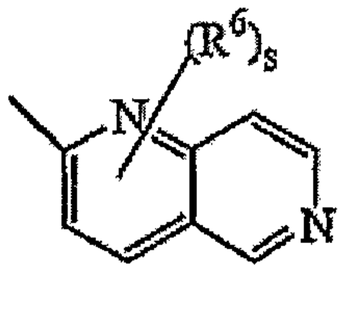
(a-22)



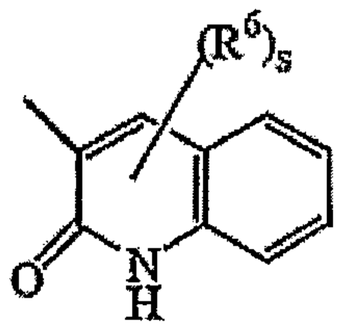
(a-23)



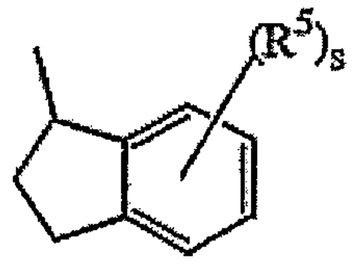
(a-24)



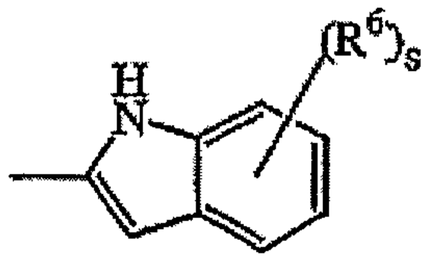
(a-25)



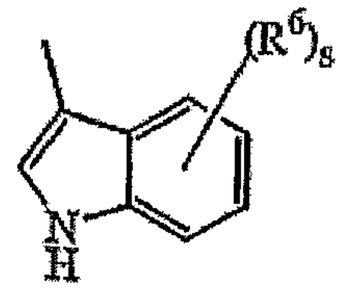
(a-26)



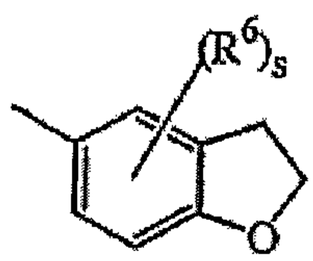
(a-27)



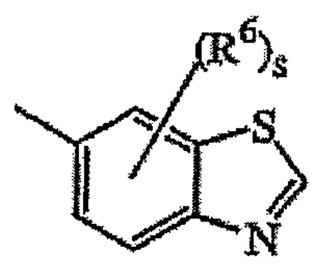
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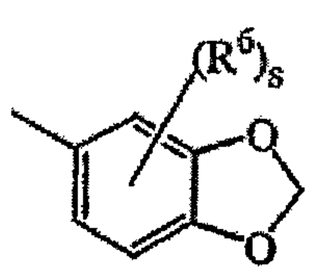
(a-29)



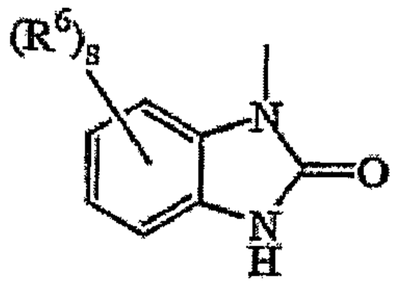
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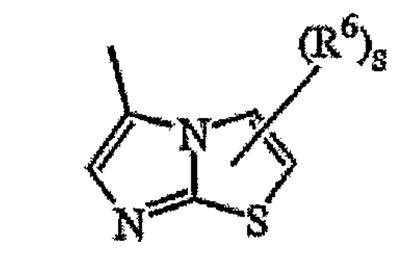
(a-31)



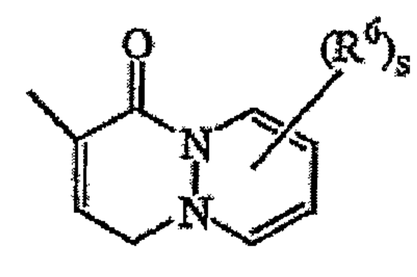
(a-32)



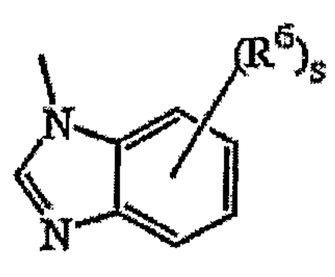
(a-33)



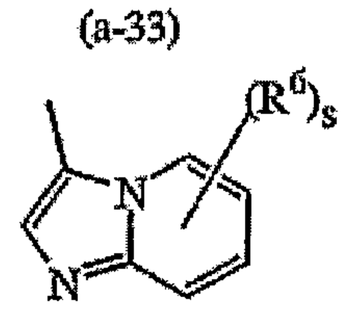
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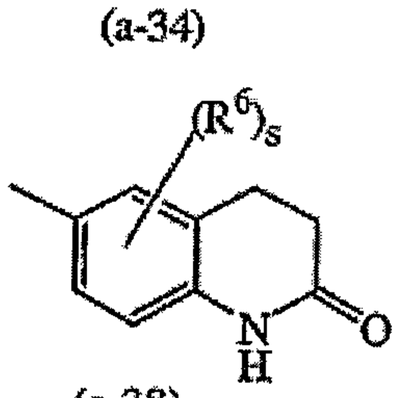
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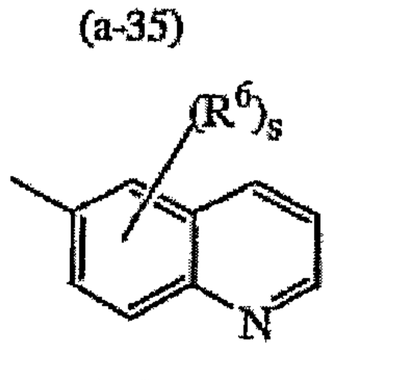
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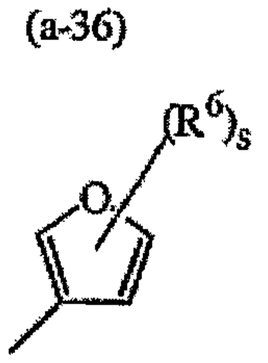
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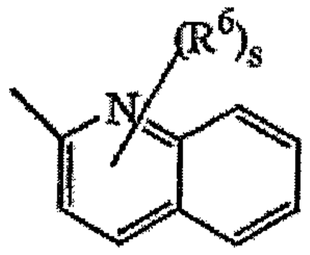
(a-38)



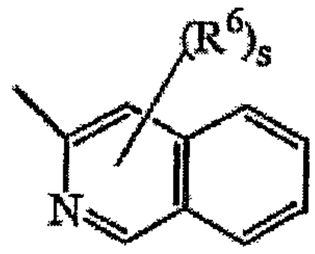
(a-39)



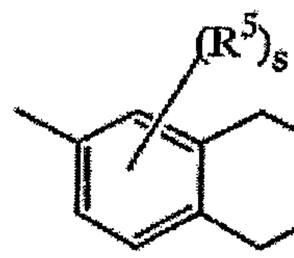
(a-40)



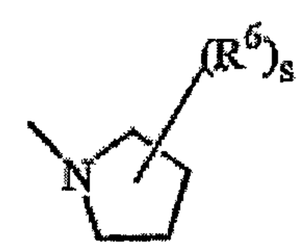
(a-41)



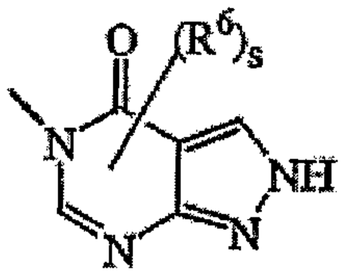
(a-42)



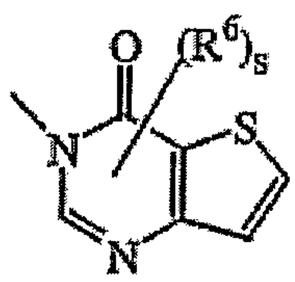
(a-43)



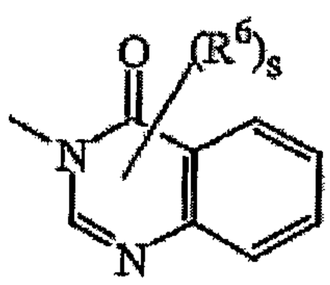
(a-44)



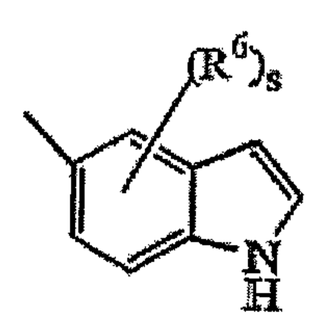
(a-45)



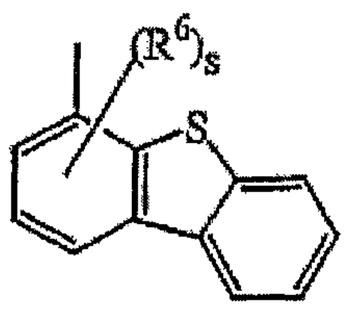
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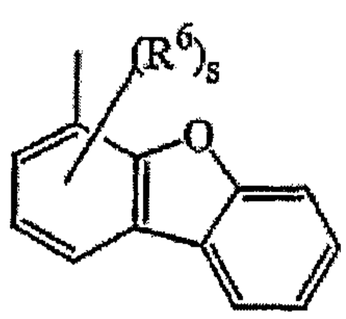
(a-47)



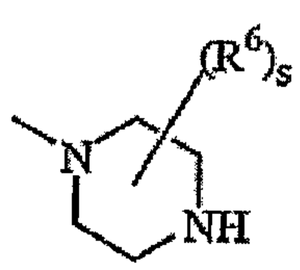
(a-48)



(a-49)



(a-50)



(a-51)

wherein each s is independently 0, 1, 2, 3, 4 or 5;

each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro;

trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyl substituted with aryl and C_{3-10}cycloalkyl; C_{1-6}alkyloxy; C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; (aryl)(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; di(C_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; arylsulfonyl; arylsulfonylamino; aryloxy; aryloxyC_{1-6}alkyl; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)amino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; aminosulfonylamino(C_{1-6}alkyl)amino; aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminosulfonylamino(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl, di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl, C_{1-6}alkyloxypiperidinyl, C_{1-6}alkyloxypiperidinylC_{1-6}alkyl, morpholinylC_{1-6}alkyl, hydroxyC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; morpholinylC_{1-6}alkylamino; morpholinylC_{1-6}alkylaminoC_{1-6}alkyl; piperazinyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; piperazinylC_{1-6}alkyl; naphtalenylsulfonylpiperazinyl; naphtalenylsulfonylpiperidinyl; naphtalenylsulfonyl; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylC_{1-6}alkylamino; C_{1-6}alkylpiperazinylC_{1-6}alkylaminoC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl;

di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; piperidinylaminoC_{1-6}alkylamino; piperidinylaminoC_{1-6}alkylaminoC_{1-6}alkyl; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylamino; (C_{1-6}alkylpiperidinyl)(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkylaminoC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; hydroxyC_{1-6}alkylaminoC_{1-6}alkyl; di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; tetrahydropyrimidinylpiperazinyl; tetrahydropyrimidinylpiperazinylC_{1-6}alkyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, nitro, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkylsulfonyl, C_{1-4}alkyloxyC_{1-4}alkyloxy, C_{1-4}alkyloxycarbonyl, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminocarbonyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)amino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, aminosulfonylamino(C_{1-4}alkyl)amino, aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminosulfonylamino(C_{1-4}alkyl)aminoC_{1-6}alkyl, cyano, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(hydroxyC_{1-4}alkyl)amino, di(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkyl, furanyl, furanyl substituted with –CH=CH-CH=CH-, pyrrolidinylC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinyl, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

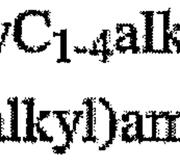
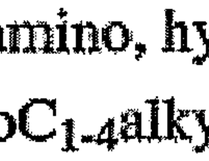
morpholinylC_{1-4}alkylamino, morpholinylC_{1-4}alkylaminoC_{1-4}alkyl, piperazinyl, C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, piperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkylpiperazinylC_{1-4}alkylamino, C_{1-4}alkylpiperazinylC_{1-4}alkylaminoC_{1-6}alkyl, tetrahydropyrimidinylpiperazinyl, tetrahydropyrimidinylpiperazinylC_{1-4}alkyl, piperidinylaminoC_{1-4}alkylamino, piperidinylaminoC_{1-4}alkylaminoC_{1-4}alkyl, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylamino, (C_{1-4}alkylpiperidinyl)(hydroxyC_{1-4}alkyl)aminoC_{1-4}alkylaminoC_{1-4}alkyl, pyridinylC_{1-4}alkyloxy, hydroxyC_{1-4}alkylamino, hydroxyC_{1-4}alkylaminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino;

each R^5 and R^6 can be placed on the nitrogen in replacement of the hydrogen;

aryl in the above is phenyl, or phenyl substituted with one or more substituents each independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy, trifluoromethyl, cyano or hydroxycarbonyl.

288. The compound of claim 287 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim287 wherein:

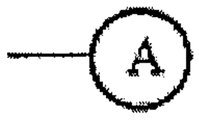
t is 0 or 1;

Q is  ,  , or  ;

X is nitrogen;

R^{12} is hydrogen, hydroxy, C_{1-6}alkyl, or arylC_{1-6}alkyl;

-L- is a bivalent radical selected from –NHC(O)- or -$NHSO_2$-;

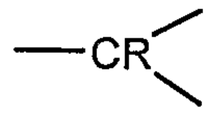
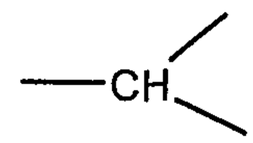
 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

each R^5 is independently selected from hydrogen or phenyl.

289. The compound of claim 287 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim287 wherein:

t is 1;

Q is  ; ,  , or  ;

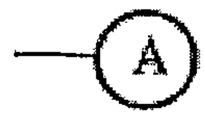
X is nitrogen;

Y is nitrogen;

Z is –O- or $-CH_2-$;

R^{12} is H;

-L- is a bivalent radical selected from –NHC(O)- or $-NHSO_2-$;

 is a radical selected from (a-1) or (a-20);

each s is independently 0 or 1;

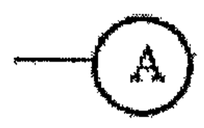
each R^5 is independently selected from hydrogen or phenyl.

290. The compound of claim 287 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 287 wherein:

t is 0;

R^{12} is hydrogen, hydroxy, amino, hydroxyC_{1-6}alkyl, C_{1-6}alkyl, C_{1-6}alkyloxy, arylC_{1-6}alkyl, aminocarbonyl, aminoC_{1-6}alkyl, C_{1-6}alkylaminoC_{1-6}alkyl or di(C_{1-6}alkyl)aminoC_{1-6}alkyl;

-L- is a bivalent radical selected from –NHC(O)- or $-NHSO_2-$;

 is a radical selected from (a-1), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42), (a-44), (a-45), (a-46), (a-47), (a-48) or (a-51);

each s is independently 0, 1, 2, 3 or 4;

R^5 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; thiophenyl; furanyl; furanyl substituted with hydroxyC_{1-6}alkyl; benzofuranyl; imidazolyl; oxazolyl; oxazolyl substituted with aryl and C_{1-6}alkyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; pyrrolyl; morpholinyl; C_{1-6}alkylmorpholinyl; piperazinyl; C_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinyl; C_{1-6}alkyloxypiperidinyl; pyrazoly; pyrazolyl substituted with one or two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy, aryloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl;

R^6 is hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkyloxycarbonyl; C_{1-6}alkylsulfonyl; hydroxyC_{1-6}alkyl; aryloxy; di(C_{1-6}alkyl)amino; cyano; pyridinyl; phenyl; or phenyl substituted with one or two substituents independently selected from halo, C_{1-6}alkyl, C_{1-6}alkyloxy or trifluoromethyl.

291. The compound of claim 287 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 287 wherein:

R^3 and R^4 are each independently selected from hydrogen, hydroxy, hydroxyC_{1-6}alkyl, aminoC_{1-6}alkyl or aminoaryl;

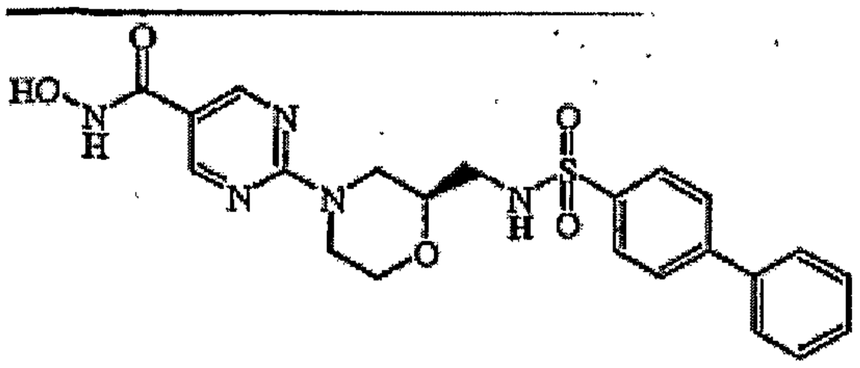
—(A) is a radical selected from (a-1), (a-2), (a-3), (a-4), (a-5), (a-6), (a-7), (a-8), (a-9), (a-10), (a-11), (a-12), (a-13), (a-14), (a-15), (a-16), (a-17), (a-18), (a-19), (a-20), (a-21), (a-22), (a-23), (a-24), (a-25), (a-26), (a-27), (a-28), (a-29), (a-30), (a-31), (a-32), (a-33), (a-34), (a-35), (a-36), (a-37), (a-38), (a-39), (a-40), (a-41), (a-42) (a-43) or (a-44);

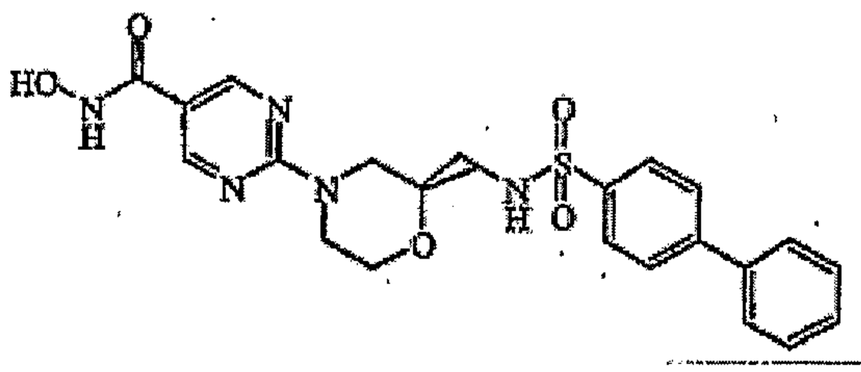
each R^5 and R^6 are independently selected from hydrogen; halo; hydroxy; amino; nitro; trihaloC_{1-6}alkyl; trihaloC_{1-6}alkyloxy; C_{1-6}alkyl; C_{1-6}alkyloxy;

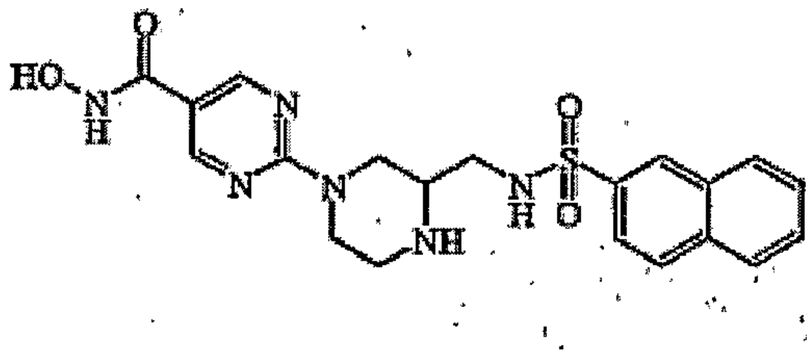
C_{1-6}alkyloxyC_{1-6}alkyloxy; C_{1-6}alkylcarbonyl; C_{1-6}alkylsulfonyl; cyanoC_{1-6}alkyl; hydroxyC_{1-6}alkyl; hydroxyC_{1-6}alkyloxy; hydroxyC_{1-6}alkylamino; aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminocarbonyl; di(hydroxyC_{1-6}alkyl)amino; arylC_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyloxy; di(C_{1-6}alkyl)aminoC_{1-6}alkylamino; arylsulfonyl; arylsulfonylamino; aryloxy; arylC_{2-6}alkenediyl; di(C_{1-6}alkyl)amino; di(C_{1-6}alkyl)aminoC_{1-6}alkyl; di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl; cyano; thiophenyl; thiophenyl substituted with di(C_{1-6}alkyl)aminoC_{1-6}alkyl(C_{1-6}alkyl)aminoC_{1-6}alkyl, di(C_{1-6}alkyl)aminoC_{1-6}alkyl, C_{1-6}alkylpiperazinylC_{1-6}alkyl or di(hydroxyC_{1-6}alkyl)aminoC_{1-6}alkyl; furanyl; imidazolyl; C_{1-6}alkyltriazolyl; tetrazolyl; pyrrolidinyl; piperidinylC_{1-6}alkyloxy; morpholinyl; C_{1-6}alkylmorpholinyl; morpholinylC_{1-6}alkyloxy; morpholinylC_{1-6}alkyl; C_{1-6}alkylpiperazinyl; C_{1-6}alkylpiperazinylC_{1-6}alkyloxy; C_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkylpiperazinylsulfonyl; aminosulfonylpiperazinylC_{1-6}alkyloxy; aminosulfonylpiperazinyl; aminosulfonylpiperazinylC_{1-6}alkyl; di(C_{1-6}alkyl)aminosulfonylpiperazinyl; di(C_{1-6}alkyl)aminosulfonylpiperazinylC_{1-6}alkyl; hydroxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; C_{1-6}alkyloxypiperidinyl; C_{1-6}alkyloxypiperidinylC_{1-6}alkyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinyl; hydroxyC_{1-6}alkyloxyC_{1-6}alkylpiperazinylC_{1-6}alkyl; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)amino; (hydroxyC_{1-6}alkyl)(C_{1-6}alkyl)aminoC_{1-6}alkyl; pyrrolidinylC_{1-6}alkyloxy; pyrazolyl; thiopyrazolyl; pyrazolyl substituted with two substituents selected from C_{1-6}alkyl or trihaloC_{1-6}alkyl; pyridinyl; pyridinyl substituted with C_{1-6}alkyloxy or aryl; pyrimidinyl; quinolinyl; indole; phenyl; phenyl substituted with one, two or three substituents independently selected from halo, amino, C_{1-6}alkyl, C_{1-6}alkyloxy, hydroxyC_{1-4}alkyl, trifluoromethyl, trifluoromethyloxy, hydroxyC_{1-4}alkyloxy, C_{1-4}alkyloxyC_{1-4}alkyloxy, aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)aminoC_{1-4}alkyloxy, di(C_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkyl, di(C_{1-4}alkyl)aminoC_{1-4}alkyl(C_{1-4}alkyl)aminoC_{1-4}alkyl, piperidinylC_{1-4}alkyloxy, pyrrolidinylC_{1-4}alkyloxy, aminosulfonylpiperazinyl, aminosulfonylpiperazinylC_{1-4}alkyl, di(C_{1-4}alkyl)aminosulfonylpiperazinyl, di(C_{1-4}alkyl)aminosulfonylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, C_{1-4}alkyloxypiperidinyl, C_{1-4}alkyloxypiperidinylC_{1-4}alkyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinyl, hydroxyC_{1-4}alkyloxyC_{1-4}alkylpiperazinylC_{1-4}alkyl, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)amino, (hydroxyC_{1-4}alkyl)(C_{1-4}alkyl)aminoC_{1-4}alkyl, pyrrolidinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyloxy, morpholinylC_{1-4}alkyl,

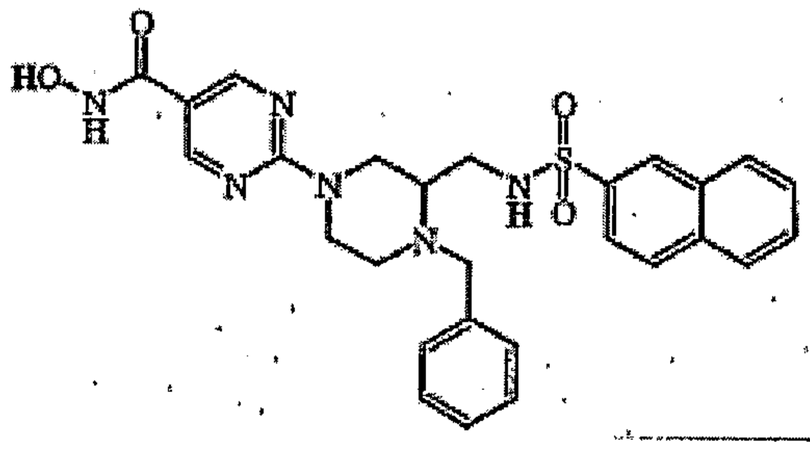
C_{1-4}alkylpiperazinyl, C_{1-4}alkylpiperazinylC_{1-4}alkyloxy, C_{1-4}alkylpiperazinylC_{1-4}alkyl, hydroxyC_{1-4}alkylamino, di(hydroxyC_{1-4}alkyl)amino, di(C_{1-4}alkyl)aminoC_{1-4}alkylamino, aminothiadiazolyl, aminosulfonylpiperazinylC_{1-4}alkyloxy, or thiophenylC_{1-4}alkylamino.

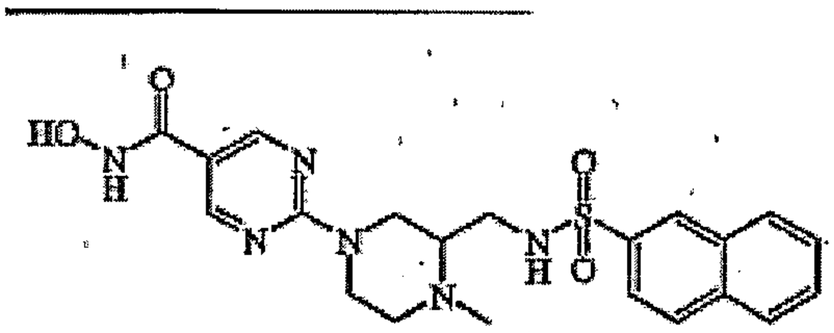
292. The compound of claim 287 that is selected from one of

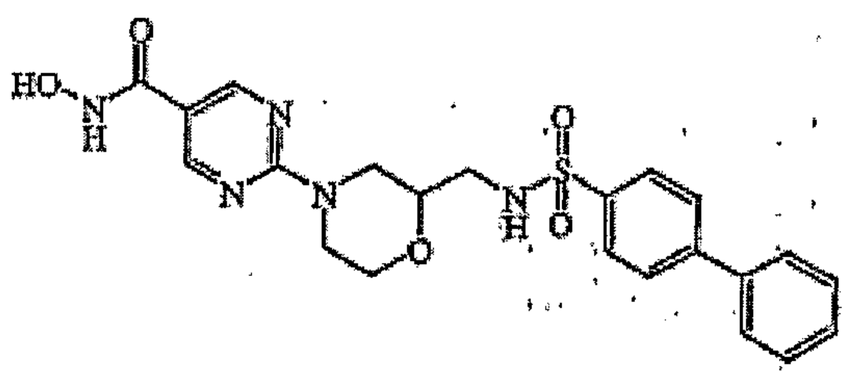


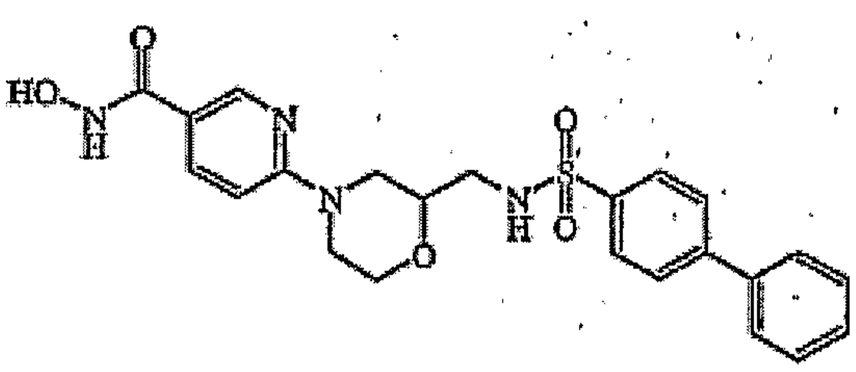


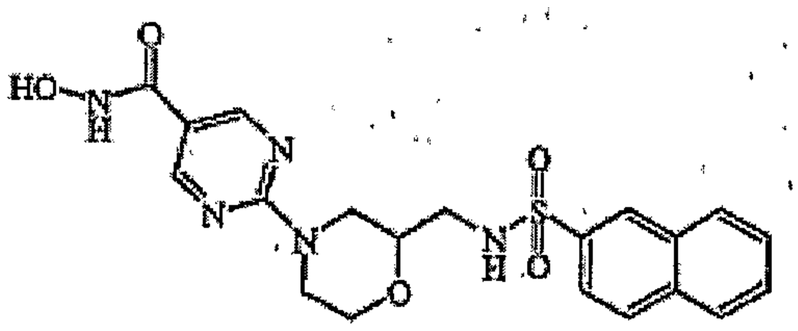


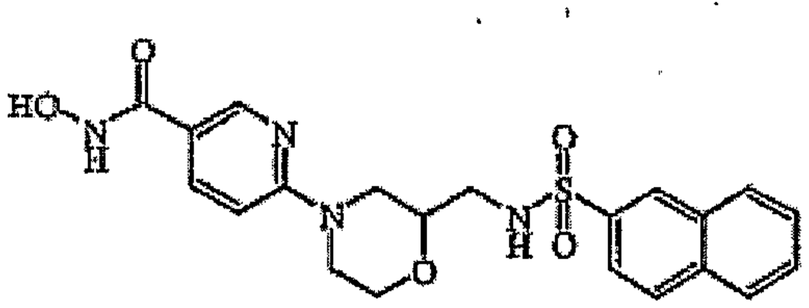


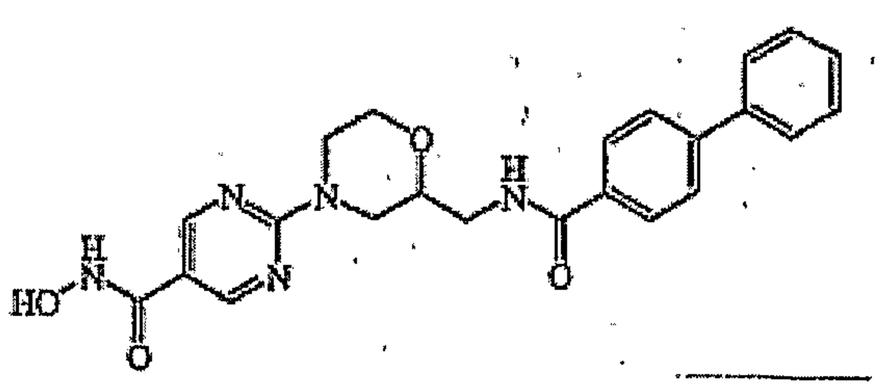


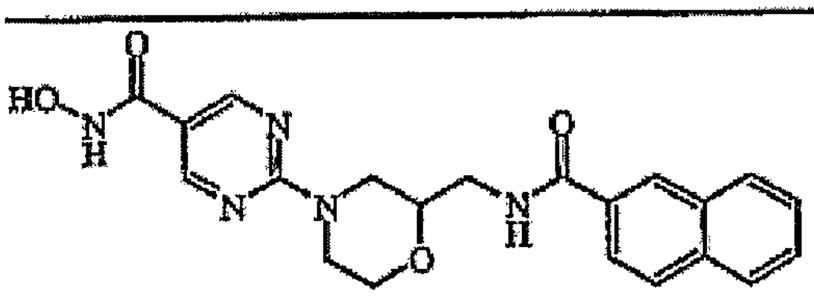


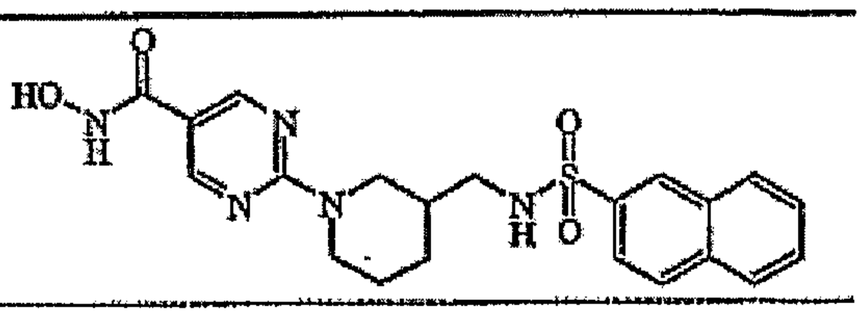


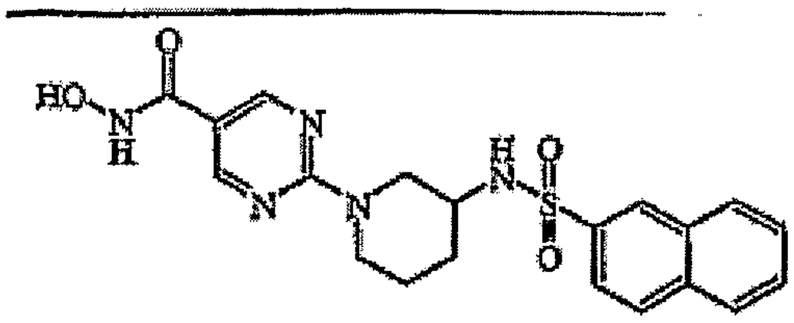


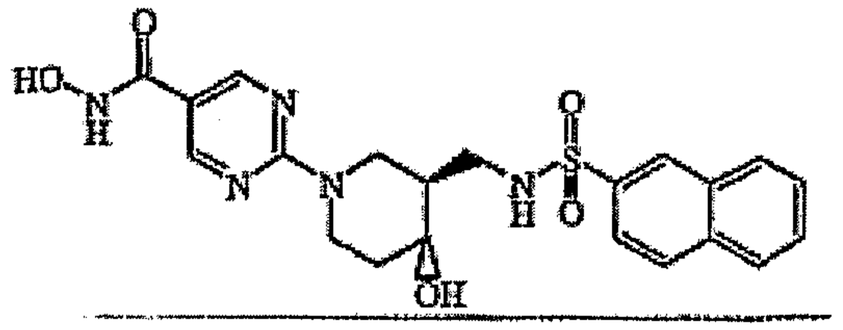




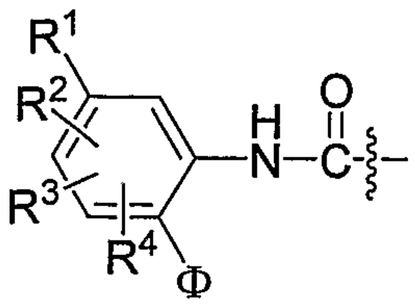








wherein the terminal hydroxamic acid moiety (-C(O)-NH-OH) is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

293. The compound of claim 287 wherein R^1, R^2, R^3, and R^4 are all H.

294. A compound according to claim 287 for use in inhibting histone deacetylase.

295. A compound according to calim 287 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

296. The compound of claim 295, wherein said treatment is effected by inhibiting histone deacetylase.

297. The compound of calim 295, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

298. The compound of claim 295, wherein said cell proliferative disease is cancer.

299. The compound of claim 398, wherein said cancer is a solid tumor cancer.

300. The compound of claim 298, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

301. A pharmaceutical composition comprising a compound according to claim 287 and a pharmaceutically acceptable carrier.

302. The pharmaceutical composition of claim 301 further comprising a nucleic acid level inhibitor of histone deacetylase.

303. The pharmaceutical composition of claim 302, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

304. The pharmaceutical composition of claim 303, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4,

SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

305. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 287.

306. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 301.

307. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 302.

308. The method of claim 306, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

309. The method of claim 306, wherein said cell proliferative disease is cancer.

310. The method of claim 309, wherein said cancer is a solid tumor cancer.

311. The method of claim 310, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

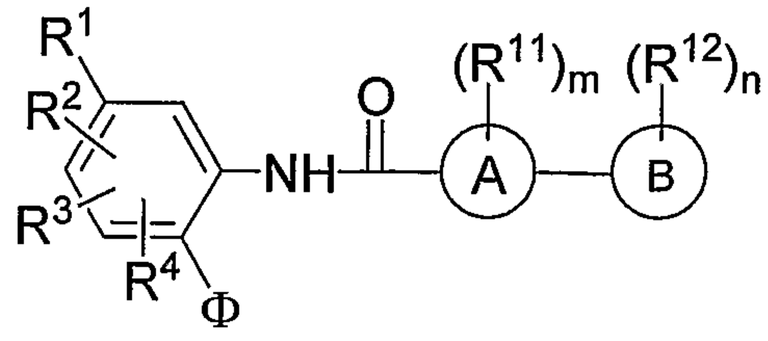
312. The method of claim 307, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

313. The method of claim 30, wherein said cell proliferative disease is cancer.

314. The method of claim 313, wherein said cancer is a solid tumor cancer.

315. The method of claim 314, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

316. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1;

Ring A is a heterocyclyl, wherein if said heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G;

R^{11} is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl or a group (D-E-); wherein R^1, including group (D-E-), may be optionally substituted on carbon by one or more V; and wherein, if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from J;

V is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl

or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and **Z** are independently selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl or *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

G, J and **K** are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, C_{1-8}alkanoyl, C_{1-8}alkylsulphonyl, C_{1-8}alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}alkyl)carbamoyl, *N,N*-(C_{1-8}alkyl)carbamoyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl, aryl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G, J and K may be optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from hydrogen or C_{1-6}alkyl;

Q is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, arylC_{1-6}alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}alkyl, (heterocyclic group)C_{1-6}alkoxy, or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

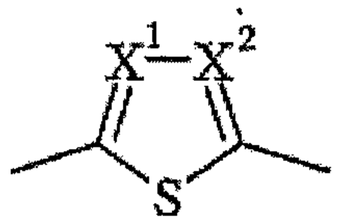
D, D' and **D"** are independently selected from C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{3-8}cycloalkyl, C_{3-8}cycloalkylC_{1-6}alkyl, aryl, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and **E"** are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$-, -SO_2N(R^a)-, -N(R^a)SO_2-; wherein R^a and R^b are independently selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2;

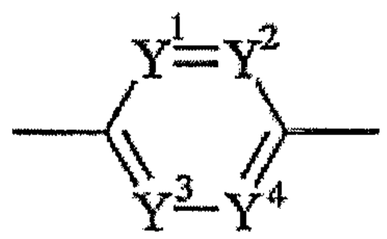
F and F' are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl and *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

m is 0, 1, 2, 3 or 4; wherein the values of R^1 may be the same or different;

Ring B is a ring selected from



or



wherein,

X^1 and X^2 are selected from CH or N, and

Y^1, Y^2, Y^3 and Y^4 are selected from CH or N provided that at least one of Y^1, Y^2, Y^3 and Y^4 is N;

R^{12} is halo;

n is 0, 1, or 2, wherein the values of R^{12} are the same or different.

317. The compound of claim 316 wherein

- Ring A is a pyridyl, quinolyl, indolyl, pyrimidinyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, pyrazinyl, thiazolyl, thienyl, thienopyrimidinyl, thienopyridinyl, purinyl, 1',2',3',6'-tetrahydropyridinyl, triazinyl, oxazolyl, pyrazolyl, or furanyl; wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.
- Ring B is thienyl, thiadiazolyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl.
- or
- Ring B is thienyl or pyridyl wherein both the thienyl and the pyridyl are attached to Ring A in the 2-position of the thienyl or pyridyl ring and to the amide group of formula (I) in the 5-position of the thienyl or pyridyl ring.

- R^{11} is halo, amino, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-3}alkanoyloxy, *N*-(C_{1-3}alkyl)amino, *N,N*-(C_{1-3}alkyl)$_2$amino, C_{1-3}alkanoylamino, *N*-(C_{1-3}alkyl)carbamoyl, *N,N*-(C_{1-3}alkyl)$_2$carbamoyl.
- or
- R^{11} is a substituent on carbon and is selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl or a group (D-E-); wherein R^1, including group (D-E-), may be optionally substituted on carbon by one or more V; and wherein, if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from J;

V is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and Z are independently selected from halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl or *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl;

G, J and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, C_{1-8}alkanoyl, C_{1-8}alkylsulphonyl, C_{1-8}alkoxycarbonyl, carbamoyl, *N*-(C_{1-8}alkyl)carbamoyl, *N,N*-(C_{1-8}alkyl)carbamoyl, benzyloxycarbonyl, benzoyl and phenylsulphonyl, aryl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G, J and K may be optionally substituted on carbon by one or more Q; and wherein if said heterocyclic group contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from hydrogen or C_{1-6}alkyl;

Q is halo, nitro, cyano, hydroxy, oxo, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, *N*-(C_{1-6}alkyl)sulphamoyl, *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl, aryl, aryloxy, arylC_{1-6}alkyl, arylC_{1-6}alkoxy, heterocyclic group, (heterocyclic group)C_{1-6}alkyl, (heterocyclic group)C_{1-6}alkoxy, or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

D, D' and D'' are independently selected from C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{3-8}cycloalkyl, C_{3-8}cycloalkylC_{1-6}alkyl, aryl, arylC_{1-6}alkyl, heterocyclic group, (heterocyclic group)C_{1-6}alkyl; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; and wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and E'' are independently selected from -N(R^a)-, -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -N(R^a)C(O)N(R^b)-, -N(R^a)C(O)O-, -OC(O)N(R^a)-, -C(O)N(R^a)-, -S(O)$_r$–, -SO_2N(R^a)-, -N(R^a)SO_2-; wherein R^a and R^b are independently selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2; and

F and F' are independently selected from halo, nitro, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, amino, carboxy, carbamoyl, mercapto, sulphamoyl, C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)amino, *N,N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino, *N*-(C_{1-6}alkyl)carbamoyl, *N,N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkylS(O)$_a$ wherein a is 0 to 2, C_{1-6}alkoxycarbonyl, *N*-(C_{1-6}alkyl)sulphamoyl and *N,N*-(C_{1-6}alkyl)$_2$sulphamoyl.

m is 0, 1, 2, 3 or 4; wherein the values of R^{11} are the same or different.

- R^{12} is halo.
- n is 0, 1, or 2; wherein the values of R^{12} are the same or different;

318. The compound of claim 317 wherein

- Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, quinolin-8-yl, pyrimidin-6-yl, pyrimidin-5-yl, pyrimidin-4-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, pyridazin-5-yl, pyrazin-6-yl, thiazol-2-yl, thien-2-yl, thieno[3,2d]pyrimidinyl, thieno[3,2b]pyrimidinyl, thieno[3,2b]pyridinyl, purin-6-yl, 1',2',3',6'-tetrahydropyridin-4-yl or triazin-6-yl; wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.

Ring B is thienyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl.

- R^{11} is halo, amino, C_{1-6}alkyl or C_{1-6}alkoxy.

319. The compound of claim 317 wherein

Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl, morpholin-4-yl, piperidin-4-yl, piperidin-3-yl, piperdin-2-yl, piperazin-4-yl, thiazol-2-yl, thien-2-yl, furan-3-yl, pyrrolidin-1-yl, piperidin-1-yl, triazol-1-yl or 1',2',3',6'-tetrahydropyridin-4-yl wherein if Ring A contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from G.

- Ring B is thienyl or pyridyl.
- R^{11} is halo, amino, methyl or methoxy.

320. The compound of claim 317 wherein

Ring A is a pyridyl, pyrimidyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, thienyl, pyrazinyl, thiazolyl, 1,2,4-triazolyl or furanyl.

321. The compound of claim 317 wherein

Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl or 1,2,4-triazolyl.

322. The compound of claim 317 wherein

R^{11} substituent on carbon and is selected from cyano, hydroxy, C_{1-6}alkyl or a group (D-E-); whe wherein R^{11} including group E-), may be optionally substituted on carbon by one or more V;

V is cyano, hydroxy or a group (D'-E'-); wherein V, including group (D'-E'-), may be optionally substituted on carbon by one or more W;

W and Z are independently selected from cyano, C_{1-6}alkyl or C_{1-6}alkoxy;

G and K are independently selected from C_{1-8}alkyl, C_{2-8}alkenyl, C_{2-8}alkynyl, arylC_{1-6}alkyl or (heterocyclic group)C_{1-6}alkyl; wherein G and K may be optionally substituted on carbon by one or more Q;

Q is cyano, hydroxy, oxo, C_{1-6}alkyl, C_{2-6}alkenyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, C_{1-6}alkanoyloxy, *N*-(C_{1-6}alkyl)carbamoyl, *N*,*N*-(C_{1-6}alkyl)$_2$carbamoyl, C_{1-6}alkoxycarbonyl, C_{1-6}alkoxycarbonylamino, aryl, aryloxy or a group (D"-E"-); wherein Q, including group (D"-E"-), may be optionally substituted on carbon by one or more Z;

D, D' and D'' are independently selected from aryl, arylC_{1-6}alkyl or heterocyclic group; wherein D, D' and D'' may be optionally substituted on carbon by one or more F'; a wherein if said heterocyclic group contains an –NH- moiety that nitrogen may be optionally substituted by a group selected from K;

E, E' and E'' are independently selected from -O-, -C(O)O-, -OC(O)-, -C(O)-, -N(R^a)C(O)-, -C(O)N(R^a)-, -S(O)$_r$-; wherein R^a is selected from hydrogen or C_{1-6}alkyl optionally substituted by one or more F and r is 0-2; and

F and F' are independently selected from nitro, hydroxy, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-6}alkanoyl, *N*-(C_{1-6}alkyl)amino, *N*,*N*-(C_{1-6}alkyl)$_2$amino, C_{1-6}alkanoylamino or C_{1-6}alkoxycarbonyl.

323. The compound of claim 317 wherein R^{12} is fluoro.

324. The compound of claim 317 wherein R^{12} is chloro.

325. The compound of claim 316 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 316 wherein:

Ring A is a pyridyl, indolyl, pyrimidyl, morpholinyl, piperidinyl, piperazinyl, pyridazinyl, thienyl, pyrazinyl, thiazolyl, oxazolyl, 1,2,4-triazolyl, isoxazolyl, isothiazolyl, pyrazolyl, or furanyl;

Ring B is thienyl, thiadiazolyl, thiazolyl, pyrimidyl, pyrazinyl, pyridazinyl or pyridyl;

R^{11} is halo, amino, C_{1-6}alkyl, C_{1-6}alkoxy, C_{1-3}alkanoyloxy, *N*-(C_{1-3}alkyl)amino, *N*,*N*-(C_{1-3}alkyl)$_2$amino, C_{1-3}alkanoylamino, *N*-(C_{1-3}alkyl)carbamoyl, *N*,*N*-(C_{1-3}alkyl)$_2$carbamoyl;

m is 0, 1, 2, wherein the values of R^{11} are the same or different.

n is 0, 1, 2, wherein the values of R^{12} are the same or different;

R^{12} is F or Cl.

326. The compound of claim 316 wherein each of R^2, R^3, and R^4 corresponds to R^{12}, R^{13}, and R^{14}, respectively, in claim 316 wherein:

Ring A is pyridin-4-yl, pyridin-3-yl, pyridin-2-yl or 1,2,4-triazolyl;

Ring B is thienyl or pyridyl;

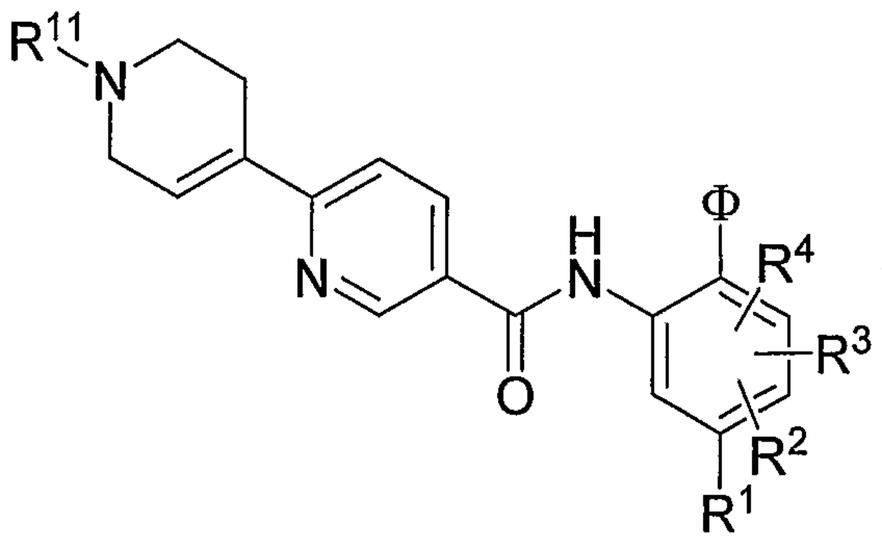
R^{11} is halo, amino, methyl or methoxy;

m is 0, 1, 2, wherein the values of R^{11} are the same or different.

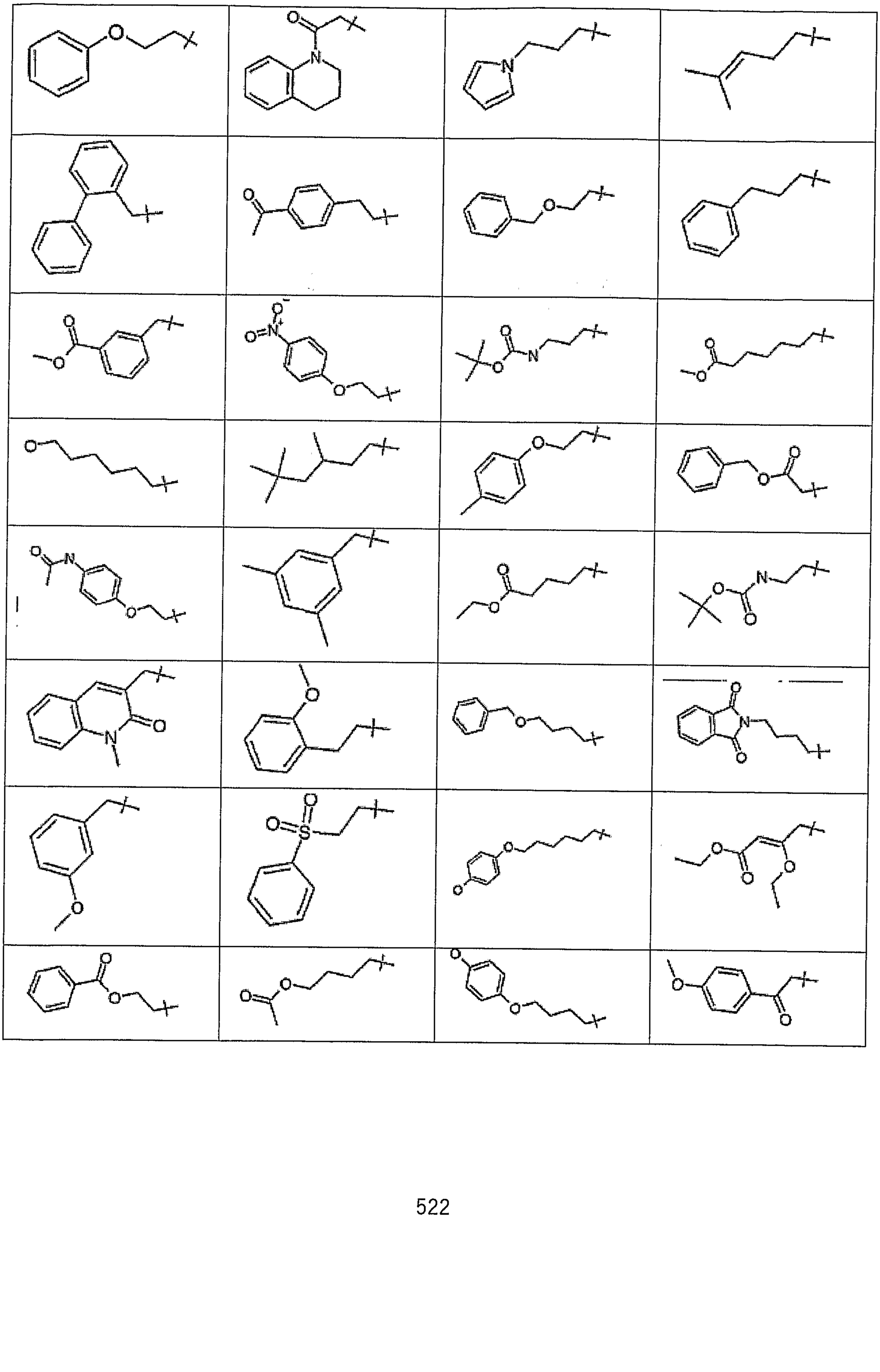
n is 0 or 1;

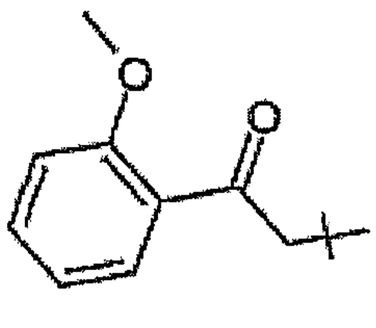
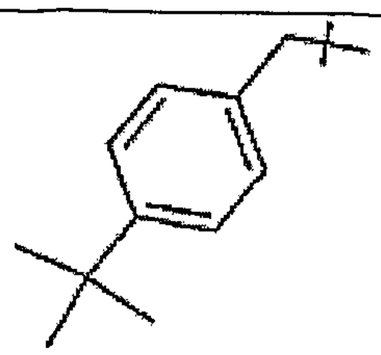
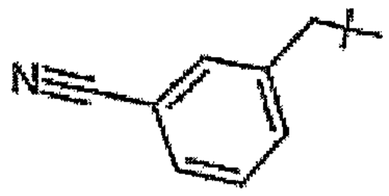
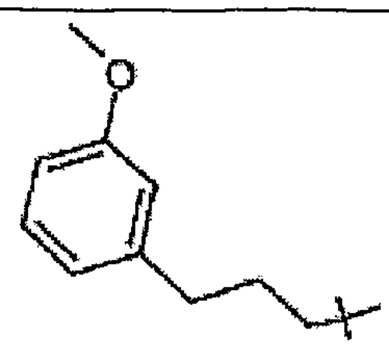
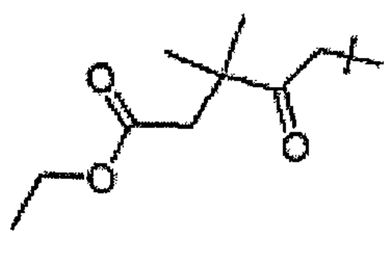
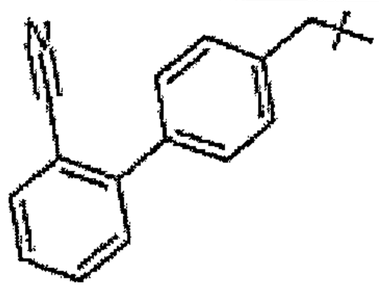
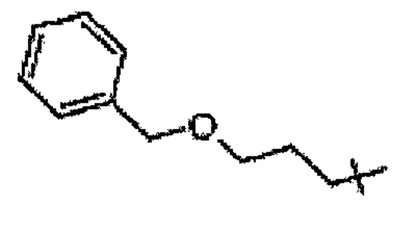
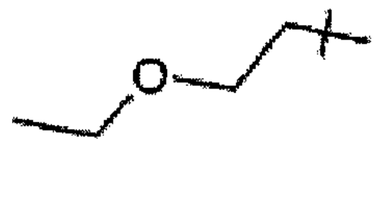
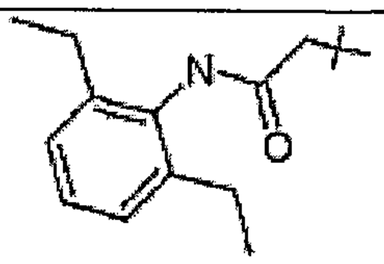
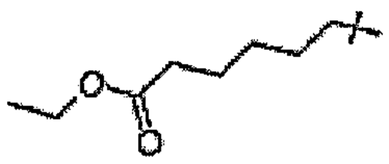
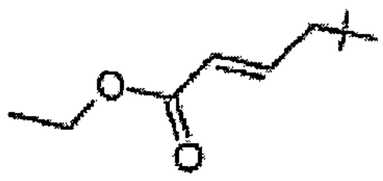
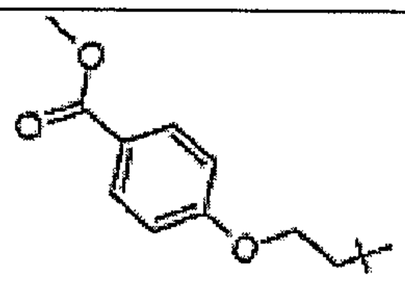
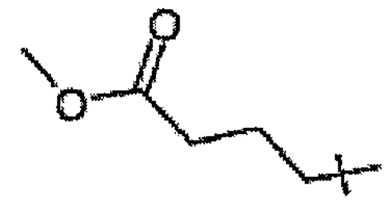
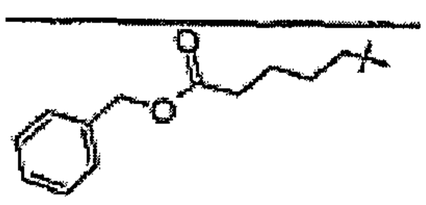
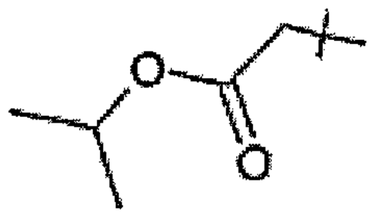
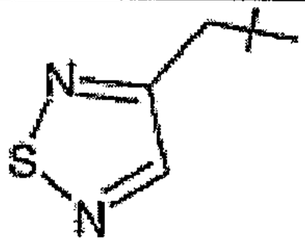
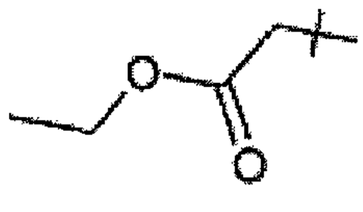
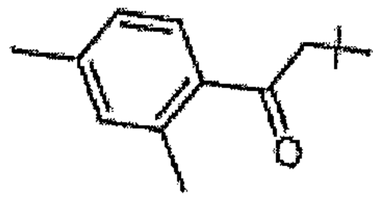
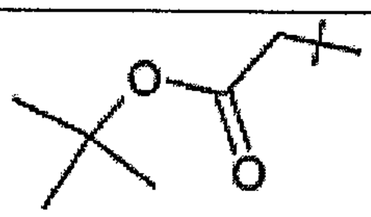
R^{12} is F.

327. The compound of claim 316 that is



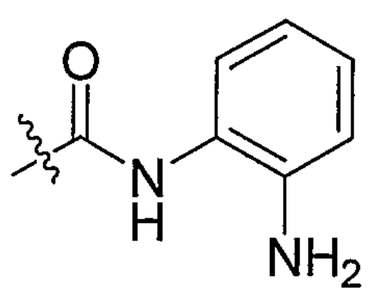
wherein R^{11} is selected from one of:



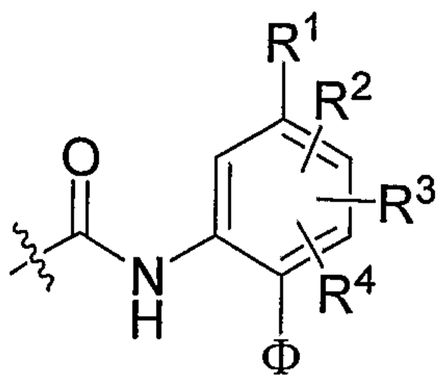
			
			
			
			
			
and	 .		

328. The compound of claim 316 wherein R^2, R^3, and R^4 are all H.

329. The compound of claim 316 that is selected from one of the compounds of WO 03/024448 wherein the terminal moieties -C(O)-NH-Ay^1, -C(O)-NH-Ay^2, -C(O)-NH-Ar^a-NH_2, and



are replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

330. A compound according to claim 316 for use in inhibting histone deacetylase.

331. A compound according to calim 316 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

332. The compound of claim 331, wherein said treatment is effected by inhibiting histone deacetylase.

334. The compound of calim 331, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

335. The compound of claim 331, wherein said cell proliferative disease is cancer.

336. The compound of claim 335, wherein said cancer is a solid tumor cancer.

337. The compound of claim 335, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

338. A pharmaceutical composition comprising a compound according to claim 316 and a pharmaceutically acceptable carrier.

339. The pharmaceutical composition of claim 338 further comprising a nucleic acid level inhibitor of histone deacetylase.

340. The pharmaceutical composition of claim 339, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

341. The pharmaceutical composition of claim 340, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

342. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 316.

343. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 338.

344. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 339.

345. The method of claim 343, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

346. The method of claim 343, wherein said cell proliferative disease is cancer.

347. The method of claim 346, wherein said cancer is a solid tumor cancer.

348. The method of claim 347, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

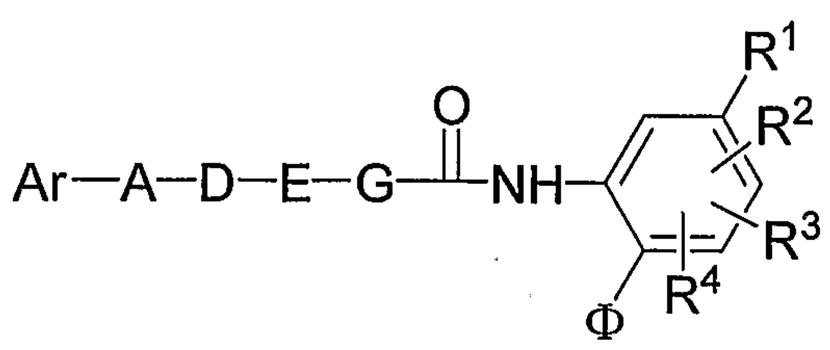
349. The method of claim 344, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

350. The method of claim 344, wherein said cell proliferative disease is cancer.

351. The method of claim 350, wherein said cancer is a solid tumor cancer.

352. The method of claim 351, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

353. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or –OH;

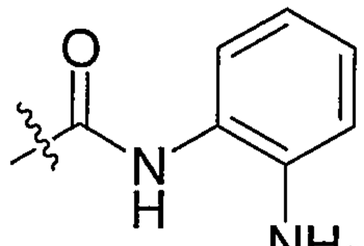
R^1 is H or as defined in claim 1;

R^2, R^3, and R^4 are as defined in claim 1; and

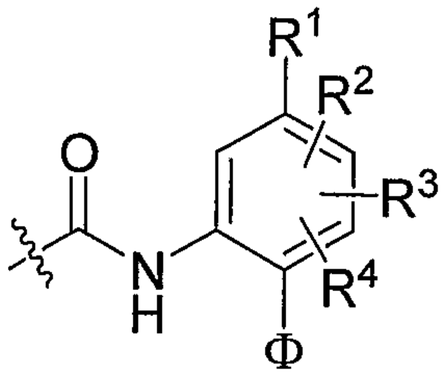
Ar, A, D, E, and G are as defined in JP 2003137866.

354. The compound of claim 353 wherein R^1, R^2, R^3, and R^4 are all H.

355. The compound of claim 353 that is selected from one of the compounds of JP 2003137866 wherein the terminal moiety:



NH_2 is replaced with



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

356. A compound according to claim 353 for use in inhibting histone deacetylase.

357. A compound according to calim 353 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

358. The compound of claim 357, wherein said treatment is effected by inhibiting histone deacetylase.

359. The compound of calim 357, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

360. The compound of claim 357, wherein said cell proliferative disease is cancer.

361. The compound of claim 360, wherein said cancer is a solid tumor cancer.

362. The compound of claim 360, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

363. A pharmaceutical composition comprising a compound according to claim 353 and a pharmaceutically acceptable carrier.

364. The pharmaceutical composition of claim 363 further comprising a nucleic acid level inhibitor of histone deacetylase.

365. The pharmaceutical composition of claim 364, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

366. The pharmaceutical composition of claim 365, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

367. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 353.

368. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 363.

369. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 364.

370. The method of claim 368, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

371. The method of claim 368, wherein said cell proliferative disease is cancer.

372. The method of claim 371, wherein said cancer is a solid tumor cancer.

373. The method of claim 372, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

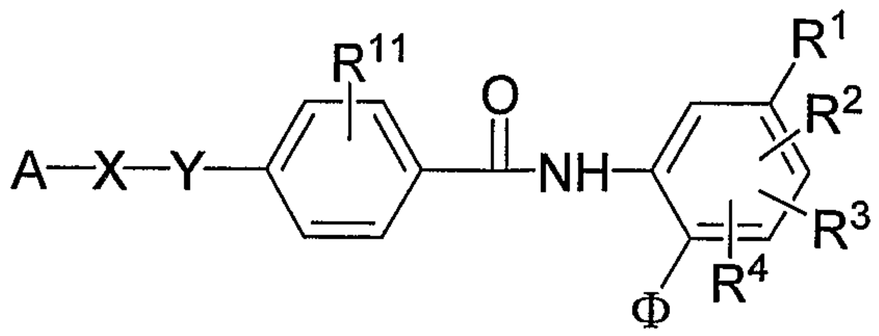
374. The method of claim 369, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

375. The method of claim 369, wherein said cell proliferative disease is cancer.

376. The method of claim 375, wherein said cancer is a solid tumor cancer.

377. The method of claim 376, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

378. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in claim 1;

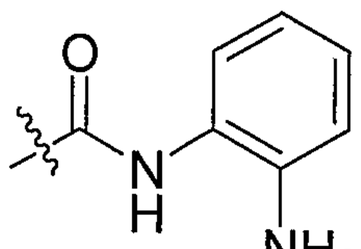
R^2, R^3, and R^4 are as defined in claim 1;

X, Y, and A are as defined in JP 11-269146 (1999); and

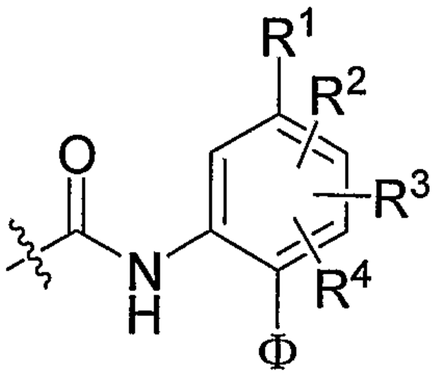
R^{11} is the same as R^1 of JP 11-269146 (1999).

379. The compound of claim 378 wherein R^1, R^2, R^3, and R^4 are all H.

380. The compound of claim 378 that is selected from one of the compounds 1-50 of Tables 2-4 of JP 11-269146 (1999) wherein the terminal moiety:



NH_2 is replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

381. A compound according to claim 378 for use in inhibting histone deacetylase.

382. A compound according to calim 378 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

383. The compound of claim 382, wherein said treatment is effected by inhibiting histone deacetylase.

384. The compound of calim 382, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

385. The compound of claim 382, wherein said cell proliferative disease is cancer.

386. The compound of claim 385, wherein said cancer is a solid tumor cancer.

387. The compound of claim 385, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

388. A pharmaceutical composition comprising a compound according to claim 378 and a pharmaceutically acceptable carrier.

389. The pharmaceutical composition of claim 388 further comprising a nucleic acid level inhibitor of histone deacetylase.

390. The pharmaceutical composition of claim 389, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

391. The pharmaceutical composition of claim 390, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

392. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 378.

393. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 388.

394. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 389.

395. The method of claim 393, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

396. The method of claim 393, wherein said cell proliferative disease is cancer.

397. The method of claim 396, wherein said cancer is a solid tumor cancer.

398. The method of claim 397, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

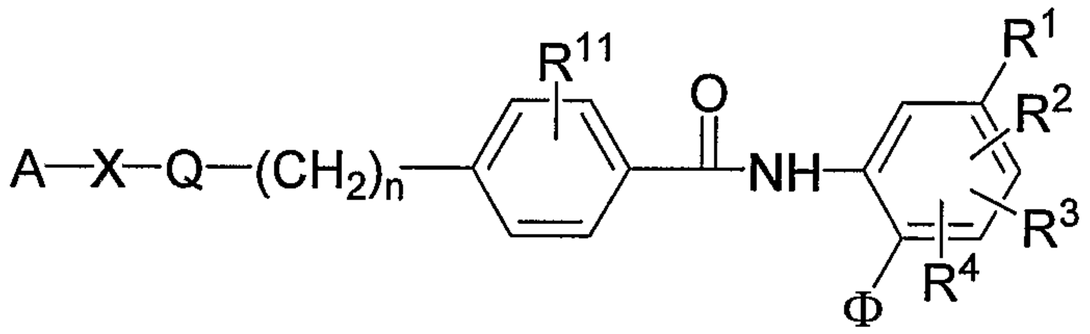
399. The method of claim 394, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

400. The method of claim 394, wherein said cell proliferative disease is cancer.

401. The method of claim 400, wherein said cancer is a solid tumor cancer.

402. The method of claim 401, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

403. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in claim 1;

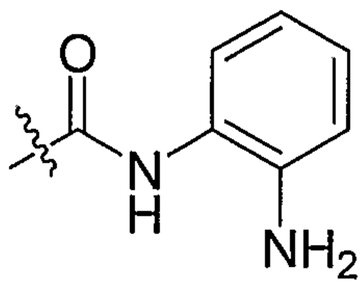
R^2, R^3, and R^4 are as defined in claim 1;

n, X, Q, and A are as defined in JP 11-302173 (1999); and

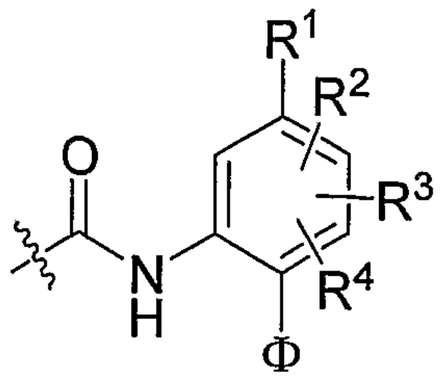
R^{11} is the same as R^1 of JP 11-302173 (1999).

404. The compound of claim 403 wherein R^1, R^2, R^3, and R^4 are all H.

405. The compound of claim 403 that is selected from one of the compounds 1-67 of JP 11-302173 (1999) wherein the terminal moiety:



is replaced with the moiety



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

406. A compound according to claim 403 for use in inhibting histone deacetylase.

407. A compound according to calim 403 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

408. The compound of claim 407, wherein said treatment is effected by inhibiting histone deacetylase.

409. The compound of calim 407, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

410. The compound of claim 407, wherein said cell proliferative disease is cancer.

411. The compound of claim 410, wherein said cancer is a solid tumor cancer.

412. The compound of claim 410, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

413. A pharmaceutical composition comprising a compound according to claim 403 and a pharmaceutically acceptable carrier.

414. The pharmaceutical composition of claim 413 further comprising a nucleic acid level inhibitor of histone deacetylase.

415. The pharmaceutical composition of claim 414, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

416. The pharmaceutical composition of claim 415, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

417. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 403.

418. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 413.

419. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 414.

420. The method of claim 418, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

421. The method of claim 418, wherein said cell proliferative disease is cancer.

422. The method of claim 421, wherein said cancer is a solid tumor cancer.

423. The method of claim 422, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

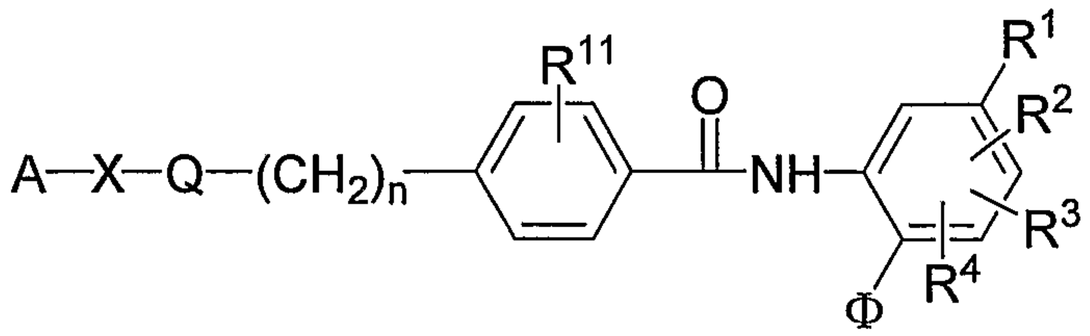
424. The method of claim 419, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

425. The method of claim 419, wherein said cell proliferative disease is cancer.

426. The method of claim 425, wherein said cancer is a solid tumor cancer.

427. The method of claim 426, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

428. A compound of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or –OH;

R^1 is H or as defined in claim 1;

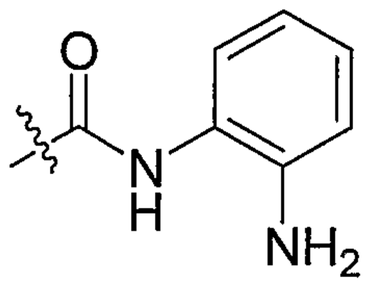
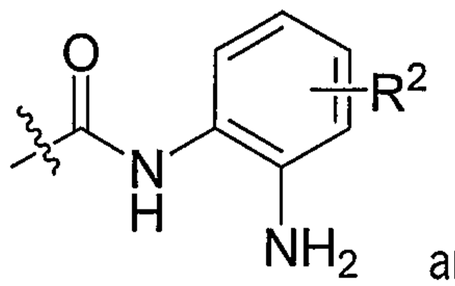
R^2, R^3, and R^4 are as defined in claim 1;

n, Q, and A are as defined in JP 2001131130; and

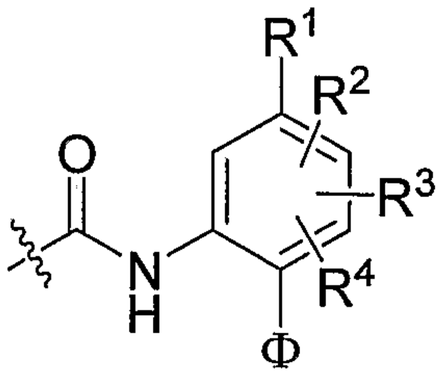
R^{11} is the same as R^1 of JP 2001131130.

429. The compound of claim 428 wherein R^1, R^2, R^3, and R^4 are all H.

430. The compound of claim 428 that is selected from one of the compounds of JP 2001131130 wherein the terminal moieties

and are replaced with the moiety



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

431. A compound according to claim 428 for use in inhibting histone deacetylase.

432. A compound according to calim 428 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

433. The compound of claim 432, wherein said treatment is effected by inhibiting histone deacetylase.

434. The compound of calim 432, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

435. The compound of claim 432, wherein said cell proliferative disease is cancer.

436. The compound of claim 435, wherein said cancer is a solid tumor cancer.

437. The compound of claim 435, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

438. A pharmaceutical composition comprising a compound according to claim 428 and a pharmaceutically acceptable carrier.

439. The pharmaceutical composition of claim 438 further comprising a nucleic acid level inhibitor of histone deacetylase.

440. The pharmaceutical composition of claim 439, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

441. The pharmaceutical composition of claim 440, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

442. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 428.

443. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 438.

444. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 439.

445. The method of claim 443, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

446. The method of claim 443, wherein said cell proliferative disease is cancer.

447. The method of claim 446, wherein said cancer is a solid tumor cancer.

448. The method of claim 447, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

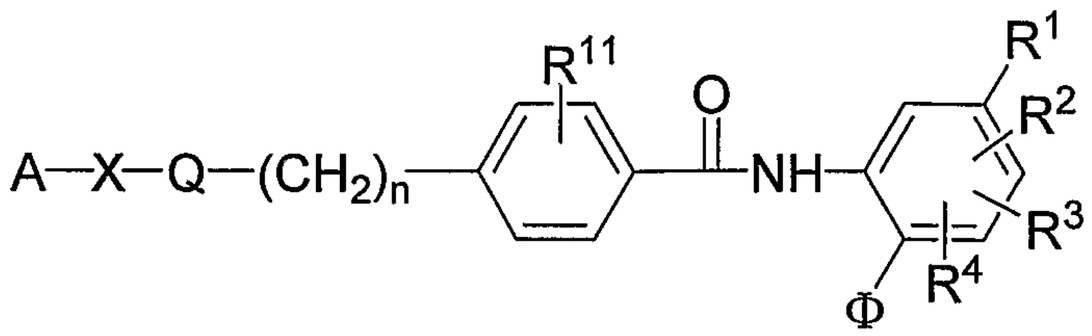
449. The method of claim 444, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

450. The method of claim 444, wherein said cell proliferative disease is cancer.

451. The method of claim 450, wherein said cancer is a solid tumor cancer.

452. The method of claim 451, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

453. A compound of formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in claim 1;

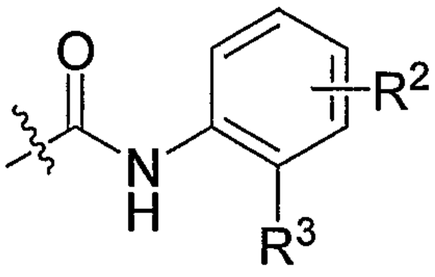
R^2, R^3, and R^4 are as defined in claim 1;

n, X, Q, and A are as defined in JP 10152462, JP 2002332267, and JP 11-302173; and

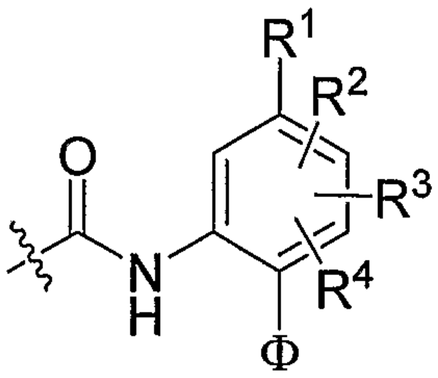
R^{11} is the same as R^1 of JP 10152462, JP 2002332267, and JP 11-302173.

454. The compound of claim 453 wherein R^1, R^2, R^3, and R^4 are all H.

455. The compound of claim 453 that is selected from one of the compounds of JP 10152462, JP 2002332267, and JP 11-302173 wherein the terminal moiety



is replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with claim 1.

456. A compound according to claim 453 for use in inhibting histone deacetylase.

457. A compound according to calim 453 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

458. The compound of claim 457 wherein said treatment is effected by inhibiting histone deacetylase.

459. The compound of calim 457, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

460. The compound of claim 457, wherein said cell proliferative disease is cancer.

461. The compound of claim 460, wherein said cancer is a solid tumor cancer.

462. The compound of claim 460, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

463. A pharmaceutical composition comprising a compound according to claim 453 and a pharmaceutically acceptable carrier.

464. The pharmaceutical composition of claim 463 further comprising a nucleic acid level inhibitor of histone deacetylase.

465. The pharmaceutical composition of claim 464, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

466. The pharmaceutical composition of claim 465, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

467. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 453.

468. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 463.

469. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 464.

470. The method of claim 468, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

471. The method of claim 468, wherein said cell proliferative disease is cancer.

472. The method of claim 471, wherein said cancer is a solid tumor cancer.

473. The method of claim 472, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

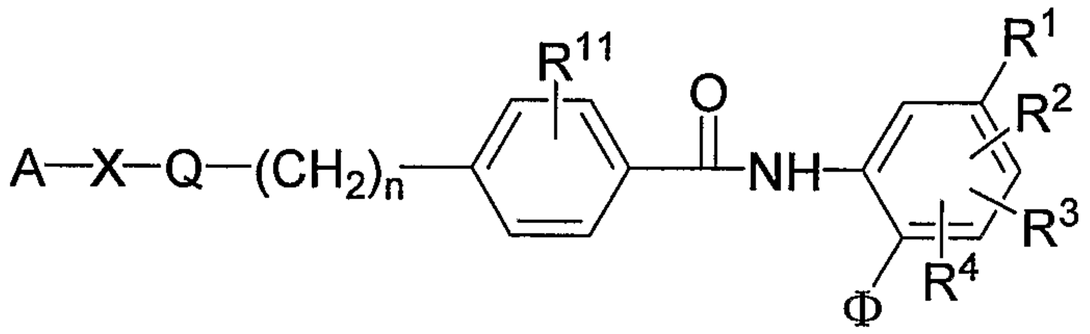
474. The method of claim 469, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

475. The method of claim 469, wherein said cell proliferative disease is cancer.

476. The method of claim 475, wherein said cancer is a solid tumor cancer.

477. The method of claim 476, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

478. A compounds of the formula:



or a pharmaceutically acceptable salt thereof, wherein

Φ is $-NH_2$ or $-OH$;

R^1 is H or as defined in claim 1;

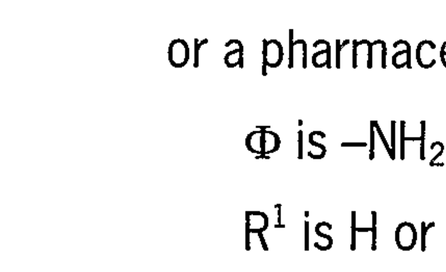
R^2, R^3, and R^4 are as defined in claim 1;

n, X, Q, and A are as defined in US 6,174,905; and

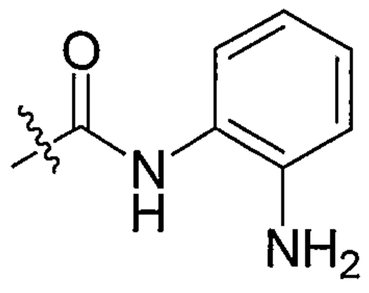
R^{11} is the same as R^1 of US 6,174,905.

479. The compound of claim 478 wherein R^1, R^2, R^3, and R^4 are all H.

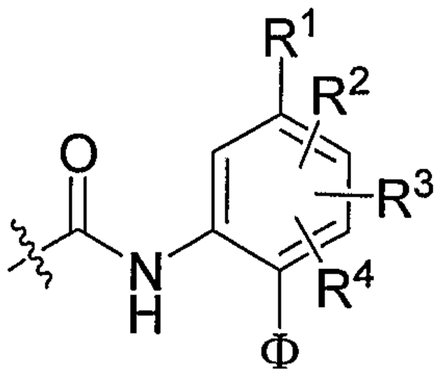
480. The compound of claim 478 that is selected from one of the compounds of US 6,174,905 wherein the terminal moiety:



of the compounds of Table 1 of US 6,174,905 and the terminal moiety:



of the compounds of Tables 2-4 of US 6,174,905 are replaced with the moiety:



wherein Φ, R^1, R^2, R^3, and R^4 are as defined in accordance with paragraph claim 1.

481. A compound according to claim 478 for use in inhibting histone deacetylase.

482. A compound according to calim 478 for use in treatment of a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease.

483. The compound of claim 482, wherein said treatment is effected by inhibiting histone deacetylase.

484. The compound of calim 482, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

485. The compound of claim 482, wherein said cell proliferative disease is cancer.

486. The compound of claim 485, wherein said cancer is a solid tumor cancer.

487. The compound of claim 485, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

488. A pharmaceutical composition comprising a compound according to claim 478 and a pharmaceutically acceptable carrier.

489. The pharmaceutical composition of claim 488 further comprising a nucleic acid level inhibitor of histone deacetylase.

490. The pharmaceutical composition of claim 489, wherein siad nucleic acid level inhibitor is an antisense oligonucleotide complementary to a nucleic acid that encodes for a histone deacetylase.

491. The pharmaceutical composition of claim 490, wherein said antisense oligonucleotide is selected from the group consisting if SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4,

SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, and SEQ ID No:17.

492. A method of inhibiting histone deacetylase, the method comprising contacting said histone deacetylase with an inhibiting efective amount of a compound according to claim 478.

493. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 488.

494. A method of treating an individual having a disease selected from the group consisting of a cell proliferative disease, a protozoal disease and a fungal disease, said method comprising administering to said individual a treatment effective amount of the pharmaceutical composition of claim 489.

495. The method of claim 493, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

496. The method of claim 493, wherein said cell proliferative disease is cancer.

497. The method of claim 496, wherein said cancer is a solid tumor cancer.

498. The method of claim 497, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

499. The method of claim 494, wherein said cell proliferative disease is a neoplastic cell proliferative disease.

500. The method of claim 494, wherein said cell proliferative disease is cancer.

501. The method of claim 500, wherein said cancer is a solid tumor cancer.

502. The method of claim 501, wherein said cancer is selected from the group consisting of a lymphoma, lung cancer, colon cancer, prostrate cancer, stomach cancer, breast cancer and leukemia.

503. A compound selected from the compounds of Table 1 and Table 1a and pharmaceutically acceptable salts thereof.

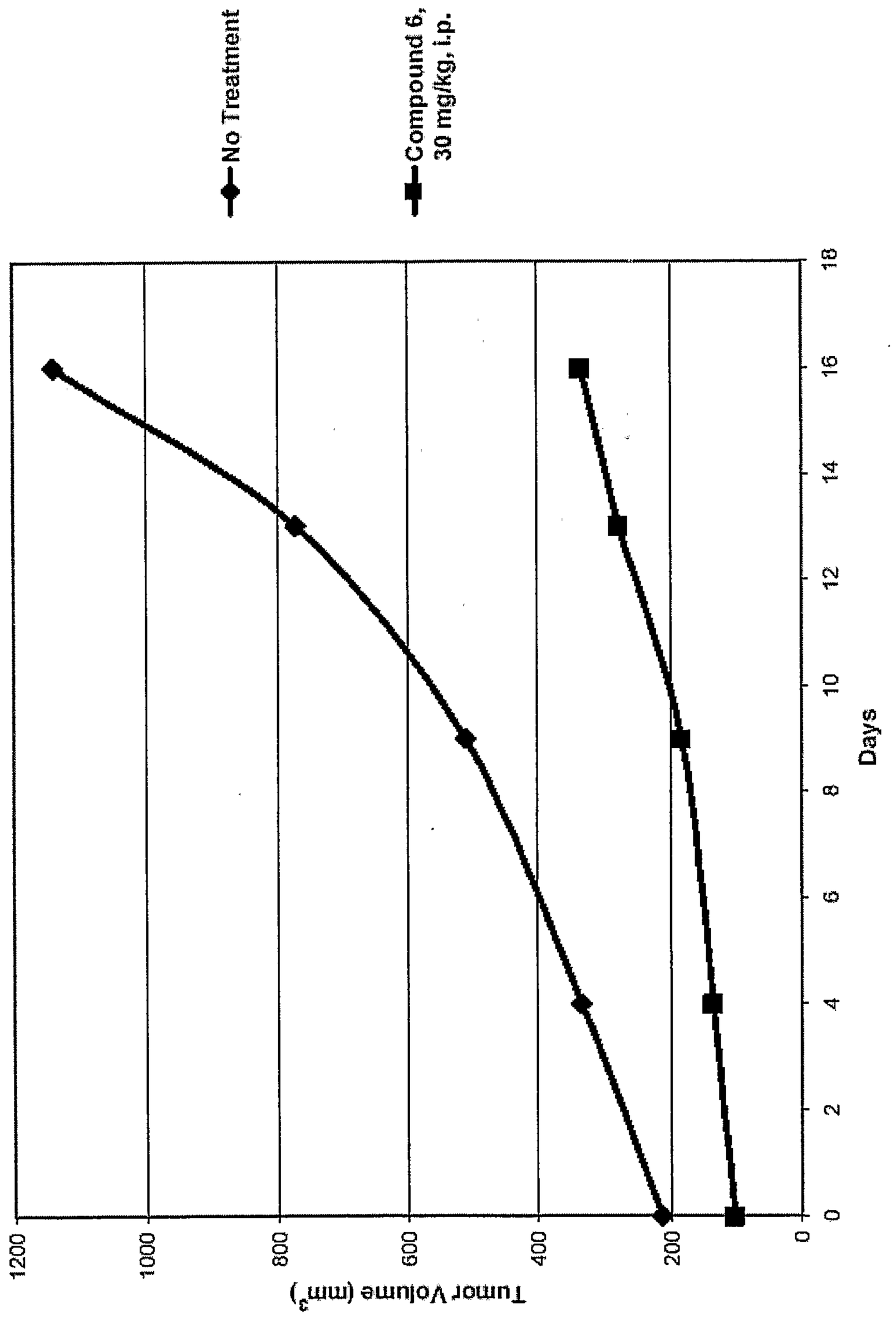

Treatment
No
Compound 6, 30 mg/kg, i.p.
Days
Tumor Volume (mm³)
0
2
4
6
8
10
12
14
16
18
200
400
600
800
1000
1200

Fig. 1

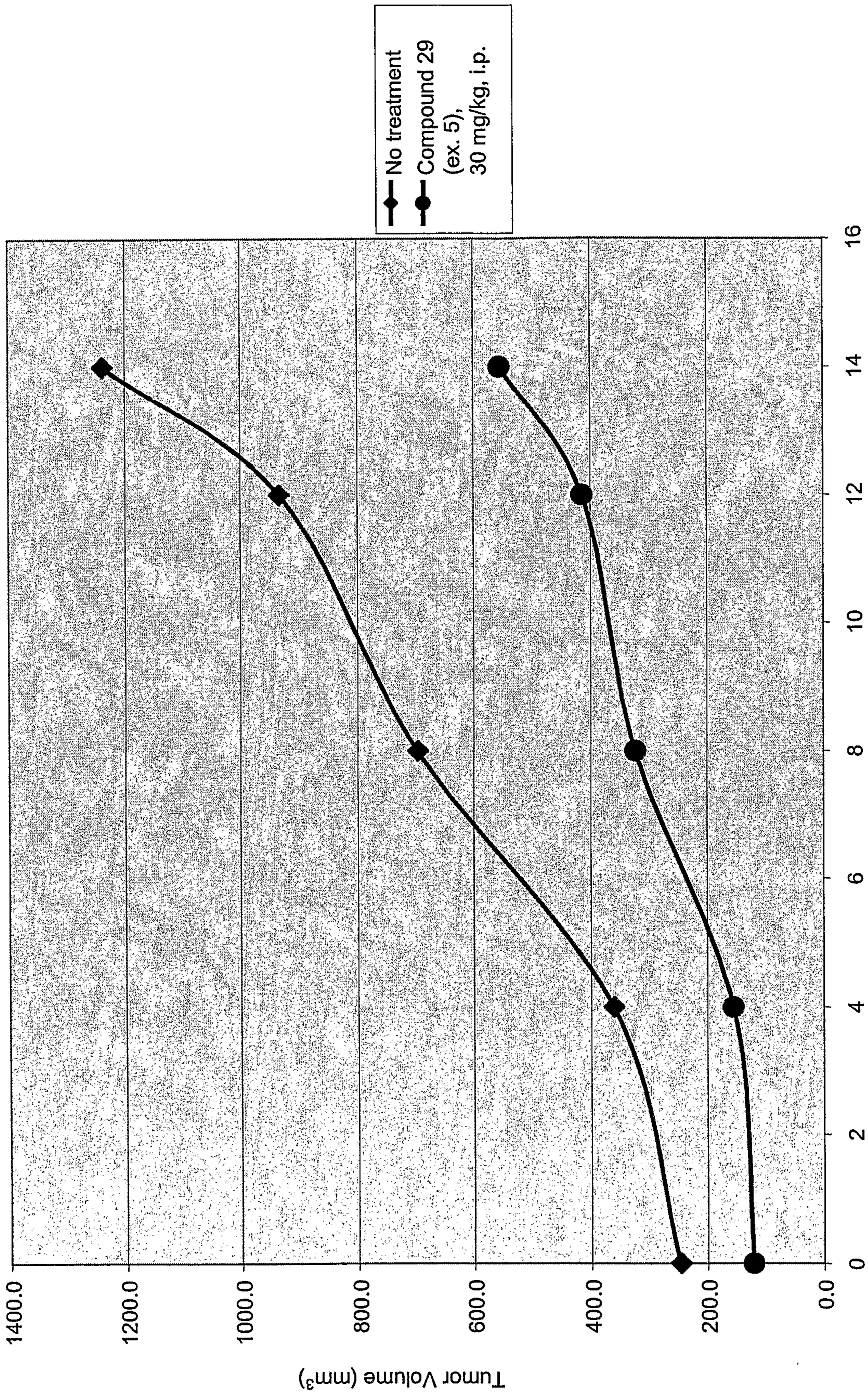

No treatment
Compound 29 (ex. 5), 30 mg/kg, i.p.
Tumor Volume (mm3)
1400.0
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
0
2
4
6
8
10
12
14
16
Days

Fig. 2

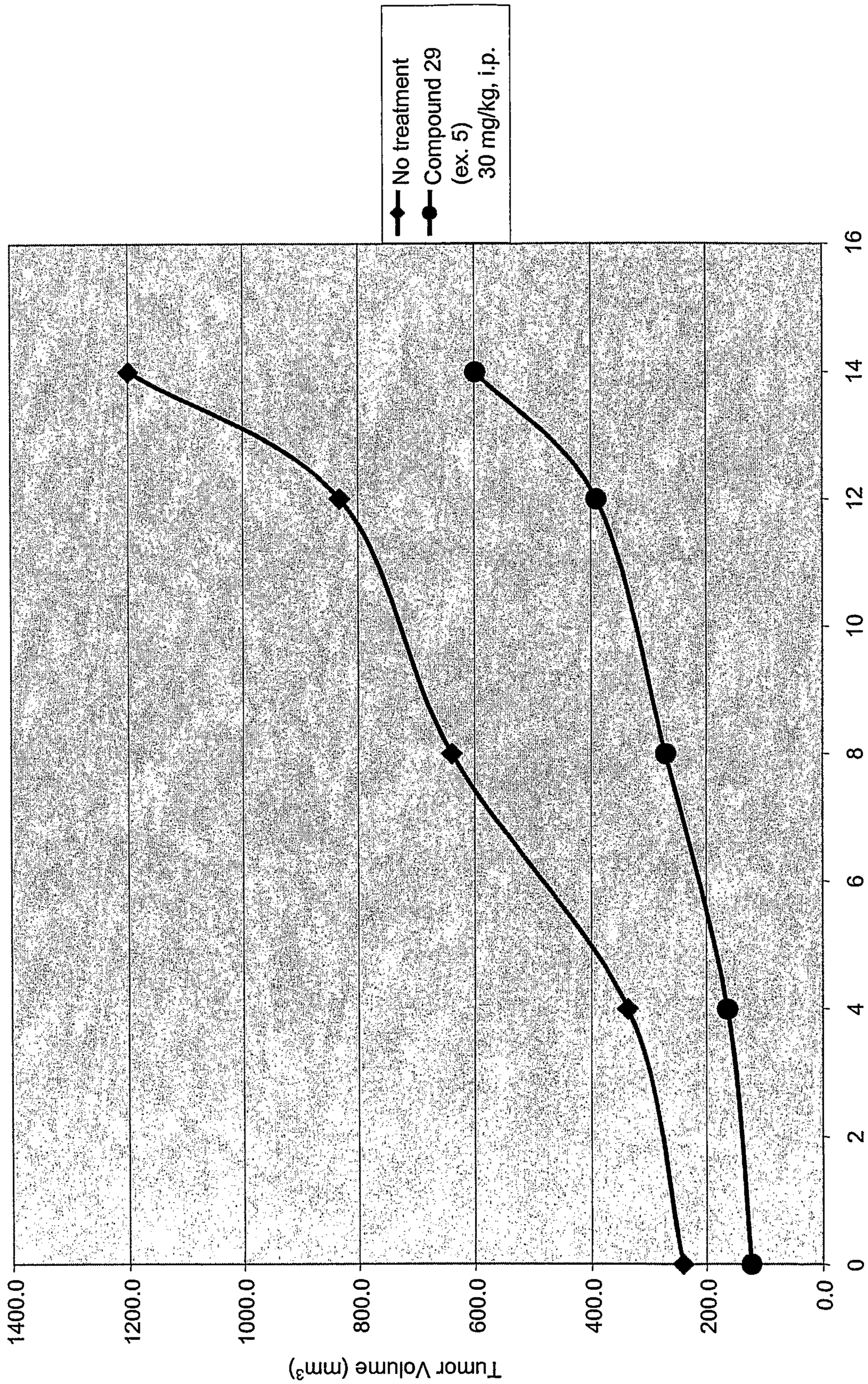

No treatment
Compound 29 (ex. 5) 30 mg/kg, i.p.
Tumor Volume (mm3)
1400.0
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
0
2
4
6
8
10
12
14
16
Days

Fig. 3

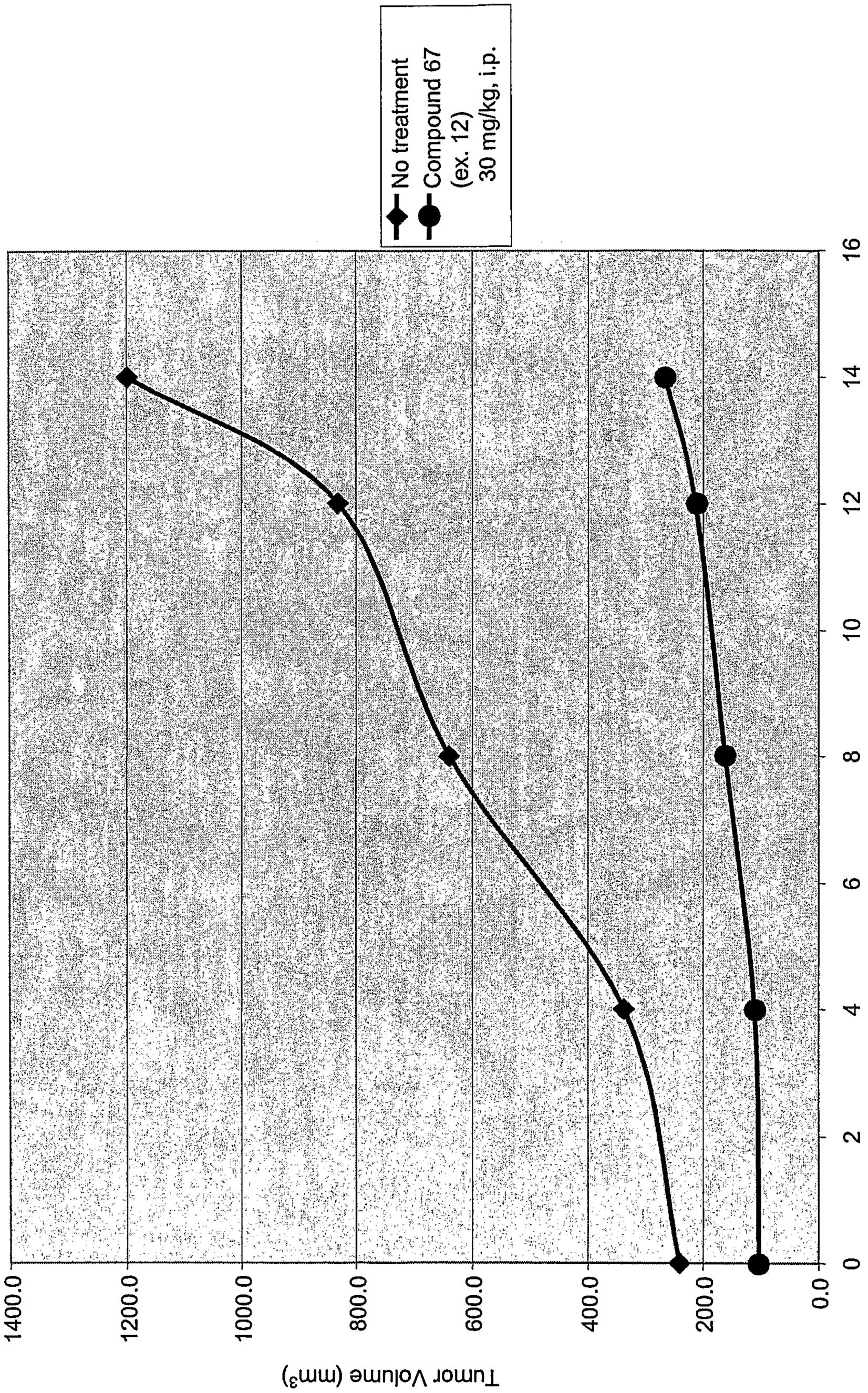
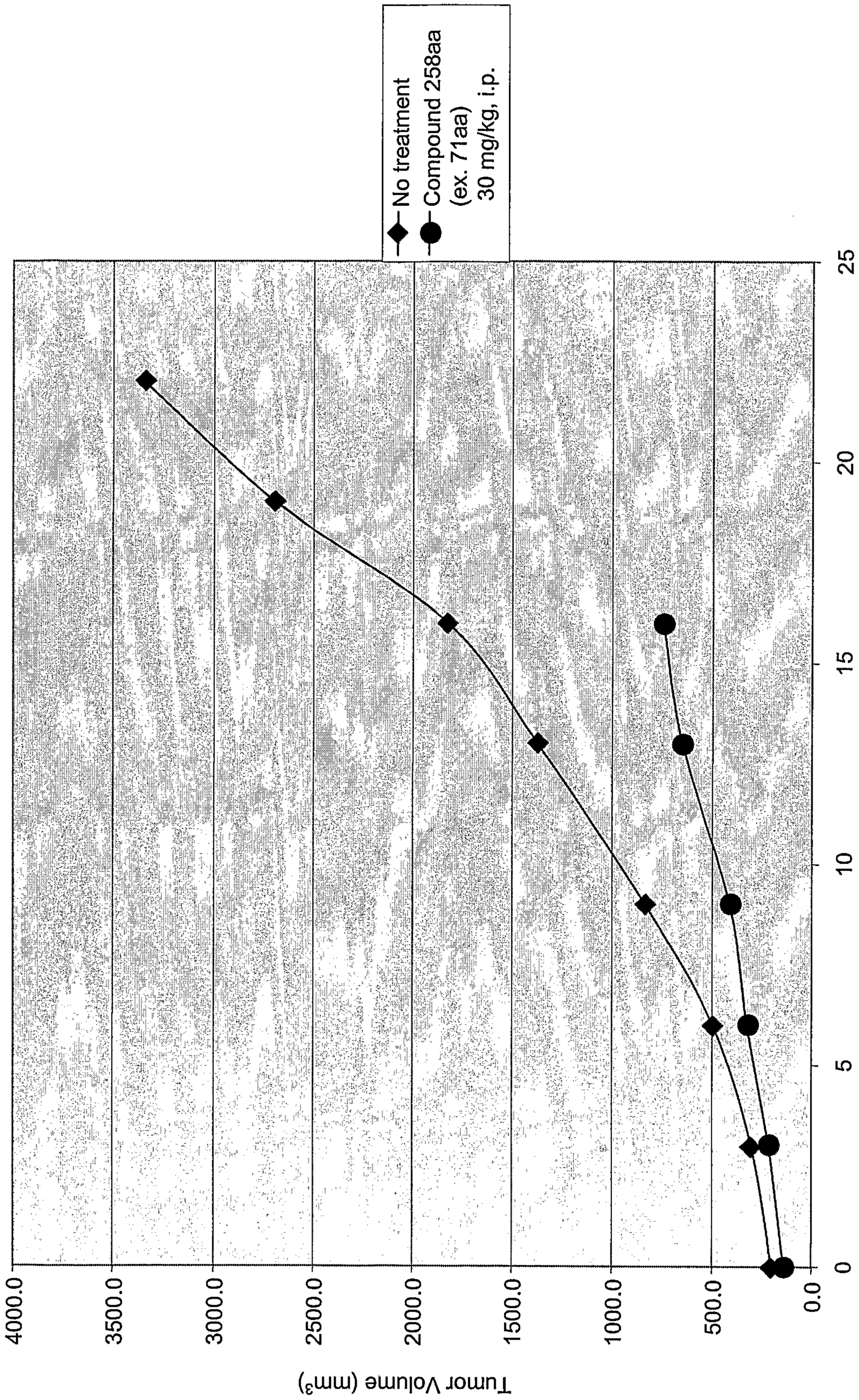

No treatment
Compound 67
(ex. 12)
30 mg/kg, i.p.
Tumor Volume (mm3)
1400.0
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
0
2
4
6
8
10
12
14
16
Days

Fig. 4

Fig. 5


No treatment
Compound 258aa (ex. 71aa) 30 mg/kg, i.p.
Days
Tumor Volume (mm3)
0
5
10
15
20
25
0.0
500.0
1000.0
1500.0
2000.0
2500.0
3000.0
3500.0
4000.0

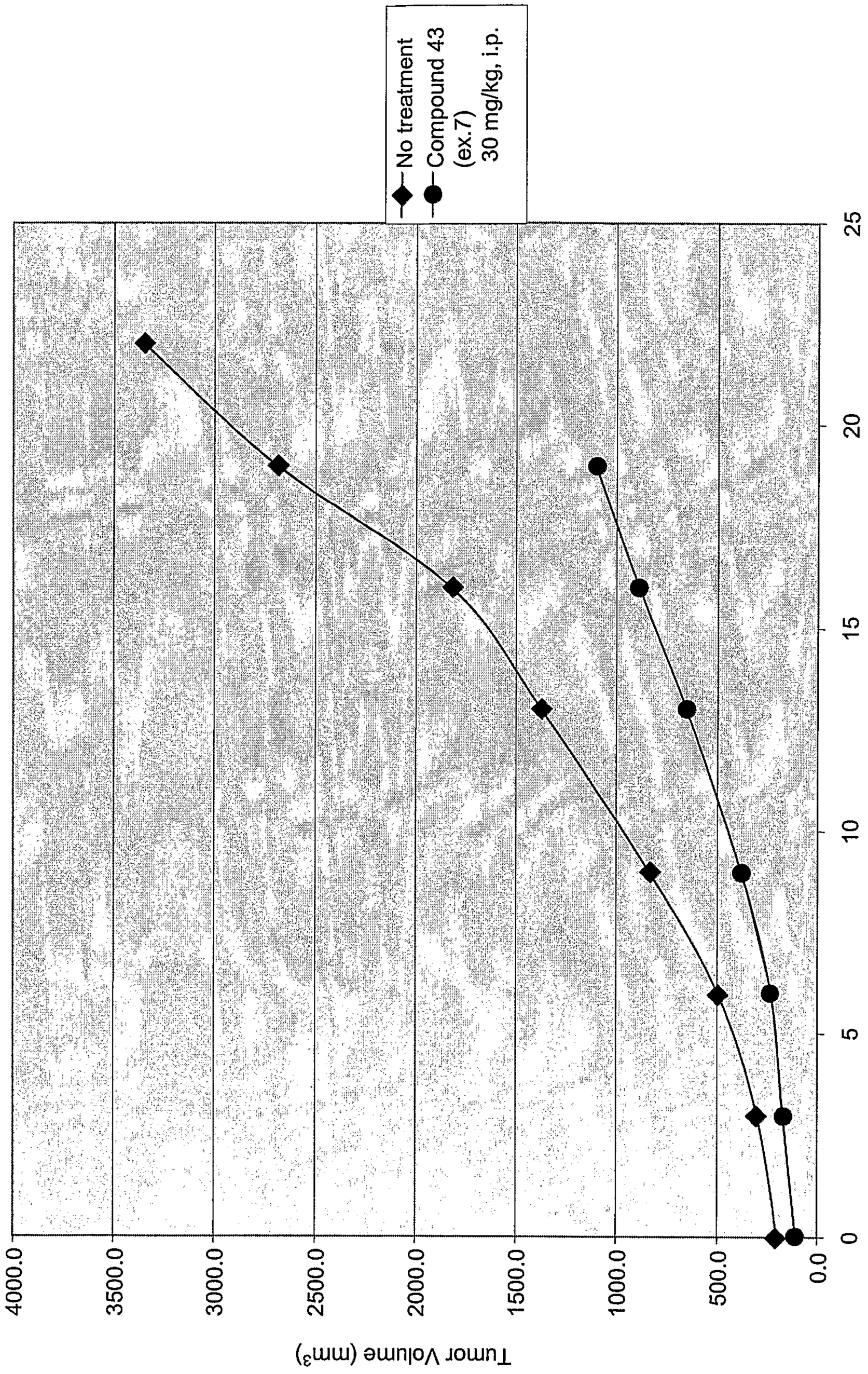

No treatment
Compound 43 (ex.7) 30 mg/kg, i.p.
Tumor Volume (mm3)
4000.0
3500.0
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
0
5
10
15
20
25
Days

Fig. 6

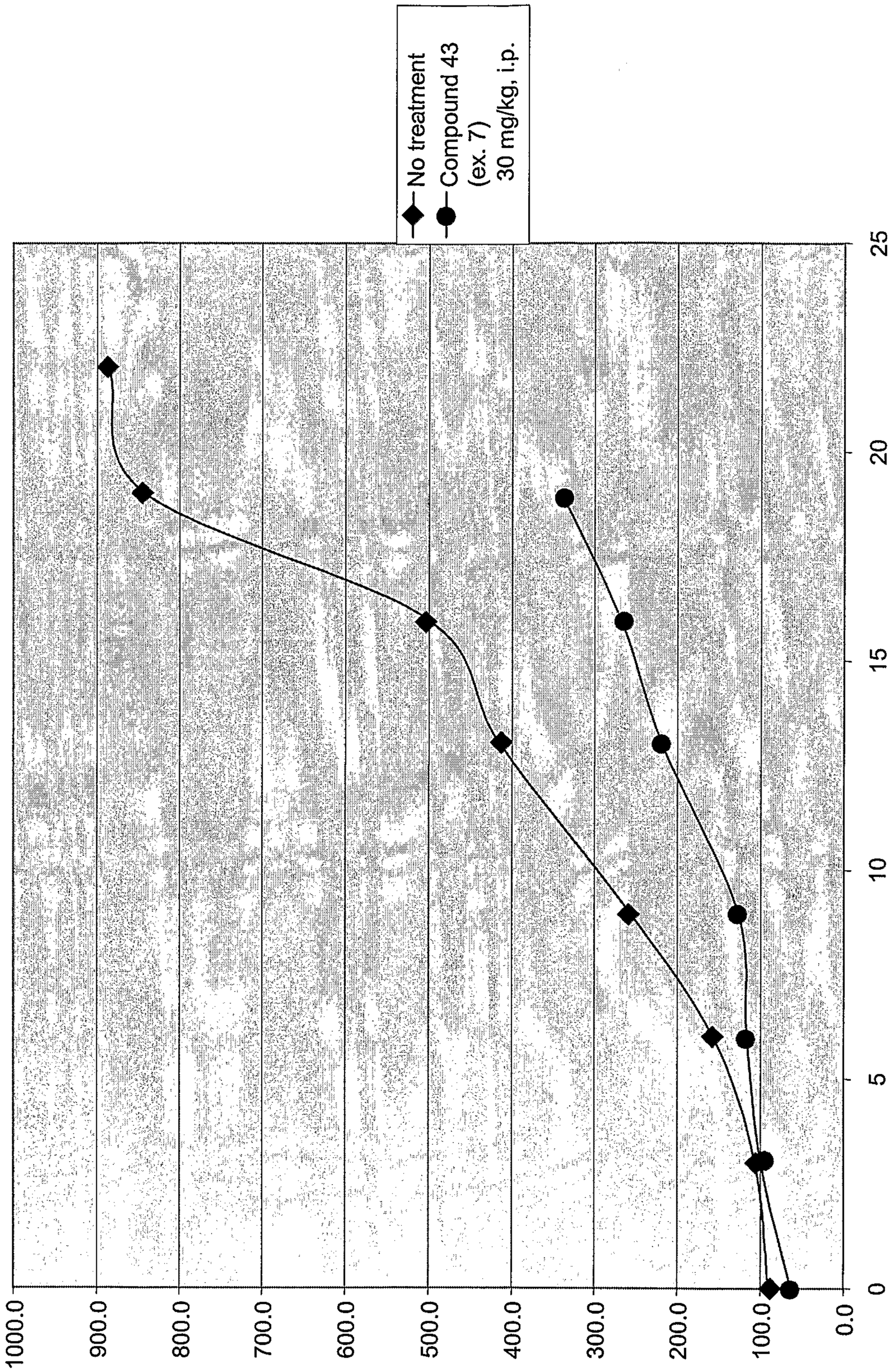
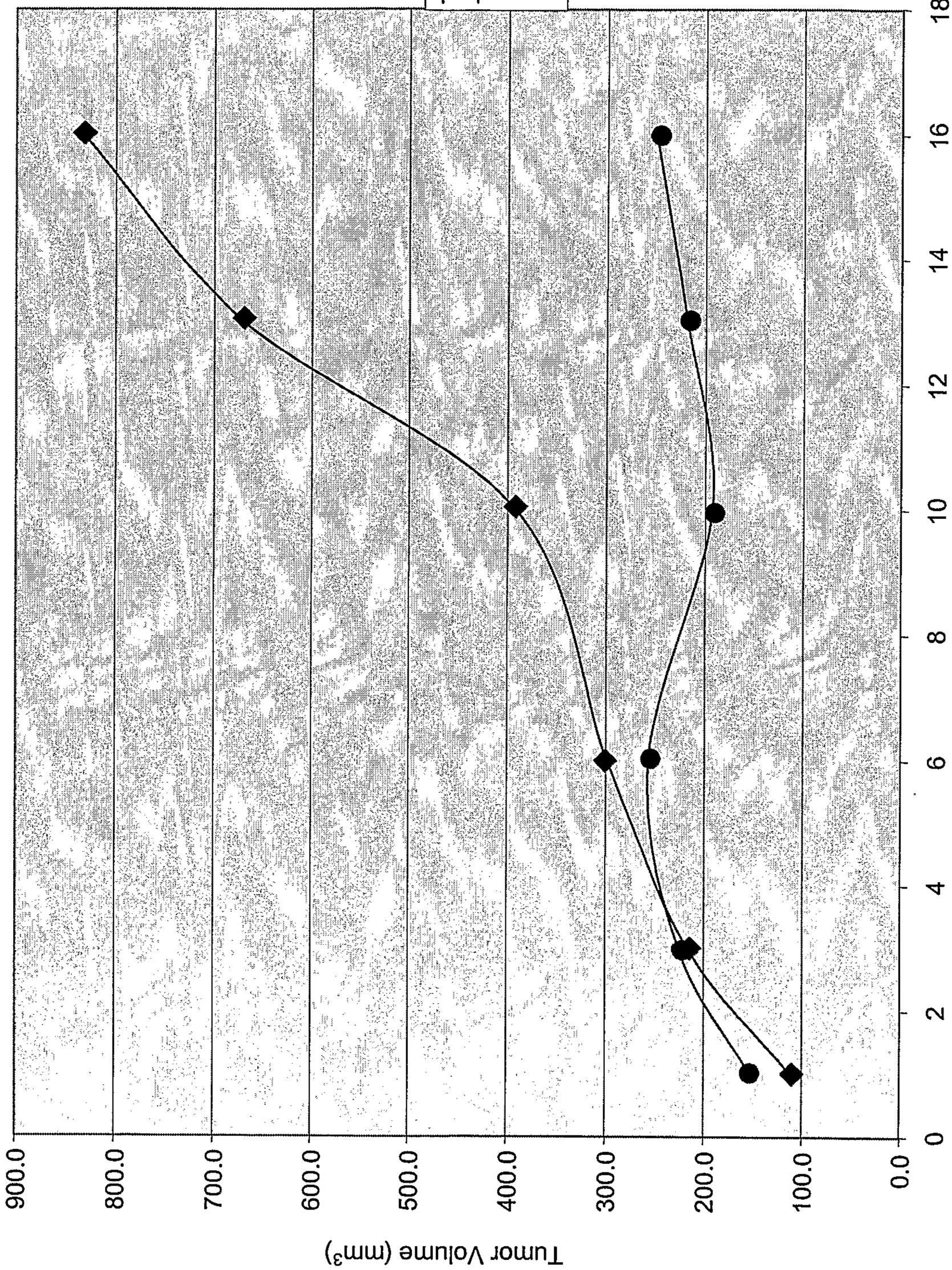

No treatment
Compound 43 (ex. 7) 30 mg/kg, i.p.
Tumor Volume (mm³)
1000.0
900.0
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
0
5
10
15
20
25
Days

Fig. 7

Fig. 8


◆ – No Treatment
● – Compound 258aa (ex. 71aa) 30 mg/kg, i.p.
Tumor Volume (mm³)
900.0
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
0
2
4
6
8
10
12
14
16
18
Days

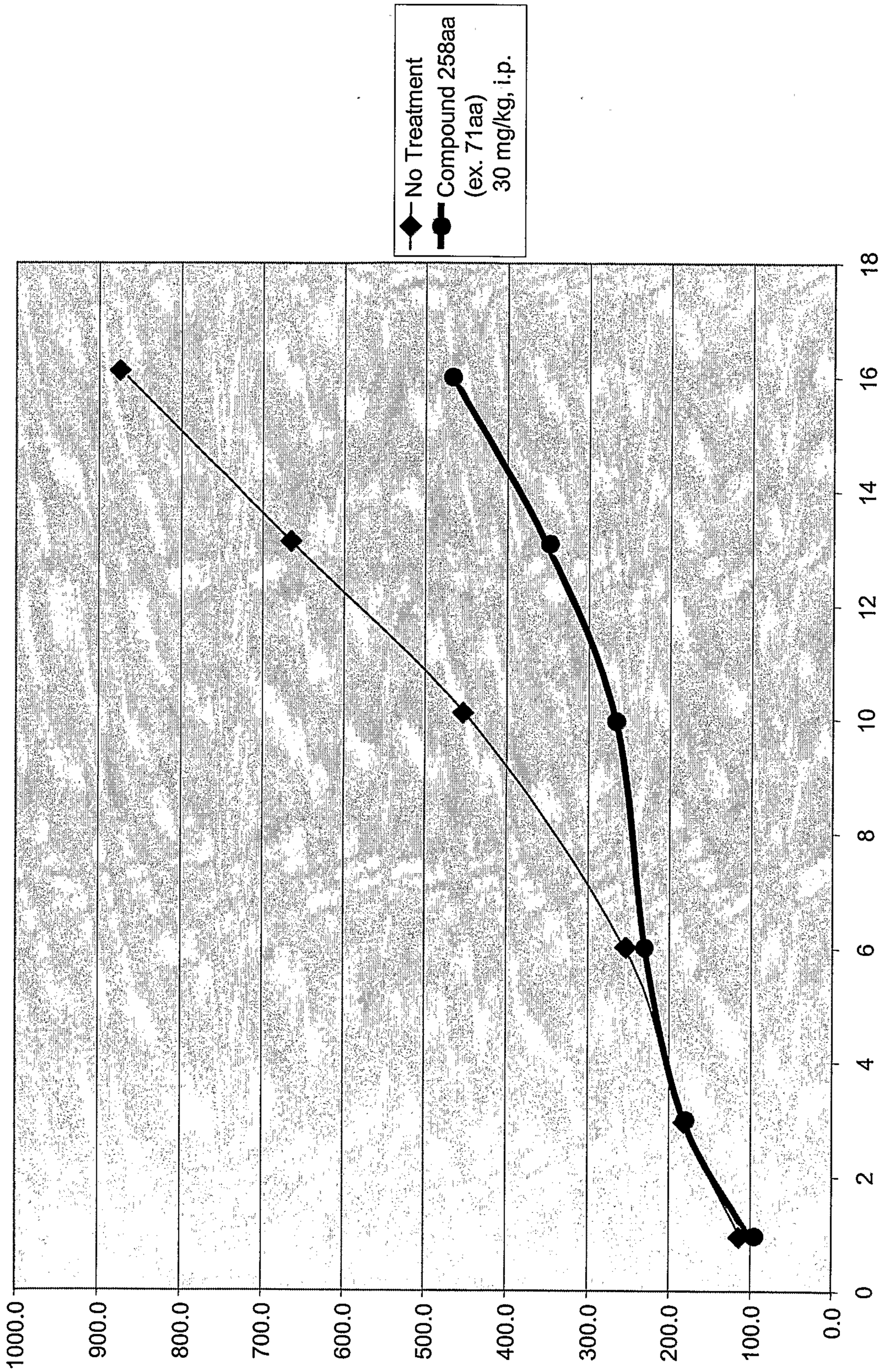
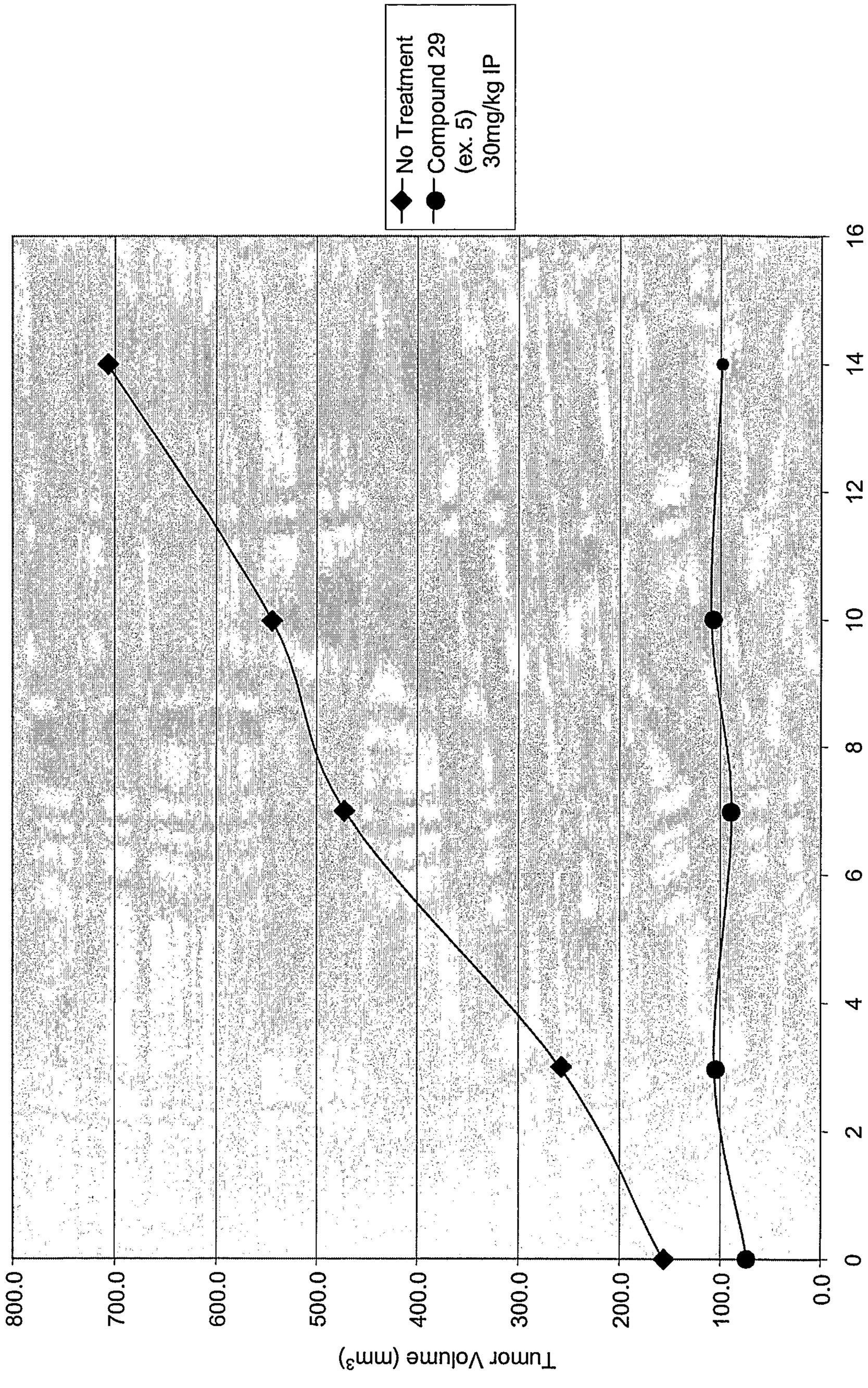

No Treatment
Compound 258aa
(ex. 71aa)
30 mg/kg, i.p.
Tumor Volume (mm³)
1000.0
900.0
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
0
2
4
6
8
10
12
14
16
18
Days

Fig. 9

Fig. 10


No Treatment
Compound 29 (ex. 5) 30mg/kg IP
Tumor Volume (mm3)
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
0
2
4
6
8
10
12
14
16
Days